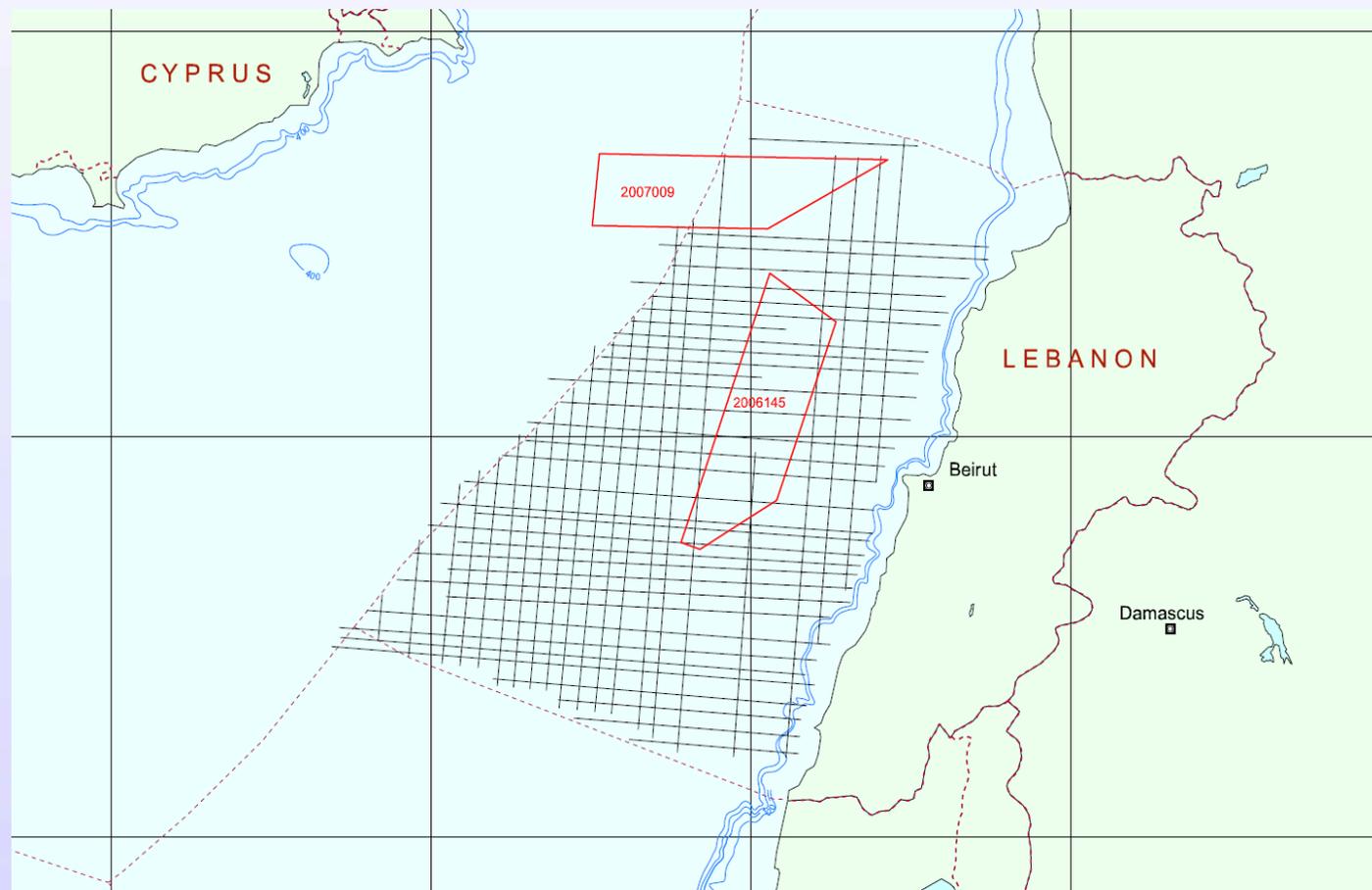


Hydrocarbon Exploration Offshore Lebanon

Current Status and Way Forward

June 23, 2011 University of Cyprus, Nicosia



Outline

- Petroleum Exploration Offshore Lebanon- Major Milestones
- Regional Prospects
- International Bilateral Agreement And Unilateral Declaration
- Available Seismic Data and Interpretation Reports
- Offshore Petroleum Resources Law
- Licensing And General Procedures
- Lebanon Advantages In Attracting Companies
- Way Forward

Major Milestones

- **2000:** Spectrum company carried out 2D seismic survey of Lebanon's Exclusive Economic Zone (EEZ) as part of a regional speculative survey conducted over the east Mediterranean region
- **2001:** Southampton Oceanographic Center was asked to carry out boundaries delimitation for the Lebanese Exclusive Economic Zone (EEZ).
- **2001:** AT Energy was asked to advise the government on exploration licensing process (report submitted in 2002)
- **2002:** Spectrum company carried out 2D seismic survey for Lebanon's territorial waters
- **2002:** TGS- NOPEC carried out a 2D seismic survey of Lebanon's Exclusive Economic Zone, as part of a regional speculative survey conducted over the eastern Mediterranean region

Major Milestones (Cont'd)

- **Feb 2007:** PGS conducted Multi client 3D geophysical survey (2350 Km²)
- **Jan 2007:** Lebanon and Norway launched the Oil for Development Cooperation Programme
- **Jan 2007:** Lebanon and Cyprus signed an agreement on the delimitation of the Exclusive Economic Zone (EEZ)
- **Jan 2007:** Cooperation agreement with Norway (Oil for Development program)
- **Oct 2007:** Petroleum policy for oil and gas exploration offshore Lebanon was endorsed by the Council of Ministers
- **Feb 2009:** PGS acquired 4900km of new 2D data and signed an agreement to merge and manage all existing seismic data
- **May 2009:** The report on the delimitation of the Exclusive Economic Zone (EEZ) of Lebanon endorsed by the CoM

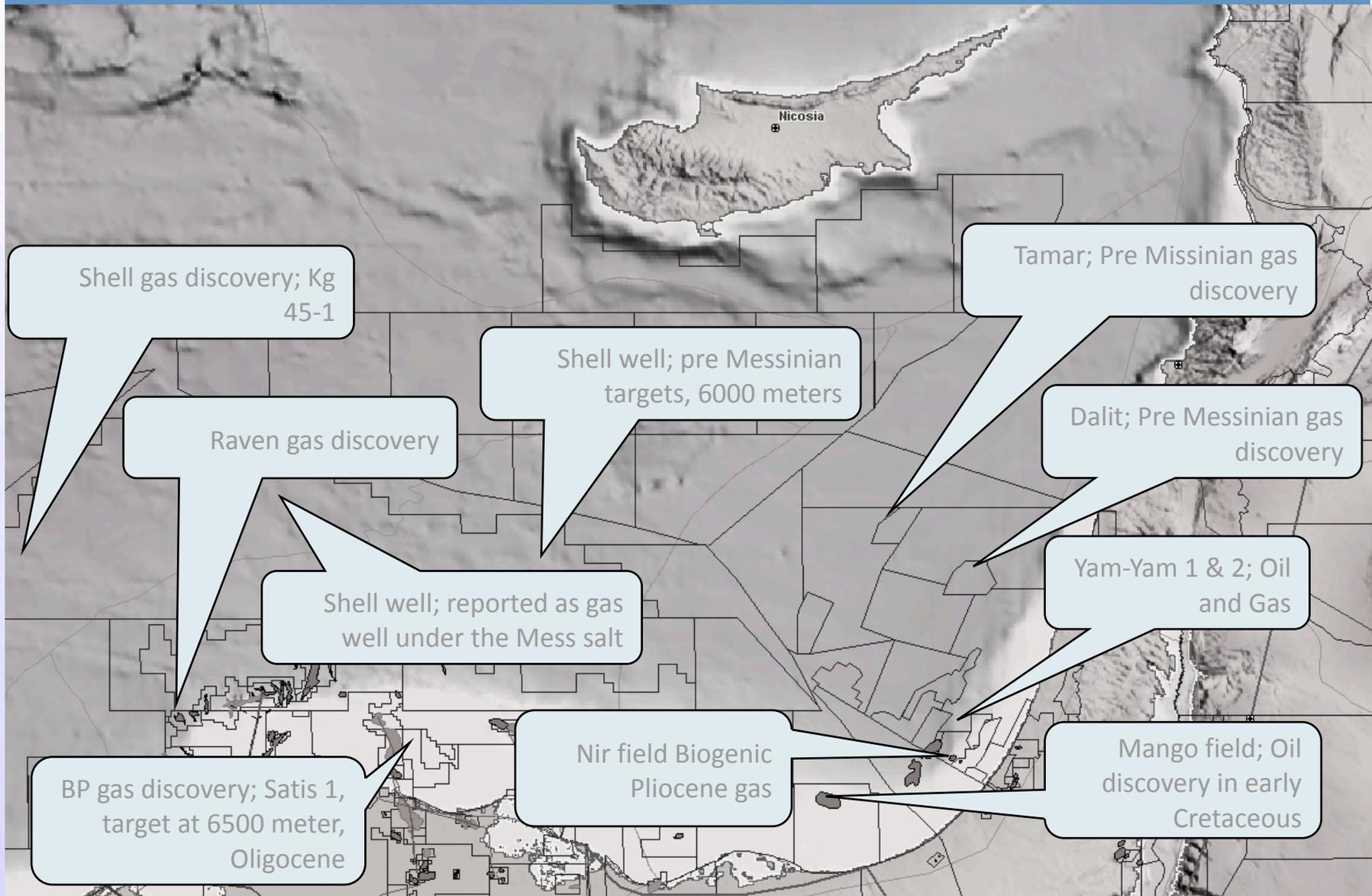
Major Milestones (Cont'd)

- **Aug 2010:** The Offshore Petroleum Resources Law was ratified by the Parliament
- **Feb, March 2011:** PGS acquiring additional 3800 Km 2D and 1400 squareKm of 3D seismic data
- **July 2011:** The resource base assessment report will be accomplished by Beicip Franlab
- **29 June- 1July 2011:** The first international forum dedicated for oil and gas exploration in Lebanon will be held
- **June 2011:** Work on the Strategic Environmental Assessment (SEA) is initiated
- **August-December 2011:** The Petroleum Activities (PAR) Regulations will be accomplished
- **Q4 2011-Q1 2012:** 1st Offshore Licensing round???

Regional Prospects

- Reasons for engaging into hydrocarbon exploration activities in the East Mediterranean
 - Proven hydrocarbon system
 - Several promising structures
 - Recent big discovery of natural gas offshore on the Southern borders
 - Exploration interest in the Mediterranean Region has recently shifted offshore
 - Greater Mediterranean Region is a market with large potential for oil and gas trading, being close to the EU gas market
 - Unexplored potential reserves -1.7 Billion barrels of recoverable oil and 122 trillion cubic feet of recoverable gas in the Levant Basin according to the estimate of the US Geological Survey-

Discoveries in the Eastern Mediterranean



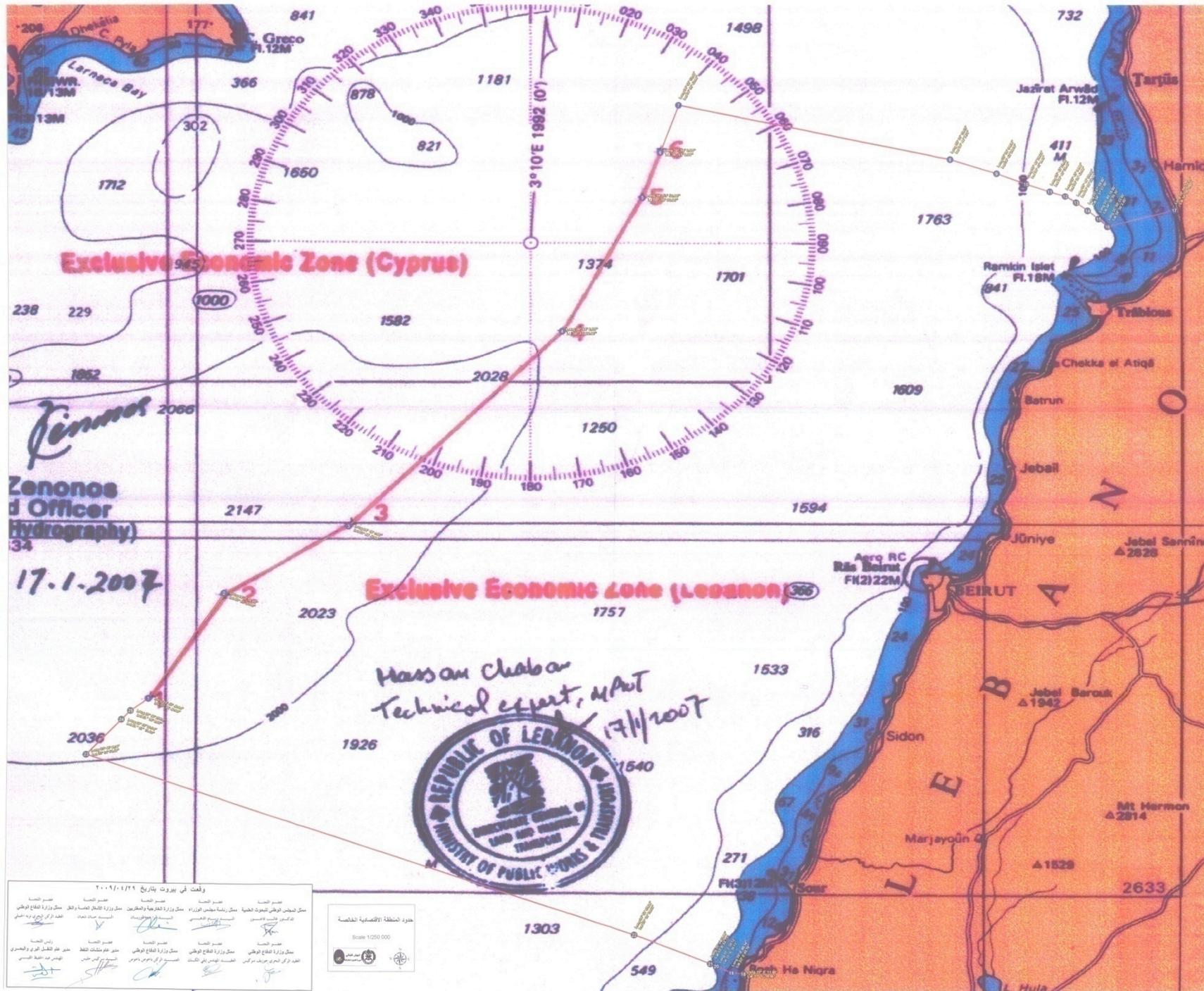
International Bilateral Agreement And Unilateral Declaration

Republic of Cyprus: Delimitation of the EEZ in Jan 2007 based on the median line principle and in accordance with the provisions of the UN Convention of the Sea.

Framework Agreement concerning the development of cross-median line hydrocarbon resources will follow

Syria: Bilateral meetings between the two countries should take place in order to delineate the maritime boundaries.

Lebanon deposited with the UN Secretary General the charts and lists of geographical coordinates of points defining the Southern limits of Lebanon's Exclusive Economic Zone



وَقَعَتْ فِي بَعُودِ تَارِيخِ ٢٠٠٧/٠١/١٧

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خريطة المنطقة الاقتصادية الخالصة
Scale 1:250,000

Available Seismic Data

MC2D-LEB 2000-2002 4,500 Km

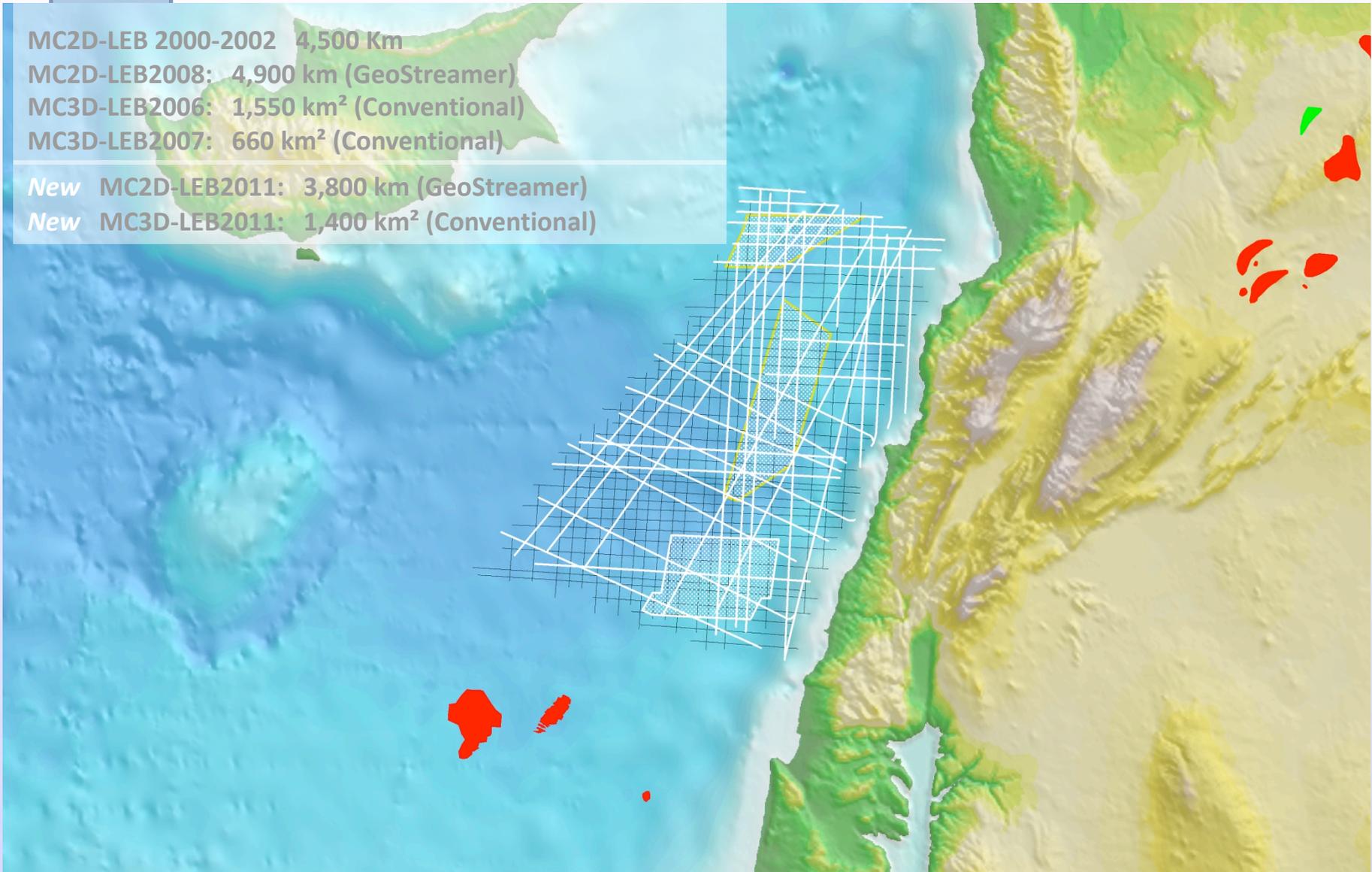
MC2D-LEB2008: 4,900 km (GeoStreamer)

MC3D-LEB2006: 1,550 km² (Conventional)

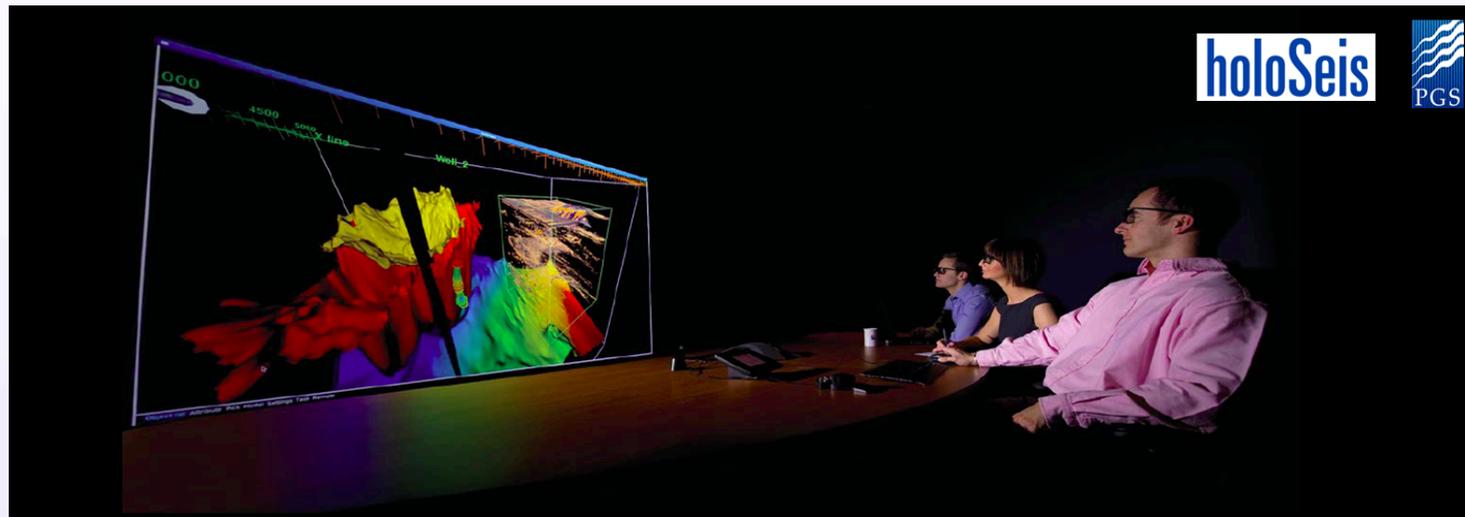
MC3D-LEB2007: 660 km² (Conventional)

New MC2D-LEB2011: 3,800 km (GeoStreamer)

New MC3D-LEB2011: 1,400 km² (Conventional)



Lebanon Data Room



The Data Room was established at the Ministry of Energy and Water in November 2010 to:

- Increase knowledge of offshore Lebanon
- Evaluate offshore Lebanon hydrocarbon prospectivity and potential
- Estimate size of structures and volumes
- Invite key clients to data reviews
- Develop marketing strategy and publications

Interpretation reports

According to ECL report (Geology and Hydrocarbon Prospectivity of Lebanon 2004) :

- Offshore Lebanon is petroliferous and highly prospective
- There is a considerable hydrocarbon resource base
- Offshore Lebanon will be an attractive area to international petroleum companies

MC 3D Interpretation Report

“Offshore Lebanon appears to represent a significant yet-to-find hydrocarbon resource base and the current study has identified and delineated several potentially giant sub-salt prospects that merit considerable further attention from the international oil industry.”

Offshore Petroleum Resources Law

Powers of the Government

- **Council of Ministers**

- Sets forth the Petroleum Policy
- Grants a Petroleum Right and authorizes the Minister to sign on its behalf the EPA's
- Stipulates the conditions for invitations to licensing rounds, content of the terms of reference, conditions of the EPA and appurtenant agreements
- Reserves the right and sets the State participation in the EPA
- May establish a National Oil Company when petroleum activities has demonstrated robust petroleum commercial potential

Powers of the Government

- Approves the opening of a licensing round
- Appoints the Petroleum Administration
- Grants a Reconnaissance License
- Approves the appointment of the Operator and no change of operatorship without approval of the CoM
- May extend the initial exploration phase and initial production phase
- Stipulates relinquishment requirements (minimum of 50%)
- Approves the Plan for Development and Production
- Sets the procedures, requirements and conditions of the EIA
- Stipulates the content for the award of a specific Petroleum License for construction, placement and operation of Transport or storage Facility

Powers of the Government

- Stipulates the content and conditions for the approval of an application for test Production
- Approves coordinated Petroleum Activities and Unitization, joint production, transportation, utilization and cessation of Petroleum Activities, Third Party Access
- Sets the Area Fees
- Stipulates the method of calculation and allocation of Royalty, Cost Petroleum, Profit Petroleum
- Stipulates rules and regulations for mortgaging
- Stipulates regulations for the Petroleum Register
- Allows forced sale and approves short list of bidders
- Stipulates requirements for the Health, Safety and Emergency Response Plan, establishes the extent of Safety Zones

Powers of the Government

- Stipulates the conditions of the management capacity requirements and location of the companies
- Approves the Transfer or Assignment of Petroleum Right and may revoke a Petroleum right
- Stipulates Right Holder obligation to disclose sub-contracts

Powers of the Government

- **Minister of Energy and Water**
 - Shall ensure the implementation of the Petroleum policy and implement the Law for granting Petroleum Rights
 - Shall propose the decrees to the Council of Ministers
 - Shall be responsible for monitoring and supervising Petroleum Activities
 - Shall take necessary measures to protect life, health, property and environment in emergency situations
 - Shall exercise tutelage authority over the Petroleum Administration

Powers of the Government

- **Petroleum Administration**

- Conduct studies to promote the Lebanese petroleum potential
- Report to the Minister about the assessment of capacities and capabilities of applicants and applications for petroleum rights
- Prepare content of the standard EPA's
- Assist the Minister in negotiating EPA's and submit reports to the Council of Ministers
- Manage, monitor and supervise Petroleum Activities and submit reports to the Minister
- Evaluate Plans for developments, transportation and cessation of petroleum Activities and decommissioning of Facility
- Manage the Petroleum Activities data
- Keep and manage the Petroleum Register

Licensing

- **Reconnaissance License**
 - granted for up to 3 years
 - shall not be exclusive and shall not give the Right Holder any preference with regards to obtaining any other Petroleum Right
 - The resulting data shall be the property of the State
- **Exploration License**
 - The Exploration phase is up to 10 years
 - The duration of each phase is stipulated in the EPA
 - On each renewal, at least 50 % of the initial area is relinquished
 - Transfer or assignment of Petroleum Right may be granted by the Council of Ministers
- **Production License**
 - The production phase is up to 30 years

General Procedures

- The State reserves the right to carry out or participate in Petroleum Activities
- The EPA shall have no less than three Right Holders who shall form an un-incorporated JV
- Several companies may cooperate to apply for an EPA
- The announcement of a licensing round shall be published in the Official Gazette as well as local and international publications and electronic websites
- The invitation shall be made public at least six months prior to the application closing date
- Successful applicants may only be selected amongst duly pre-qualified joint stock companies
- The Petroleum Administration shall evaluate Applicants and shall propose a short list to the Minister for negotiations

Offshore Lebanon advantages in attracting exploration investment

- ✓ Oil prices have led to increased availability of risk capital
- ✓ Declining resources and investment opportunities increases the oil companies' interest for frontier areas, such as Lebanon
- ✓ Large areas are available for licensing offshore
- ✓ Modern seismic data available
- ✓ Modern Legal and Contractual framework
- ✓ Discoveries in neighbouring and similar basins
- ✓ Close to large markets
- ✓ Attractive fiscal terms (???)

Way Forward

- Appointment of the board members of the Petroleum Administration
- Accomplishing the Petroleum Activities Regulations(PAR) and the model contract
- Finalizing the Strategic Environmental Assessment
- Finalizing the resource base assessment and prospect evaluation report
- Ratifying the delimitation agreement with the Republic of Cyprus by the Lebanese Parliament

Way Forward

- Signing a general framework agreement with Cyprus and the delimitation and framework agreements with Syria
- Training and capacity building of Lebanese Civil servants
- Promotion of the licensing round (Lebanon International Forum 29-30 June, 1st July 2011)
- **Launching the 1st Licensing round offshore Lebanon (Q4 2011- Q1 2012 ???)**

| ID | Task Name | Duration | Start | October | November | December | January | February | March | April | May | June |
|----|--|------------------|--------------------|---------|----------|----------|---------|----------|-------|-------|-----|------|
| 1 | A. Institutional and Legal frameworks | 196 days? | Mon 11/1/10 | | | | | | | | | |
| 2 | Appointment of the board of the Petroleum Administration by the CoM | 0 days? | Mon 11/1/10 | | | | | | | | | |
| 3 | Draft the petroleum regulations | 196 days? | Mon 11/1/10 | | | | | | | | | |
| 4 | Draft the EPA | 66 days? | Fri 4/1/11 | | | | | | | | | |
| 5 | Preparing the JOA, AA and Unitisation Agreement | 66 days? | Fri 4/1/11 | | | | | | | | | |
| 6 | Preparing agreements with neighbouring countries | 86 days? | Mon 11/1/10 | | | | | | | | | |
| 7 | Confidentiality agreement with Cyprus | 45 days? | Mon 11/1/10 | | | | | | | | | |
| 8 | Delimitation & confidentiality agreements with Syria | 86 days? | Mon 11/1/10 | | | | | | | | | |
| 9 | B. Promotion and Licensing round preparations and execution | 459 days? | Mon 11/1/10 | | | | | | | | | |
| 10 | Hire a technical consultant | 0 days? | Mon 11/1/10 | | | | | | | | | |
| 11 | Block delineation | 66 days? | Mon 11/1/10 | | | | | | | | | |
| 12 | Resource base assessment and prospect evaluation | 130 days? | Tue 2/1/11 | | | | | | | | | |
| 13 | Prepare a Licensing strategy | 44 days? | Fri 4/1/11 | | | | | | | | | |
| 14 | Preparation of relevant documentations | 87 days? | Fri 4/1/11 | | | | | | | | | |
| 15 | Promotion of the licensing round | 307 days? | Mon 1/31/11 | | | | | | | | | |
| 16 | 1st Announcement of the bid round quarter | 0 days? | Mon 1/31/11 | | | | | | | | | |
| 17 | 2nd Announcement date of the bid round | 0 days? | Mon 5/2/11 | | | | | | | | | |
| 18 | Opening of the licensing round | 0 days | Mon 10/3/11 | | | | | | | | | |
| 19 | Submission of applications | 131 days? | Mon 10/3/11 | | | | | | | | | |
| 20 | Closing date for application submission | 0 days? | Sat 3/31/12 | | | | | | | | | |
| 21 | Bid assessment and negotiations | 87 days? | Mon 4/2/12 | | | | | | | | | |
| 22 | EPA signing and Rights awarding | 0 days? | Tue 7/31/12 | | | | | | | | | |
| 23 | Training | 458 days? | Tue 11/2/10 | | | | | | | | | |
| 24 | C. Data Management | 87 days? | Wed 12/1/10 | | | | | | | | | |
| 25 | Establish the Data room | 87 days? | Wed 12/1/10 | | | | | | | | | |
| 26 | Staff the Data room | 44 days? | Wed 12/1/10 | | | | | | | | | |
| 27 | Build a website | 43 days? | Tue 2/1/11 | | | | | | | | | |
| 28 | D. Environmental Management | 241 days? | Mon 11/1/10 | | | | | | | | | |
| 29 | Hire a consultant for Environment | 0 days? | Mon 11/1/10 | | | | | | | | | |
| 30 | Conduct the Strategic Environmental Assessment (SEA) | 196 days? | Mon 1/3/11 | | | | | | | | | |
| 31 | Drafting of Environmental regulations | 86 days? | Mon 11/1/10 | | | | | | | | | |
| 32 | E. Revenue Management and Taxation | 241 days? | Mon 11/1/10 | | | | | | | | | |
| 33 | Hire a financial consultant | 0 days | Mon 11/1/10 | | | | | | | | | |
| 34 | Review taxation law and introduce amendments related to petroleum activities | 109 days? | Mon 11/1/10 | | | | | | | | | |
| 35 | Draft the Petroleum Fund Law | 132 days? | Fri 4/1/11 | | | | | | | | | |

