ACS, Servicios Industriales

A Global Solution

ACS INVESTOR DAY 2019 Madrid 24 de Abril

Oil&Gas

Mr. Gustavo Fernández Tresgallo

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01 BACKGROUND

Start of Operations

2004
Integration
Dragados
Offshore

2005
Management
Contract
MPG
Pyrenee
Block

2007
Start of
Operations
NEJO – IHSA Block

2013
Migration NEJO
to CIEP

Purchase MPG
Pyrenee, San
Andrés & Tierra
Blanca

2016
Start of
Operations
Colombia

Río Zulia,
Valdivia
Almagro
& Río de Oro
Blocks

2017
Contract
Renegotiation

NEJO Block

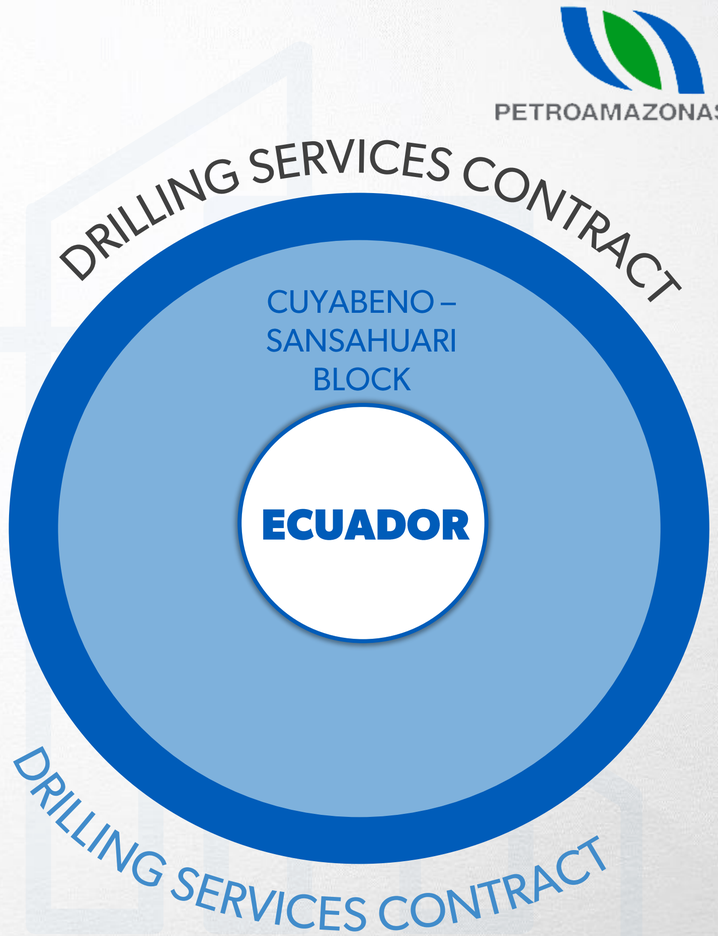
Ronda 2.2. y 2.3.
Mexico
3 New
Blocks

2018
Start of
Operations in
Ecuador

Cuyabeno –
Sansahuari Block

01 BACKGROUND

Current Situation

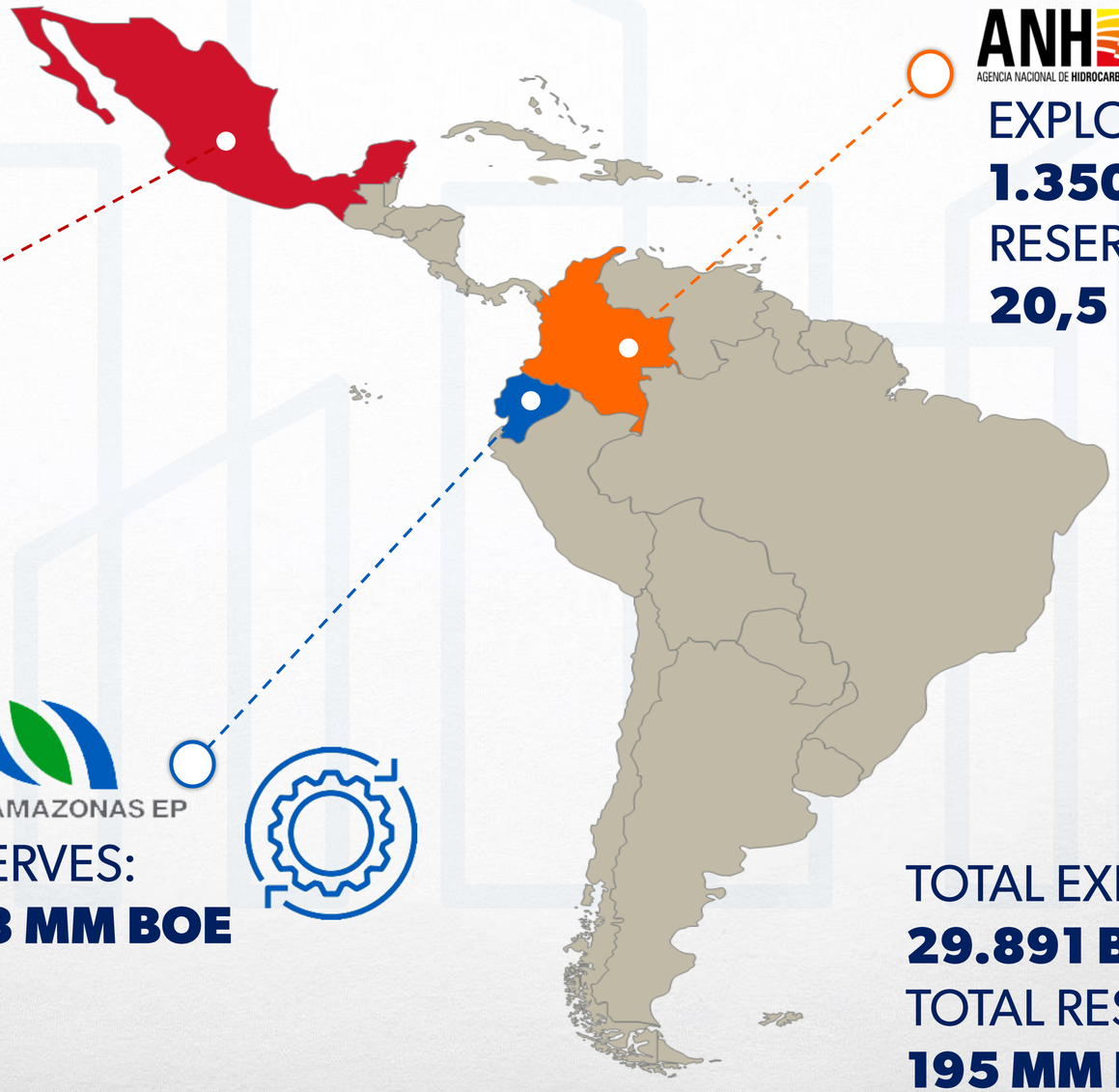


CNH
Comisión Nacional de Hidrocarburos

Operation of 10 **Blocks in 3 Countries**

01 BACKGROUND

Exploitation volume and reserves in each Country



CNH
Comisión Nacional de Hidrocarburos

PEMEX®

EXPLOITATION:
28.541 BOED
RESERVES:
107,3 MM BOE

ANH
AGENCIA NACIONAL DE HIDROCARBUROS

EXPLOITATION:
1.350 BOED
RESERVES:
20,5 MM BOE

PETROAMAZONAS EP

RESERVES:
67,8 MM BOE

TOTAL EXPLOITATIONS:
29.891 BOED
TOTAL RESERVES :
195 MM BOE

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02 HUMAN & TECHNICAL SKILLS

Our Professionals

OUR GREATEST ASSET
A very experimented and qualified Technical Team

- Oil Engineering
- Geological Engineering
- Geophysical Engineering

>100
SPECIALISTS IN MANAGEMENT TECHNIQUES

- Mining Engineering
- Chemical Engineering
- Industrial Engineering

OBJECTIVE
Boost the Production, Reserves y Economic Performance

GEOLOGICAL / GEOPHYSICAL

Geological Leader with 40 years of experience

Team average of **more than 13 years of experience**

95% Geological **Engineers** / Geophysical Engineers

SITES/ TERMINATION

Team leader with 35 years of experience in this sector

Area leaders with more than 30 years of experience

One quater of the team has **more than 15 years experience.**

PRODUCTION

More than 30 experts in this area

Area leaders with more than 30 years of experience

100% are oil, mining or chemical **engineers**

MINING

Team leader with 30 years of experience in this sector

An average experience of 10 years

100% are oil, mining or chemical **engineers**

INFRASTRUCTURE

A team in which 60%of the members have more than 10 years experience.

MAINTENANCE

All the team count on more than 5 years experience in this sector

OTHER BUSINESS AREAS

Management Modelling and Economic Analysis with an international experience of more than 18 years

Business Development Management with an international experience of 40 years

02 HUMAN & TECHNICAL SKILLS

Mining Equipment

COMPETITIVE ADVANTAGES

Extremely efficient in mining activitives.

Risk decrease due to dead time.

Minimum exposure to cost increases due to the lack of reoursces.

Galileo y Europe (IHSA-1 e IHSA 2)
2 x 1500 HP NOV IDEAL Model 2007 & 2008

Calisto (IHSA-3)
1000 HP CARRIER IDE Model 2009

Titán (IHSA-4)
2000 HP IDE SPARTA Model 2010

MPG-1
1000 HP LEE C. MOORE Model

MPG-2
1200 HP DSI Model

02 HUMAN & TECHNICAL SKILLS

The Group´s Key Strengths

Construction Associated Infrastructures

Search for the best partners with experience in well completions.

02 HUMAN & TECHNICAL SKILLS

S&S y Community Commitment

SAFETY, HEALTH & ENVIRONMENT

- Leadership and Communication
- Administrative Systems (ISO 9001, ISO 1401, OHSAS 18001), ESR
- Training
- Surveillance and Control
- Individual Awareness
- Coordination with Collaborating Companies
- Improvement actions in Safety

HIGH SAFETLY AND ENVIROMENTAL STANDARDS / SOCIAL COMMITMENT OF ALL OF OUR MEMBERS

- Provision of resources Healthcare & Emergency Care
- Scholarship Programme
- School Support
- Campaigns & Childrens Workshops
- Campaigns for Adults
- Infrastructure Improvements

COLLABORATION WITH THE LOCAL COMMUNITIES

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03 SEARCH FOR OPPORTUNITIES

Origen of the Opportunities

The origen or source of the opportunities in the **Oil & Gas sector** can be found in:

- **Primary Market**, managed by the Hydrocarbon National Agencies **(ANH) and the National Operators (NOC),** as in the
- **Secondary Market** managed by the Private National or International Operators (**IOC)** with E&P contracts.

The knowledge and interaction with these markets, through the **ANH, NOC, IOC** and other small independent operators, will enable the opportunities portfolio to grow and incorpórate the necessary assets to obtain a sustainable growth of the Oil & Gas activity.

PRIMARY MARKET

- **Bidding Rounds of the** E&P blocks, administrated by the **ANH**.
- Strategic Associations auctions with the NOC **(Farmouts)**.
- **Marginal Field** tenders of the NOC.
- **Tenders of the E&P Integral Services Contracts of the NOC**.

SECONDARY MARKET

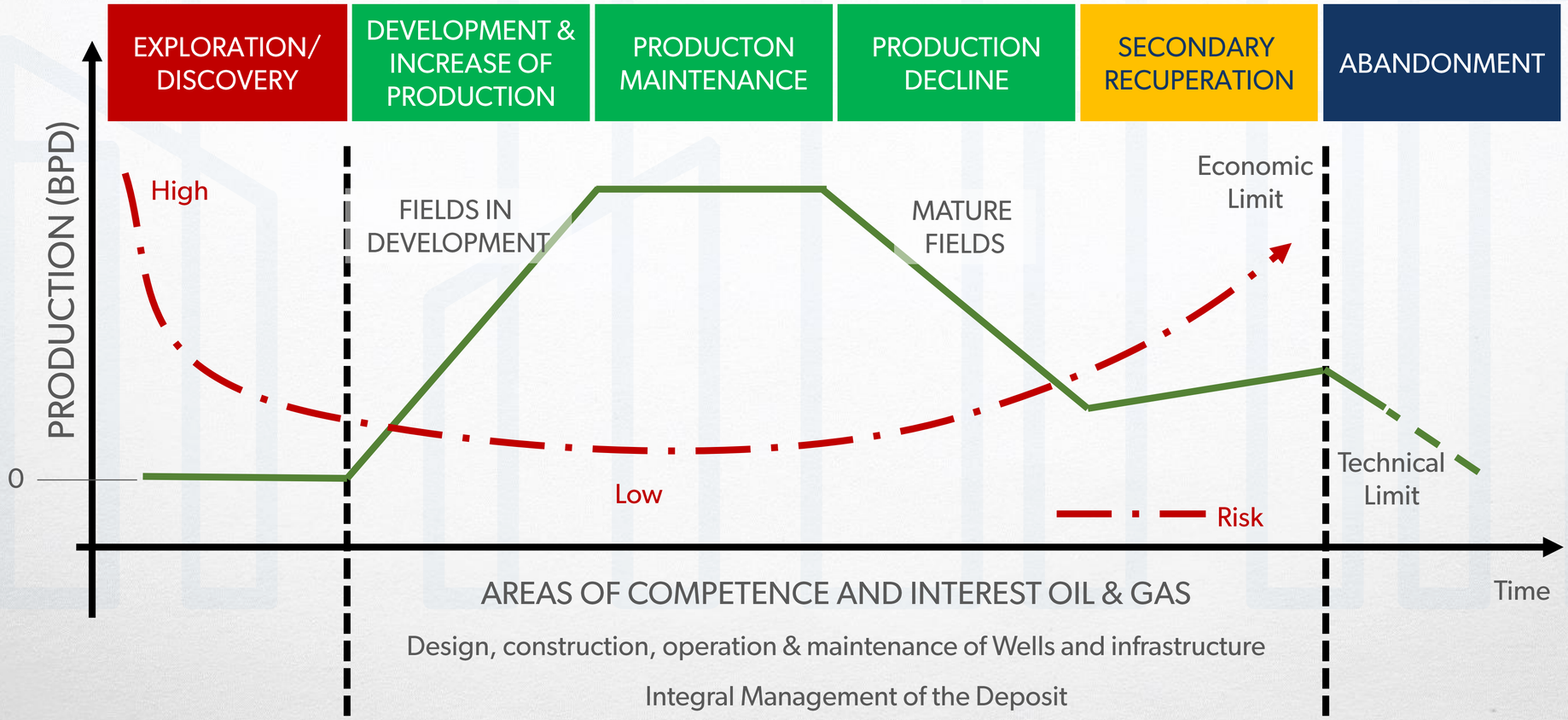
- **Integral Services Contracts** migrating to **E&P Contrats**.
- **Farm-in** with **IOCs**.
- **Farm-in with independent third parties** who require technical-economical support.
- **E&P Contracts on sale.**

03 SEARCH FOR OPPORTUNITIES

Project Objectives

The value chain of the E&P hydrocarbon projects is clearly segmented over time, in relation with the particular activities of exploration, discovery, development, production, declination and finally the abandonment of the sites.

For our Group, the areas or segments of competence and interest will be those of low risk.



03 SEARCH FOR OPPORTUNITIES

Basic Selection Criteria

The selection of new projects for the Oil & Gas Activity, will be carried out bearing in mind the objective function and the following basic selection criterias:

OBJETIVE FUNCTION

Intervene as an Operator with at least **51%** of the share participation, in E & P projects of mature oil assets (fields) and / or in "low" risk development

Contracts for Integral Services and / or Drilling Services

BASIC SELECTION CRITERIA

- Fields with production ≥ 1,500 BOED, mature or in development,
- Conventional or non-conventional, with proven reserves ≥ 10 MMBOE,
- With or without exploratory opportunities or contingent resources,
- Terrestrial, without discarding mariners in shallow waters,
- Producers of oil or wet gas,
- With low or minimum geological and mechanical risk,
- Internal double-digit return rates (IRR),
- Countries with fiscal attractiveness and sufficient political and economic stability.

- Tenders with National or Private International Operators without risk of production, or with production incentive applying the same intervention criteria as Operator.

03 SEARCH FOR OPPORTUNITIES

Risk Analysis

RISKS

PROJECT

Geological Commercial and Contractual
Environmental, Safety and Health Construction, Technical and Operation

INDUSTRIAL SECTOR

Market
Competition
Infrastructure Technology

REGULATORY FRAMEWORK

Regulatory changes
Political
Fiscal

COUNTRY

Association with the NOC
Economic policy
Price of supplies

Geological: It is the main element in the evaluation of any E&P project. It evaluates the certainty of the presence and volume of commercial accumulations of hydrocarbons. The participation in mature or developing fields minimizes that risk.

Commercial and Contractual: To monetize the hydrocarbon reserve, requires agreements and commercial contracts. A deep due diligence is essential to finalize the signing of any contract and minimize the risk of default by the client and possible cancellations of contracts.

Environmental, Health and Safety: The existing Environmental Liabilities and Health and Safety conditions in existing facilities must be analyzed in detail.

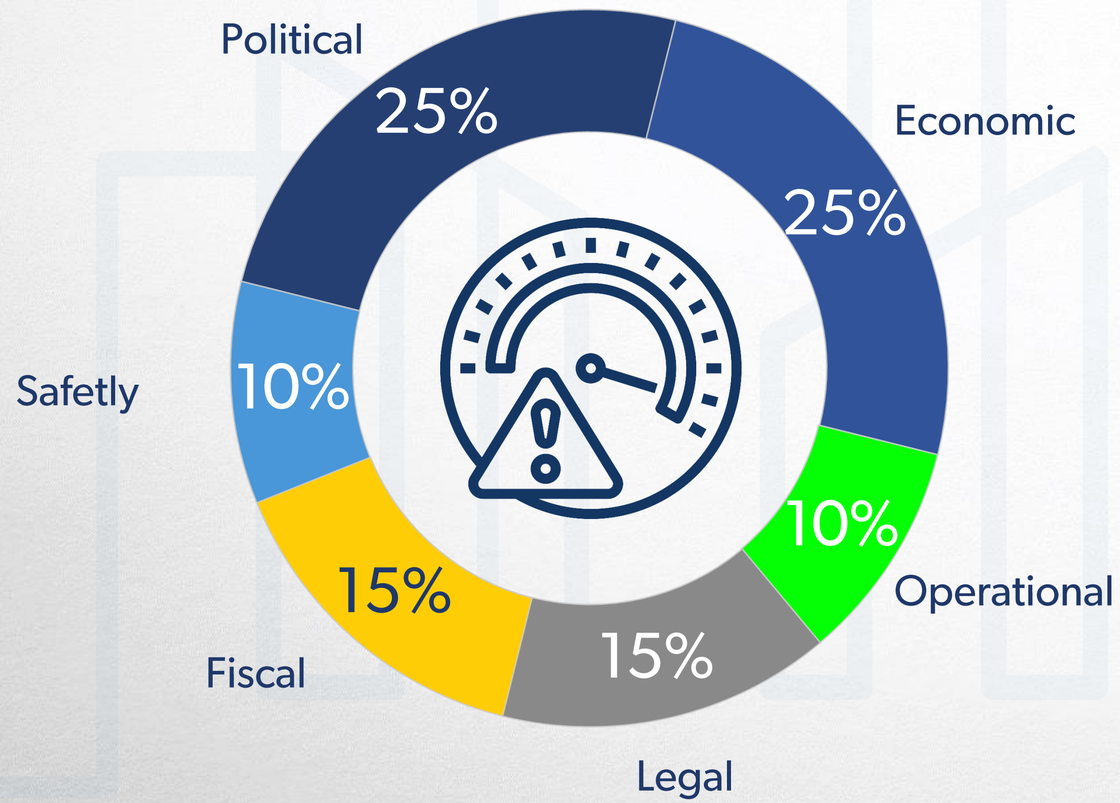
Construction, Technical and Operation: It is related to the uncertainty of the productivity of the deposits, and the level of operational efficiency, where the human resources, the organization and the quality of the materials and services are decisive.

Our Group does not ignore the risks inherent in E & P projects. They identify, understand and attend to them in order to transform them into competitive advantages

03 SEARCH FOR OPPORTUNITIES

Risk Analysis

The risks of the Industrial/ Hydrocarbons Sector and their regulatory framework can be included within the **country risk**. It identifies all the risks in the sector, with political and economic risks having a major relevance.



Political: Institutional respect and internal and external political consensus of the country.
Economic: Market orientation of a country, coherence of future planning policies, diversity and capacity for growth, stability or economic recovery.
Operational: Attitude of a country in the light of a foreign investment, quality of infrastructure, certainty of labour relations, bureaucracy, corruption, as well as physical safetly in the environment.
Commercial: Conditions for the export of hydrocarbons, availability of adequate physical infrastructure, national and international political interference and public safety.
Contractual: Certainty and historical tradition of a country in compliance with contractual agreements.
Legal and Fiscal: Probability of frequent or unpredictable changes regarding the governmental policies of the sector and to the fiscal terms and conditions that affect the investment

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04 TECHNICAL – ECONOMIC ANALYSIS

Methodology for the Incorporation of E & P Projects

MARKET

OPPORTUNITY

BD Group
Identifies attractive and feasible opportunity according to the strategy and the basic selection criteria of the Group

TECHNICAL ANALYSIS

Multidisciplinary Team of Engineering and Geosciences

- Geosciences
- Deposits
- Drilling
- Termination
- Productivity
- Facilities

POES / RESERVES / PRODUCTION / COSTS (TECHNICAL FEASABILITY / RISK)

ECONOMIC ANALYSIS

Multidisciplinary group of fiscal, economic and business evaluation

- Economic model
- Risks
- Probabilistic evaluation
- Business case

CASH FLOW/ TIR / VPN (ECONOMIC FEASABILITY / RISK)

LEGAL & FINANCIAL PROCESS

Multidisciplinary legal & financial Team

Calibration and optimization of Model and Business Case

- Lawyers
- Economists
- Financial Officer

TERMS & CONDITIONS (CONTRACT / FISCAL REGIME / RISK)

RESULTS

1. Characterization block/field
2. Development and exploitation plan
3. Opportunties Portfolio
4. Investment Plan
5. Key indicators of value
6. Risk-Benefit Matrix
7. Scenarios of the business case
8. OFFER

Decline

PERR EXECUTIVE REVIEW

Approve

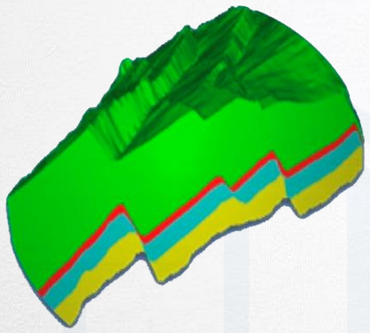
PURCHASE/SALE NEGOTIATION

CONTRACTS (Purchases)

04 TECHNICAL – ECONOMIC ANALYSIS

Technical analysis - Geosciences

STRUCTURAL

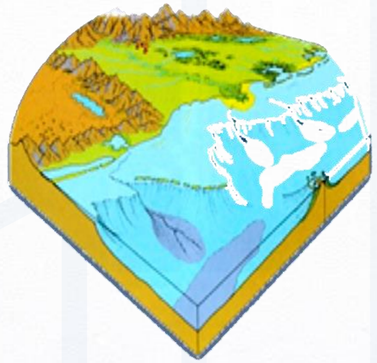


Defines the orientation and geometry of the structural elements that delimit the deposit

STRATIGRAPH

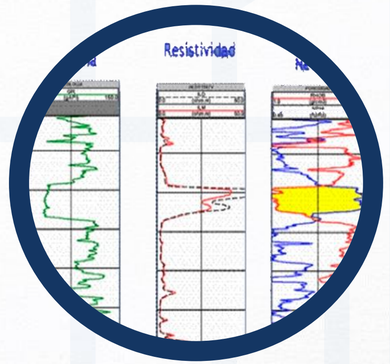
Internal architecture of the deposit that correlates and defines flow units and distribution maps of sand and stratigraphic bodies

SEDIMENTOLOGICAL



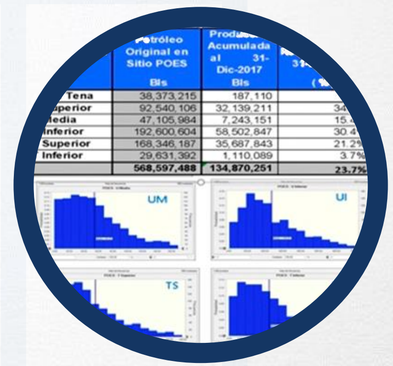
Defines the geometry, distribution and quality of the deposits of the flow units, limits and / or vertical barriers

PETROPHYSICAL



Defines basic parameters: K, Ø, Vsh, Sw

GOES / POES

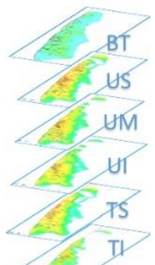


Original oil and gas calculation on site POES/GOES

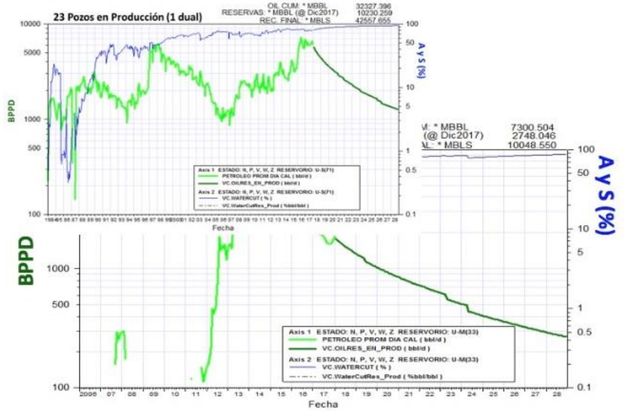
04 TECHNICAL – ECONOMIC ANALYSIS

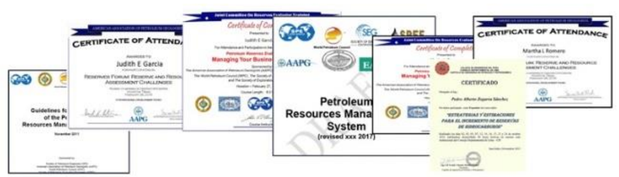
Deposits

ANALYSIS OF DECLINING CURVES



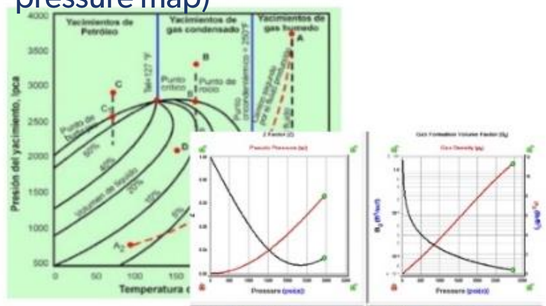
- Well by Well (Active and Inactive)
- Units of deposits separately
- Definition of maximum recovery per well deposits EUR
- Fw projection for EUR validation of the oil rate

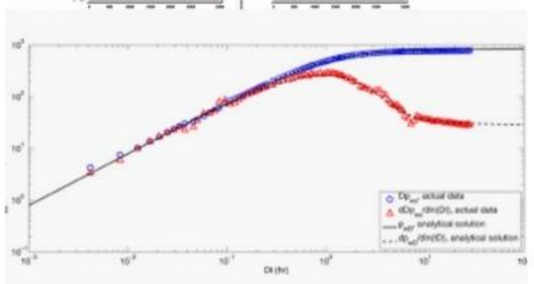




ANALYSIS OF PRESSURE FLUIDS

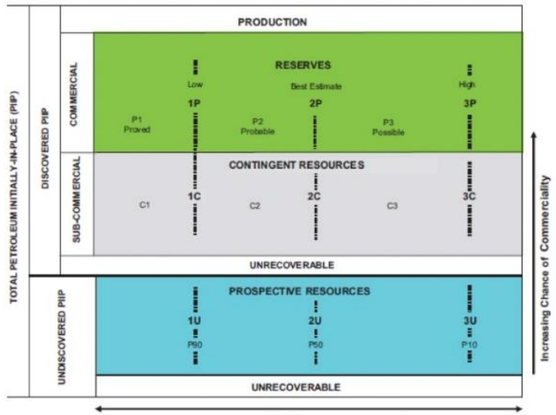
- PVT analysis
- Pressure analysis (static, dynamic, pressure map)





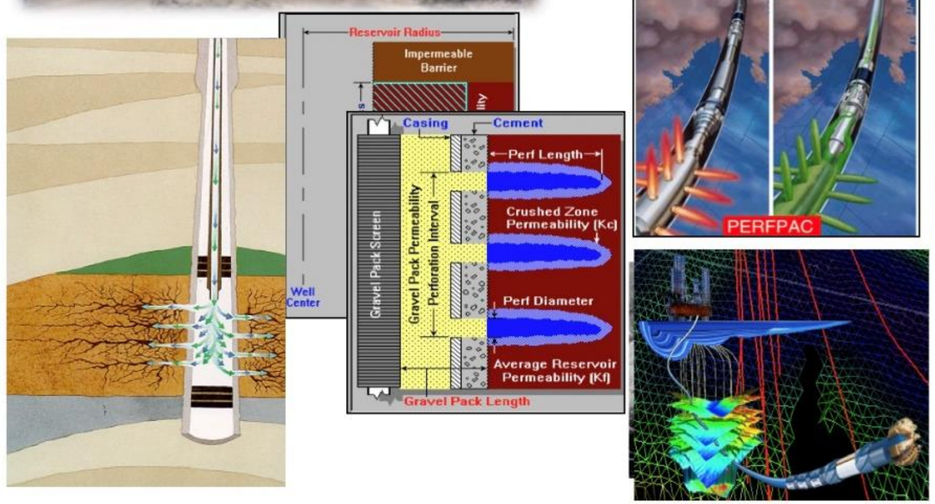
RESERVES ANALYSIS (PRMS/SEC)

- Definition of proven, probable and possible reserves



04 TECHNICAL – ECONOMIC ANALYSIS

Drilling & Completion



REVIEW & RECOMMENDATION IN:

- Well Design
- Drilling and Finishing Fluids
- Cementation
- Vertical and Directional Drilling
- Well Completion
- Rehabilitation of Wells

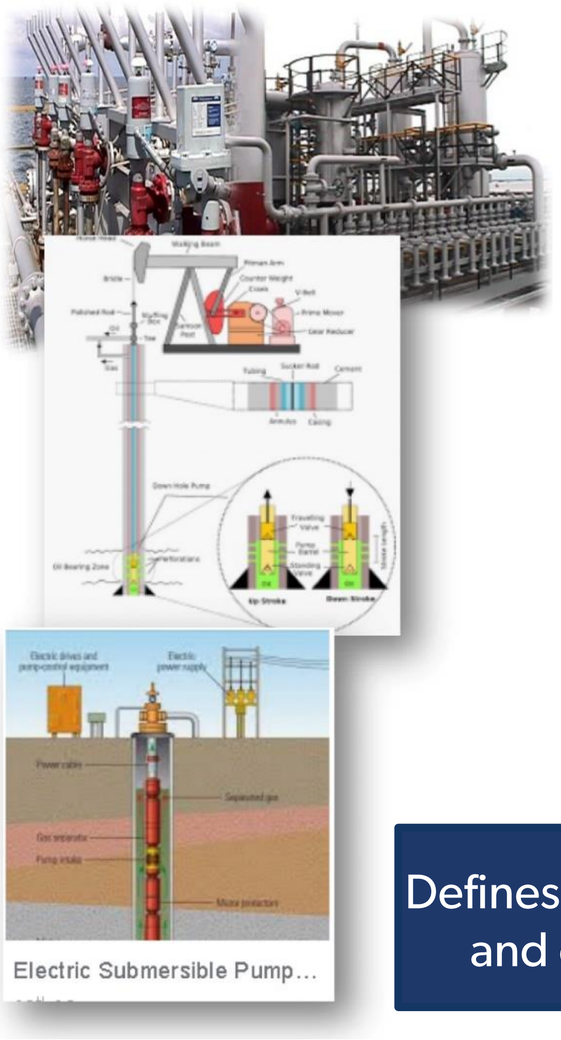
DEFINITION OF CAPEX & OPEX

- Repairs and Drilling at new locations
- Water production control / sand production control
- Well stimulation and hydraulic fracturing
- Remediation of well formation damage

Defines the best options for Drilling, Well Completion, Cost and new technologies to apply on site

04 TECHNICAL - ECONOMIC ANALYSIS

Production & Facilities



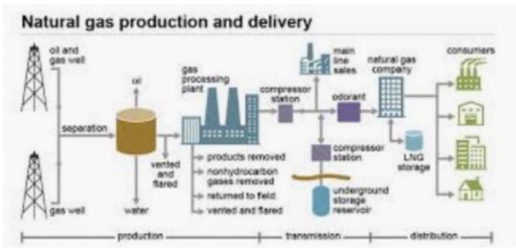
PRODUCTION

- Studies on Production Methods
- Production System Optimization
  - Productivity of Comprehensive Engineering
  - Process Engineering
  - Technological Plan Impact
  - Studies on Risk and Uncertainty
- Production Operations
  - Oil, Gas and Condensed Fields
  - Heavy Crude with Steam Injection
  - Acid Crude, Sand, Carbonate, and High Water production
- SHA Management – Application and Best Practices

FACILITIES

- Mainteinance and Reliability based on Inspections
  - Connection Platform Inspection
  - Structures' Inspection and Mainteinance
  - Laying and Connection of Pipelines
- Start and Delivery of Facilities
- Engineering, Definition and Development (EDD)
- Feasibility Studies, Conceptual

Defines the best options of Well's Production and management, and optimization of facilities by minimizing CAPEX/OPEX

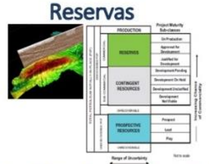


04 TECHNICAL - ECONOMIC ANALYSIS

Block's Economic Evaluation

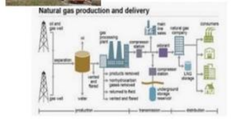
- Geological & Geophysical
- G&G
- Data Adquisition
- Integrated Studies
- CAPEX
- Development Costs
- Perforation Costs
- Installation Costs
- Oil Pipelines
- OPEX
- Treatment
- Transport
- General and Admin: G&A
- Abandonment/ dismantling Costs

Estimación Reservas

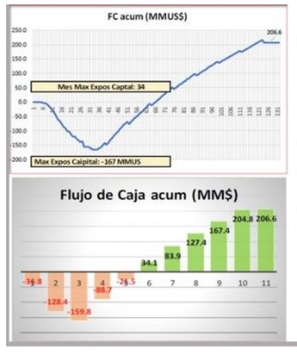


Perfiles de Producción

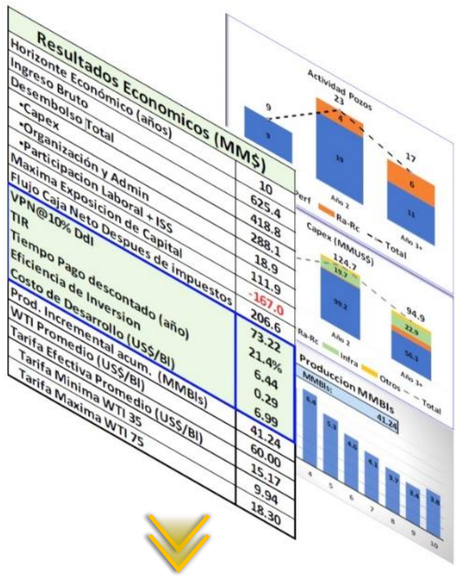
Perfiles de Costos CAPEX-OPEX



TAX REGIME



CONTRACT TERMS



NEGOTIATION COMPANY A + B

TARGET	TOOL	RESULT
Minimize risk exposure	Hedging and financial derivatives	Economic security model

CONTRACT

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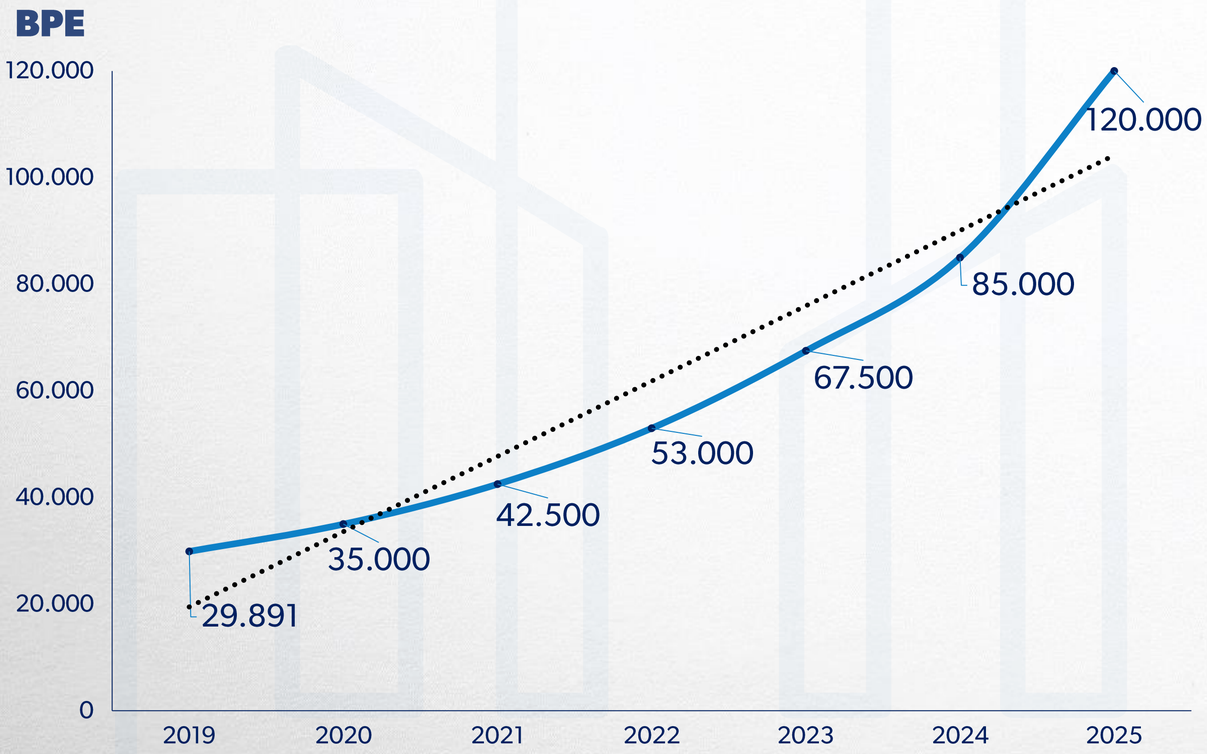
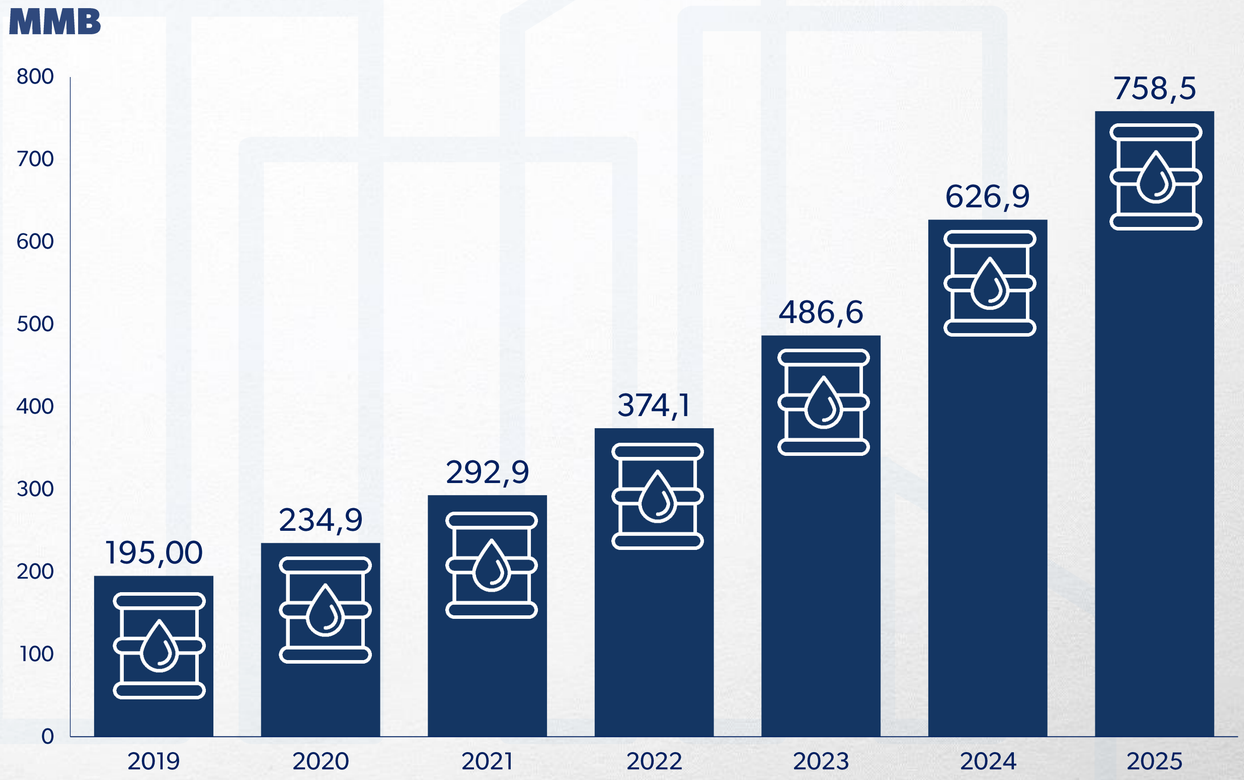
Operation Target

DAY-TO-DAY OPERATION



EQUIVALENT OIL RESERVES



05 GROWTH PROSPECTS

Development of New Markets

E&P UNDER LICENCE CONTRACTS

INTEGRATED SERVICES
Block Operations

MIDSTREAM ACTIVITIES
Hydrocarbons' Treatment

THANK YOU VERY MUCH

ACS
SERVICIOS INDUSTRIALES

UNA SOLUCIÓN GLOBAL