



**HYDROCARBON  
EXPLORATION & EXPLOITATION  
ACTIVITIES IN PERU**

## **A little of history:**

**Oil extraction and utilization in Peru began more than 10 centuries ago, when the natives used oil from outcrops or shallow reservoirs in the North Coast.**

**Oil was used mainly for medical applications.**

## First Oil well drilled in South America

**A tubular well which discovered oil at 24 meters depth was drilled in November 1863 in the north coast of Peru, Zorritos field, Tumbes basin.**

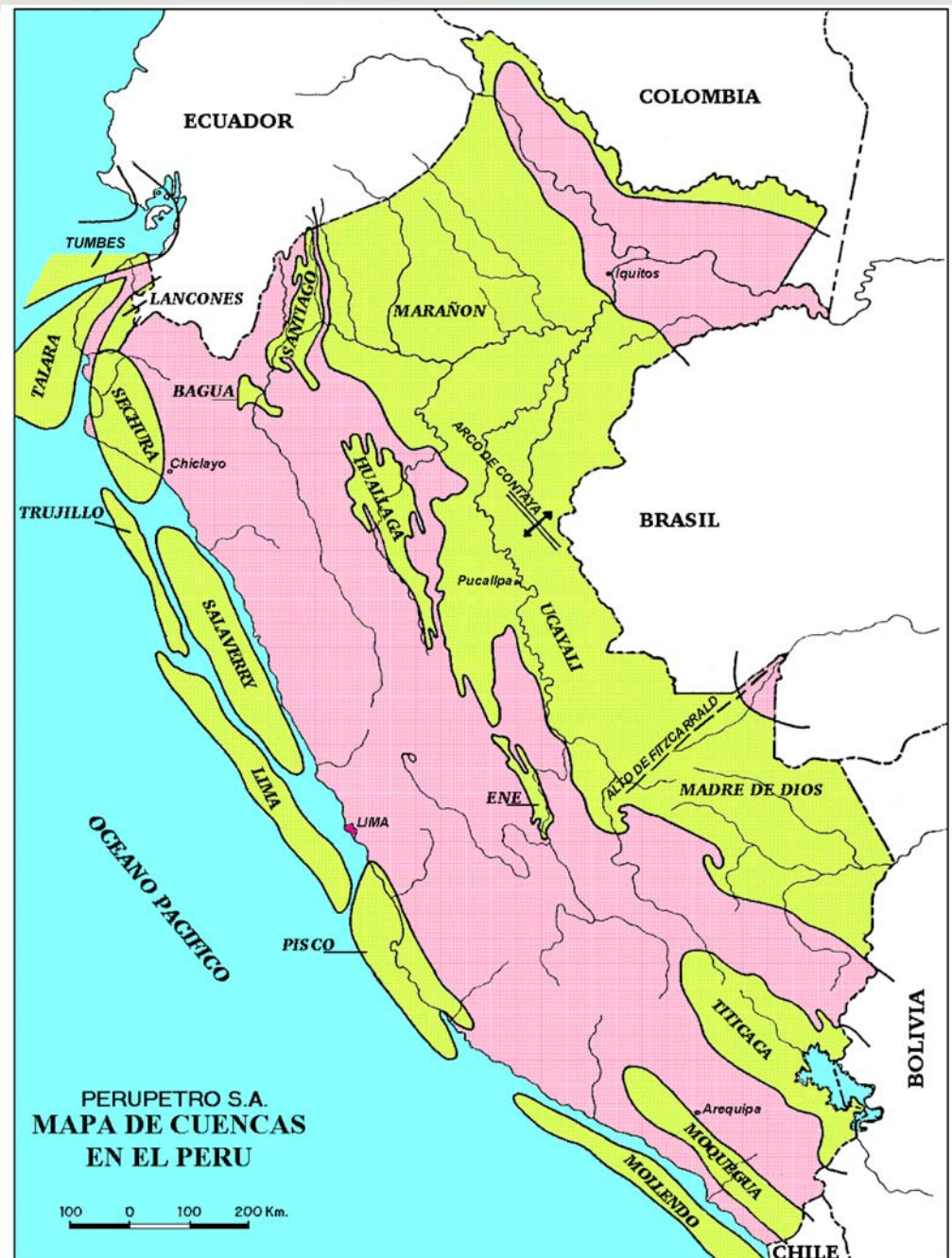
**This well began producing 60 barrels per day of 35° API oil, was the first well drilled in South America.**





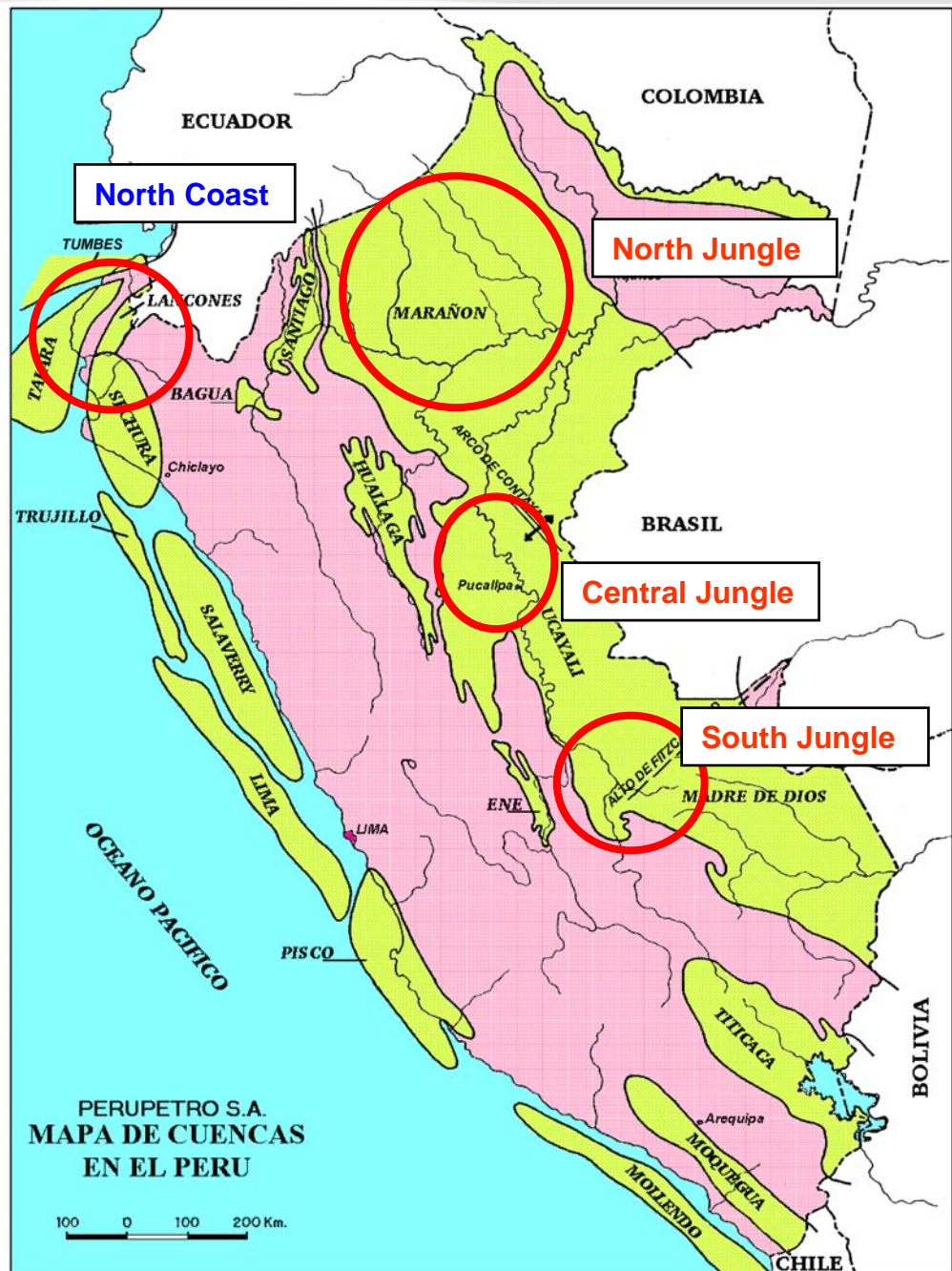


There are 18 sedimentary basins with hydrocarbon potential in Peru, larger of them in the jungle.



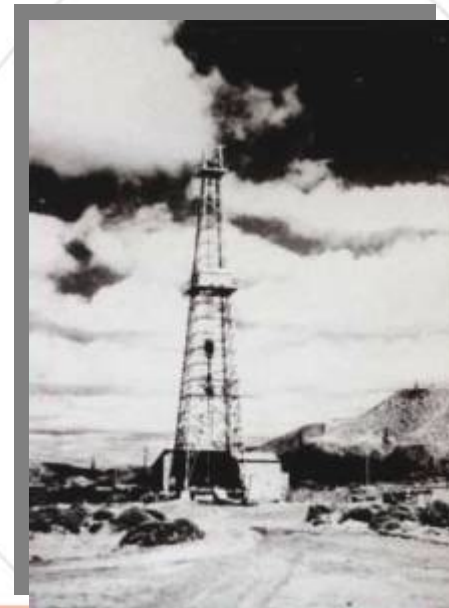
Hydrocarbon exploitation in Peru has been developed during 140 years. Productive areas are located in four regions of the territory:

- North Coast since 1863.
- Central Jungle since 1939.
- North Jungle since 1971.
- South Jungle since 2004.



## Peru, Milestones in Hydrocarbon Industry

- 1863: First well drilled in South America, Zorritos Field, Tumbes, North Coast.
- 1869: First well in Negritos, Talara.
- 1939: First well and production in Agua Caliente Field, Central Jungle.
- 1959: First offshore well, North Coast.
- 1971: Discovery of Corrientes Field, North Jungle.
- 1977: Starts Northperuvian Pipeline Operation.
- 1984-1986: Discovery of Camisea gas fields.
- 1993: Establishment of PERUPETRO
- 1998: Starts Aguaytia natural gas Project
- 2004: Start production of Camisea Gas Fields.
- 2007: First decentralized office of PERUPETRO

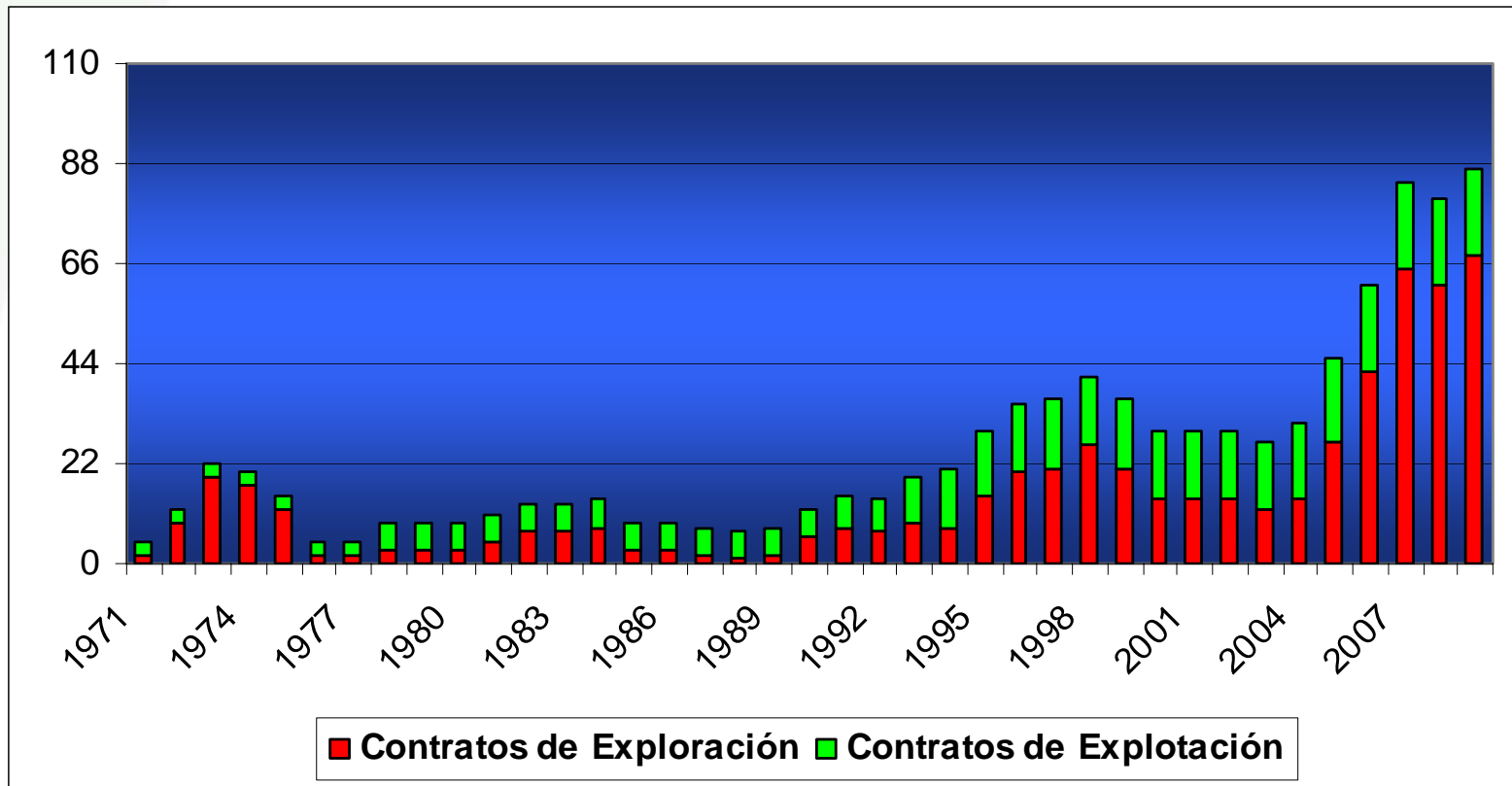


**Present times:**





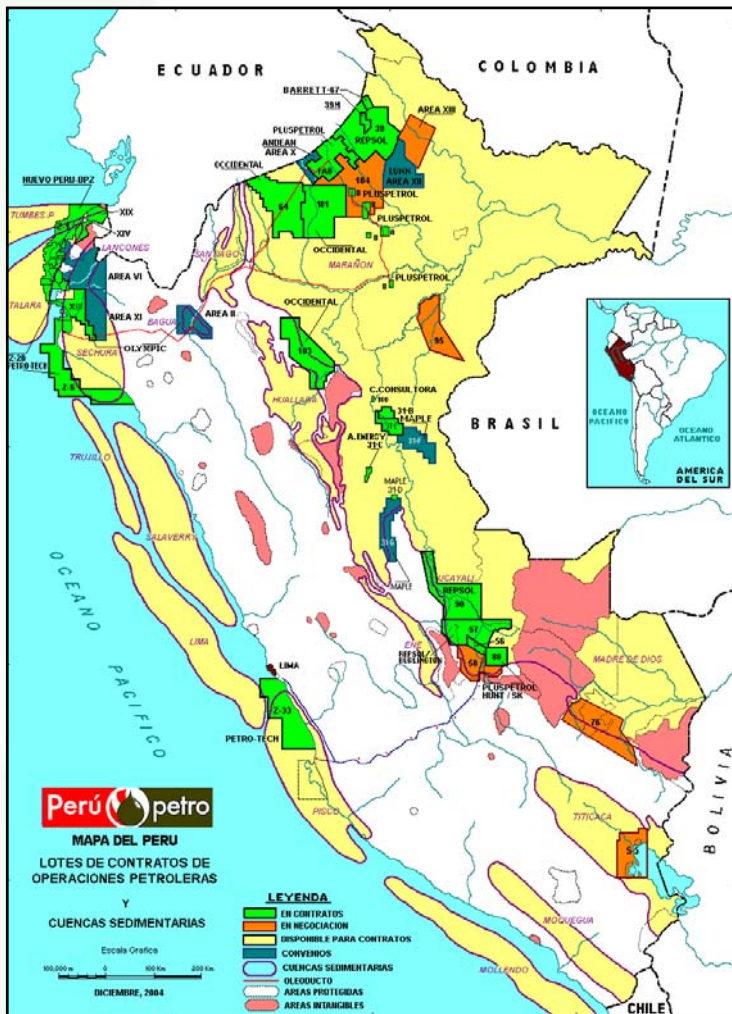
# CONTRACTS IN FORCE



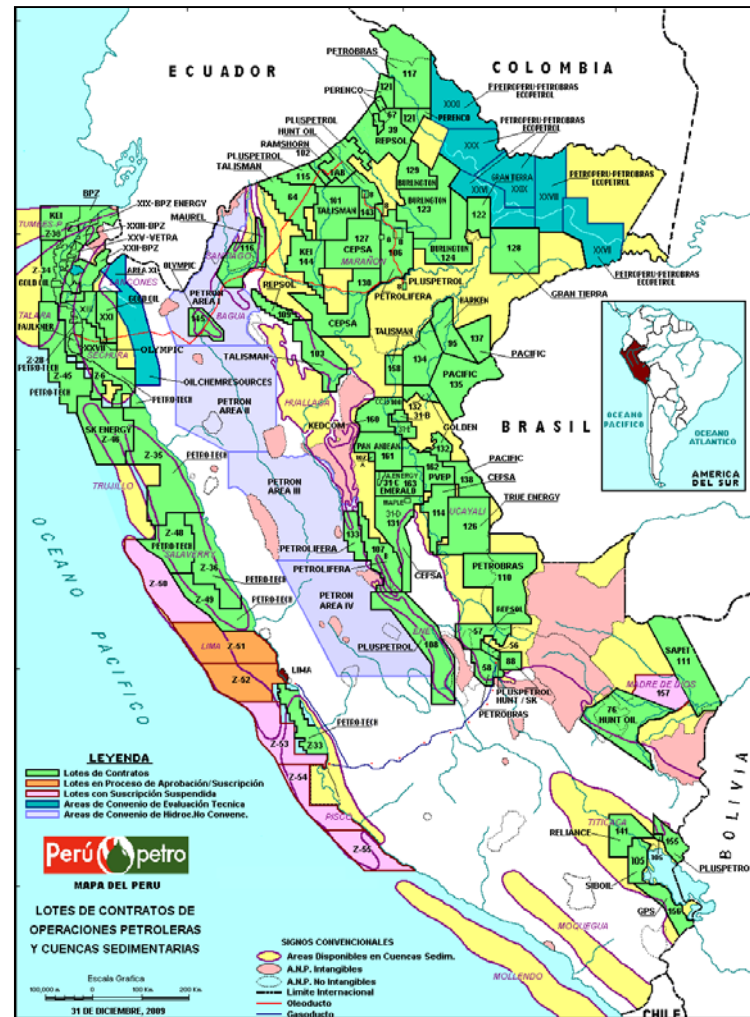
- An evident new virtuous cycle of oil contracting began in 2005.
- It is estimated 100 Contracts in force for 2010.

# Promotional Campaigns' RESULTS

Peru is performing promotional campaigns in order to intensify the Contracting and Hydrocarbon Exploration



December 31, 2004: 31 Contratos (14 Ex, 17 Prod.)

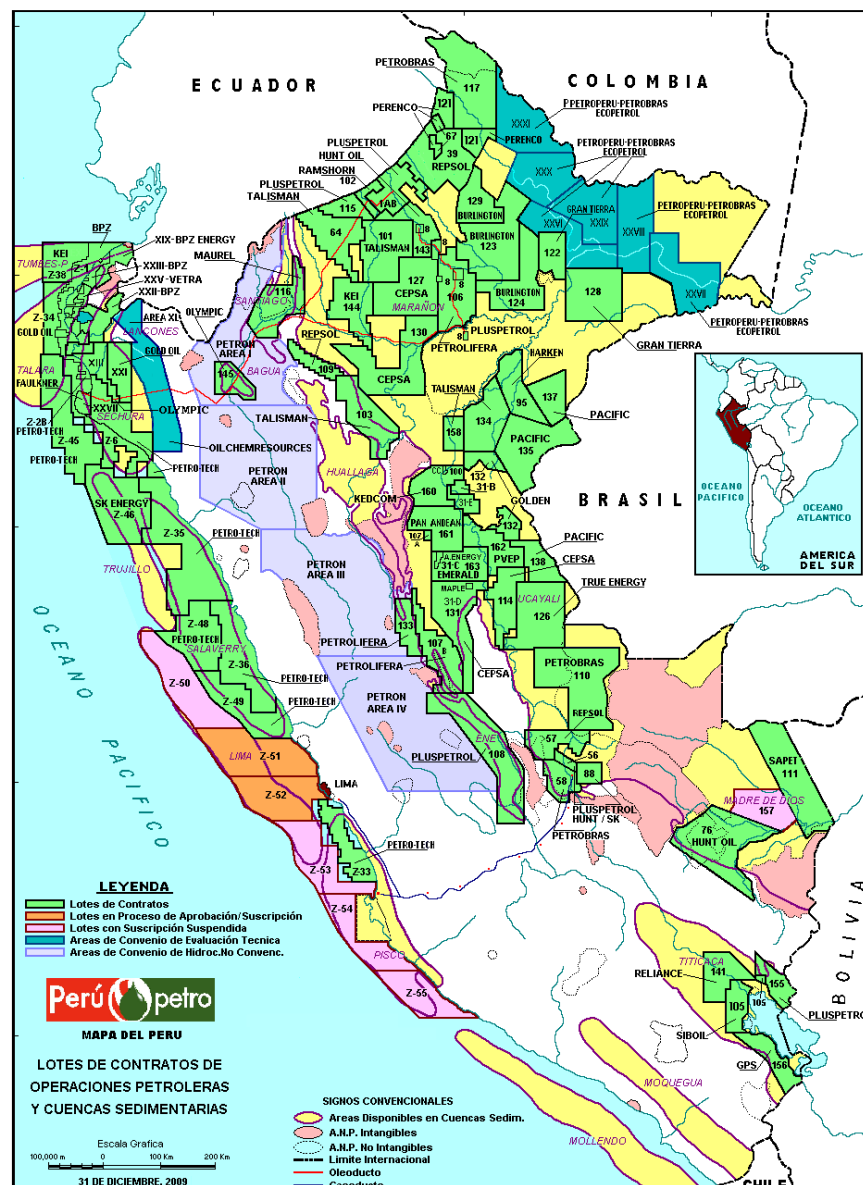


December 31, 2009: 87 Contratos (68 Ex, 19 Prod.)

# Areas under Contract in Sedimentary Basins

## 18 SEDIMENTARY BASINS

	MM Ha	%
<b>Total Area</b>	<b>83.3</b>	<b>100.0</b>
<b>Areas Under Contract</b>	<b>44.3</b>	<b>53.2</b>
<b>Areas under Negotiation</b>	<b>11.5</b>	<b>13.8</b>
<b>Intangible Areas</b>	<b>8.5</b>	<b>10.2</b>
<b>Areas under Agreement</b>	<b>7.5</b>	<b>9.1</b>
<b>Available Areas</b>	<b>11.5</b>	<b>13.8</b>
<b>% Free areas for contracting</b>		<b>13.8</b>
<b>%</b>		

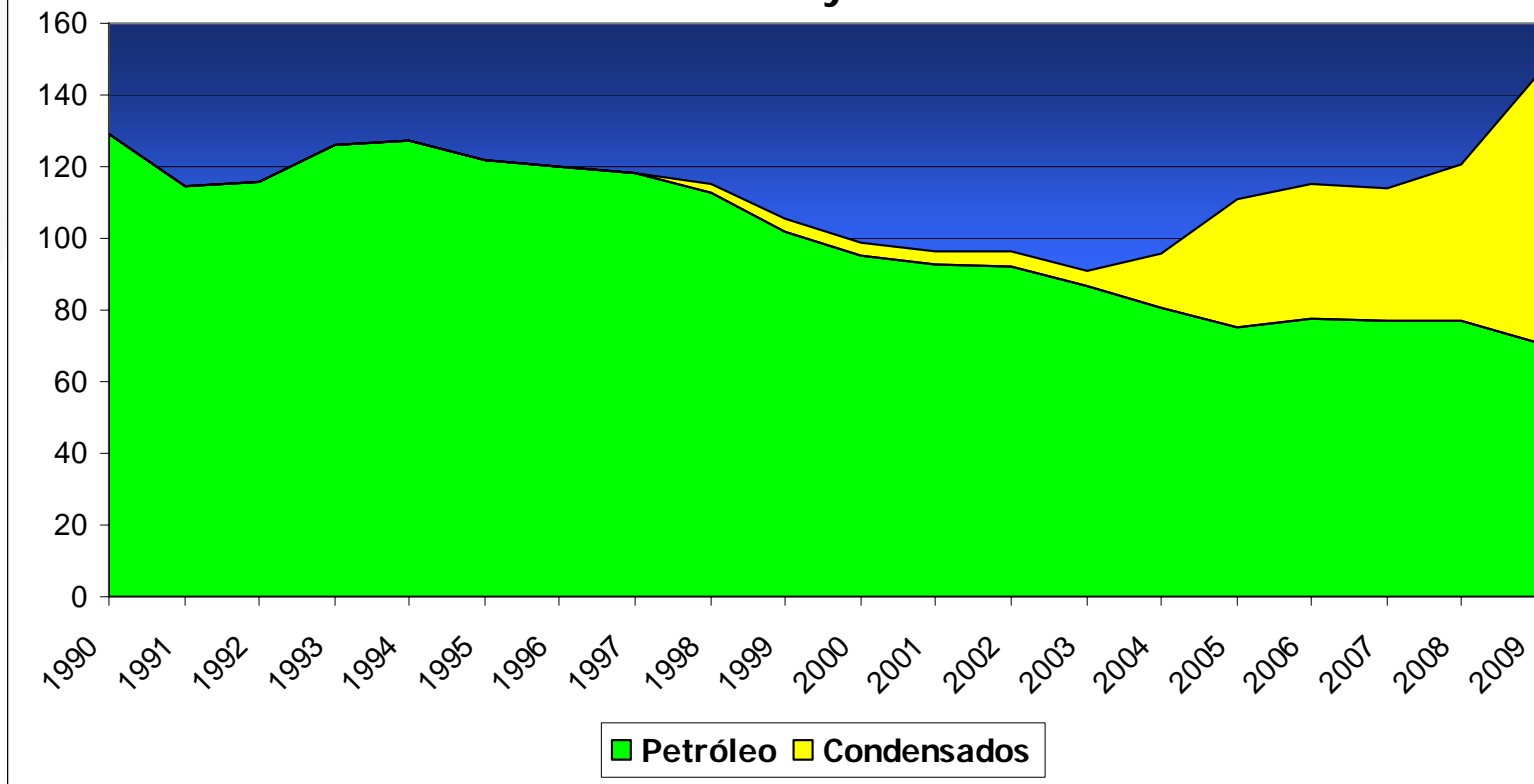


# Oil & Gas Companies operating in Peru

- AGUAYTIA
- ANDEAN OIL AND GAS
- BPZ
- BURLINGTON
- CEPSA
- COMPAÑIA CONSULTORA DE PETRÓLEO
- DAEWOO INTERNATIONAL CORPORATION
- EAST CAMERON PARTNERS DEL PERU
- ECOPETROL
- ENDEVCO EUREKA DEL PERU
- EMERALD ENERGY
- FAULKNER EXPLORATION
- GMP
- GOLDEN OIL CORPORATION
- GRAN TIERRA ENERGY
- GOLD OIL
- GRUPO PETROLERO SURAMERICANO
- HARKEN
- HESS PERU
- HUNT OIL
- INTEROIL
- KEDCOM CO, LTD.
- KOREA NATIONAL OIL CORPORATION
- LOON PERU LIMITED
- MAPLE
- MAUREL ET PROM
- OLYMPIC
- PACIFIC STRATUS
- PAN ANDEAN
- PERENCO
- PETROBRAS
- PETROLERA MONTERRICO
- PETROLÍFERA PETROLEUM
- PETROMINERALES PERU
- PETROPERU
- PETROVIETNAM
- PLECTRUM PETROLEUM
- PLUSPETROL
- PVEP PERU
- RAMSHORN INTERNATIONAL
- RELIANCE
- REPSOL
- SAVIA PERU
- SIBOIL
- SAPET
- SHONA ENERGY INTERNATIONAL
- SK ENERGY
- SONATRACH PERU CORPORATION
- TÁLISMAN
- TECPETROL
- UNIPETRO
- UPLAND OIL&GAS
- VERAZ PETROLEUM
- VETRA PERU
- VIETNAM AMERICAN EXPLORATION

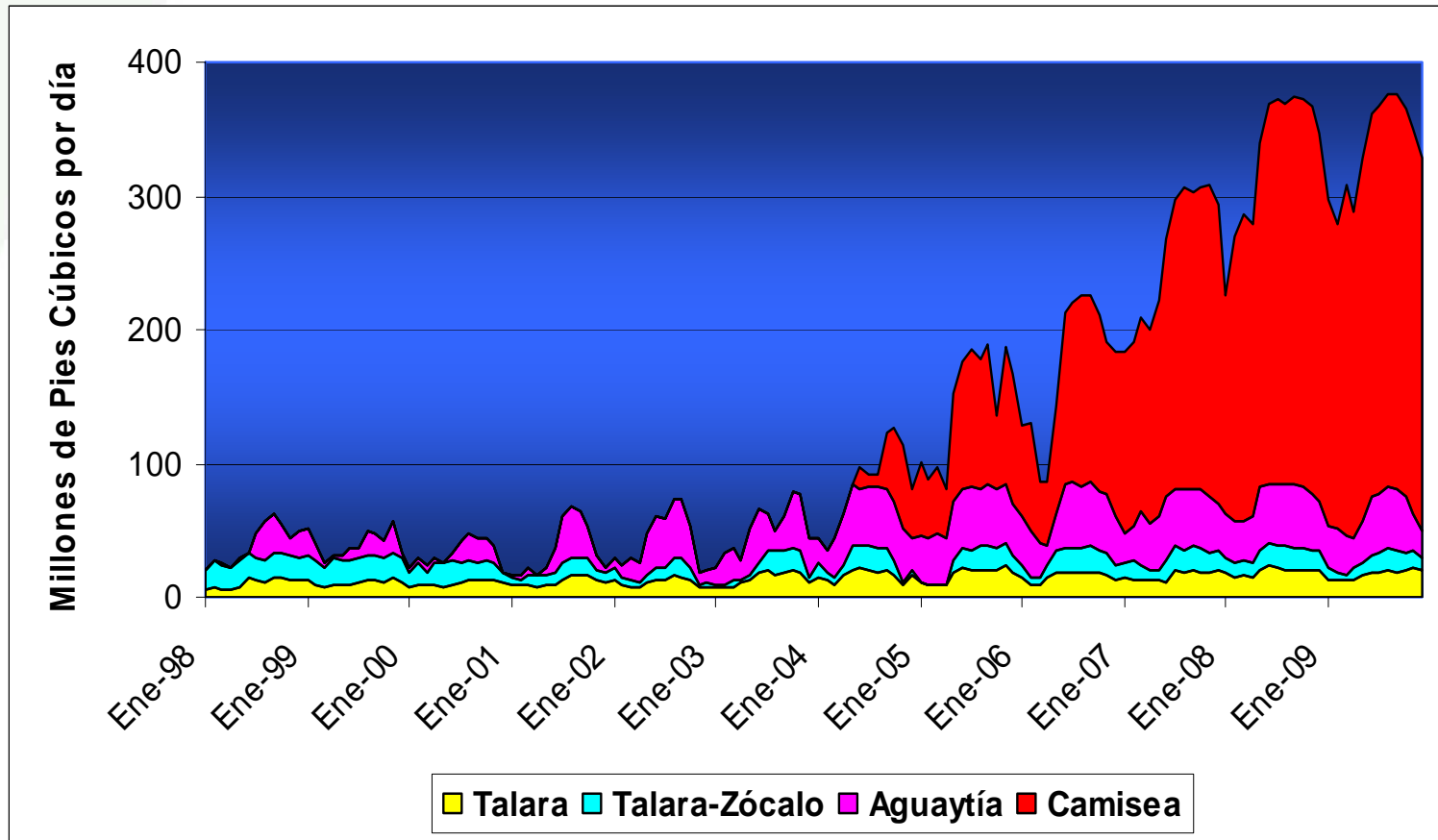


## Liquid Hydrocarbon Production - Thousand Barrels per Day



- Reactivation of drilling and production activities allows to maintain production of mature fields.
- Start of Camisea Natural Gas Liquids Production in June 2004, overturned the declining tendency of production.

# Natural Gas Production - MMscfd



- Production of Camisea Natural Gas originated a sales sustained growth.
- Sales of Camisea increased in average 50% per year since 2006, which originated an important change in energy consumption.

## “ORGANIC LAW OF HYDROCARBONS”

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- In force and without changes since 1993.
- The Hydrocarbons Exploration & Exploitation License Contract is a “Contract-Law”.
- The property right over hydrocarbons is transferred to the Contractor at the moment of entering into a Exploration & Exploitation License Contract.
- The “Contract-Law”, is protected by the Peruvian Constitution, once it is subscribed, it can only be modified by agreement of the Parties (PERUPETRO and the Contractor).

## “ORGANIC LAW FOR HYDROCARBONS”

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- **Import of goods and supplies during the Exploration Phase are exempted of any tax.**
- **IGV (General Sales Tax) Anticipated Devolution during Exploration Phase.**
- **State guarantees fixed tax regimes in force at the date of entering into a Contract.**
- **The Contractor has free availability of hydrocarbons and can export them free of any tax.**



## “ORGANIC LAW FOR HYDROCARBONS”

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- **Central Bank of Reserve guarantees companies the availability of foreign currency.**
- **Freedom to bring in and repatriate funds to and from Peru. No permits required.**
- **Absolute freedom to fix hydrocarbon sales prices according to supply and demand.**

# PERUPETRO S. A.

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**A State Company created by Law N° 26221 - Hydrocarbons Organic Law - in 1993.**

**PERUPETRO started activities in November 1993.**

**According to law, its social objectives include among others:**

- To promote investment in hydrocarbons exploration and production activities.**
- To negotiate and subscribe oil contracts on behalf of the Peruvian State.**
- To exercise the supervision of oil contracts.**

# **LICENSE CONTRACTS IN PERU**

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- ✓ **Oil Companies own 100% property of hydrocarbons extracted by them.**
- ✓ **Contract Terms: 30 years for oil and 40 years for Natural Gas.**
- ✓ **Exploration Term: 7 years. Possible 3 years extension, to complete up to 10 years.**
- ✓ **100% risk taken by Oil Companies.**
- ✓ **Contracts consider a Royalty payment.**

## **STABILITY OF CONTRACTS IS BASED ON:**

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- ✓ **Contract approved by Supreme Decree – same level as a Congress Law - “Contract–Law”.**
- ✓ **Contract signed by PERUPETRO S.A. as a “Sociedad Anonima” follows corporate rules:  
So, the Contract is signed  
“Enterprise to enterprise”.**
- ✓ **International Arbitration is part of the Contract;  
there is a specific Clause for this.**



# *DEVELOPMENT OF NATURAL GAS IN PERU*

## MILESTONES

- **1998** AGUAYTIA NATURAL GAS PROJECT
- **2004** CAMISEA NATURAL GAS INTEGRAL PROJECT (Block 88)
- **2004** STARTS MASSIVE POWER GENERATION UNITS WITH NATURAL GAS
- **2004** STARTS DOMESTIC NATURAL GAS MARKET TO LIMA AREA
- **2008** STARTS PAGORENI NATURAL GAS TO SOLD NATURAL GAS LIQUIDS

## PROJECTS IN EXECUTION

- **2010** STARTS EXPORTATION OF LIQUIFIED NATURAL GAS PROJECT
- **2013 – 2015** GAS PIPELINE PROJECTS TO SOUTHERN REGIONS.

# INFRASTRUCTURE FOR NATURAL GAS DEVELOPMENT

## EXPLOITATION

- Camisea Gas Fields
- Gas Processing Plant in Malvinas - Camisea
- Gas Liquids Fractionation Plant in the Coast (Pisco)

## TRANSPORT

- Gas Pipeline: Camisea - City Gate in Lima
- NGL Pipeline: Camisea - Pisco

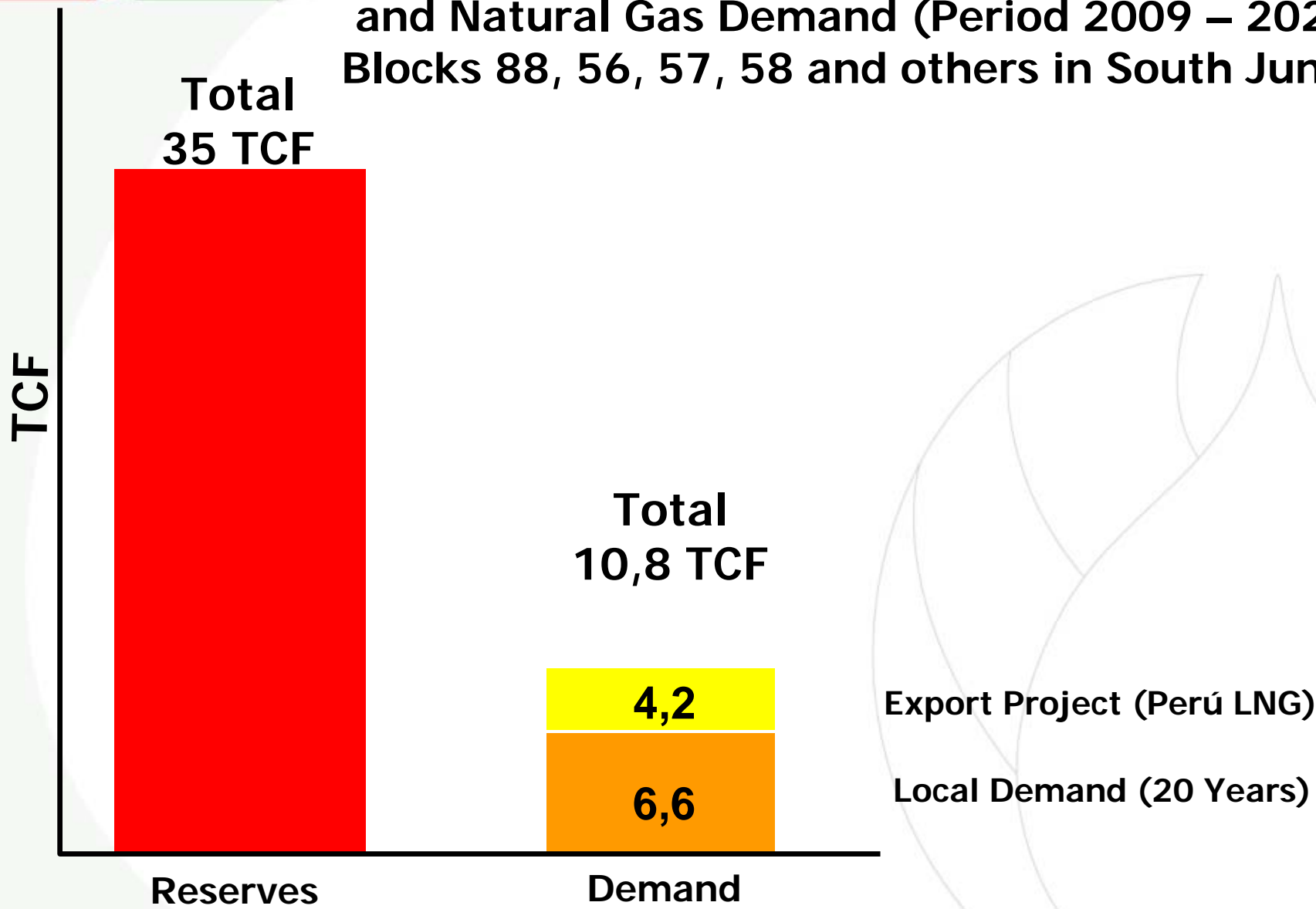
## DISTRIBUTION

- Gas Distribution Network in Lima and Callao

**PROJECT IN OPERATION  
SINCE JUNE 2004**

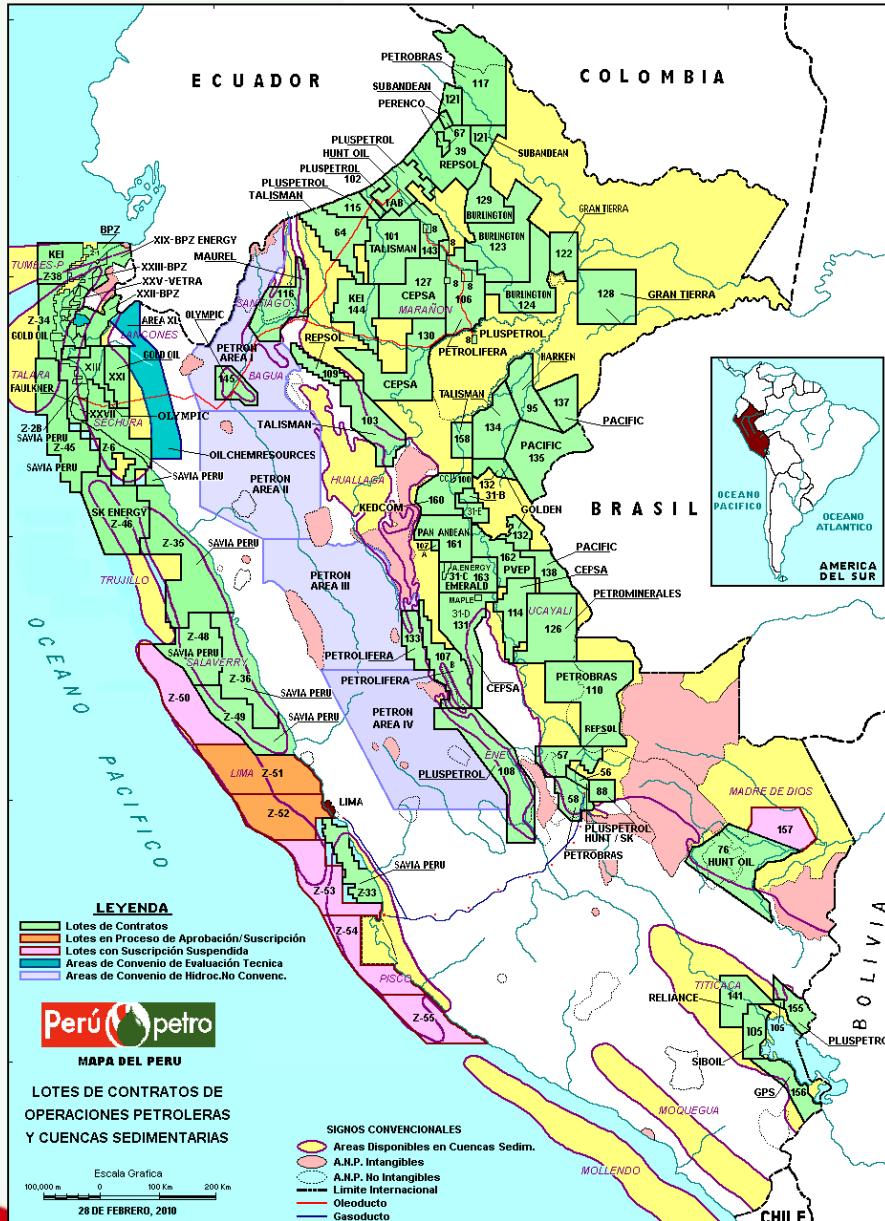


# Proven and Probable Reserves (at Medium Term) and Natural Gas Demand (Period 2009 – 2028) Blocks 88, 56, 57, 58 and others in South Jungle



# A PROMISING FUTURE



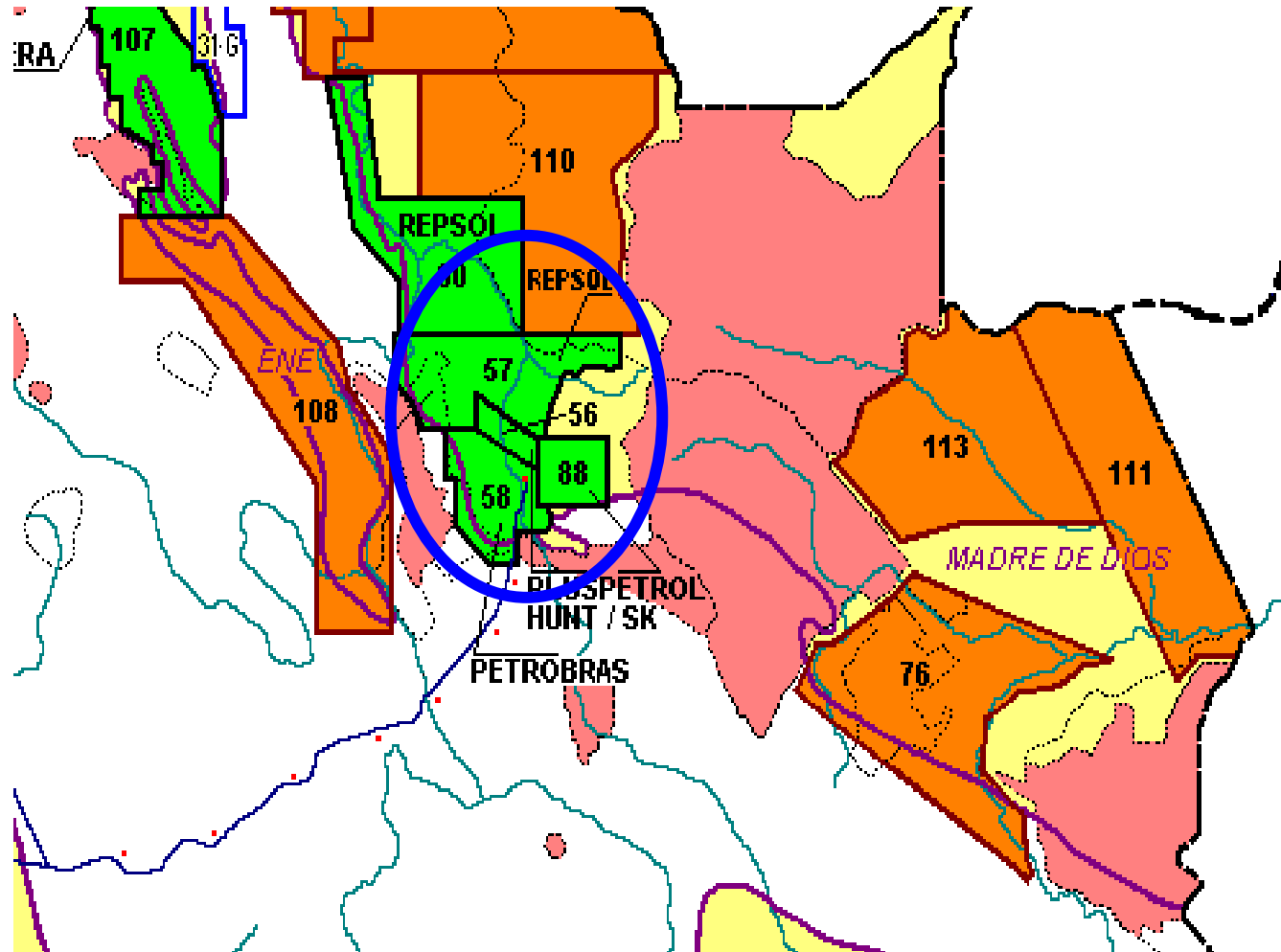


- As consequence of intensive promotion and international biddings 2007-2010, PERUPETRO will have more that 100 contracts signed in 2010.
- There are important investments in heavy oil production in the North Jungle and Natural Gas and Condensates production in Camisea and adjacent Blocks.
- There will be an important increase of exploration investment in different areas of the country.



# GREAT NATURAL GAS POTENTIAL

## Camisea and neighboring areas, Peruvian South Jungle



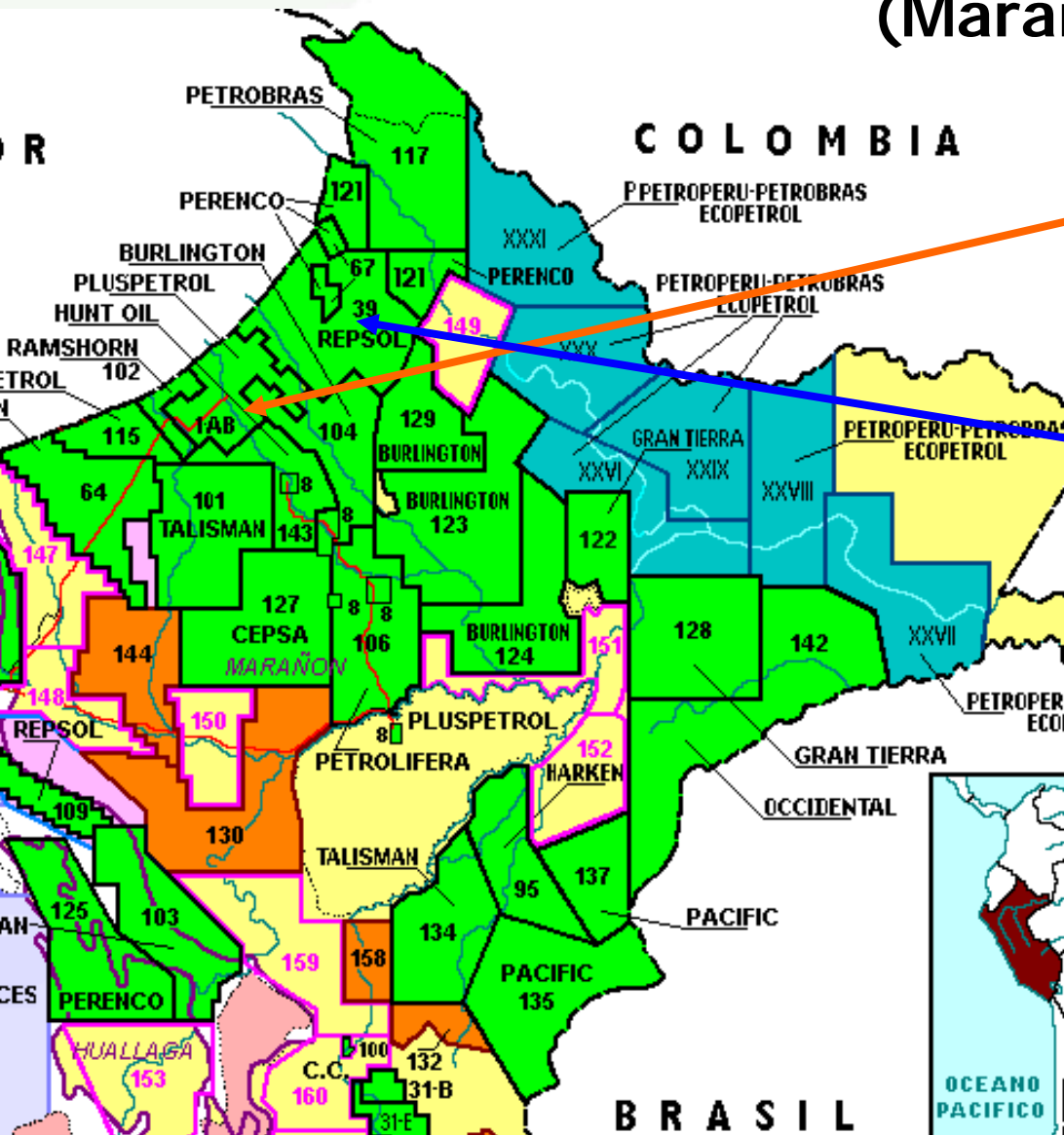
Reserves of Natural Gas in Blocks 88 & 56 are 16 TCF. These areas are in production.

Neighboring areas have an additional gas potential (+ 40 TCF).

New discoveries:

- Block 57: Kinteroni (2008) 2 TCF
- Block 58: Urubamba (2009) Under Evaluation (2TCF)

# Heavy Oil in North Jungle (Marañón Basin)



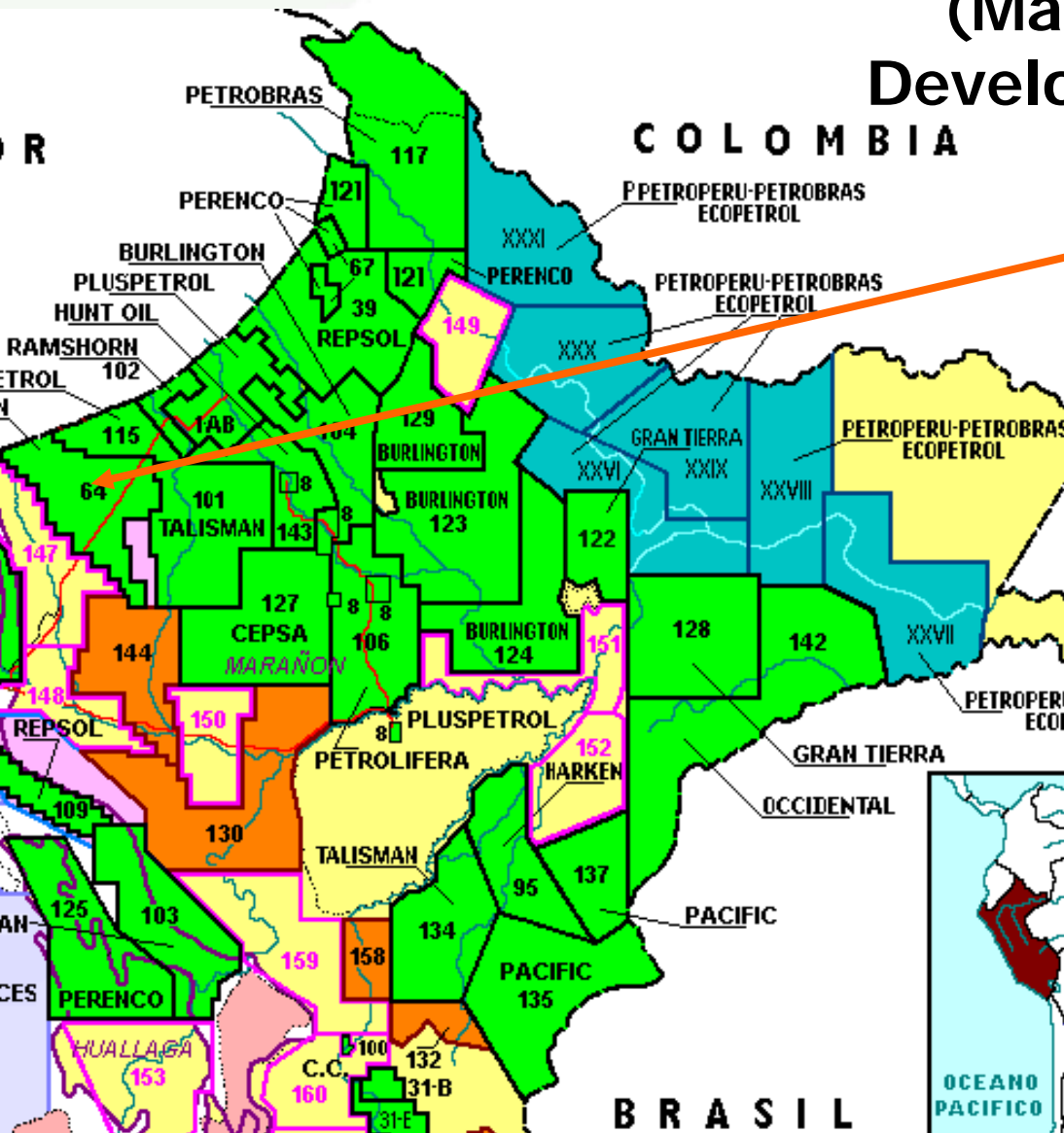
➤ In 1970 and 1980 400 MMB were discovered in Block 1-AB.

➤ 500-600 million barrels were discovered between 1998-2006 in Blocks 39 and 67.

➤ Blocks 39 and 67 are partially explored. Potential of additional resources: more than 500 million barrels.

➤ Oil Production in Block 67 will begin in 2013.

# Light Oil in North Jungle (Marañon Basin) Development of new areas



- In 2005 light oil was discovered in Block 64.
- In 2009 with additional drilling in Block 64 the last discovery was confirmed and also the discovery of new reserves in depth formations.
- Reserves in Block 64 are estimated around 300 million barrels of light oil.

# NORTH COAST

Offshore & Onshore exploration  
in old and new areas

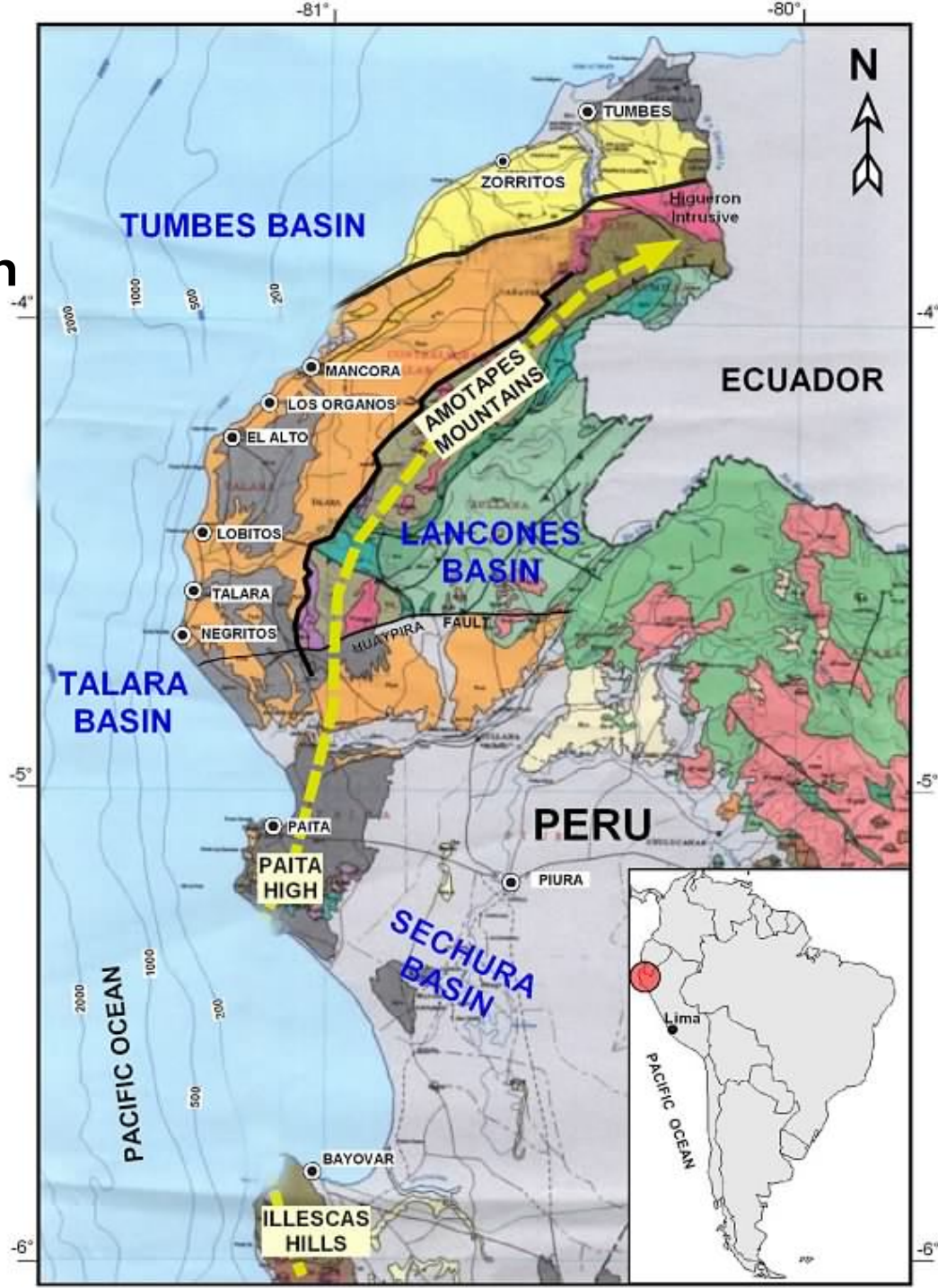
## TUMBES & TALARA BASIN

Cum. Production: 1,300 MMBO

• Potential in both basins:

UP TO 2,000 MMBO  
(70% OFFSHORE)

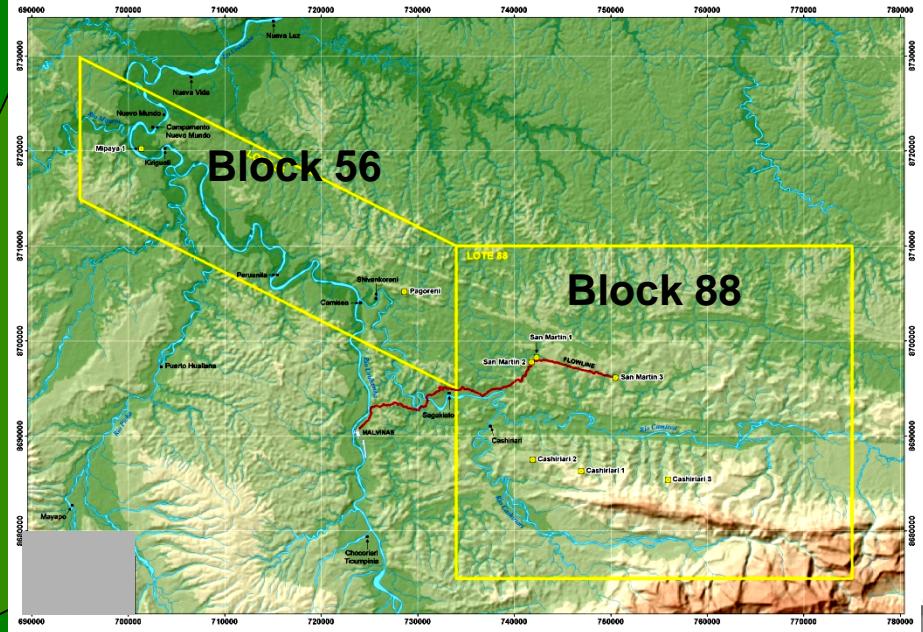
• First Oil well drilled in  
1863 ...



# MAIN PROJECTS IN COURSE



# CAMISEA NATURAL GAS PROJECT



- Location: South Jungle of Peru
- Blocks 88 & 56 Reserves:
  - Natural Gas : 16 TCF
  - Liquids (NGL): 1,000 Million Bls
- Total investment: 2,500 Million US \$
- Blocks 88 & 56 Production :
  - Natural Gas : 1,300 MMscfd
  - Liquids (NGL): 80,000 BPD

- Camisea Project (Block 88) started production on year 2004.
- Block 56 Project started production on year 2007.

# PERU LNG PROJECT

Project components:

- LNG Plant
- Gas Pipeline
- Dock and loading facilities

Start of Operation: Year 2010

Status: Construction concluded

Total Investment: 3,800 MM\$

Production : 620 Million scfd

Operator:



- PERU LNG Pipeline
- TgP Pipeline





# **UPSTREAM ACTIVITIES AND FORECAST PRODUCTION**

# Upstream activities 2010 – 2014

(Related to the 68 exploration contracts in force nowadays)

## UP STREAM ACTIVITIES FORECAST

	2010	2011	2012	2013	2014	TOTAL
<b>DRILLING</b>						
DEVELOPMENT WELLS	154	121	169	169	170	783
EXPLORATORY WELLS	15	29	34	26	26	130
<b>SEISMIC</b>						
2D Km	10592	5480	1240	850	0	18162
3D Km2	4917	0	0	0	0	4917
<b>INVESTMENT (US\$ MILLION)</b>	1528	2121	2175	1516	1791	9130

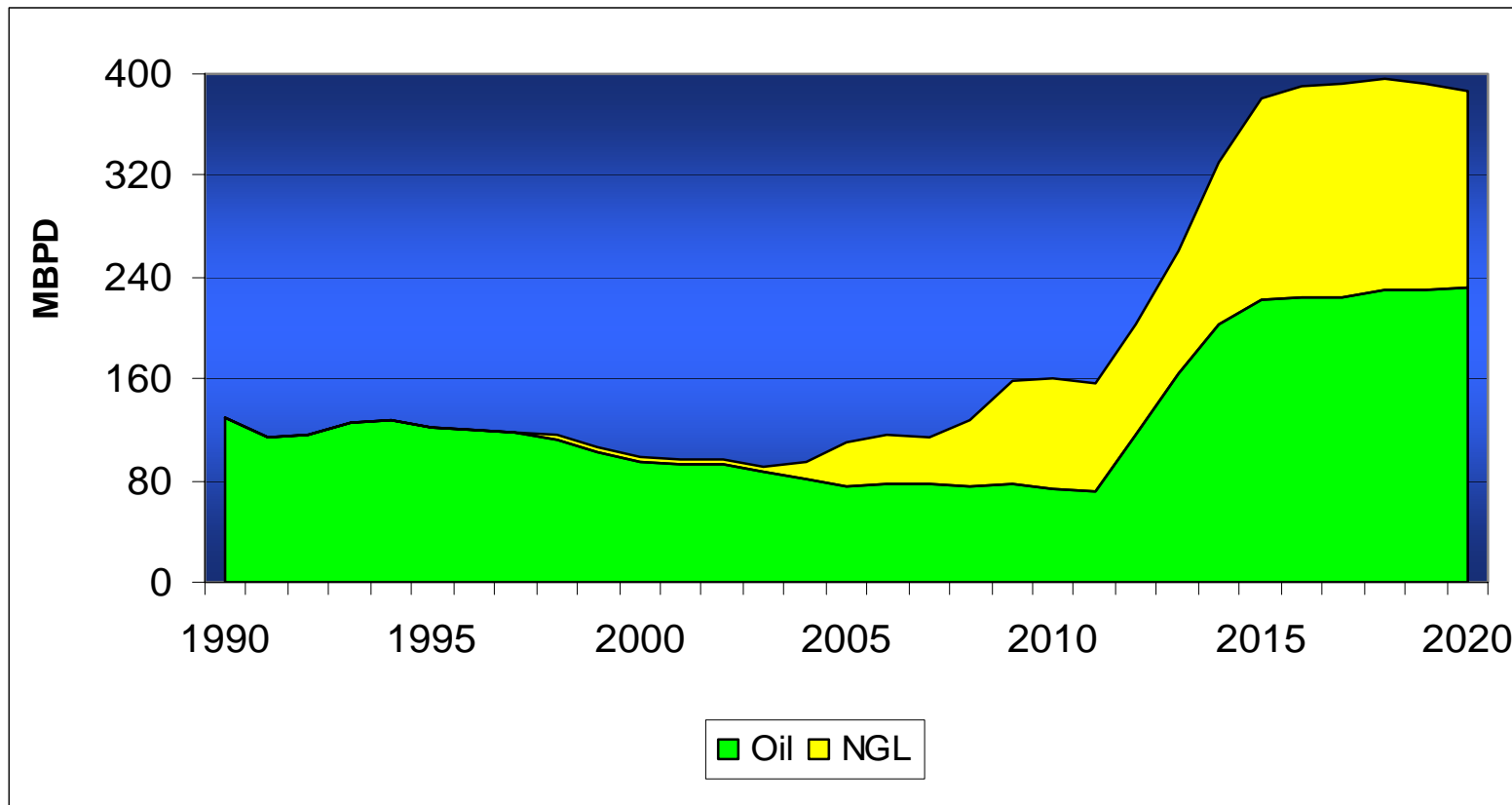
## **EXPLORATION ACTIVITIES 2010 – 2014 EXPECTED RESULTS**

<b>TOTAL EXPLORATORY WELLS</b>	<b>130</b>
<b>SUCCESS FACTOR</b>	<b>10%</b>
<b>EXPECTED SUCCESSFUL WELLS</b>	<b>13</b>
<b>EXPECTED RESERVES</b>	<b>1300 MM BARRELS</b>

**We expect discoveries of 1300 MM barrels (or barrels of oil equivalent) as a result of the 2010 – 2014 exploration activities related to the 68 exploration contracts in force nowadays.**



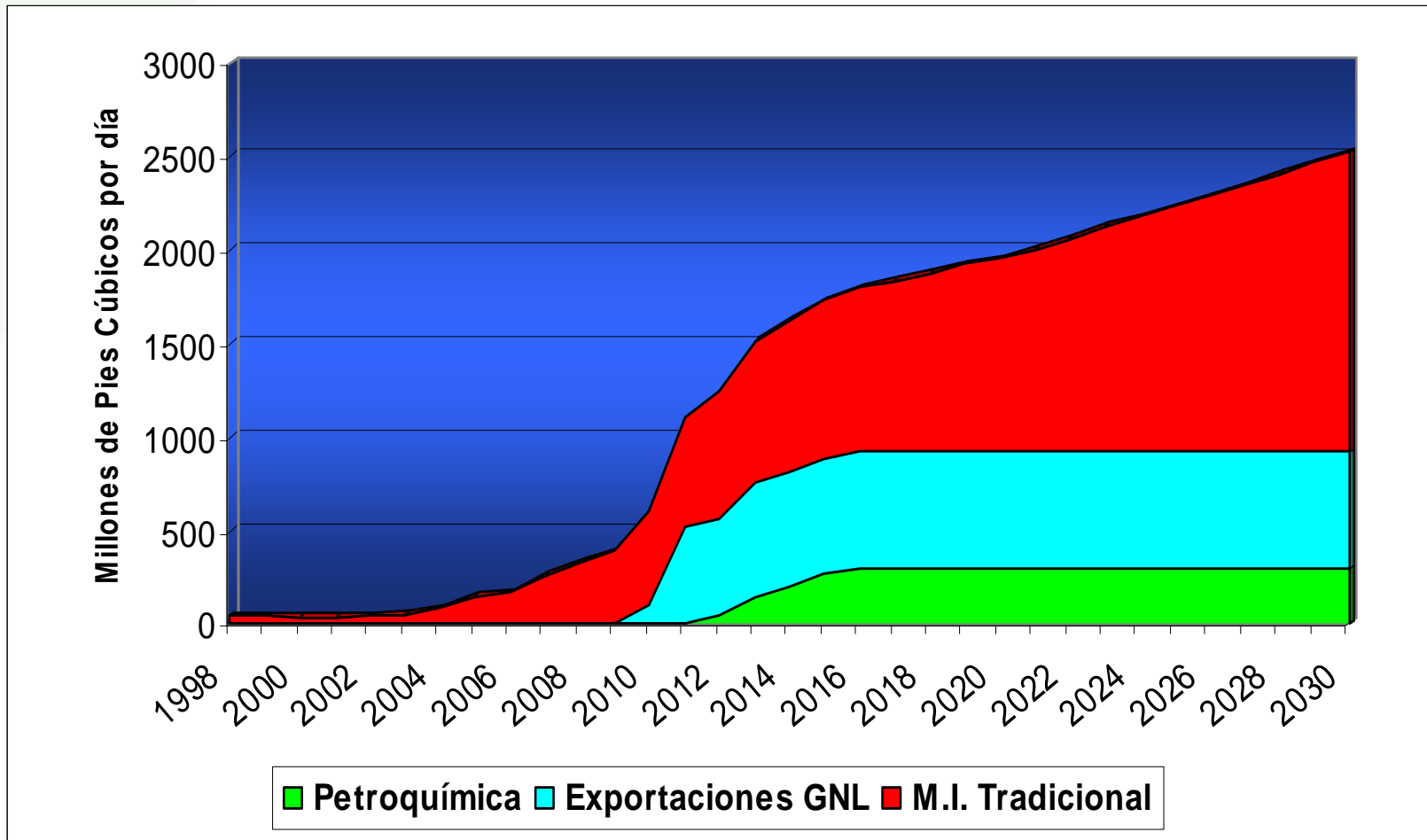
# LIQUID HYDROCARBON PRODUCTION AND FORECAST



**Camisea Natural Gas Liquids Production overturned the declining tendency of production.**

**Discoveries of light and heavy oil will increase the production.**

# ESTIMATED PRODUCTION – NATURAL GAS SALES MMscfd



- In 2004, started commercial production of Camisea Natural Gas.
- In 2010, Peru will be the first exporter of Liquefied Natural Gas of South Pacific.

# PERUPETRO 'S PROMOTIONAL CAMPAINGS

## Bidding Round

	<u>Bidding Blocks</u>	<u>Blocks with Bid Winner</u>	<u>Contracts in Force</u>
➤ 2007 Process	19	13	13
➤ 2008 Process	22	17	12
➤ 2010 Process	25	<b>Call for Bids: May 2010</b>	

- Although the world financial crisis, the Perú GDP growth of 4.5 % in 2009, and 6% average in the following 4 years.
- Increase of contracts, investment and future hydrocarbons production shall contribute in the GDP growth.
- Possibilities to use natural gas in new industries as Petrochemical.
- The execution of the Liquefied Natural Gas Project will place Peru as the most important LNG exporter of South Pacific - America.
- Full force of a competitive contracting scheme, macro economic stability and legal safeguards of the country contribute to the present and future succes.

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