

LEBANON INTERNATIONAL PETROLEUM EXPLORATION

CONFERENCE PROGRAM 2012

DAY 1 3 JULY 2012

8:30 - 9:30	Badge Collection & Industry Networking <i>(Coffee & refreshments available)</i>
9:30 - 10:30	Opening Ceremony <i>(National Anthem, Welcome Note)</i> <i>H.E. Eng. Gebran Bassil, Minister of Energy and Water opening speech</i>
10:30 - 10:45	Recognition Award for <i>Dr. Georges Sabbagh</i>
10:45 - 11:45	Opening Exhibition
11:45 - 12:15	Updates since LIPE 2011 <i>(Ministry of Energy and Water)</i>
12:15 - 13:30	Panel Discussion - <i>Legal Framework for Offshore Exploration/Production</i> <i>(NORAD - Bjorn Erik Leerberg - Ali Berro - Gaby Daaboul /Mod. Denis Guirauden)</i>
13:30 - 15:00	Lunch Break
15:00 - 16:30	Panel Discussion - <i>Deep offshore E&P - Experience & Know how</i> <i>(E&P IOCs /Mod. Wissam Chbat, Ministry of Energy & Water)</i>
16:30 - 16:45	MEW Geo-package <i>(Huw Edwards, ERCL, United Kingdom)</i>
16:45 - 17:15	Coffee Break & Industry Networking
17:15 - 17:35	Lebanon Maritime Boundaries <i>(Malek Takkieddine)</i>
17:35 - 17:55	Lebanese Current and Future Gas Market <i>(Zaher Sleiman, Ministry of Energy & Water)</i>

DAY 2 4 JULY 2012

SESSION 1	SESSION 1: Levant Basin Evolution and Lebanon HC Prospectivity
9:00 - 9:20	The Hydrocarbon Potential of the Deepwater Levantine Basin: An Overview from a Regional Basin Modeling Study of the Eastern Mediterranean <i>(Hossam ALI MOHAMED, StratoChem Services, Cairo, Egypt)</i>
9:20 - 9:40	Provenance & Timing of Sediment Flux to the Levant Basin: Impact of Tectonics & Climate <i>(Dirk CUTHBERTSON, GETECH, Leeds, UK)</i>
9:40 - 10:00	Levant Basin Prospectivity - Offshore Lebanon <i>(Fadi H. NADER, Ministry of Energy and Water)</i>
10:00 - 10:20	Petroleum Assessment of the Offshore Lebanon based on the seismic interpretation and the regional geological framework <i>(Ingrid DUPIN, Beicip-Franlab, France)</i>
10:20 - 10:40	Petroleum System Assessment of the Offshore Lebanon through 3d Basin Modeling <i>(Mathieu DUBILLE, Beicip-Franlab, France)</i>
10:40 - 11:30	Coffee Break & Industry Networking
SESSION 2	SESSION 2: Technological Breakthrough (Exploration/Production, Subsalt Imaging, Modeling)
11:30 - 11:50	FLNG Technology <i>(Eric JEANNEAU, TOTAL LNG Development)</i>
11:50 - 12:10	Lebanon MegaSurvey: Bringing Potential Leads into Evaluated Prospects <i>(Martin MELHUUS, PGS)</i>
12:10 - 12:30	Advances in Prospect Risking Using Seismic DHI's <i>(Jim DISIENA, Chevron Energy Technology Company)</i>
12:30 - 12:50	Some Play Types & Exploration Potential - in the Levantine Basin, Offshore South West Lebanon <i>(Dave PEACE, Exploration Consultant Spectrum)</i>
12:50 - 13:10	Application of Conventional Cores in Deepwater Reservoir Characterization <i>(Michael ROBERTS, Chevron Upstream and Gas)</i>
13:10 - 14:40	Lunch Break
SESSION 3	SESSION 3: Lebanon Offshore / Onshore
14:40 - 15:00	Some reflections on Lebanon in regional geological perspective <i>(Anton KOOPMAN, Shell International Exploration and Production)</i>
15:00 - 15:20	Structural analogy between the "piano key faults" of deepwater Lebanon and the extensional faults of the Canyonlands Grabens, Utah, United States <i>(Gabor TARI, OMV, Austria)</i>
15:20 - 15:40	Stratigraphic Evolution of the Northern Lebanese Coastal Area: Implications on the Levant Margin/Basin Stratigraphy since the Upper Cretaceous <i>(Nicolas HAWIE, IFPEN-UPMC, France)</i>
15:40 - 16:00	Source rock maturation and petroleum generation and Migration modeling of the Levantine Basin, offshore Lebanon: an integrated approach <i>(Samer BOU DAHER, RWTH Aachen University, Germany)</i>
16:00 - 16:20	Evaluation of a fault zone in a carbonate hydrocarbon reservoir <i>(Caroline CHALAK, Université Joseph Fourier, France; & Heriot-Watt University, United Kingdom)</i>
16:20 - 17:00	Coffee Break & Industry Networking
SESSION 4	SESSION 4: Environmental Impacts and Alternative Projects
17:00 - 17:20	SEA for Petroleum Activities in Lebanese Waters <i>(Imogen CRAWFORD, RPS Energy, UK)</i>
17:20 - 17:40	Joint Optimization of Hydrocarbon PSC Parameters and Revenue Management <i>(Bacel MADDAH, American University of Beirut (AUB), Lebanon)</i>
17:40 - 18:00	The Oil Search Technology - Airborne survey techniques for hydrocarbon exploration in deep waters environments <i>(Michael G. WOOLGAR, McPhar International)</i>
18:00 - 18:20	Towards the geothermal resource assessment of Lebanon <i>(Vincent BADOUX, GEOWATT AG, Switzerland)</i>
18:20 - 18:30	CLOSING SPEECH <i>(Ministry of Energy and Water)</i>

Lebanon's Southern Maritime Boundaries: Analysis of Factual and Legal Factors

by Malek TAKIEDDINE



About the author

Malek Takieddine is a Lebanese lawyer working in the oil and gas industry (upstream). He was previously based in Aberdeen (UK) with an international law firm advising a large variety of oil companies in the UKCS. Since 2009 he has been based in Beirut and offers advice to oil companies, including major IOCs, in Iraq and the UK.

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I. Background:

In January 2007, Cyprus and Lebanon, both signatories to the UN Convention on the Law of the Sea (UNCLOS 1982), signed an Agreement on the Delimitation of the Exclusive Economic Zone (EEZ) between the two countries based on the internationally accepted method of equidistance¹, which consists of determining a median line between two opposite or adjacent coastlines.

Two years later, major offshore natural gas reserves were discovered off the Israeli coast with the potential to satisfy Israel's domestic energy needs and make the country a substantial exporter, namely: the Tamar Field near the port city of Haifa (240 billion cubic metres of natural gas) discovered in January 2009; the Dalit Field near the northern city of Hadera (14 BCM) in April 2009; and Leviathan off the coast of Haifa in June 2010, the world's largest gas discovery of the decade (approximately 460 BCM of natural gas)². In 2010, the US Geological Survey estimated that the entire Levant basin, encompassing parts of Israel, Lebanon, Syria and Cyprus, could contain as much as 1.7 billion barrels of recoverable oil and 3.45 trillion cubic meters (122 trillion cubic feet) of recoverable natural gas³. For comparison: Iraq, ranked as the 11th country worldwide in proven gas reserves, has 3.1 trillion cubic meters of gas.

In July 2010⁴ and October 2010, Lebanon submitted to the United Nations the charts and lists of geographical coordinates of points marking the Southern Median Line and the Southern Part of the Western Median Line, to delimit its exclusive economic zone. These coordinates were inconsistent with those agreed in the Cyprus-Lebanon EEZ Agreement, but in fact reflected what Lebanon claims to be a more accurate calculation of the endpoint of the median line delimiting Lebanon's exclusive economic zone.

In August 2010, Lebanon passed a law⁵ authorising exploration and drilling for offshore oil and gas, and announced plans to auction exploration rights by 2012.

In December 2010, Israel and Cyprus concluded and ratified their own Agreement on the Delimitation of the Exclusive Economic Zone, also explicitly based on the equidistance principle, allowing for future

modifications of geographical coordinates as required. The Cyprus-Israel Agreement is consistent with the Cyprus-Lebanon Agreement's delineation of the maritime boundary between Israel and Lebanon, and does not take into account Lebanon's unilateral claim to the southern limit of its EEZ deposited with the United Nations the same year. It is worth noting that the southern boundary of the EEZ claimed by Lebanon is consistent with prior acts by Israel, in particular the definition by Israel of blocs in its maritime zones for concessions for hydrocarbon exploration and exploitation rights.

Over the course of 2011, Lebanon would publicly decry the maritime boundary of the Cyprus-Israel Agreement, and take a number of steps to stake its claim to its purported exclusive economic zone. Lebanon also accused Israel of violating international law by allowing oil companies to explore for offshore gas in the absence of an internationally recognised maritime border. Israel, which is not party to UNCLOS, responded by depositing its own unilateral claim to the northern limit of its maritime space with the United Nations on 12 July 2011.⁶ Israeli Prime Minister Benjamin Netanyahu said that Lebanon's proposed lines encroached on the Israeli-claimed area and Minister of Foreign Affairs Avigdor Liberman told Israel Radio that "In terms of procedure, international law and maps, we have a very strong position, and we won't give an inch".⁷

Furthermore, in August 2011, Lebanon's parliament enacted a maritime boundary law⁸ in which no specific designation of the boundary's coordinates were made. These coordinates were subsequently determined by Governmental decree⁹ in September 2011 and were made subject to possible amendments in the future based on negotiations with neighbouring states.¹⁰

II. The Legal Framework:

The delimitation of maritime areas between two or more states is governed by international law as mainly reflected in the United Nations Convention on the Law of the Sea 1982 (UNCLOS), precedence of the International Court of Justice (ICJ) and customary practice of coastal states. International law provides that coastal states are invited to seek the delimitation of their maritime boundaries by agreement and must show evidence of having exhausted negotiations means (although not necessarily direct negotiations) before resorting to any other settlement procedures. The existence of overlapping claims over maritime zones is not an unusual occurrence, and has in fact become more frequent in recent decades, with a tremendous increase in maritime space coming under the jurisdiction of coastal states.

Under UNCLOS, various types of maritime zones are outlined which offer coastal states security in the face of threats such as cross-border crime (smuggling and illegal immigration), the threat of terrorism and the use of military force; as well as benefits in the respect of living (fisheries) and non-living (oil and gas) resources. UNCLOS also lays down the rights and responsibilities relating to national maritime zones.

⁶ http://www.dur.ac.uk/ibru/news/boundary_news/?itemno=12445&href=%2Fibru%2F&resubj=boundary+news%20Headlines Accessed September 2, 2011

⁷ <http://www.reuters.com/article/2011/07/10/israel-lebanon-gas-idUSLDE76903320110710> Accessed September 2, 2011

⁸ Law number 163 dated 19 August 2011

⁹ Decree number 6433 dated 19 September 2011

¹⁰ No agreement between Lebanon and Syria has been made yet in relation to the delimitation of their maritime borders.

¹¹ These include navigation, fisheries protection, conservation of living resources, pollution control, search and rescue and marine and scientific research.

¹ <http://www.cyprus.gov.cy/moi/pio/pio.nsf/0FE475A6A54F2F7B2C2257100257AD4?opendocument> Accessed September 1, 2011

² See <http://www.sciencedaily.com/releases/2010/04/100408132812.htm> Accessed September 1, 2011

³ <http://pubs.usgs.gov/fs/2010/3014/pdf/FS10-3014.pdf> Accessed September 1, 2011

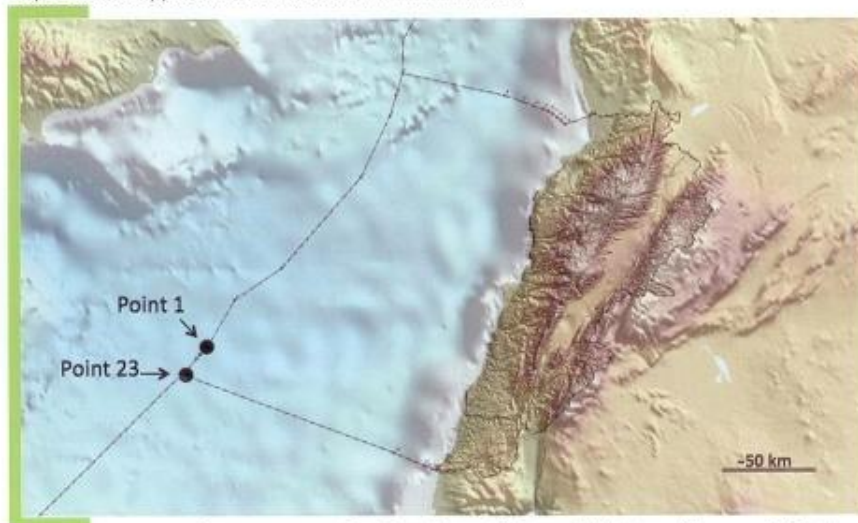
⁴ http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/DEPOSIT/ibn_mzn79_2010.pdf Accessed 5 September 2011

⁵ Hydrocarbon (Offshore) Law number 132/2010 (the "2010 Offshore Law")

Maritime limits and boundaries can be established unilaterally where there are no competing claims to jurisdiction. In the case of overlapping claims, states are enjoined to agree on a boundary that gives each party an equitable share of the overlapping area.

The maritime area of overlap between Israel and Lebanon covers an estimated 873,722 square kilometres running from the coast to the median line between Cyprus and Israel and Cyprus and Lebanon. Both states claim that this area falls within their jurisdiction based on differing calculations of the outermost limits of their respective exclusive economic zones.¹¹

Lebanon considers Point 23 on the list of geographical coordinates, which is claimed by Lebanon to be tri-equidistant between the three countries, as the endpoint of its southern maritime border with Israel, and the southwestern limit of its EEZ. On the other hand, Israel considers Point 1, which falls around 17 kilometres North of Point 23, as the endpoint of its northern maritime border with Lebanon. The below map shows the approximate location of Point 1 and Point 23:



(Image courtesy of the Data Room of Lebanon's Ministry of Energy and Water)

A distinction must be made between the delimitation methods for the boundaries of the territorial sea and the EEZ as this is relevant to the overlapping claims between Lebanon and Israel. The overlapping area contains both a territorial sea section and an EEZ section and it would be important to determine whether the same method of boundary delimitation would be used for both sections; or, alternatively, as acceptable in customary maritime practice, different considerations would be made for each. A close look at the Israeli and Lebanese lines shows that both run in what seems to be an almost parallel direction from the coast and up to a length of around 12 nautical miles (i.e. what may be the territorial sea boundary in the Israeli view). Beyond this point, the two lines diverge, with the Israeli line taking a northern angle in order to meet Point 1 of the Cyprus-Lebanon Agreement. This may imply that Israel is open to the application of the equidistance method (median line) under international law even if this application is only for the territorial sea section of the boundary.

III. Lebanon's Case:

Lebanon's coordinates are claimed to be based on the internationally recognised equidistance method, which remains the most frequently adopted method for delimiting maritime boundaries between states. This meets the criteria of geographical factors and customary international law that govern the delimitation of maritime areas between states. It is also consistent with Lebanon's desire to uphold international law and its commitments as a signatory to UNCLOS, to which Israel is not a party. Lebanon claims that Point 23 was determined using objective unambiguous mathematical principles and results in the equitable distribution of maritime space. Unless successfully contested, this should in principle correspond to the equitable/relevant circumstances principle governing the delineation of exclusive economic zones.

It is not clear what reasonable factors, technical or otherwise, led Israel to determine Point 1 as the northwestern endpoint to its maritime border. Israel's position reflects a lack of consideration for both equitability and relevant circumstances, relying solely on the coordinates of a provisional endpoint in the Agreement between Cyprus and Lebanon.

Additionally, the Cyprus-Lebanon Agreement has not been ratified by Lebanon and has no legal bearing yet on Lebanon's delineation of its southern maritime border. Lebanon officially deposited the chart and geographical coordinates of the southern and southwestern boundaries of its exclusive economic zone with the United Nations on 9 July 2010 and 11 October 2010 respectively. Israel entered into its Agreement with Cyprus in December 2010, several months after Lebanon's claim had been submitted. This betrays Israel's lack of good faith in calling for bilateral negotiations on this issue.

Moreover, the Cyprus-Lebanon Agreement confirms the provisional nature of Point 1 in accordance with customary international maritime law. The Agreement states that 'the geographical coordinates of points 1 and 6 could be reviewed and/or extended and duly revised as necessary in light of further delimitation of the Exclusive Economic Zone with other concerned neighbouring States and in accordance with an agreement to be reached in this matter by the neighbouring States concerned'. Thus, it can be argued that such a provisional point cannot be taken as a basis for the final (let alone unilateral) delimitation of the maritime boundaries by Israel and would not meet the requirements of the 'equitable solution' principle set by Article 74 of UNCLOS. Therefore, Israel's reliance on point 1 cannot be a sufficient stand-alone argument to justify Israel's extended EEZ claim.

Lebanon may argue that although Israel is not party to UNCLOS, previous practice confirms that Israel accepts the equidistance principle. However, as explained previously, such Israeli practice has mainly covered maritime areas that are within the territorial sea (i.e. Gulf of Aqaba), and/or that are shared with states having opposing coasts (i.e. Jordan and Cyprus). In the delimitation of the maritime boundaries between Israel and Jordan in the Gulf of Aqaba, Israel used a tri-equidistance point, which is equidistant from the three coasts at the head of the Gulf, in order to draw the maritime boundary as a straight line between this tri-equidistant point and the coastal point.¹² In addition, semi-official Israeli literature by Dr. Haim Srebro, the Director of Survey of Israel, states that in theory a maritime boundary with Egypt in the Gulf of Aqaba (i.e. adjacent coasts) should be based on the equidistance method.¹³

¹² Haim Srebro, *The Definition of the Israeli International Boundaries in the Vicinity of Eilat*, page 17.

¹³ http://www.fig.net/pub/fig2009/papers/1s03a/1s03a_srebro_3213.pdf Accessed September 2, 2011

Lebanon may also argue that Israel's claim is undermined by its previous acceptance of the median line with Lebanon as a de facto boundary between the two countries, as demonstrated in its delineation of hydrocarbon licensing blocks along its northern maritime border – notably the Alon D and F Blocks. This analysis is supported by ICJ precedence in the case of Tunisia-Libya 1982 where a line drawn by the Italian colonial administration in 1919 was recognized by the ICJ as a de facto working boundary that had been observed over a considerable period of time and respected by both parties in issuing their oil exploration concessions.

In summary, it could be argued that Lebanon has a stronger position than Israel in relying on an equidistant line in the absence of an agreement with Israel. This position is made stronger by the fact that Israel's northern hydrocarbon blocks respect what seems to be the median line.

However, Lebanon cannot claim that the median line drawn based on equidistance principles should be the final maritime boundary between Lebanon and Israel. UNCLOS does not specify that maritime boundaries should be delimited according to a particular method and that even in the case of the territorial sea, states are merely prohibited from extending their claims beyond a median line failing agreement between them to the contrary (Prescott and Schofield – *The Maritime Boundaries of the World* – p 235). Other prominent opinions rely on ICJ precedence to argue that the equidistance rule is merely a method and does not have the status of a legal rule. In the North Sea Continental Shelf Cases (Germany, Denmark and the Netherlands – 1967), the ICJ decided that the equidistance/special circumstances method had practical convenience and certainty of application; however this was not enough to convert the method into a principle of law (Nathalie Klein, *Dispute Settlement in the UN Convention on the Law of the Sea* – page 237).

Therefore, although the Lebanese legal position is relatively strong in comparison with the Israeli position, it cannot be confirmed yet whether the equidistance method would produce an equitable final maritime boundary. Indeed, an assessment of any relevant circumstances would be required as needed to comply with Article 74 of UNCLOS to reach an equitable solution.