



# 2005 Eni Field Trip - Algeria

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Senior Vice President

Geographic Area Italy, Africa and Middle East

Exploration & Production Division

September 22<sup>nd</sup>, 2005



# Algeria: macro economic data - 2004

## COUNTRY DATA

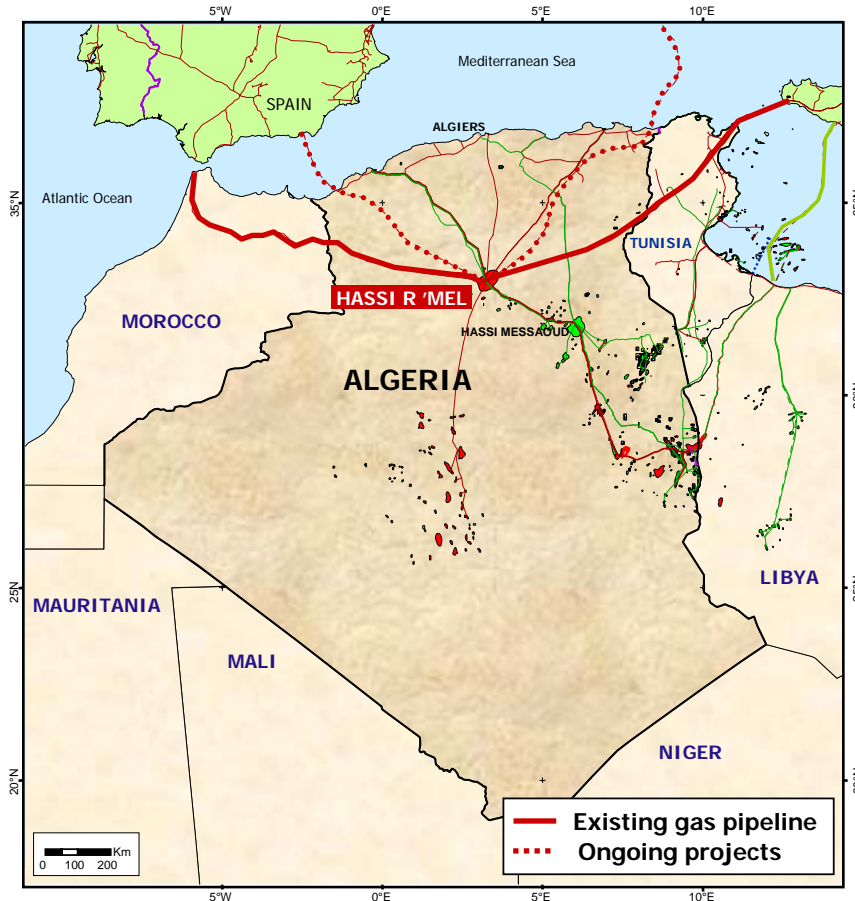
- Population: 33.4 Million
- GDP per capita: 4,973 US\$
- GDP growth rate: 7.1 %
- External Debt: 22 BUS\$
- Inflation rate: 4.6 %

## UPSTREAM SECTOR

- Oil/Condensate production: 1.8 Mbbl/d
- LNG production: 18 Mtpa
- Total Gas production: 220 Mcm/d
- Oil/Condensate proved reserves: 13.1 Bstb
- Gas Reserves: 4.5 Tcm



# Algeria: main gas supplier to the European market



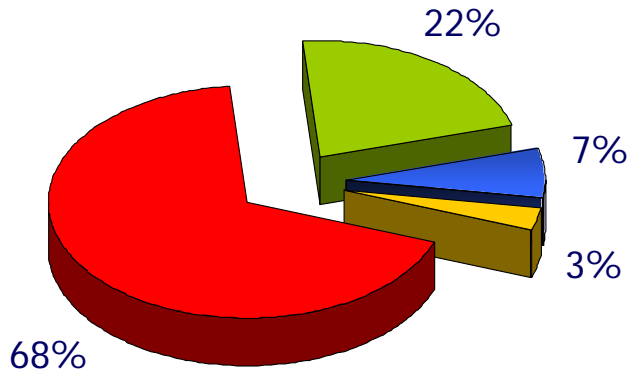
- Large gas reserve
- Key gas supplier to the European market
- Integrated gas pipeline system
- Eni the first buyer of Algerian gas



# 2004 Algerian Gas & LNG Buyers

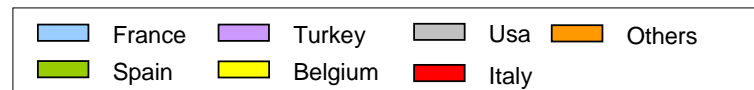
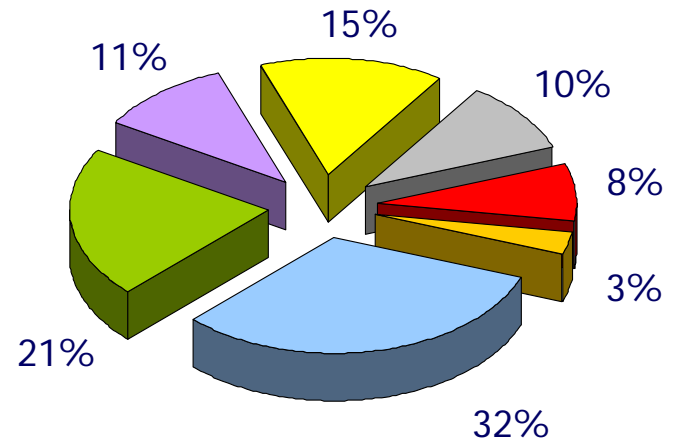
## Gas

35.4 Bcm/y



## LNG

25.3 Bcm/y



Source: Eni & "Arab Oil & Gas Bulletin – Feb. 05"



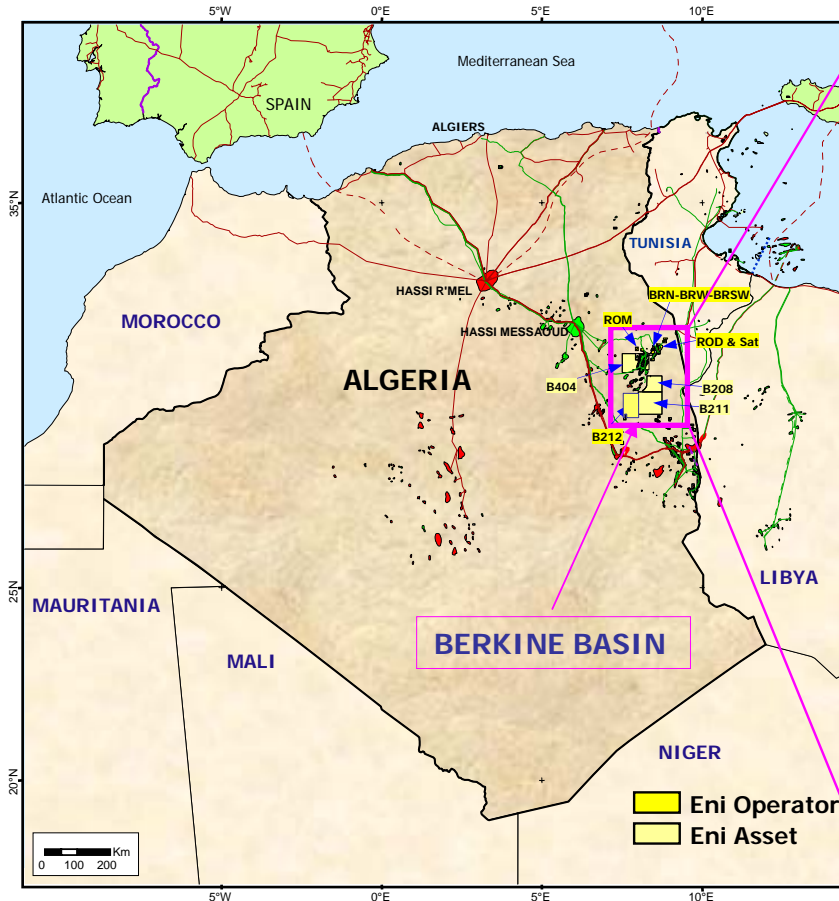
# Eni in Algeria

## KEY FEATURES

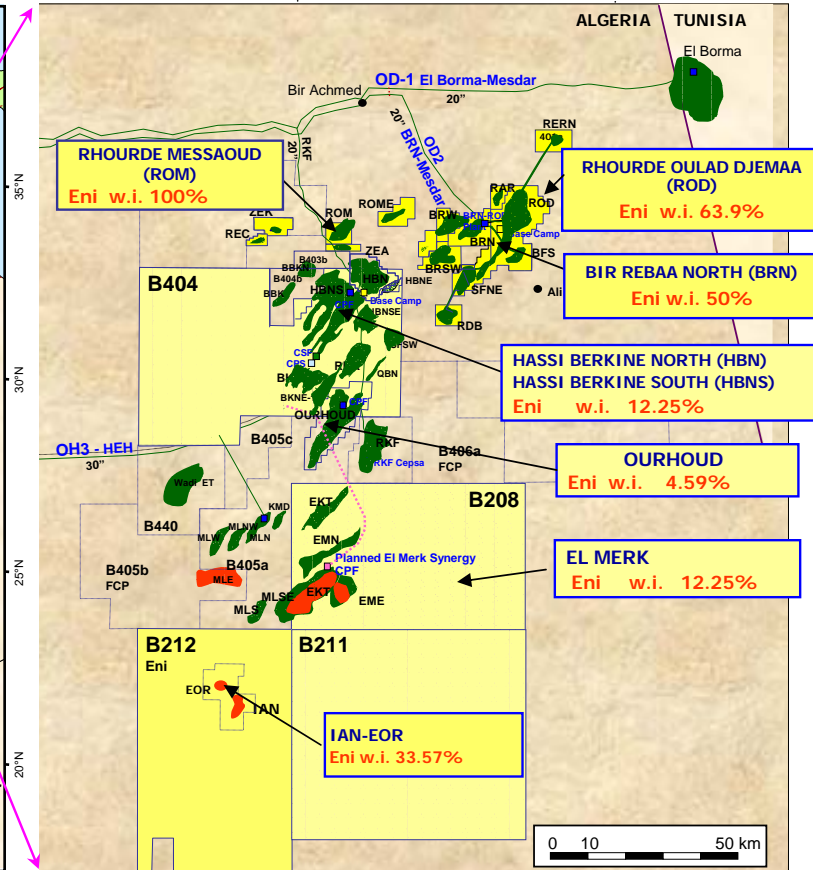
- Solid and long lasting relationship
- Leading international upstream player
- Legacy country
- More oil and gas opportunities



# Eni Assets in Algeria



## MAIN PARTICIPATED FIELDS





# Eni: presence in Algeria

## HISTORICAL MILESTONES

1975

Establishment of Joint Company Snam-Sonatrach T.M.P.C.

1981

- Start-up of gas export through gas-line E. Mattei
- Signature of Concession Agreement for Blocks 403&407

1986

Rhourde Messaoud (ROM) oil field discovery

1987

The *Concession Agreement* of B.403 turned into *Production Sharing Agreement* (first PSA signed in Algeria)

1989

Bir Rebaa North (BRN) oil field discovery

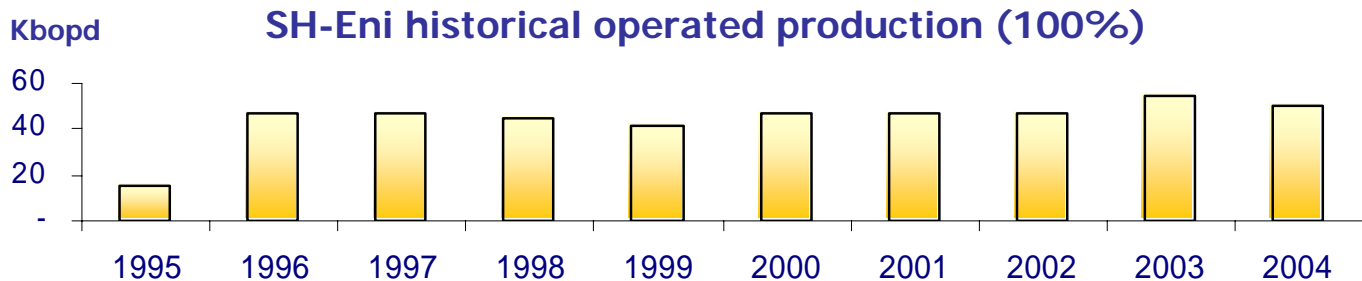
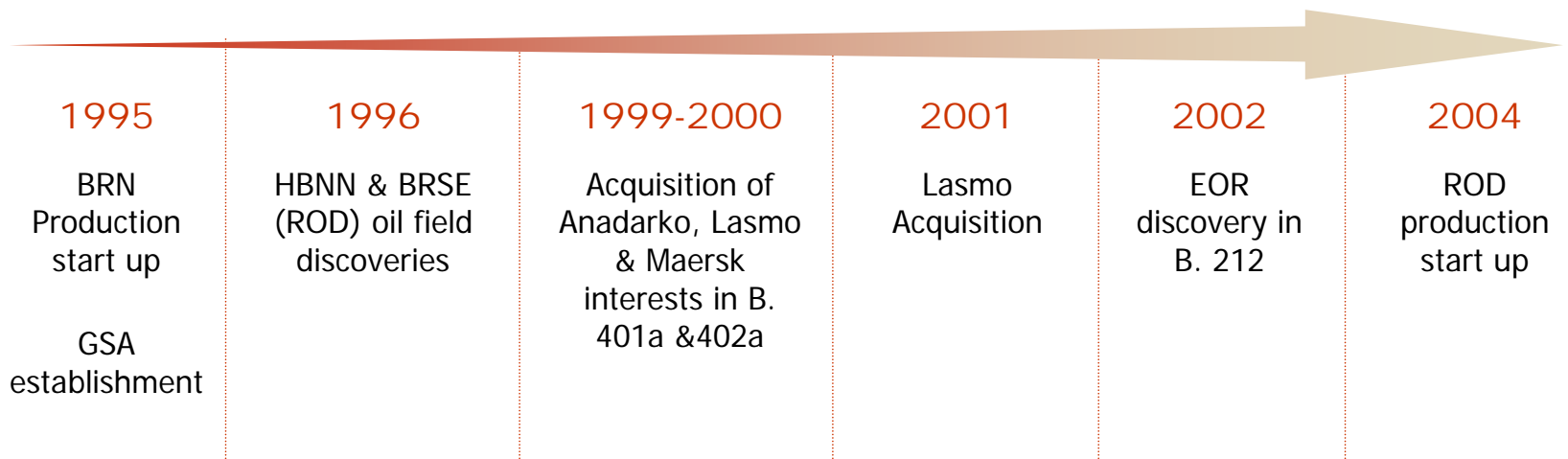
1991

Bir Rebaa West (BRW) & Bir Rebaa SW (BRSW) oil field discoveries



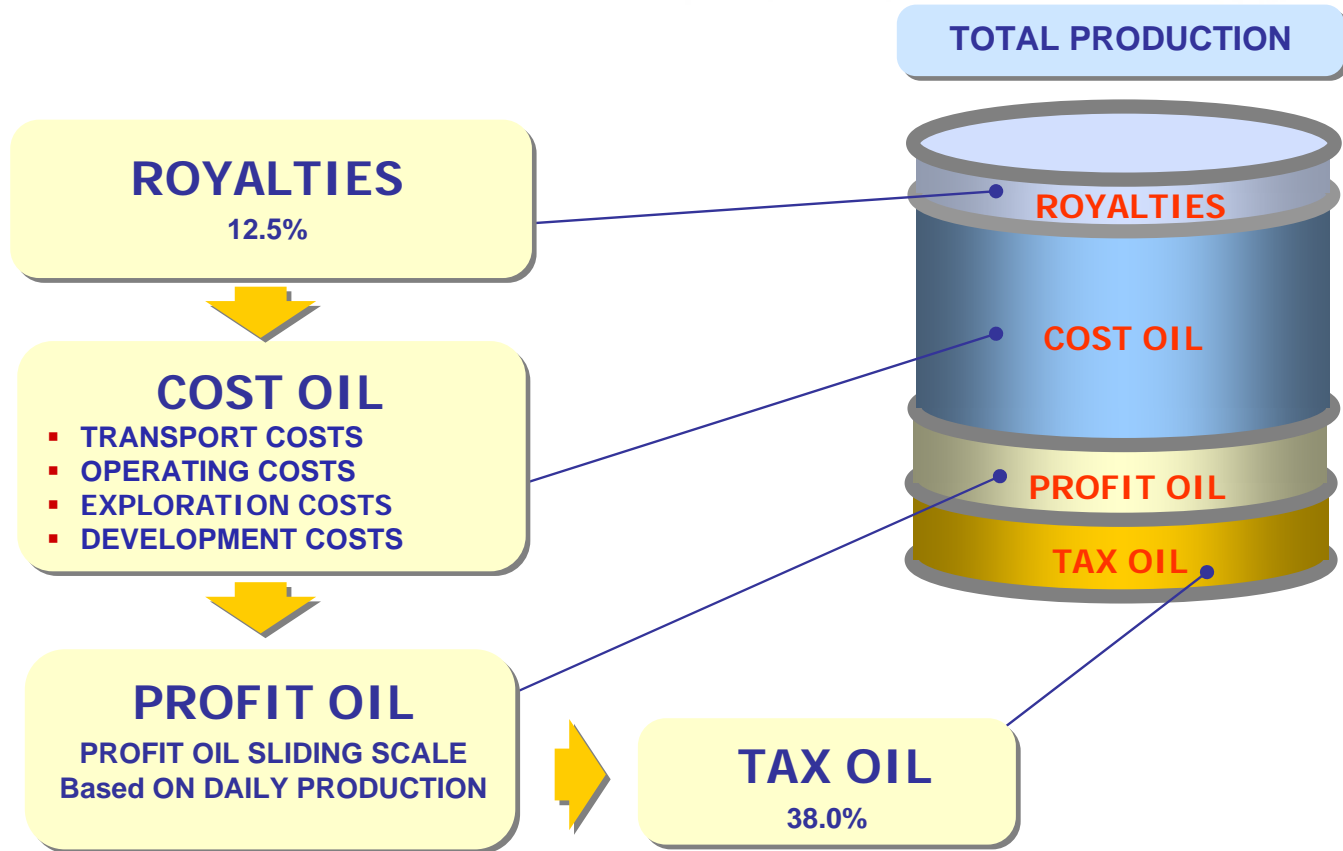
# Eni: presence in Algeria

## HISTORICAL MILESTONES





# Production Sharing Agreement (PSA)



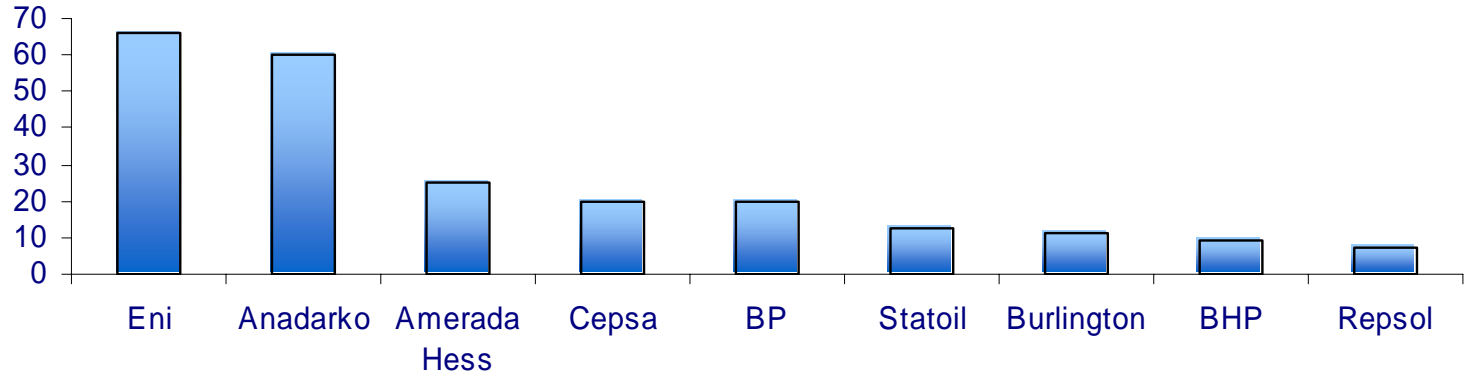
2nd Party Entitlement (Cost oil + Profit Oil): MAX 49%



# International Players in Algeria

Kboe/d

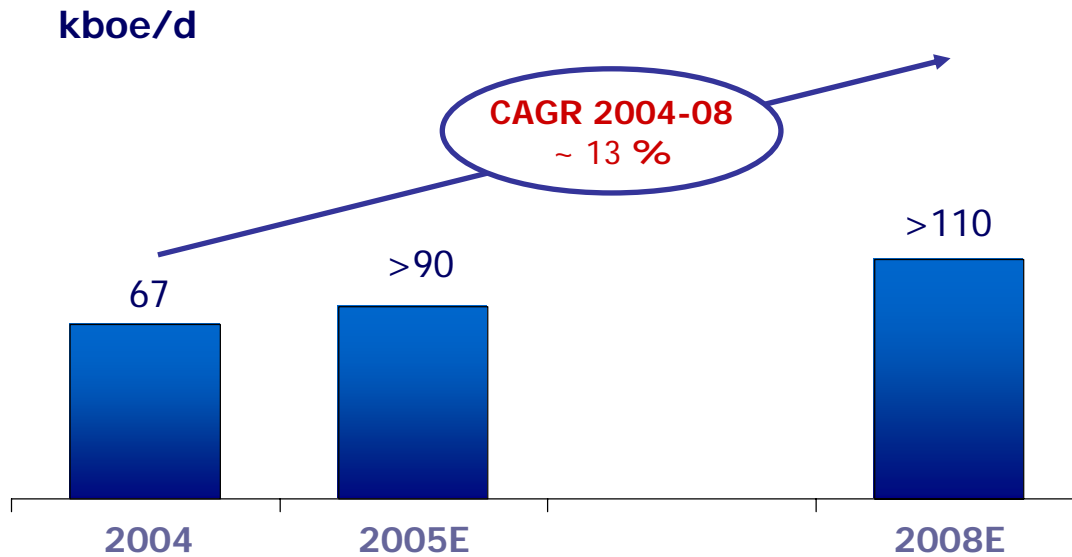
2004 average daily equity production



**Eni a leading international player in Algeria**



# Algeria: Eni equity production trend



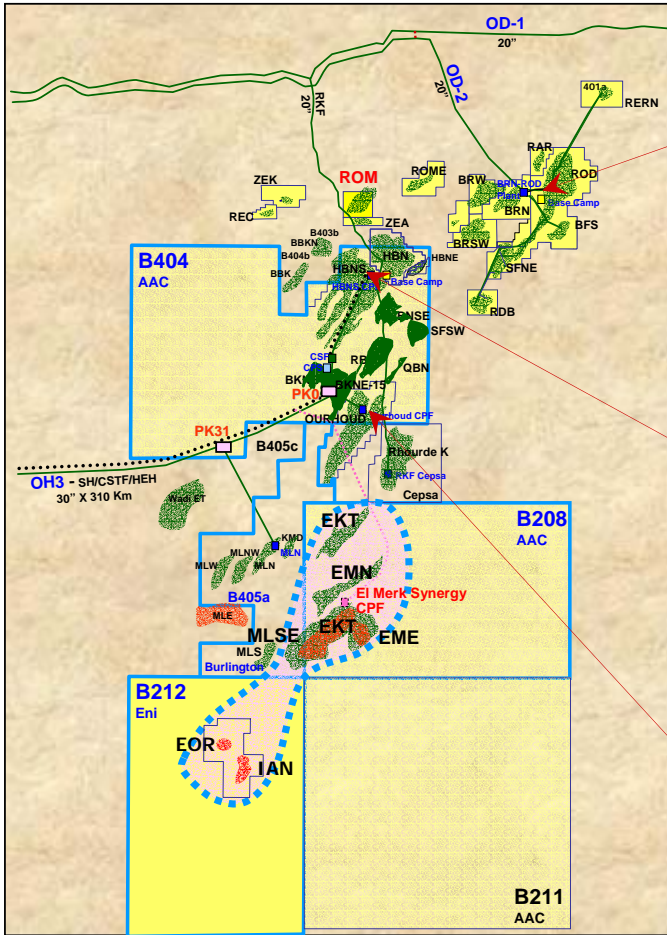


# Eni: efficient organic growth

	2004	
	Eni Algeria	Eni E&P
	3-year average	3-year average
Reserve replacement ratio (%)	158	117
Opex (\$/boe)	2.1	3.0
F&D cost (\$/boe)	4.94	7.26
Discovery Cost	0.5	1.2



# Algeria: Eni participated Facilities



### BIR REBAA Central Processing Facility

- 3 Trains (first oil June 1995)
- Production 120 Kbopd
- 64 wells (38 Oil Producers, 14 Water Injectors, 12 Gas Injectors)

### HASSI BERKINE Central Processing Facility

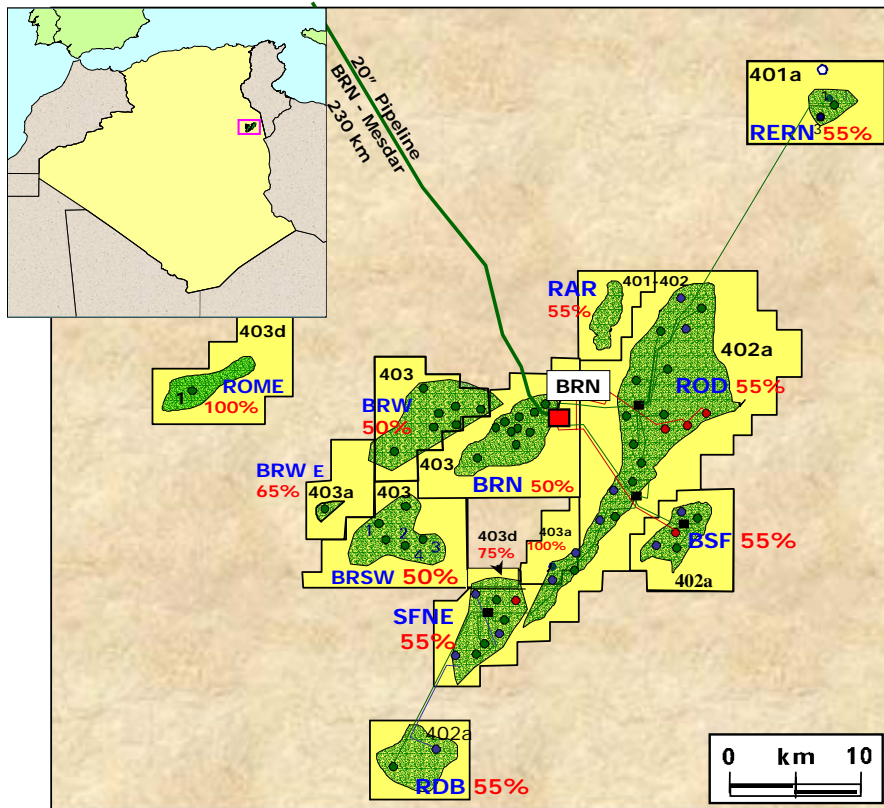
- 4 Trains (first oil May 1998)
- Production 249 Kbopd
- 134 wells (81 Oil Producers, 40 Water Injectors, 13 Gas Injectors)

### OURHOUD Central Processing Facility

- 3 Trains (first oil December 2002)
- Production 230 Kbopd
- 61 wells (34 Oil Producers, 23 Water Injectors, 4 Gas Injectors)



# Main Operated Fields Rhourde Oulad Djemaa (ROD) & Satellites



- **Reserves:**  
265 M boe (100%)
- **First Oil:** October 2004
- **Peak Production (2005):**  
80 kboe/d (100%)
- **Capex (full life):**  
510 M\$ (100%)  
325 M\$ (Eni share)

Eni w.i. 63.9%, SH-Eni Operator, BHP w.i. 36.1%,

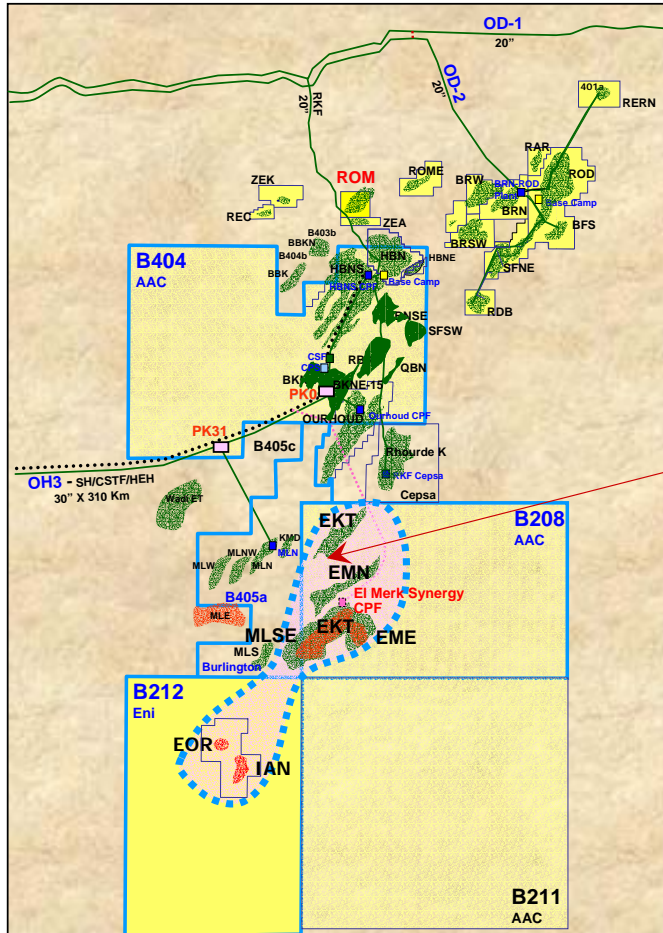


# ROD Dedicated Facilities in BRN - CPF





# Main Ongoing Development Projects



## EL MERK SINERGY

- **B208 (EL MERK)**  
Eni w.i. 12.25%
- **B212 (IAN/EOR)**  
Eni w.i. 33.57%
- **B405a**  
Burlington
- **B404 (LPG)**  
Eni w.i. 12.25%

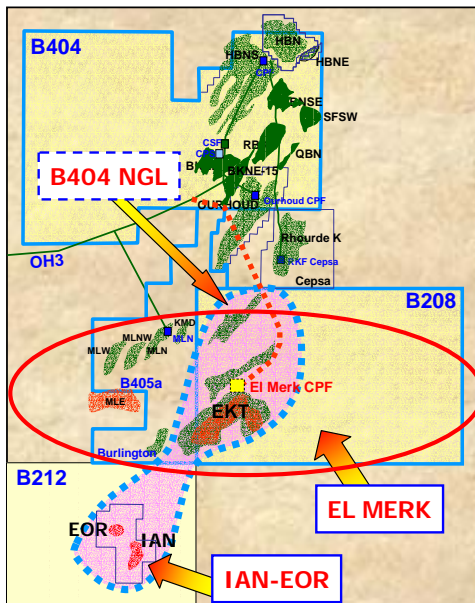
First Oil Q4 2008



# Main Ongoing Development Projects

## EL MERK B 208+NGL 404

Anadarko 24.5%, Eni 12.25%,  
Maersk 12.25%, Sonatrach 51%



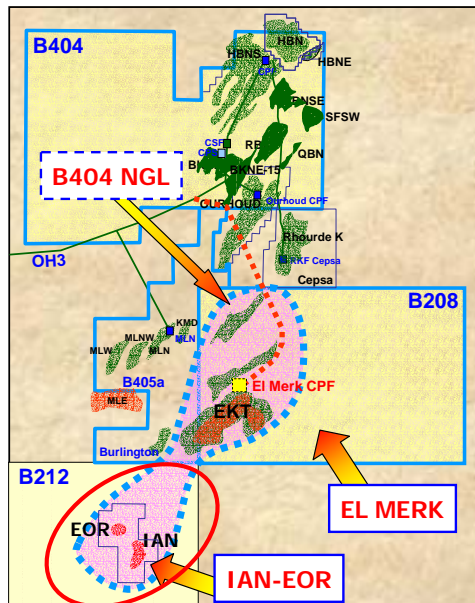
- **Reserves :**  
750.0 M boe (100%)
- **First Oil:** December 2008
- **Peak Production (100%):**  
167.0 kboe/d (2009)
- **Capex (100%):**  
full life: 1,888 M\$ (Eni 240 M\$)



# Main Ongoing Development Projects

## IAN – EOR

Eni 33.57%, Teikoku 14.43%  
Sonatrach 51%



- Reserves :  
88.0 M boe (100%)
- First Oil: December 2008
- Peak Production (100%):  
30.0 kboe/d (2009)
- Capex (100%):  
full life: 360 M\$ (Eni 121 M\$)



# Algeria: future opportunities

- **Business growth opportunities in Algeria:**
  - **Oil – through Enhanced Oil Recovery & brown field projects**
  - **Gas – through development of the high potential with priority to LNG & GTL projects**
  
- **Conditions favorable to new projects:**
  - **Highly qualified First Party**
  - **Reliable operating and fiscal environment**
  - **Transparent bidding procedures**
  - **Availability of extensive processing & transmission infrastructures**



# Safety Induction

**Antonino Galletta**  
GSA General Manager

September 22<sup>nd</sup>, 2005



# HSE : Safety Measures at BRN-ROD Plants

## Safety Measures during the visit to the BRN-ROD Oil Treatment Plants

- PPE (hard hat, always - safety goggles, ear protectors, gloves, when needed) must be worn while walking inside the plant
- Electrical apparatus (e.g. mobiles) must be switched off inside the plant
- Before taking snapshots with electronic cameras inside the plant, please inform the accompanying person
- In case of alarm (siren), calmly walk towards the muster point and wait for further instructions
- Should you need assistance, or in case you spot a dangerous situation, please contact your accompanying person or use the emergency phones which are available inside the plant and dial 9



# HSE : Safety Measures at Bordj Fatima

## Safety Measures to be followed during the trip to the Bordj Fatima Fort

Possible dangers have been considered and minimized, through:

- Security escort
- Medical assistance
- Communications means
- Expert accompanying personnel

Remaining minimal risks can be avoided through:

- Do not hand touch hidden places, to avoid possible bites of scorpions or vipers.
- Always stay together with the group
- Inform the doctor in case you have allergies or health problems
- Should any problem arise, please inform immediately the accompanying personnel

No particular PPE is required



# Field Tour

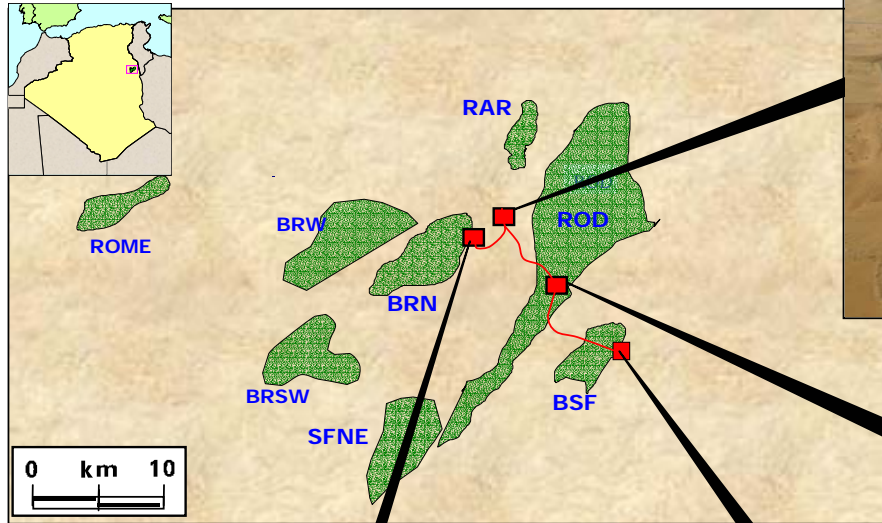
**Taoufik Hamdan**

Petroleum Engineer Manager

September 22<sup>nd</sup>, 2005

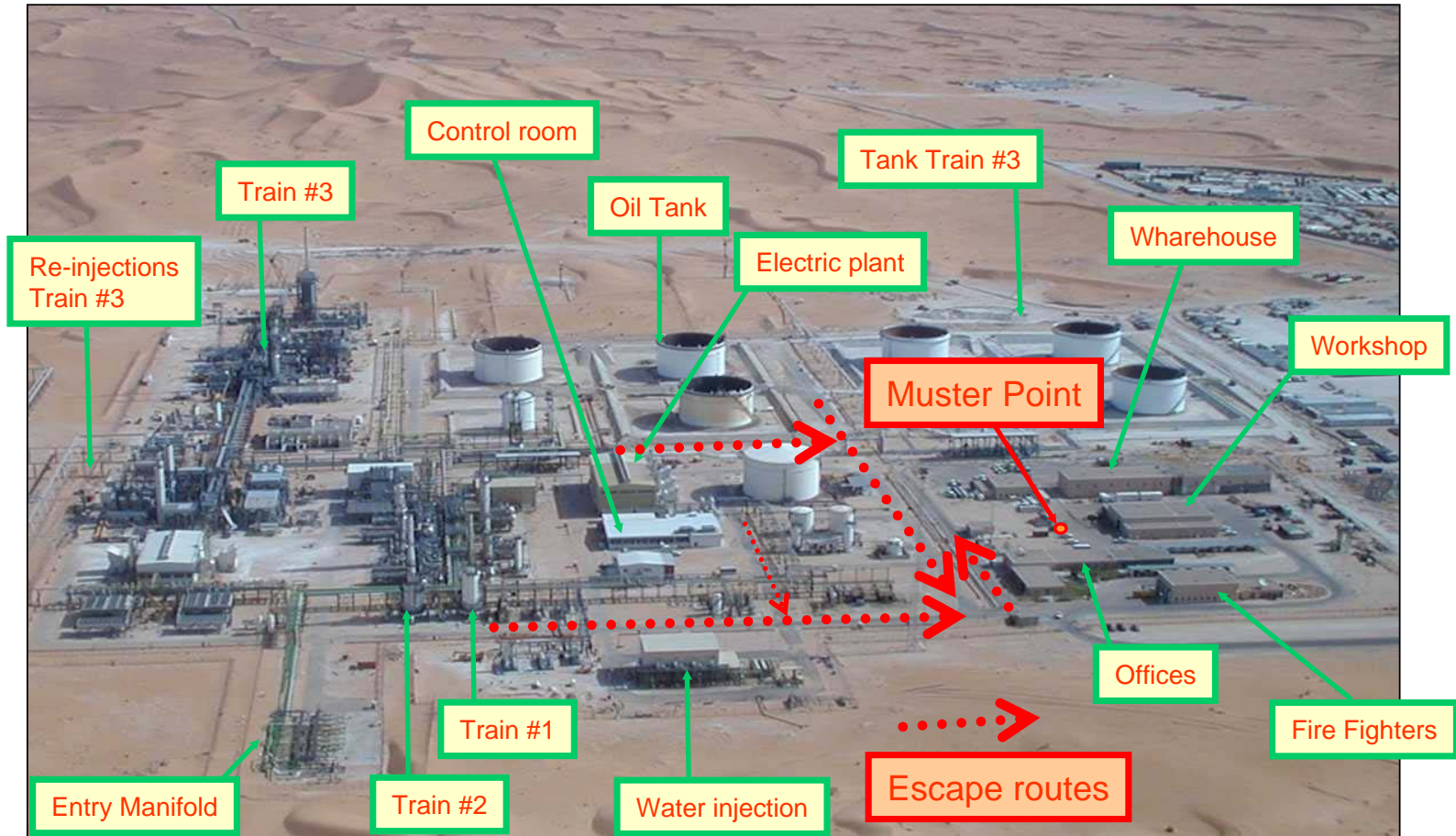


# Field Trip Itinerary





# BRN - ROD Plants - Facility Layout



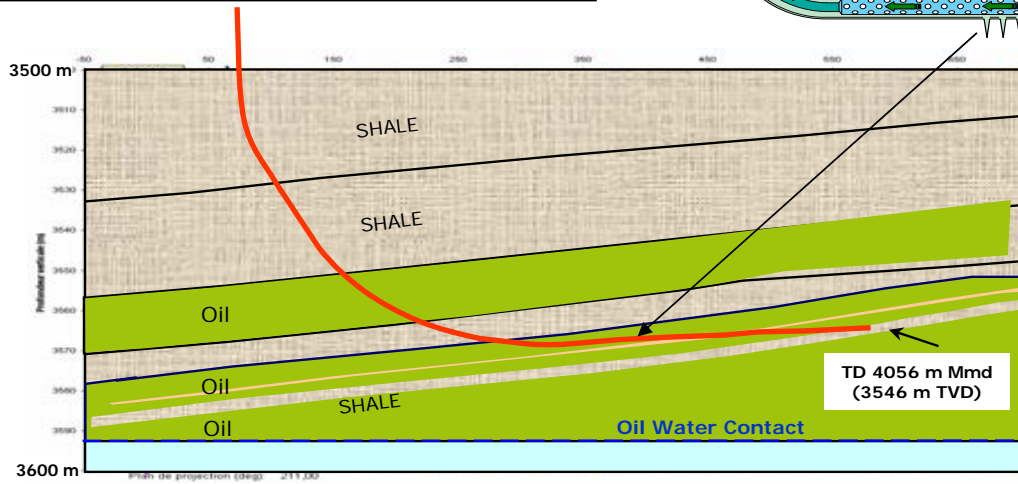
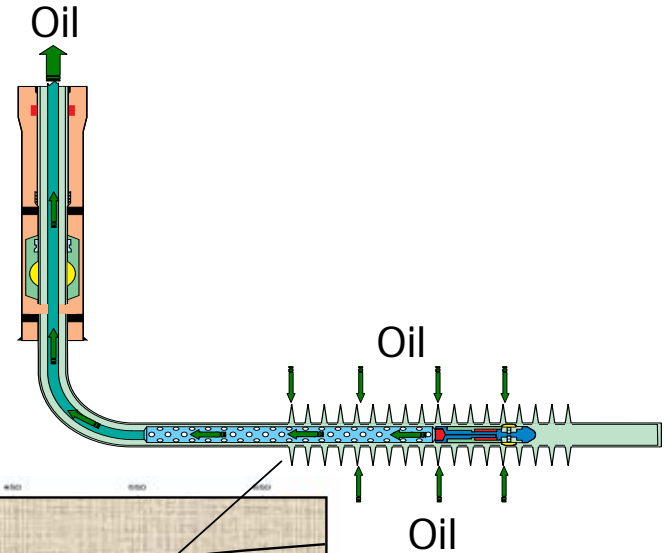


# 1 - BRN Base





# 2 - Horizontal Well Profile





# 3 - Sif Fatima Fort





# 4 - BRN/ROD Plants

