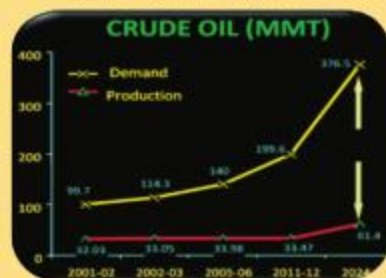
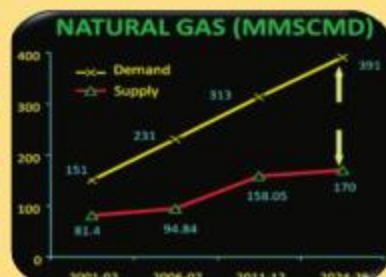
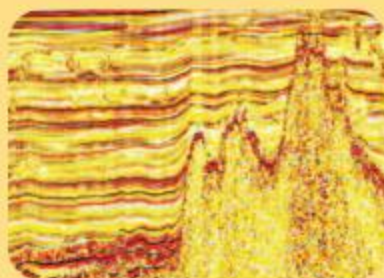


PETROLEUM EXPLORATION AND PRODUCTION ACTIVITIES

INDIA
2008-09



DGH

DIRECTORATE GENERAL OF HYDROCARBONS
(Under Ministry of Petroleum & Natural Gas, Govt. of India)



मुरली देवरा
MURLI DEORA



मंत्री
पेट्रोलियम एवं प्राकृतिक गैस
भारत सरकार
नई दिल्ली-110 001

MINISTER
PETROLEUM & NATURAL GAS
GOVERNMENT OF INDIA
NEW DELHI-110 001

MESSAGE

India is the fifth largest consumer of energy, accounting for approximately 3.9% of world consumption. The international Energy Agency forecasts in its World Energy Outlook that India will become the world's third largest net oil importer before 2025. Currently about three fourths of our crude oil requirement is met through imports to sustain an economic growth rate of 8-10% over the next 25 years. India's primary energy demand will more than double by 2030, growing an average 3.6% every year, due to a strong economic growth. Although coal will continue to remain the most important fuel, the contribution of oil and gas, particularly the latter, to our energy portfolio is expected to increase substantially. This would be a welcome development since the need for harnessing fuels with lower carbon footprint has become more imperative.

The year that has gone by has witnessed significant milestones in oil and gas production. Gas production from Krishna-Godavari basin in our eastern frontiers commenced on 1st April, 2009. Production from this field would nearly double the domestic production of gas. Further, oil production from the fields in the western part of our country, in Barmer District in Rajasthan, has commenced recently. At its peak, production from this field will account for about 20% of the current crude oil production of the country, which would save about 7% of the crude oil import bill and would reduce import dependence to that extent. It is indeed a significant step towards achieving energy security for our country. The recent discoveries of oil and gas fields have been truly outstanding and reflect the relentless efforts put in by the Government of India, the DGH and the E&P companies operating in India.

Last year, oil prices witnessed extreme volatility. The price of crude oil had gone up to US\$147 per barrel in the month of July 2008 and down to 35 dollars

towards the end of the year 2009. Along with the volatility, was the challenge of economic downturn facing the whole world. We have, however, faced the challenge of the global situation effectively. It is a matter of great satisfaction that we are still growing at over 6% per annum despite recessionary trends in many parts of the globe.

The issues of mapping the future energy scenario, and oil production capacity expansion present first three dimensions of the industry – demand, supply and investment. These are the fundamental issues and interwoven concerns of our petro-civilization. Coming to the fourth dimension ‘technology’, I must compliment the oil industries for taking great strides in the recent past that has helped the industry in imbibing the commitment, courage and conviction to venture into challenging areas like frontier basins and deepwater, ultra-deepwater, etc. At the same time, new technologies have helped in extending concepts beyond conventional fields to unconventional resources like tar sands, shale oil, gas hydrates, etc.

I am happy that DGH has been in the forefront of the efforts to bring more and more areas under exploration through various geo-scientific surveys and offering of blocks under the New Exploration Licensing Policy. In addition to the Pre-NELP rounds, seven rounds of bidding under this policy are operational and exploration in the offered blocks has resulted in impressive discoveries till date.

Despite the economic slow down, the response to the eighth round of NELP and fourth round of CBM has been quite encouraging. It is necessary that the impetus provided by discovery of new fields under New Exploration Licensing Policy (NELP), which provides level playing field to each player be it domestic or foreign, is maintained.

While directing our efforts towards attaining self-reliance in oil and gas, there is a pressing need for developing and exploiting the new fuels / sources of energy like solar, biofuels, hydrogen etc.

The report “Petroleum Exploration and Production Activities, India 2008-09” by DGH is a compilation of important information of upstream oil sector and will be a valuable reference to all those associated either directly, or indirectly in India’s oil and gas exploration.



(Murli Deora)



जितिन प्रसाद
Jitin Prasada



राज्य मंत्री
पेट्रोलियम एवं प्राकृतिक गैस मंत्रालय
भारत सरकार
नई दिल्ली-110001
MINISTER OF STATE FOR
PETROLEUM & NATURAL GAS
GOVERNMENT OF INDIA
NEW DELHI-110 001

MESSAGE

Energy continues to be the primary driver of our economy. Oil and gas are critical components of our energy basket and will continue to play a crucial role in meeting the energy requirements of our country in the foreseeable future until some renewable form of energy becomes viable.

The issues relating to energy security are indeed most challenging, and the issue looming before us is how, where from and at what cost can we fulfill our energy needs in a sustainable manner. India supports global initiatives that strengthen mutual energy security by promoting a truly open, competitive and globally integrated energy market, which ensures the long-term interest of both the producers and consumers. The E&P business is a highly technology driven one and needs huge investments and continuous knowledge up-gradation. We are endowed with about 138 billion barrels of oil and oil equivalent of gas, but these yet to be found resources are believed to be located in the frontier, logistically difficult and geologically complex resources, the exploitation technologies needs innovation as well.

India is one of the very few countries where exploration for oil began more than a century ago. For almost four to five decades since independence, the efforts were limited to two National Oil Companies (NOCs), namely ONGC and OIL. At the moment, there are more than 70 E&P companies, both Indian and foreign, working in India following the introduction of the New Exploration

Licensing Policy (NELP) about 10 years ago. Therefore, we can proudly say that the E&P scenario in India has improved dramatically during the past decade or so. I am happy to say that efforts put in by DGH has brought the unexplored sedimentary to about 14% and is keeping pace with the set targets in the “Hydrocarbon Vision 2025”.

We have taken initiatives through the Directorate General of Hydrocarbons to establish a National Data Repository (NDR) mainly to cater to the needs of E&P sector, research institutes and for academia. These initiatives are expected to give the much-needed boost to the R&D activities in the country and also help the industry through data integration and knowledge dissemination. India is the first Asian country to take such initiatives of forming NDR for which I compliment the Directorate General of Hydrocarbons.

The Government of India is stepping into the Open Acreage Licensing System (OALP) from the current New Exploration Licensing Policy. The OALP will enable bidders to bid for the blocks on offer at any time of the year. Data for these blocks would be made available to the bidders through the NDR. Thus, the NDR is expected to play a much larger and significant role in the E&P scenario in the years to come.

This report on the “Petroleum Exploration and Production Activities-India 2008-09” succinctly portrays the highlights and achievements of the upstream sector in India and reflects the excellent performance of the national, joint venture and private companies during the year. I wish to congratulate DGH for carrying out its duties with great dedication despite the increasing workload over the years.



(Jitin Prasada)



राघव शरण पान्डेय

सचिव

R.S. Pandey

Secretary



भारत सरकार

पेट्रोलियम एवं प्राकृतिक गैस मंत्रालय

शास्त्री भवन, नई दिल्ली-110001

Government of India

Ministry of Petroleum & Natural Gas

Shastri Bhawan, New Delhi-110 001

MESSAGE

Energy demand, including oil and gas, has increased in tandem with economic growth. India's petroleum product consumption has doubled in the last fifteen years. Production of oil in the country continues to be around 33 MMTPA since last few years. India currently imports over 80% of its crude oil requirements. Economic growth is linked to the growth of energy sector and it is expected that oil demand in India would grow three fold by 2020. The demand for gas is expected to grow at a faster rate than oil.

The search for and development of India's petroleum resources have now acquired an added urgency. This urgency stems from widening gap between the demands of the nation on the path of vibrant industrial growth and the availability of oil and natural gas to fuel this growth. One of the great success stories in the six decades since independence has been the growth and development of the Indian petroleum industry. In the past 60 years, the country witnessed growth of oil production from mere 0.25 Million Metric Tons (MMT) of oil and less than 0.1 billion cubic meters (BCM) of gas in 1947-48 to around 33 MMT oil and 33 BCM gas today. What started off as a minuscule production from small oil field in the rain forests of upper Assam has today blossomed in to major activity in several areas of onland & offshore of India.

With the introduction of the New Exploration Licensing Policy in the year 1999, the upstream hydrocarbon industry in the country has undergone a momentous change. Prior to the introduction of the NELP, there were only two National Oil Companies that were exploring for hydrocarbons and producing them. However, the perception about India being a less favored destination has undergone a paradigm shift. Today, many companies view India as an attractive business destination for oil and gas. We have been able to attract not only the best technology from across the globe in our search for hydrocarbons, but also more than 70 E&P companies to invest in India. The investment in the sector has also gone up substantially. It is also a fact that India offers a ready and growing market for hydrocarbons. For several oil companies across the world, finding markets for selling their products is a big concern. India will continue to have attractive markets as demand for oil and gas is expected to grow exponentially.

We have 26 sedimentary basins of which only about 20% is moderately to well-explored. The remaining sedimentary area remains to be intensively explored. And judging by the spate of recent discoveries, the areas that are yet to be explored hold enormous promise.

Till date, seven rounds of the New Exploration Licensing Policy (NELP) have been implemented. 203 Production Sharing Contracts have been signed under NELP rounds of which 168 are in operation. In addition, we also have awarded 23 CBM blocks during the three rounds of CBM bidding. There have been 114 discoveries since the year 1999, in the PSC regime. And in the year 2008-09, there have been 11 oil and gas discoveries under the PSC regime. The process for the award of blocks under the recently concluded NELP-VIII is currently under way, and it is expected that additional exploration and CBM blocks will be in operation soon.

India has the fourth largest proven coal reserves and is the 3rd largest coal producer in the world. It holds significant prospect for commercial recovery of CBM. Substantial progress has already been made for CBM exploration and exploitation in the country. 26 blocks have so far been awarded under 3 rounds of international bidding and more than 300 CBM wells are already drilled.

Three CBM blocks have already entered development stage and have plans to produce about 7 MMSCMD by the year 2012-13, by drilling more than 500 wells. Commercial production has commenced since July, 2007.

In addition to conventional oil and gas, we are vigorously pursuing unconventional hydrocarbon resources such as gas hydrates.

The successful completion of the first expedition for gas hydrates in the year 2006 has been a major source of inspiration and encouragement of the gas hydrate program in India. Based on the results of the extensive coring program carried out, we are now confident that significant gas hydrate deposits occur in the Indian offshore areas.

Since the demand for gas is projected to soar in the coming few decades, production of gas from CBM and methane hydrates is a priority for us in bridging this gap. The large discoveries of gas in the east coast of India are expected to ease the situation to some extent.

The most important and encouraging development that has taken place during the year 2009 is the commencement of gas production from the deep water Krishna Godavari basin and oil from the Barmer-Sanchor basin of Rajasthan. Very recently, gas production has commenced from the PY-1 field in Cauvery basin. At the peak production level, the gas production from the D-6 field will double the current rate of total gas production in India. The oil production from the Barmer-Sanchor basin in Rajasthan is expected to contribute about 18% of the country's total oil production in the near future. These outstanding successes are glowing testimonials to the initiative and entrepreneurship of the private/JV E&P companies operating in India.

In conclusion, I would like to compliment the Directorate General of Hydrocarbons for their efforts towards achieving the goals set forth in the "Hydrocarbon Vision 2025". The information provided in this report "Petroleum Exploration and Production Activities, India 2008-09" is an invaluable reference book for all the stakeholders connected with the oil and gas industry in India.



(R.S. Pandey)

FROM THE DIRECTOR GENERAL'S DESK



In keeping with the objectives of the *India Hydrocarbon Vision 2025*, DGH has been taking necessary steps to bring all sedimentary basins of India into active exploration, within the earliest possible time. In order to achieve this vision, DGH has been acquiring geoscientific data in the offshore and onland basins of India, taking up various studies, upgrading the knowledge for the benefit of potential bidders and offering new acreages for exploration. As on 1st April, 2009, 631 concessions are in operation, of which 285 are under Petroleum Exploration Licences (PEL) and 346 under Mining Licenses (ML). This is a tremendous improvement over the 203 PELs and 163 MLs which were in operation in the year 1995-96 prior to the implementation of the New Exploration Licensing Policy (NELP). Due to persistent efforts, the unexplored sedimentary area, which was of the order of 50% in 1995-96 has reduced to 13% now.

Out of the total prognosticated resources of 205 billion barrels of oil and oil equivalent of gas, only 68 billion barrels have been established as in-place reserves. There is, thus, a vast potential of 137 billion barrels yet to be discovered oil present in the sedimentary area of the country.

There have been 38 discoveries of oil and gas both in the offshore and onland basins of India during the year under review by the National Oil Companies and Pvt.JV E & P companies. The year also witnessed the first deep water oil production from offshore Krishna Godavari basin.

As far as oil and gas production is concerned, an increase is envisaged in the oil production from the existing level of around 5 MMT per annum to 12 MMT by the year 2010-2011 from existing fields operated by Pvt./JV companies. Gas production is also expected to increase to around 39 BCM per annum by the year 2011-12 and 43 BCM by the year 2014-15 from existing fields under Pvt./JV companies from the existing level of 8 BCM per annum. These estimates are based on approved production profiles. However, many of the discoveries are currently under evaluation / appraisal. Our efforts are also be directed towards monetization of all the 114 discoveries by the year 2015-16.

During the year under review, the total oil and gas production were of the order of 33.5 MMT and 32.84 BCM respectively. There has been an accretion of 337.7 MMT of in-place reserves and 87.73 MMT (O+OEG) of ultimate recoverable reserves.

We have continued with our efforts in acquiring new geoscientific data, and in reprocessing old data in onland and offshore sedimentary areas of the country.

The blocks under NELP-VIII and CBM-IV rounds are expected to be awarded to the successful bidders soon. Despite the global economic meltdown, the response has not been poor if we compare the NELP-VIII with similar bidding rounds in other countries.

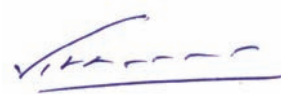
Our efforts with respect to the fast track development of unconventional fossil fuel resources are on track. We have inked a MOU with the Minerals Management Services of the United States of America for studies related to gas hydrates. After the astounding success of the National Gas Hydrate Program Expedition 01, efforts are on to launch Expedition 02 to identify locations for production testing.

The total sedimentary area for CBM exploration in India is of the order of 26,000 sq.km. Out of this, exploration has been initiated in only 52% of the area. Thus, a large area remains to be explored. The prognosticated CBM resources are about 50 TCF of which only about 8.5 TCF has been established. Production of CBM gas has commenced in the East Raniganj CBM block. Currently, the CBM production in India is of the order of 0.15 MMSCM/day. Efforts are also being made in Sohagpur block in Madhya Pradesh and Jharia block in Jharkhand for commencement of commercial production at the earliest.

The Petroleum System Modeling of the offshore Kerala-Konkan basin and the Bengal onland basin as well as the evaluation of the oil shale resources in north eastern part of India are currently in progress. We are also looking at the possibility of initiating studies for shale gas development in the country.

During the year, a Profit Petroleum of Rs.5508 crores and Royalty of Rs.3290 crores was contributed to the government exchequer. Essentiality Certificates for import of goods required for petroleum operations were issued for 13,570 applications valued at approximately Rs.30,000 crores.

This report on the "Petroleum Exploration and Production Activities India 2008-09" summarizes the entire gamut of E & P activities carried out by the National Oil Companies and the Pvt./JV companies operating in India and also the achievements in this sector. I thank the Ministry of Petroleum and Natural Gas for the support and guidance that we have received in discharging our functions and responsibilities effectively and expeditiously. I am confident that all stake holders in the E & P sector in India, and those willing to invest in India will find this publication a comprehensive and useful compendium.



(S.K. Srivastava)

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HIGHLIGHTS

1. A total of 38 hydrocarbon discoveries have been made by ONGC (25), OIL (4), RIL (2), GSPC (6) and FOCUS (1). 12 of these discoveries are from Pre-NELP, NELP blocks and fields.
2. Profit petroleum of US \$ 1172 Million and royalty of Rs. 3290.00 Crores were contributed to the Central Government exchequer.
3. Accretion of In-place reserves (O+OEG) of 337.6166 MMT and Ultimate Reserves (O+OEG) of 87.7360 MMT was made.
4. Production of 32.84478 BCM of gas and 33.50388 MMT of oil was made.
5. Commercial production of coal bed methane commenced from Raniganj South block from 14th July 2007.
6. A total of 188 blocks are under operation under PSC regime.
7. A total of 1,156,010.22 Sq Km area is under PEL.
8. A total of 37,246.49 Sq Km area is under ML.
9. Essentiality certificates have been issued for clearance of 13,570 cases valued at Rs. 3,023,321 Lakhs.
10. A total of 696.35 GLK of 2D seismic data was acquired, 13994.64 LKM of AGM data and 55668.30 LKM of HRAM data were acquired & processed in Kutch Basin, Gujarat.



DIRECTORATE GENERAL OF HYDROCARBONS

The Ministry of Petroleum & Natural Gas situated in Shastri Bhawan, New Delhi is entrusted with the responsibility of exploration and production of oil and natural gas, their refining, distribution and marketing, import, export, and conservation of petroleum products and Liquefied Natural Gas. The Ministry of Petroleum & Natural Gas gets its authority under item no. 53, list 1, Seventh Schedule, Article 246 of the Constitution of India.

Directorate General of Hydrocarbons was formed under Ministry of Petroleum & Natural Gas, in April 1993 by Cabinet approved Resolution, on the basis of BHRC Report – 1990 and Kaul Committee Report – 1992, as the Government of India felt the need for independent Regulatory Body to Advise MOP&NG on Exploration Strategies & Production Policies. DGH is funded by OI DB (Oil Industry Development Board).

VISION

To be an upstream advisory & technical regulatory body of international repute, creating value for society through proliferation and dissemination of E&P knowledge, optimal hydrocarbon resource management and environment friendly practices.

OBJECTIVE

To promote sound management of the Indian petroleum and natural gas resources having a balanced regard to the environment, safety, technological and economic aspects of the petroleum activity.

FUNCTIONS AND RESPONSIBILITIES

- **Review exploration programmes of companies for adequacy**
 - ✓ Half yearly review of work programmes in Petroleum Exploration Licence (PEL) areas of ONGC & OIL, awarded on Nomination Basis.
 - ✓ Processing and review of all the PEL and ML cases for the Ministry.
 - ✓ Review of work programme and budget of all exploration blocks and fields under PSCs.
 - ✓ Monitoring of all CBM blocks awarded under CBM rounds I, II & III, on nomination basis and through FIPB route
 - ✓ Change of Participating interest and assignment cases.
 - ✓ Participation in Management Committee meetings on behalf of the Government.
 - ✓ Cost monitoring, statutory payments to government, Profit sharing to government.
 - ✓ Facilitating of statutory & other clearances.
 - ✓ Extension of phases, relinquishment of acreages, assignment, appointment of auditor, approval of auditing account and other PSC related issues as and when arise.
 - ✓ Participation of arbitration matters.
 - ✓ Advise Government on policy formulations.
 - ✓ Issuance of essentiality certificates.

- **Review development plans of commercial discoveries and advise Govt. of their adequacy**
 - ✓ Technical & financial evaluation of Development / Additional Development Plans of fields like Lakshmi, Gauri, Hazira, Panna-Mukta, Tapti, Ravva, Kharsang, Dhirubhai-1 & 3 (Deepwaters), Mumbai High, Mangla, Aishwarya, Rageshwari, Saraswati fields, etc.
 - ✓ Participate in MCMs as Government representative with a view to ensure optimal exploitation of these fields.
- **To reassess the hydrocarbon reserves estimated by the operating companies**
 - ✓ Technical Review of Monitorable Action Plan of Mumbai High field on behalf of MOPNG.
 - ✓ Concurrent review of reservoir performance of all the major fields under private / JV operators.
- **Review and concurrently audit the management of petroleum reservoirs and advise mid course correction**
- **Advise Government on offering of acreage for exploration to companies, as well as, matters relating to relinquishment of acreage by companies.**
 - ✓ Conduct Studies, Surveys, Information Drilling and Related Activities in Unexplored or Poorly Explored Areas.
 - ✓ Upgrade information in these areas viz. reprocessing and reinterpretation of data.
 - ✓ Advise on offering of blocks under NELP and CBM rounds.
 - ✓ Advise matters related to relinquishments.
 - ✓ Identification of blocks, preparation of Basin Dockets & Data Packages, organizing road shows in the country and abroad for promotion of blocks & sale of data.
- **Technical advice to MOP&NG on issues relevant to exploration and optimal exploitation of oil and gas**
 - ✓ Technical evaluation of NELP and CBM round bids and recommendations to Ministry.
 - ✓ Assist MOPNG in contract negotiations & their finalization.
 - ✓ Monitoring of Production Sharing Contracts (PSC) as Govt. representative to achieve exploration targets and optimal exploitation of hydrocarbons in the country.
 - ✓ Technical advice on preparation of 5 year plans.
 - ✓ Technical advice on Quarterly Progress Reports of ONGC and OIL.
- **Preservation, upkeep and storage of data / samples pertaining to petroleum exploration, production, etc. and the preparation of data packages for acreage on offer**
 - ✓ Creation and maintenance of National E&P Data Base and Archive System.
 - ✓ Storage of data acquired by DGH and private oil and gas companies.
 - ✓ Identification of blocks, preparation of Data Packages, Basin Dockets and other related publications/ documents for road shows in the country and abroad for promotion of blocks and sales of data.

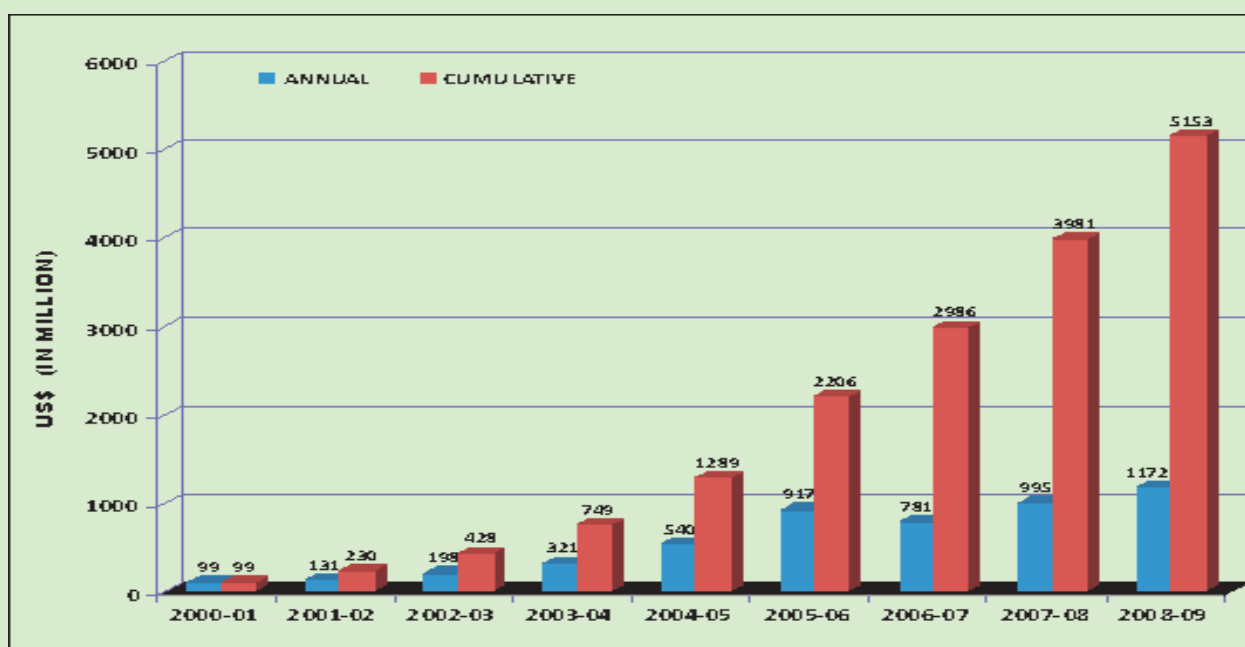
- **Field Surveillance of producing fields and blocks to monitor their performance**
- **Ministry of Defence (MOD) guidelines**
 - ✓ DGH scientists remain onboard all the seismic vessels and deep water drilling rigs during operation.
 - ✓ DGH geophysicists accompany all raw / field seismic and G.M. data whenever it leaves the country for processing and interpretation.
- **All other matters incidental thereto and such other functions as may be assigned by Government**
 - ✓ Coordinate the technical activities of all projects under National Gas Hydrate Programme (NGHP).
 - ✓ To provide input material for Parliament Questions, Parliamentary Committees relating to DGH and Pvt /JV operations.
 - ✓ Issuance of Essentiality Certificates for import of goods used in petroleum operations.
 - ✓ Facilitating clearances from MOD for foreign rigs/vessels and from MOEF for all projects under Pvt /JV operations.
 - ✓ Undertaking project studies on Environmental Issues.

Contribution to Government Exchequer

The following are earnings of Government of India from Profit Petroleum and Royalty.

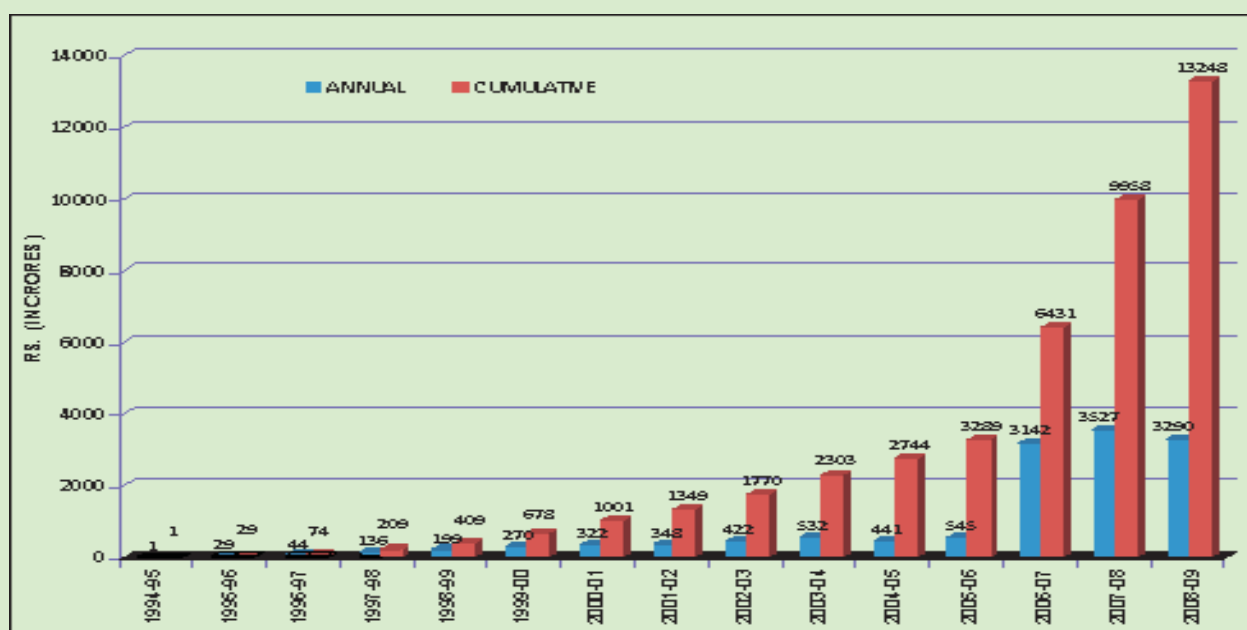
Profit Petroleum

During the Financial Year 2008-09, Profit Petroleum of US \$ 1172 Million was contributed to Government Exchequer. The cumulative Profit Petroleum earned as on 31st. March 2009 is US \$ 5153.56 Million



Royalty

During the Financial Year 2008-09, Royalty paid to Central Exchequer was Rs. 3290 crores. The cumulative Royalty contributed is Rs. 13248.38 crores.



* **Note:** The royalty data of ONGC (nominated blocks) have been incorporated w.e.f. 2006-07.

GEOSCIENTIFIC STUDIES BY DGH

- The DGH has carried out, either alone or in collaboration with reputed companies, several projects to upgrade information in hitherto unexplored/poorly-explored areas. These total to 2 million sq kms. and cover both offshore (82%) and onland (18%).
- Of this total, satellite gravity surveys over the eastern and western offshore areas and Andaman account for 1.642 million sq. kms. Joint venture offshore speculative geophysical surveys within the same area in eastern offshore and Andaman, cover about 0.246 million sq. kms. These surveys have given valuable clues to structure, tectonics, sedimentary thickness and play recognition in the deep waters and have provided inputs for modeling studies and for the preparation of a hydrocarbon prospect map of the area.
- A 2D seismic coverage of 0.053 million sq. km. was achieved in 1997-98 in the onland areas of U.P., Bihar and M.P. 2D seismic survey was repeated in Bihar in 2002-03 over 0.05 million sq. km. These surveys were carried out to assess the hydrocarbon potential of Vindhyan and Ganga basins. A new lower Vindhyan paleo-embayment comprising of a number of high and low basement features has been mapped for the first time. These studies have led to the demarcation of certain prospective areas and with new data, 3 blocks were offered and awarded in Ganga basin under second, fourth and fifth rounds of NELP. In 2003-04, 805.0 GLK 2D seismic data have been acquired in Chambal Valley area to assess the prospectivity of the western part of the Vindhyan basin. Three Blocks have been awarded in NELP-V and VI in Vindhyan basin.
- During 1999-2003, 25,000 LKM of 2D seismic surveys were carried out in the deep waters of Andamans, east and west coasts including the southern tip.
- 16964 GLK 2D seismic data have been acquired, processed and interpreted through GX-Technology, USA in eastern & western offshore during 2005-07 under speculative survey programme. Based on this data a good number of blocks were offered and awarded in NELP-VI.
- 593.3 GLK of 2D seismic data has been acquired through NGRI in poorly explored Kutch onland basin.
- Speculative 2D Seismic survey was carried out in Andaman offshore amounting 7240.725 LKM by PGS.
- Additional volume of 424 LKM was approved and total 6112.35 LKM was covered under speculative 2D marine seismic survey in west east coast by GX Technology.
- DGH has initiated studies for estimation of oil shale resources in Assam and neighboring area of Arunachal Pradesh. The first phase of the investigations is likely to commence towards mid of 2007.

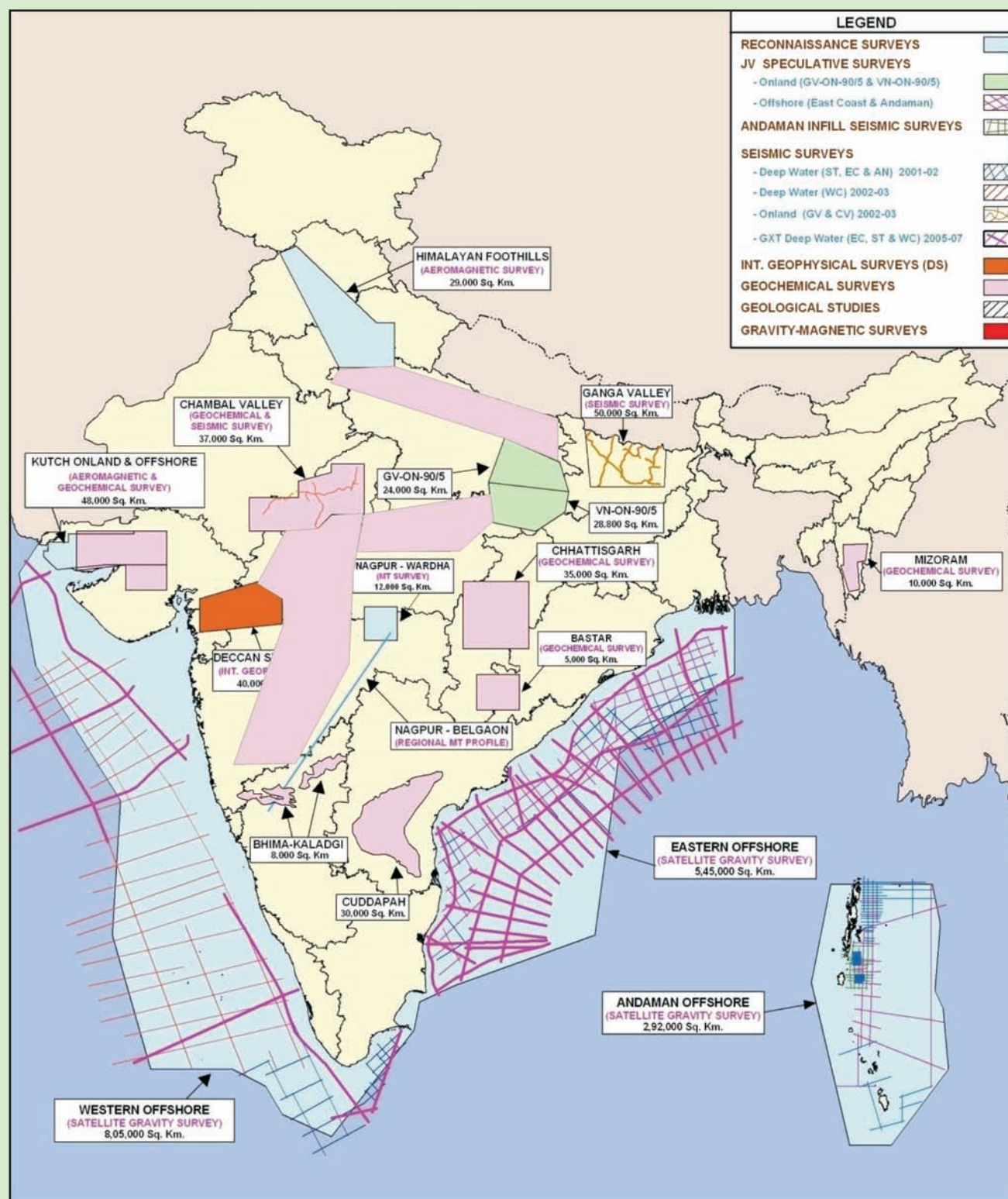
- Integrated geophysical surveys, carried out jointly by DGH and NGRI in the northwestern part of the Deccan Syneclise, revealed sub-trappean Mesozoic-Gondwana sediments with a maximum thickness of 3 Kms.
- Aeromagnetic surveys amounting to 24,723 LKM were carried out in Himalayan Foreland area during the year 2003-04, 2004-05 and 2005-06.
- DGH has completed reprocessing of 12000 LKM of 2D seismic data of west coast of India from M/s GGS Spectrum during the 2007-08.
- DGH has completed Acquisition & Processing of Speculative Controlled Source Electromagnetic (CSEM) survey in KG-DWN-2005/3 by EMGS, Norway in 2008.
- DGH has acquired 55,668.3 LKM of High Resolution Aeromagnetic (HRAM) data over Kutch, Gujarat through McPhar.
- DGH has acquired 103 stations {Sihore-Akola (63 stns) & Indore-Jalgaon (40 stns)} of Land MT in Central India through NGRI, Hyderabad.
- DGH has acquired 99 LKM of Marine Seismic refraction data & 13 stations of Marine Magneto Telluric stations in Gulf of Kutch through NGRI, Hyderabad.
- DGH has acquired of aerial images/Remote sensing data for 302,500 Sq. km area in Narmada-Cambay basin by NGRI.
- Geochemical surveys in Deccan Syneclise basin : Surface geochemical soil sampling has commenced in the month of March 2007. About 1000 soil samples will be collected and analyzed for light hydrocarbon gases.
- Oil Shale Investigations: The contract for the project "Resource estimation in respect of oil shale deposits and syncrude potential in North Eastern part of India" was signed between DGH, BRGM (France) and MECL (India) in September 2007. Geological field mapping, sampling and drilling activities have commenced.
- Petroleum system modeling studies: DGH has taken up the petroleum system modeling of two basins namely (i) Bengal onland basin and (ii) Kerala-Konkan offshore basin. The study is being carried out by Beicip-Franlab, France. Contract was signed between DGH and Beicip-Franlab in January 2008. Currently, the modeling study of Kerala-Konkan basin is in progress.

GEOSCIENTIFIC STUDIES BY DGH

Sl. No	Area/Block	Survey type	State/Offshore	Year	Achievement (API)	Area (M sq.Km.)
I. RECONNAISSANCE SURVEY						
1	Western & Eastern Offshore	Satellite Gravity	Western, Eastern & Andaman Off.	1995-98	1.642 Million Sq.Km.	1.642*
2	Kutch Off. & Onland	Aero-Magnetic	Gujarat	1995-96	23,730 LKM	0.038*
3	Nagpur-Wardha-Belgaum	MT	MP, Maharashtra & Karnataka	1996-98	352 Stations	0.012*
4	Himalayan Foreland	Aero-Magnetic	Punjab & Haryana	2003-04 2004-05	11,958 LKM	0.014*
5	Punjab and Foot Hills of Himalayas	Aero Magnetic	HP, Punjab, Part of Haryana & Uttaranchal	2005-06	12,765 LKM	0.015*
II. JOINT VENTURE SPECULATIVE SURVEYS OFFSHORE						
6	East Coast	2D Seismic & GM	Deep waters	1996-97	7428.685 LKM & RI of 4525 LKM of old data	0.169
7	Andaman - Nicobar	2D Seismic & GM	Andaman Sea	1996-97	3606.375 LKM & RI of 695 LKM of old data	0.077
ONLAND						
8	Ganga Valley (GV-ON-90/5)	2D Seismic	UP & Bihar	1997-98	634 GLK	0.024*
9	Vindhyan (VN-ON-90/5)	2D Seismic	UP, MP & Bihar	1997-98	566 GLK	0.029*
III. SPECULATIVE SURVEY						
10	Western & Eastern Offshore	2D seismic	Shallow & deep Water of west & East coast	2005-07	16964 LKM	—
11	Western Offshore	2D seismic Reprocessing	West coast of India	2007-08	12,000 LKM	—
12	Eastern offshore	CSEM	East coast, KG basin	2007-08	2146.5 Sq Km	—
13	Kutch (Block-III)	AGM HRAM	Gujarat	2008-09	13994.64 LKM 55668.30 LKM	
IV. SEISMIC SURVEYS OFFSHORE						
14	Andaman Infill	2D Seismic	Andaman Off.	1999	1484.75 LKM	—
15	Southern Tip (ST)	2D Seismic	Deep waters	2001-02	2835.925 LKM	0.029
16	East Coast (EC)	2D Seismic	Deepwaters	2001-02	4319.45 LKM	0.040*
17	Andaman-Nicobar (AN)	2D Seismic	Deepwaters	2001-02	4307.275 LKM	0.025
18	West Coast (WC)	2D Seismic	Deepwaters	2002-03	12,000.65 LKM	0.061
ONLAND						
19	Ganga Valley (GV)	2D Seismic	Bihar	2002-03	1135.05 GLK	0.050*
20	Chambal Valley (CV)	2D Seismic	MP & Rajasthan	2003-04	805.00 GLK	0.037*
21	Kutch	2D Seismic	Gujarat	2008-09	593.3 GLK	—
V. INTEGRATED GEOPHYSICAL SURVEYS						
22	Deccan Syncline (DS) (Narmada-Tapti Area)	Gravity MT DRS 2D Seismic	MP Maharashtra & Gujarat	2003-04	6000 Stations 600 Stations 50 Stations 700 LKM	0.040*
VI. GRAVITY - MAGNETIC SURVEYS & OTHER GEOPHYSICAL SURVEYS						
23	Vindhyan (Amriti)	GM	MP	2003-04	303 Stations (80 Sq. Km.)	—
24	Central India (NGRI)	Land Magnetotelluric	MP & Rajasthan	2006-09	103 Stations	—
25	Narmoda-Cambay/Deccan syncline (NGRI)	Analysis of Aerial Images/Remote Sensing data	Maharashtra, MP, Gujarat	2006-08	302,500 Sq.Km.	—
VII. GEOCHEMICAL SURVEYS						
1	Chambal valley	Geochemical	MP & Rajasthan	2002-03	350 Samples	0.035
2	Kutch Onland	Geochemical	Gujarat	2002-03	300 Samples	0.043(0.01*)
3	Chattisgarh	Geochemical	Chattisgarh, MP, Orissa	2003-04	350 Samples	0.035*
4	Cuddapah	Geochemical	AP	2004-05	300 Samples	0.030*
5	Bhima-Kaladgi	Geochemical	Karnataka	2004-05	200 Samples	0.008*
6	Mizoram	Geochemical	Mizoram	2005-06	300 Samples	0.010*
7	Bastar	Geochemical	Chattisgarh	2005-07	200 Samples	0.005*
8	Ganga	Geochemical	UP-Bihar	2007-09	1111 Samples	0.055*
9	Deccan Syncline	Geochemical	Maharashtra-MP-Karnataka	2007-08	1006 Samples	0.21*
10	Vindhyan	Geochemical	MP-Rajasthan	2008-10	636 Samples	0.038*
TOTAL						2.342

* Considered for totalling

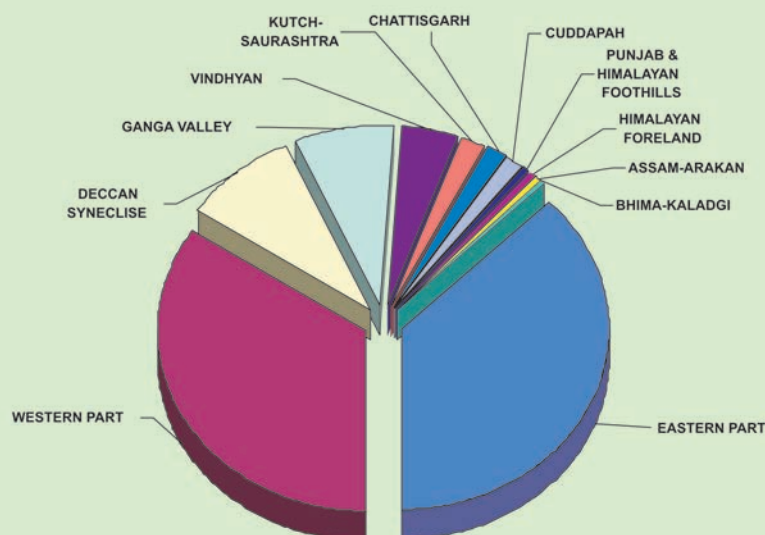
GEOPHYSICAL AND GEOCHEMICAL SURVEYS CARRIED OUT BY DGH



GEOPHYSICAL & GEOCHEMICAL SURVEYS

UNDER DGH SUPERVISION AND COLLABORATION

A. BASIN-WISE DISTRIBUTION

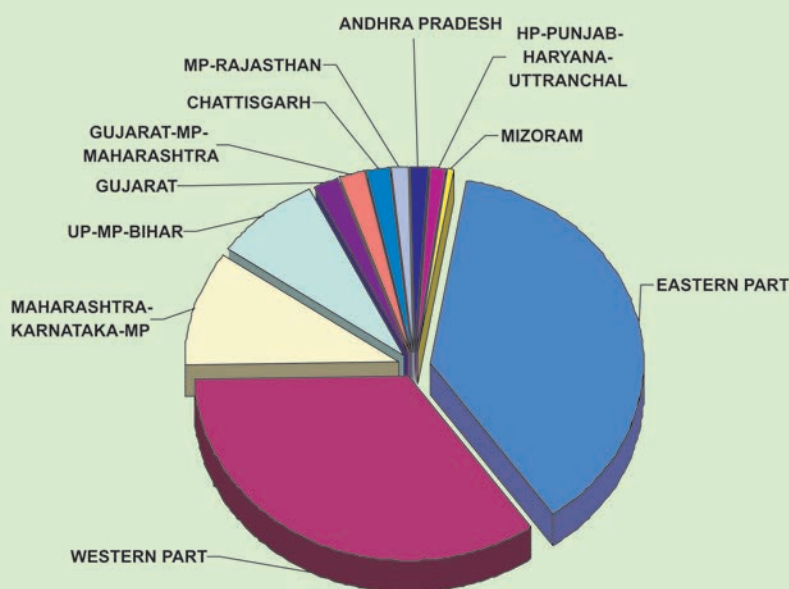


OFFSHORE / ONLAND	AREA	
	(Sq. Km.)	(%)
OFFSHORE		
EASTERN PART	877,000.00	37.45
WESTERN PART	805,000.00	34.37
TOTAL OFFSHORE	1,682,000.00	71.82
ONLAND		
DECCAN SYNECLISE	209,000.00	8.92
GANGA VALLEY	186,000.00	7.94
VINDHYAN	100,000.00	4.27
KUTCH-SAURASHTRA	48,000.00	2.05
CHATTISGARH	40,000.00	1.71
CUDDAPAH	30,000.00	1.28
PUNJAB & HIMALAYAN FOOTHILLS	15,000.00	0.64
HIMALAYAN FORELAND	14,000.00	0.60
ASSAM-ARAKAN	10,000.00	0.43
BHIMA-KALADGI	8,000.00	0.34
TOTAL ONLAND	660,000.00	28.18
GRAND TOTAL	2,342,000.00	100.00

GEOPHYSICAL & GEOCHEMICAL SURVEYS

UNDER DGH SUPERVISION AND COLLABORATION

B. STATE-WISE DISTRIBUTION



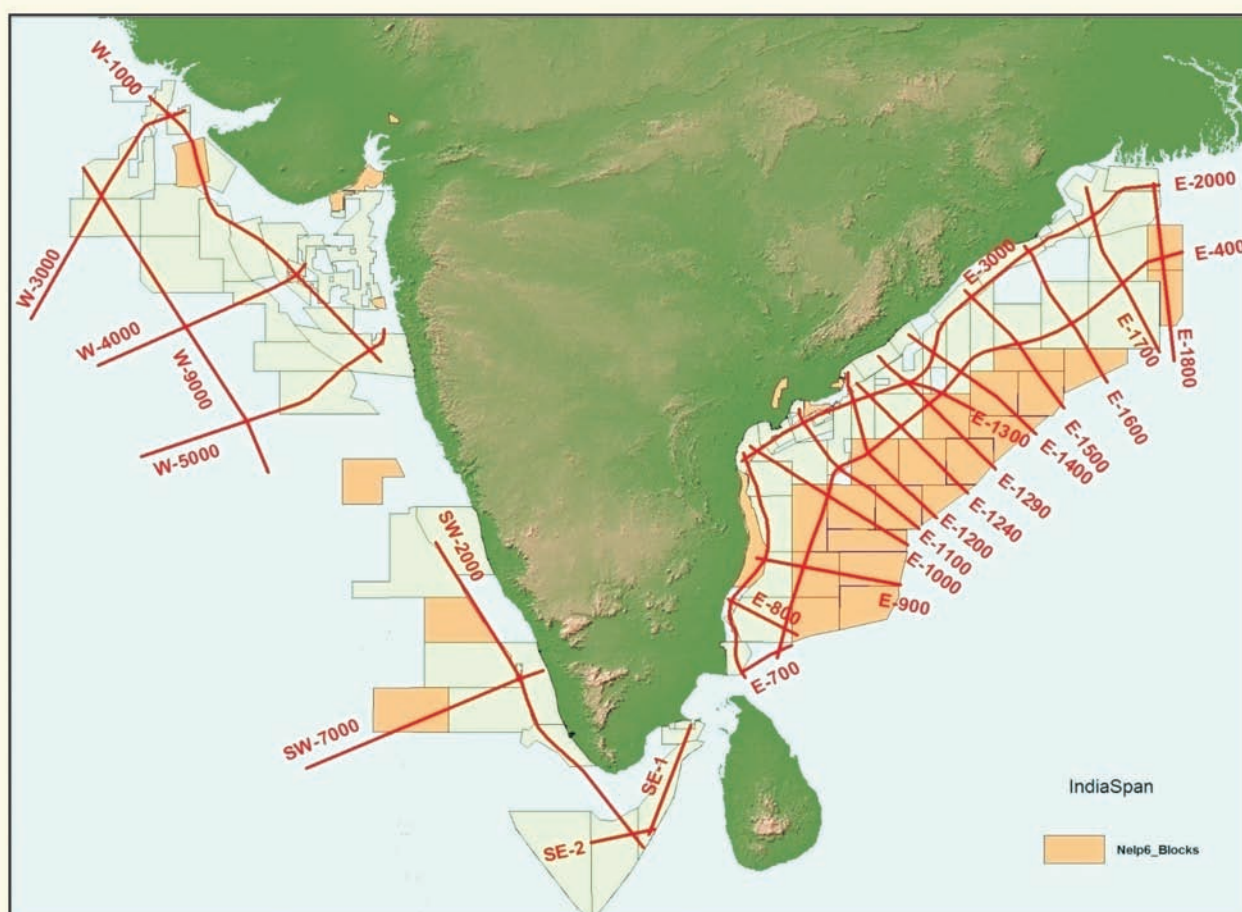
SPECULATIVE SEISMIC SURVEY IN EAST COAST & WEST COAST OF INDIA

Agency DGH & GX Technology, USA

Objective To reveal deep features and architecture that shall aid in postulating new ideas about continental margins around India.

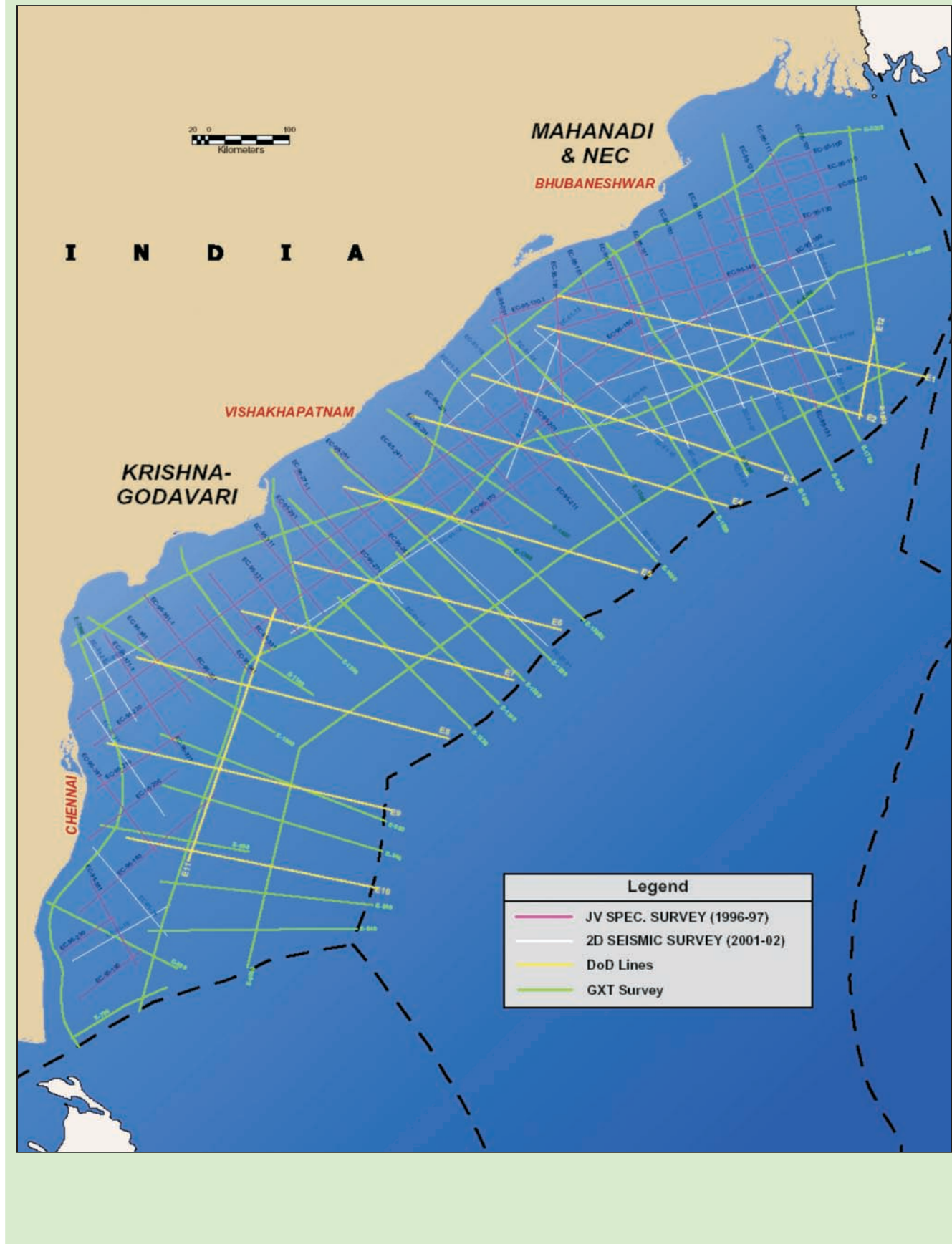
Volume of Work 16964 LKM API

INDIA SPAN : SURVEY LOCATION MAP

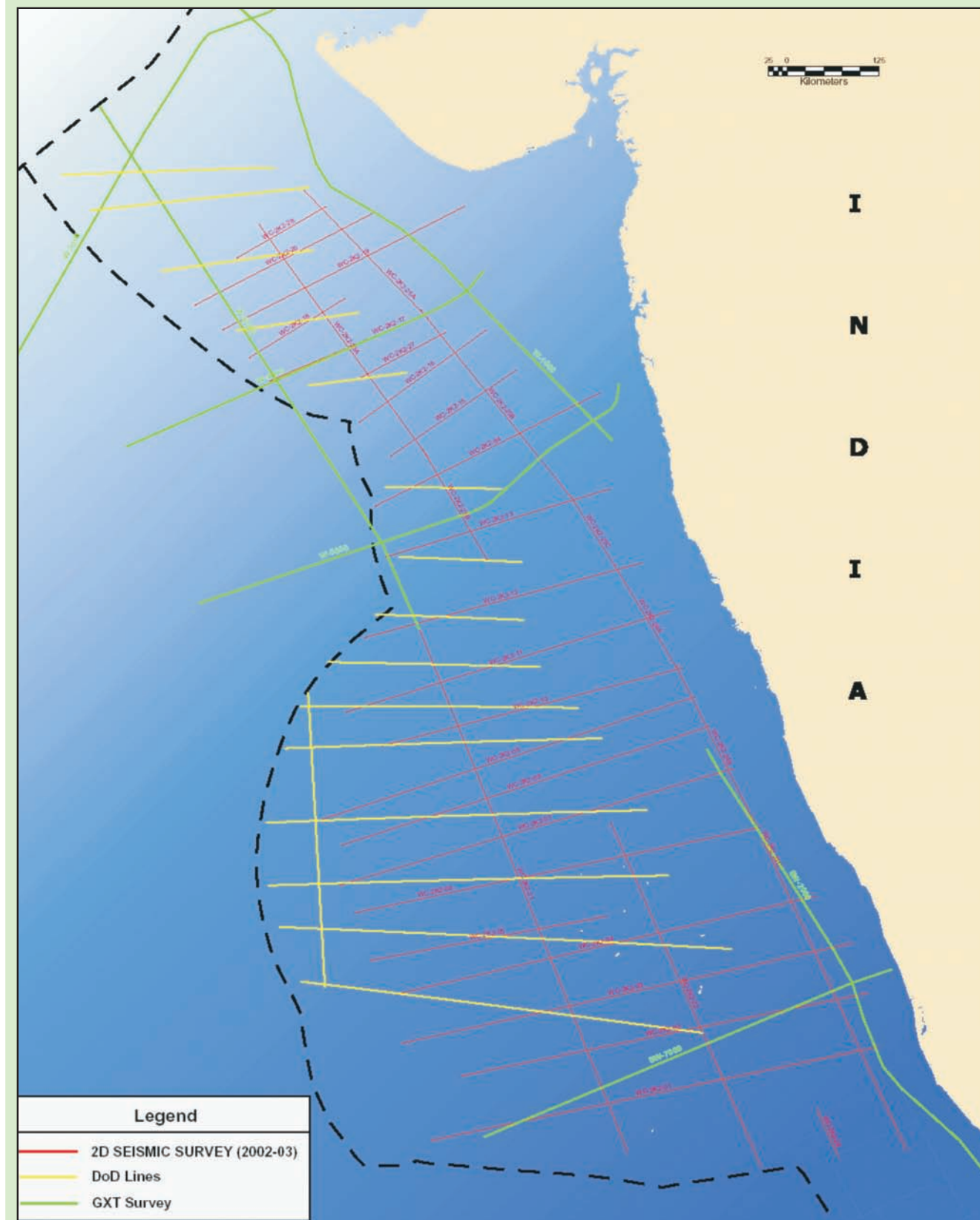


SPECULATIVE SEISMIC SURVEY IN EAST & WEST OFFSHORE BY GX TECHNOLOGY, USA

SEISMIC COVERAGE MAP – EAST COAST



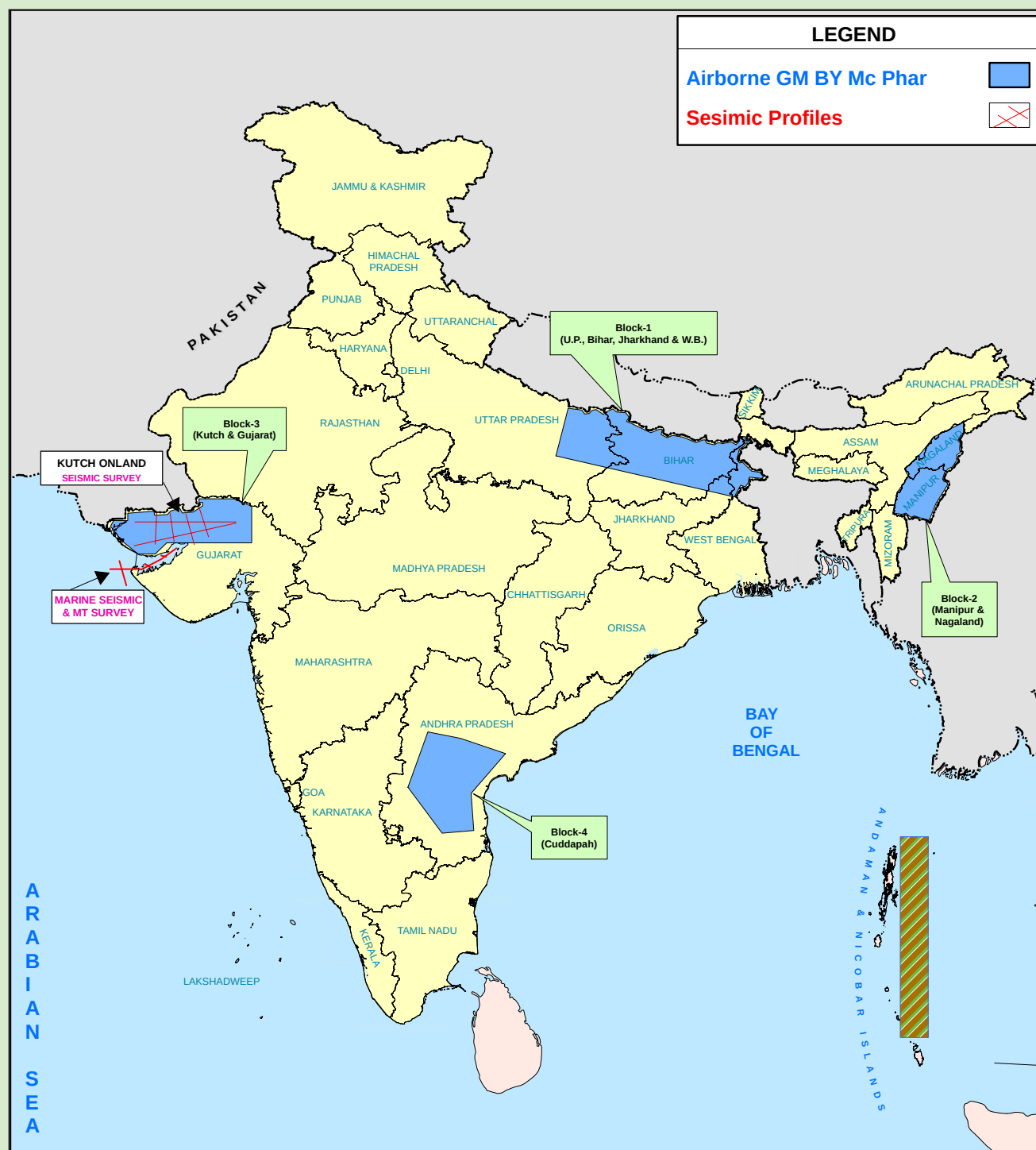
SEISMIC COVERAGE MAP – WEST COAST



FUTURE SURVEYS / REPROCESSING / STUDIES BY DGH

Sl. No.	AREA / BLOCK NAME	SURVEY TYPE	STATE/ OFFSHORE	AGENCY	TARGET
I. RECONNAISSANCE SURVEY					
1	Block I, II, & IV (Survey for Block III is completed)	Speculative HRAM + Airborne Gravity & Magnetic	Bihar, Jharkhand, West Bengal, Manipur, Nagaland, Kutch, Cuddapah/A.P	Mc Phar	375226 LKM
II. 2D SEISMIC & GM SURVEYS					
2	West Coast of India	2D Seismic with SAR	Deep Water	Fugro Multiclient Services Pty. Ltd., Australia	2537 LKM
3	West Coast of India	2D Seismic with SAR	Deep Water	Fugro data Services, Switzerland	1500 LKM
4	Andaman island of India	2D Seismic (Reprocessing)	Andaman Sea	Spectrum Geo	10001.21 LKM
5	West & East Coast	2D Seismic	Deep Water	GXT	10424 LKM
6	Andaman Offshore	2D Seismic	Andaman Sea	PGS	7240.725 LKM
III. GEOCHEMICAL SURVEYS					
ONLAND					
1.	Rajasthan Basin	Geochemical	Rajasthan, M.P.	NGRI	1000 Samples
2.	Bengal Basin	Geochemical	West Bengal	NGRI	700 Samples
IV. OTHER STUDIES					
1.	Oil shale Resource Evaluation in Assam	--	--	BRGM. France MECL India	--

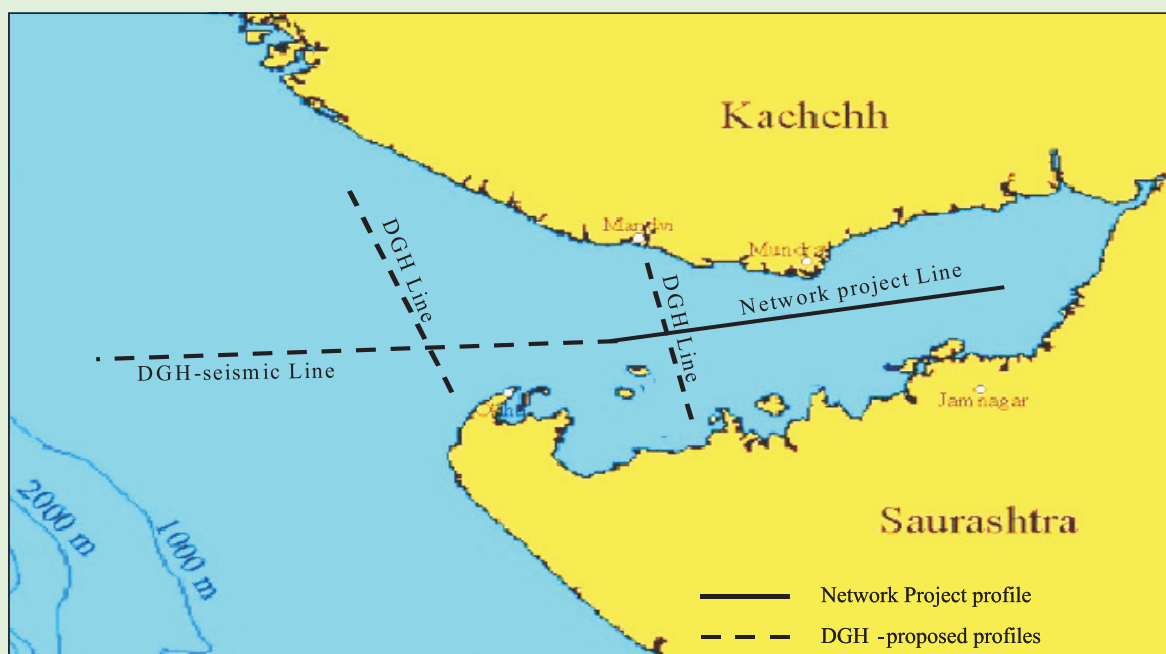
FUTURE GEOPHYSICAL SURVEYS / STUDIES BY DGH



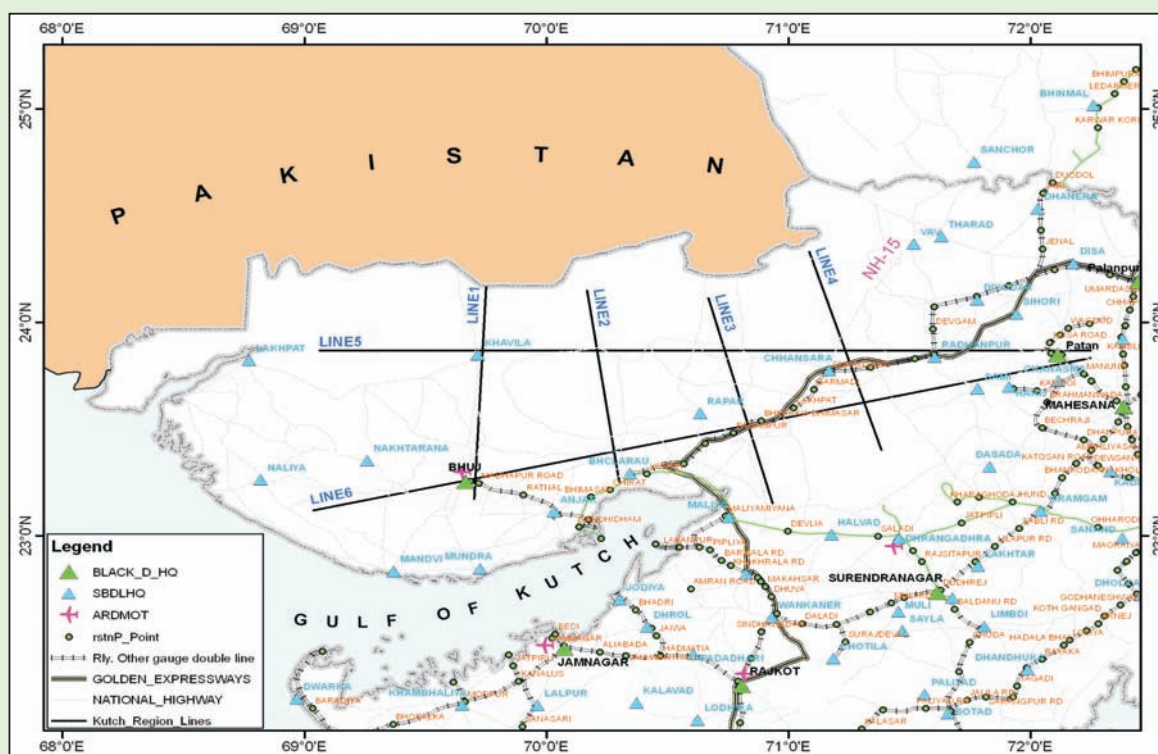
FUTURE GEOCHEMICAL SURVEYS / STUDIES BY DGH



FUTURE SURVEYS TO BE CARRIED OUT BY DGH



MARINE SEISMIC AND MAGNETOTELLURICS IN GULF OF KUTCH REGION

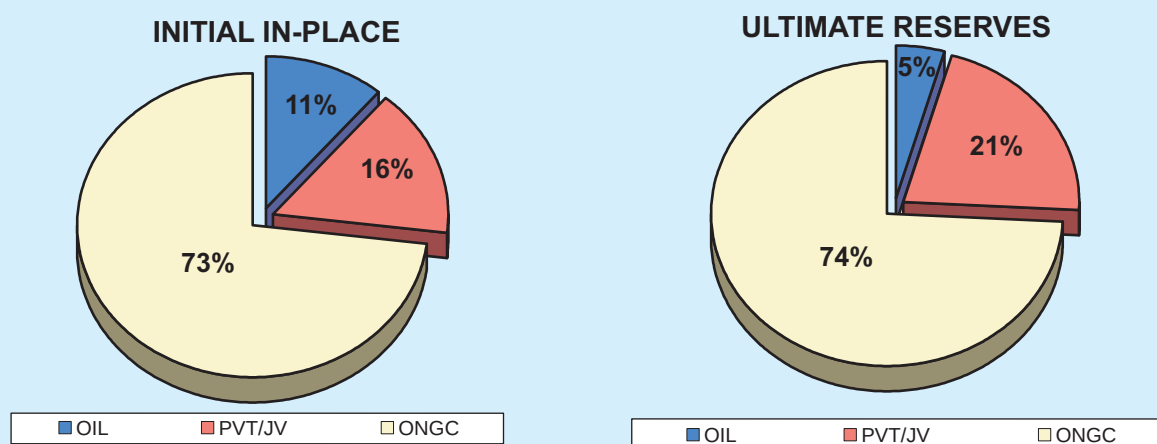


ONLAND 2D SEISMIC REFLECTION SURVEY IN KUTCH

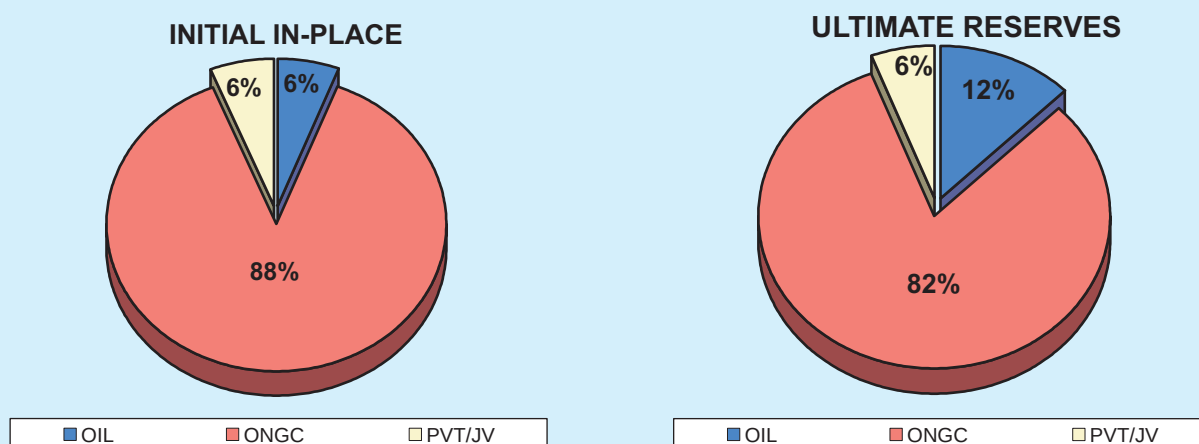
EXPLORATION & PRODUCTION SCENARIO 2008-09

S. No.	Parameter	Item	ONGC	OIL	Pvt/JVs	Total
1	Initial In-place reserves	Gas (BCM)	2302.80	302.97	981.72	3587.49
		Oil (MMT)	5245.57	848.12	658.35	6752.04
		O+OEG (MMT)	7548.37	1151.09	1640.07	10339.53
2	Ultimate Reserves	Gas (BCM)	1103.27	59.39	550.27	1712.92
		Oil (MMT)	1418.09	91.82	178.12	1688.03
		O+OEG (MMT)	2521.36	151.21	728.39	3400.96
3	Accretion of In-place reserves	Gas (BCM)	163.75	10.8978	1.29	175.9378
		Oil (MMT)	133.25	8.9188	19.54	161.7088
		O+OEG (MMT)	297.00	19.8166	20.80	337.6166
4	Accretion of Ultimate Reserves	Gas (BCM)	43.53	6.7841	-0.71	49.6041
		Oil (MMT)	28.19	4.1819	5.76	38.1319
		O+OEG (MMT)	71.72	10.9660	5.05	87.7360
5	2D seismic data acquired	Onland (lkm)	2274.61	790.39	8595	11660
		Offshore (lkm)	74850.40	0.0	71308	146158.40
6	3D seismic data acquired	Onland (Sq km)	5526.41	2794.73	5725	14046.14
		Offshore (Sq Km)	21258.53	0.00	30249	51507.53
7	Exploratory wells drilled	Onland	74	13	74	161
		Offshore	32	0	14	46
8	Development wells drilled	Onland	169	28	18	215
		Offshore	49	0	18	67
9	Exploratory meterage drilled	Onland ('000 M)	199.71	44.609	164.01	408.329
		Offshore ('000 M)	97.42	0	30.28	127.70
10	Development meterage drilled	Onland ('000 M)	322.27	96.27	18.529	423.109
		Offshore ('000 M)	154.86	0	66.87	221.73
11	Seismic parties deployed	2D	4	4	5	13
		3D	27	5	7	39
12	Seismic vessels deployed	2D & 3D	13	0	6	19
13	Rigs deployed	Onland	76	16	4	96
		Offshore	36	0	3	39
14	Oil & Gas production	Gas (BCM)	22.4864	2.26838	8.09	32.84478
		Oil (MMT)	25.366	3.46788	4.67	33.50388
		O+OEG (MMT)	47.8524	5.73626	12.76	66.34866

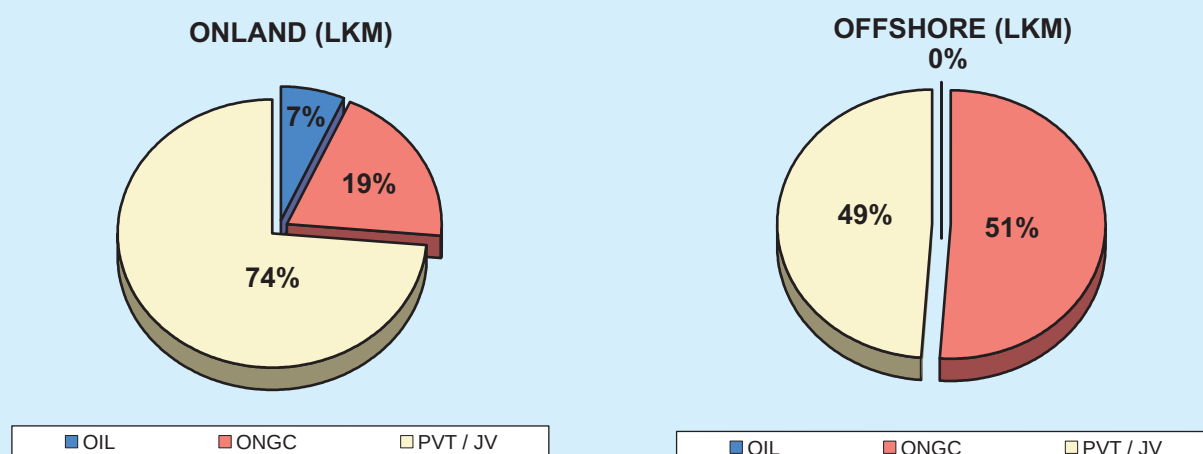
INITIAL IN-PLACE AND ULTIMATE RESERVES OF HYDROCARBONS (AS ON 01-04-2009)



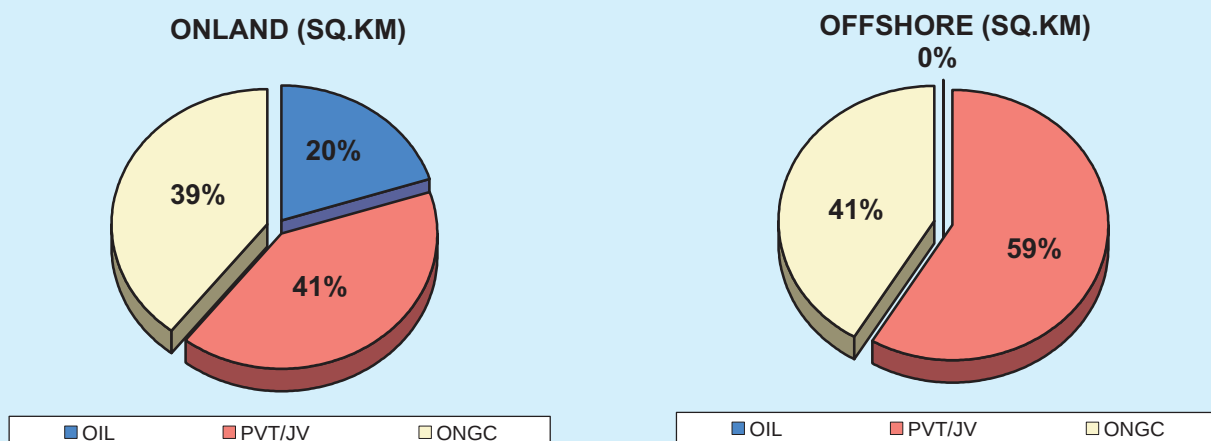
ACCRETION OF IN-PLACE AND ULTIMATE RESERVES ACHIEVED DURING 2008-09



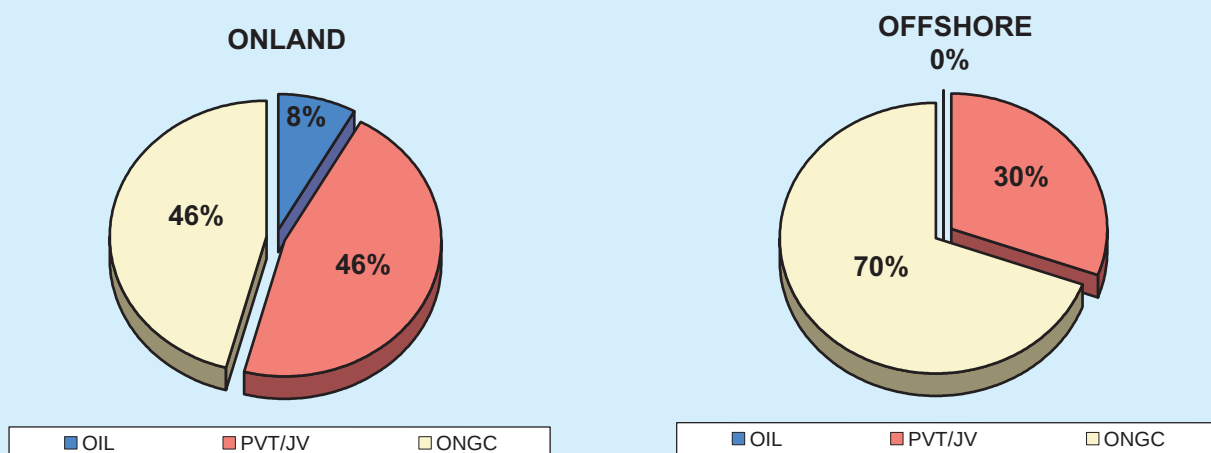
2-D SEISMIC DATA ACQUIRED (2008-09)



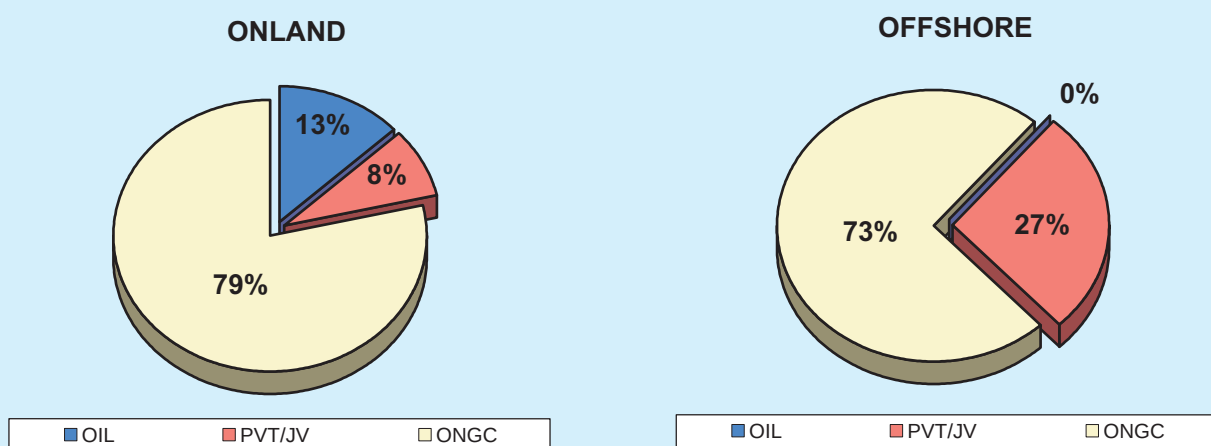
3-D SEISMIC DATA ACQUIRED (2008-09)



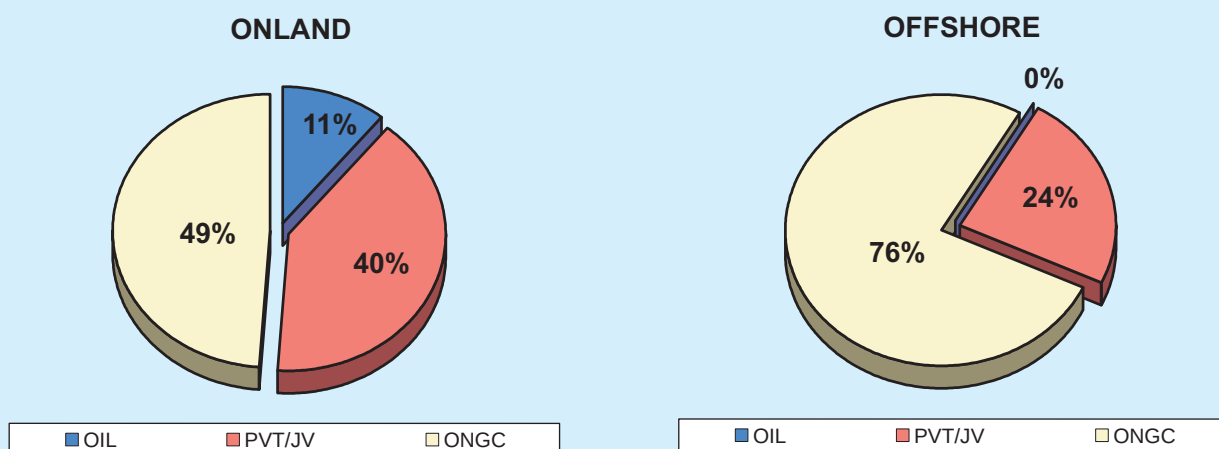
EXPLORATORY WELLS DRILLED (2008-09)



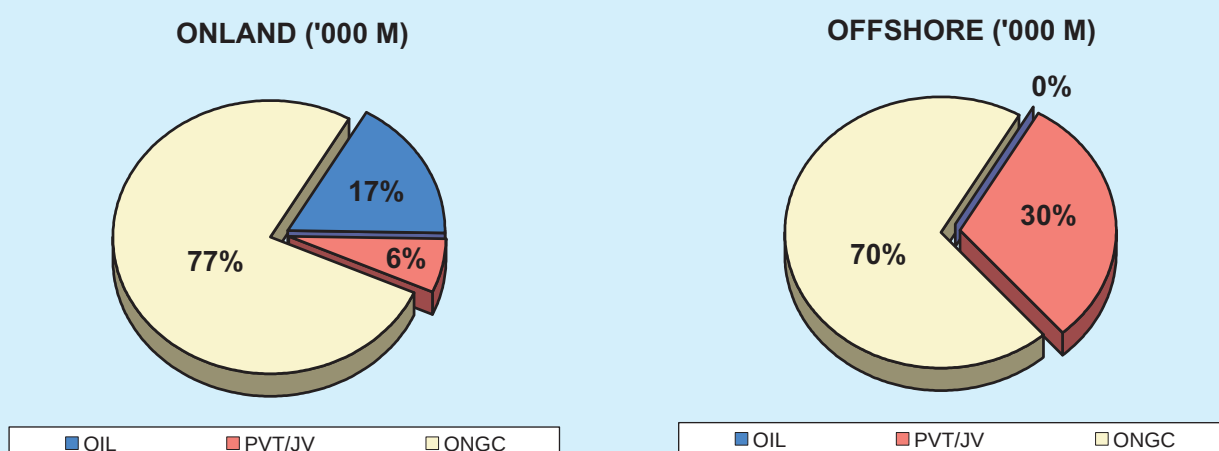
DEVELOPMENT WELLS DRILLED (2008-09)



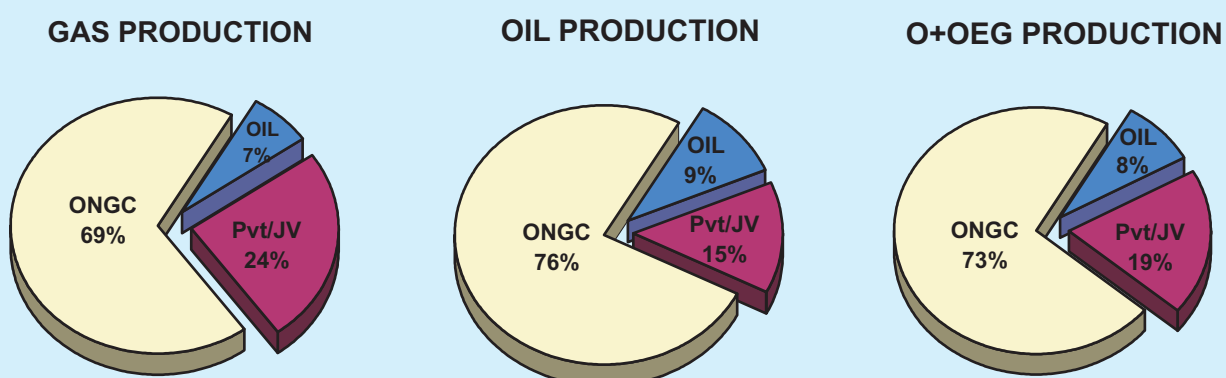
EXPLORATORY METERAGE DRILLED (2008-09)



DEVELOPMENT WELLS DRILLED (2008-09)



OIL & GAS PRODUCTION (2008-09)

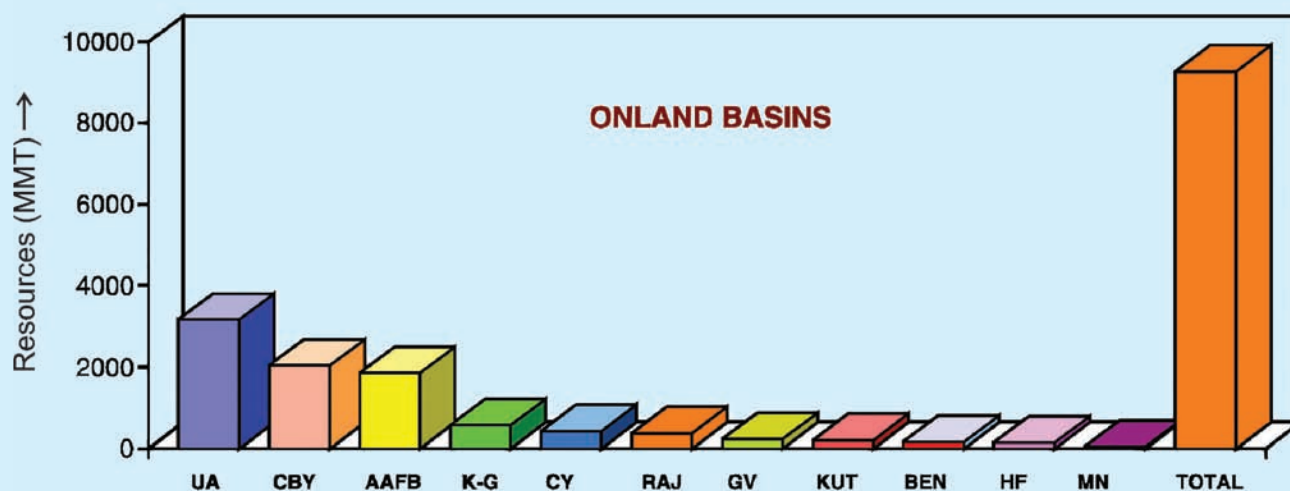
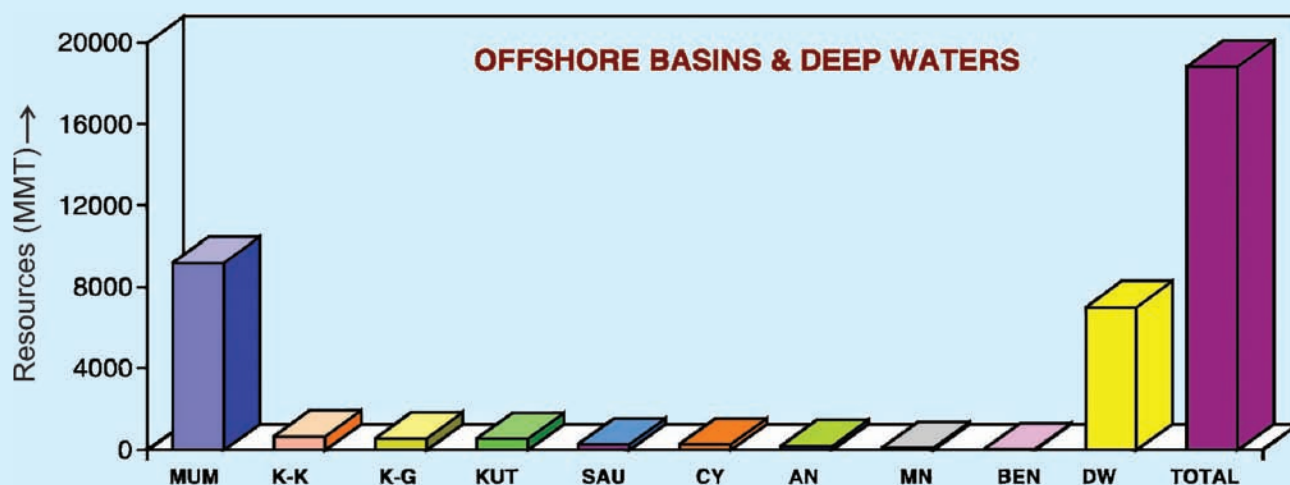


**COMPANY / BASIN WISE OIL & GAS PRODUCTION
(01.04.2008 TO 31.03.2009)**

Sl. No.	Company / Operator	Basin	Production		
			Oil (MMT)	Gas (MMSCM)	O+OEG (MMT)
National Oil Companies					
1	ONGC	Rajasthan	—	13	0.013
2		Cambay	5.787	1950	7.737
3		Cauvery Onland	0.265	1242	1.507
4		KG Onland	0.289	1524	1.813
5		Assam-Arakan	1.222	1024	2.246
6		Mumbai Offshore	17.801	16738	34.539
		TOTAL	25.364	22491	47.855
7	OIL	Rajasthan	—	203	0.203
8		Assam-Arakan	3.468	2065	5.533
		TOTAL	3.468	2268	5.736
		TOTAL NOCs	28.832	24759	53.591
PVT / JV Companies					
9	CAIRN	KG Offshore	1.951	757.549	2.708549
10		Gulf of Cambay	0.348	416.022	0.764022
11	RIL	KG Offshore	0.13	79.326	0.209326
12	BG-RIL-ONGC	Mumbai Offshore	1.887	6066.076	7.953076
13	GEO-ENPRO	Assam-Arakan	0.066	7.64	0.07364
14	CANORO	Assam-Arakan	0.019	59.33	0.07833
15	HOEC	Cambay	0.013	16.259	0.029259
16		Cauvery Offshore	0.000	0	0.000
17	INTERLINK	Cambay	0.000	0	0.000
18	JTI	Cambay	0.036	11.35	0.04735
19	NIKO	Cambay	0.025	621.585	0.646585
20	SELAN	Cambay	0.041	2.44	0.04344
21	HERAMAC	Cambay	0.002	2.445	0.004445
22	HRD - PPCL	Cambay	0.0002	0.147	0.000347
23	GSPCL	Cambay	0.03	0.901	0.030901
24	HARDY	Cauvery Offshore	0.116	29.115	0.145115
25	OILEX	Cambay	0.009	0.00	0.009
26	ESSAR	Cambay	0.001	0.067	0.001067
27		Raniganj South (CBM)		19.79	0.01979
TOTAL PVT./JV			4.6742	8090.042	12.764242
GRAND TOTAL			33.5062	32849.042	66.355242

TOTAL HYDROCARBON RESOURCES

(AS ON 01-04-2009)



BASIN-WISE HYDROCARBON RESOURCES (MMT)

BASIN	OFFSHORE	ONLAND	TOTAL
MUMBAI (MUM)	9,190	...	9,190
ASSAM-ARAKAN FOLD BELT (AAFB)	...	1,860	1,860
CAMBAY (CBY)	...	2,050	2,050
UPPER ASSAM (UA)	...	3,180	3,180
KRISHNA-GODAVARI (K-G)	555	575	1,130
CAUVERY (CY)	270	430	700
RAJASTHAN (RAJ)	...	380	380
KUTCH (KUT)	550	210	760
ANDAMAN-NICOBAR (AN)	180	...	180
KERALA-KONKAN (K-K)	660	...	660
SAURASHTRA OFFSHORE (SAU)	280	...	280
GANGA VALLEY (GV)	...	230	230
BENGAL (BEN)	30	160	190
HIMALAYAN FORELAND (HF)	...	150	150
MAHANADI (MN)	100	45	145
DEEP WATER (DW) *	7,000	...	7,000
GRAND TOTAL	18,815	9,270	28,085

HYDROCARBON DISCOVERIES

A total of 38 hydrocarbon discoveries have been made by ONGC (25), OIL (4), RIL (2), GSPC (6), and FOCUS (1) in nomination, NELP and pre-NELP blocks and fields during 2008-09.

ONGC

Sl. No.	Basin/State	Prospect Name	Discovery Well	Name of PEL / ML / NELP	Type of Discovery
1	Cambay / Gujarat	West Patan	West Patan-3	CB-ONN-2002/1	Oil+Gas
2	KG Onland / AP	Gedanapalli	Gedanapalli-1	1B PEL	Oil
3	KG Onland / AP	Vygreswaram	Vygreswaram-1	1B PEL	Gas
4	A&AA / Tripura	Tulamura	Tulamura-1	West Tripura PEL	Gas
5	KG Offshore	G-4-6	G-4-6 (G-4-AF)	IG PEL	Oil
6	KG Offshore	GS-59-1A	GS-59-1A (GS-59-AA)	IF PEL	Oil
7	A&AA / Assam	Borholla West	Borholla West#1	Borholla PML	Oil
8	Cauvery Onland / TN	Neduvasal	Neduvasal-2	L-II PEL Block	Oil+Gas
9	A&AA/Assam	Hazarigaon	Hazarigaon-1	Golaghat Extn-IIA PEL	Gas
10	A&AA/Tripura	Khubal	Khubal-4	AA-ONN-2001/1	Gas
11	Cambay/Gujarat	Charada	Charada-3	Charada PEL	Oil
12	KG Offshore	YS-5-1A	YS-5-1A	IE PEL	Gas
13	Cambay/Gujarat	South Kadi	South Kadi-144	Balasar PEL	Oil
14	KG Offshore	GS-15-AP	GS-15-15 (GS-15-AP)	PEL Block-IF	Gas
15	KG Offshore	GS-48-AB	GS-48-2 (GS-48-AB)	IF PEL	Gas
16	KG Offshore	GS-15-AO	GS-15-14	IF PEL	Oil+Gas
17	Western Offshore	BSE-K	BSE-9	Vasai East PML	Oil & Gas
18	Cauvery Onland / TN	Nannilam	Nannilam-17	L-II PEL Block	Gas
19	Western Offshore	B-9-C	B-9-3	Sarastra-Dahanu PEL	Gas
20	Western Offshore	SB-H	SB-15	West of Bassein PML	Oil+Gas
21	A&AA/Assam	Charali	Charali-36	Charali PML	Gas
22	Cambay/Gujarat	Matar	Matar-11	Dabka-Sarbhan PEL	Oil
23	KG Onland / AP	Kesanapalli West	Kesanapalli West-27	Adavipalem-Ponnamanda PML	Oil
24	Cauvery Onland / TN	Kuthalam	Kuthalam-37	Kuthalam PML(L-Block)	Gas
25	Cauvery Onland / TN	Kizhvalur	Kizhvalur-7	Kizhvalur-ML in L-II PEL	Oil+Gas

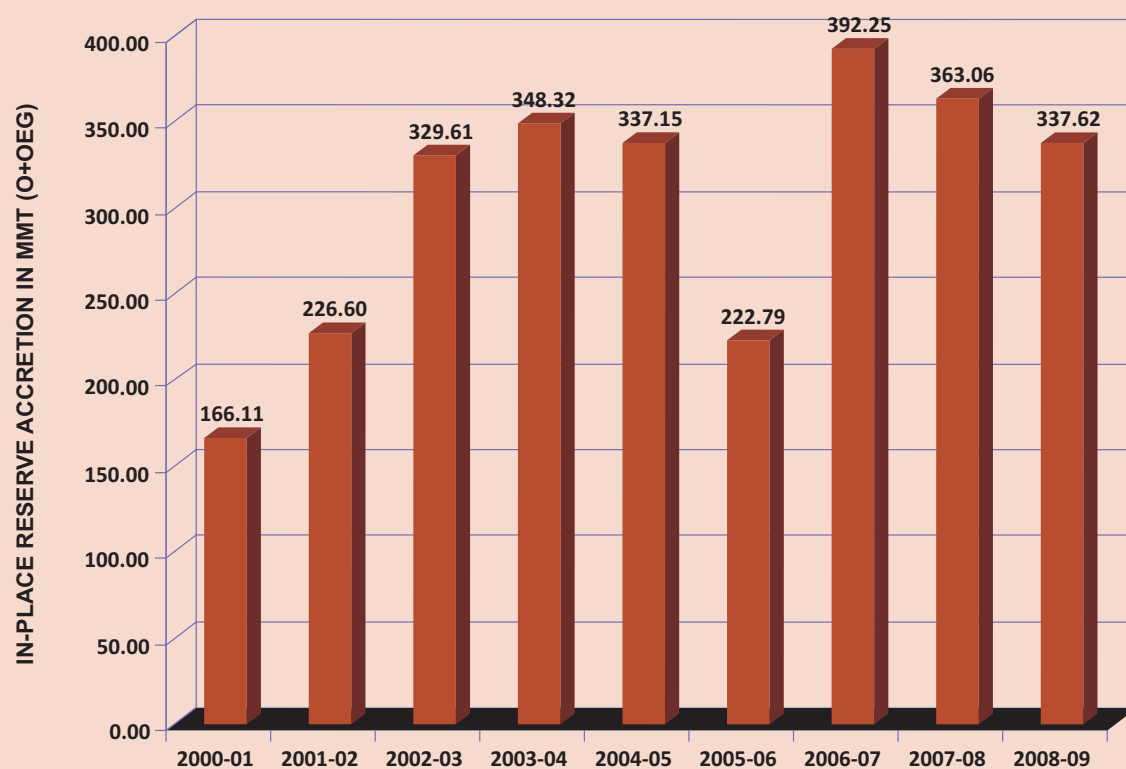
OIL

Sl. No.	Well Name (Location)	Description	Type of Discovery
1	NHK 568 (Loc. HTA)	West Madhuting anticlinal structure bounded by faults on three sides at Barail level. Well encountered Hydrocarbon bearing sand at 2934m within Barail 4 th sand	Gas
2	Makum-29 (Loc. HQN)	West Makum structure at Eocene/Palaeocene level. Well encountered 6 hydrocarbon bearing sand ranges in Eocene/Palaeocene formation & 2 at Barail 4 th and 5 th sand level. Residual oil was encountered at 4013m at Lakadang+Theria sand.	Oil
3	Mechaki-2 (Loc. TX)	Mechaki horst structure (western part) at lower Eocene and Palaeocene. Well encountered 3 hydrocarbon bearing sands within Lakadong+Theria and Langpar formation	Oil
4	Nahorkatiya Well No.-572	Madhuting anticline structure with Four way closure at Barail level. Few hydrocarbon bearing sand ranges encountered within Barail and Tipam.	Oil/Gas

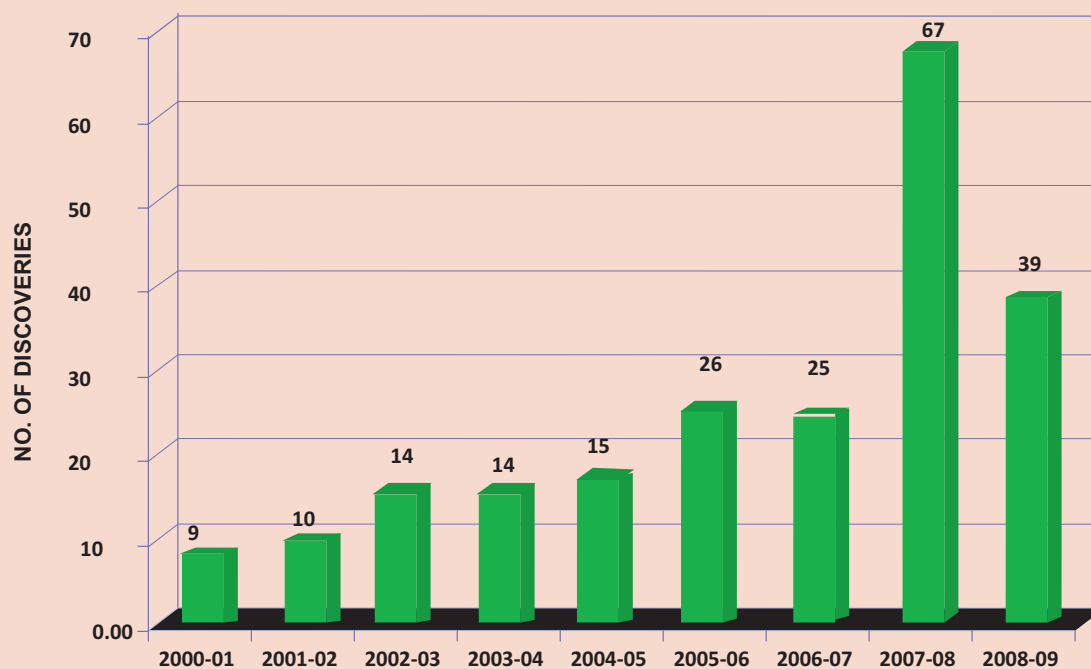
PVT. / JV

Sl. No.	Operator	Block / Field	Bidding Round	Name of Discovery	Type of Discovery
1	RIL	KG-DWN-2003/1	NELP-V	Dhirubhai-41	Gas
2	RIL	KG-DWN-98/3	NELP-I	Dhirubhai-42	Gas
3	GSPC	CB-ONN-2002/3	NELP-IV	SE # 8	Oil
4	GSPC	CB-ONN-2002/3	NELP-IV	Miroli #6	Oil
5	GSPC	KG-OSN-2001/3	NELP-III	KG#22	Oil
6	GSPC	CB-ON/2	Pre NELP	Tarapur#6	Gas
7	GSPC	KG-OSN-2001/3	NELP-III	KG#31	Gas
8	GSPC	CB-ONN-2003/2	NELP V	ANK # 21	Oil
9	FOCUS	RJ-ON-90/6	Pre NELP	SGL#1	Gas

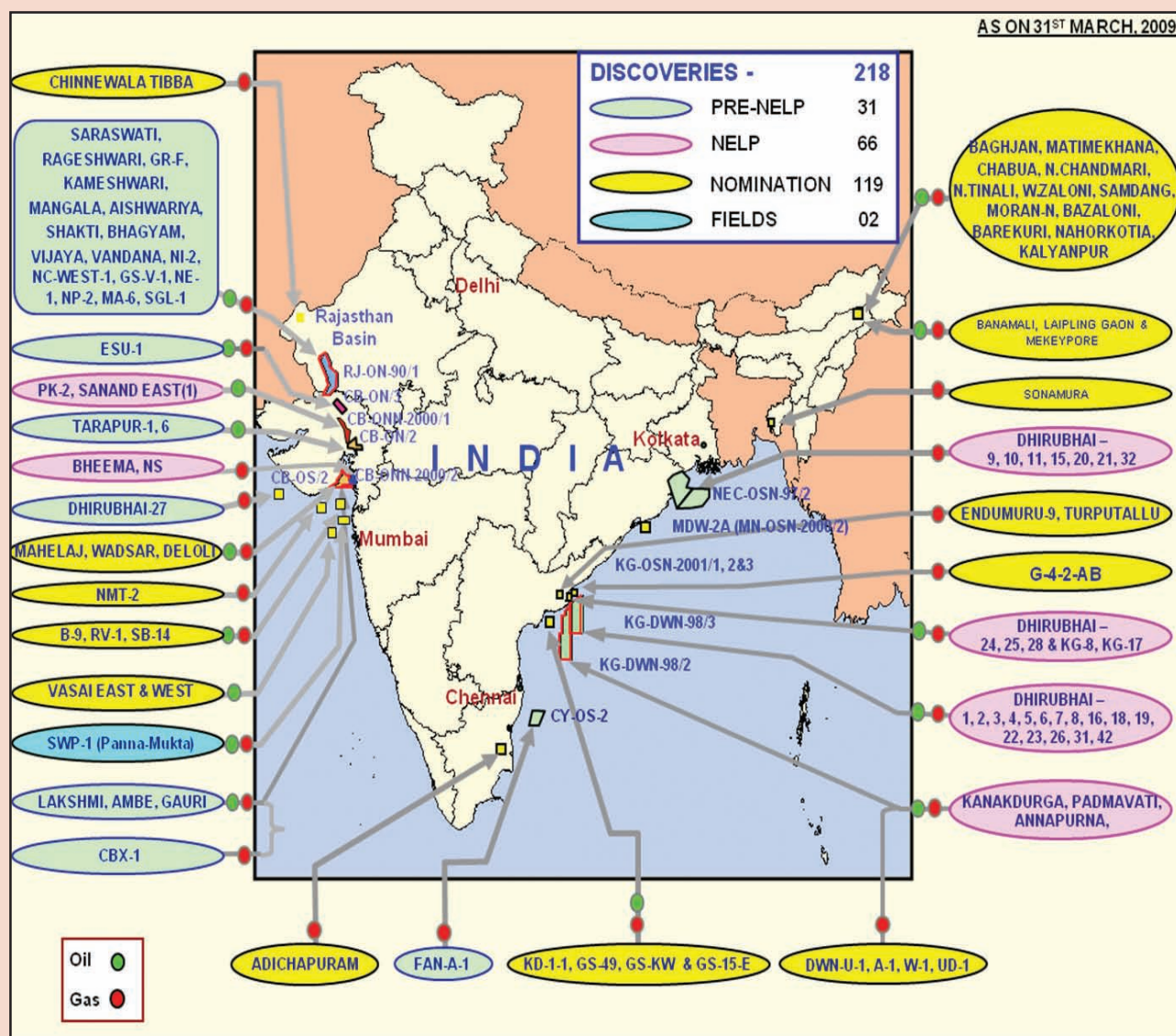
RESERVE ACCRETION TREND



OIL & GAS DISCOVERY TREND



NEW SIGNIFICANT DISCOVERIES BY NOC's AND PVT/JV COMPANIES (2000-2009)

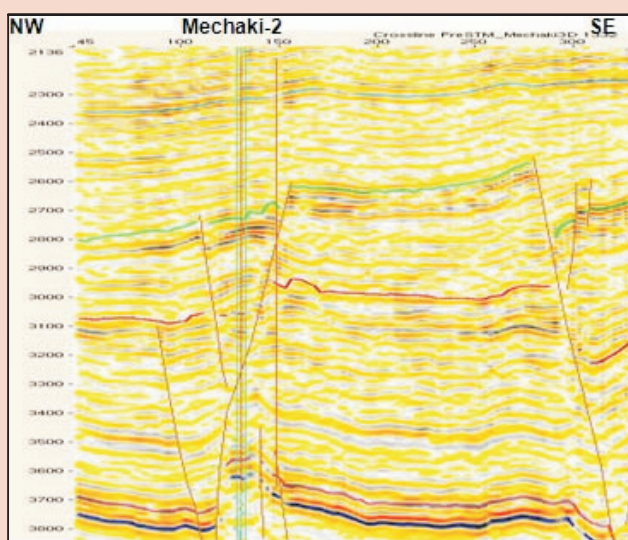


NEW DISCOVERIES : ASSAM-ARAKAN BASIN

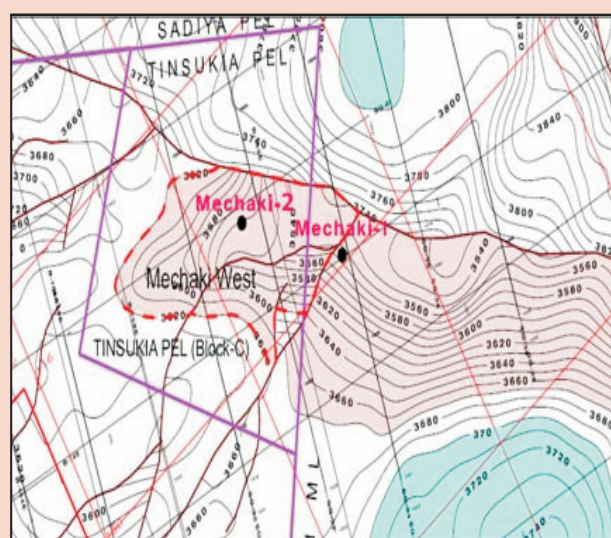
MECHAKI-2 & NAHORKATIYA-572

OPERATOR : OIL

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
Mechaki-2 (Loc. TX) (Tinsukia PEL/ML block)	Obj: perforated 5556-5610m and well produced @ 33 KLPD (32 KLPD oil of 23.50 API, PP-270) and 0.083 MMSCUMD gas through 4 mm bean.	Mechaki horst structure (western part) at lower Eocene and Palaeocene. Well encountered 3 hydrocarbon bearing sands within Lakadong+Theria and Langpar formation

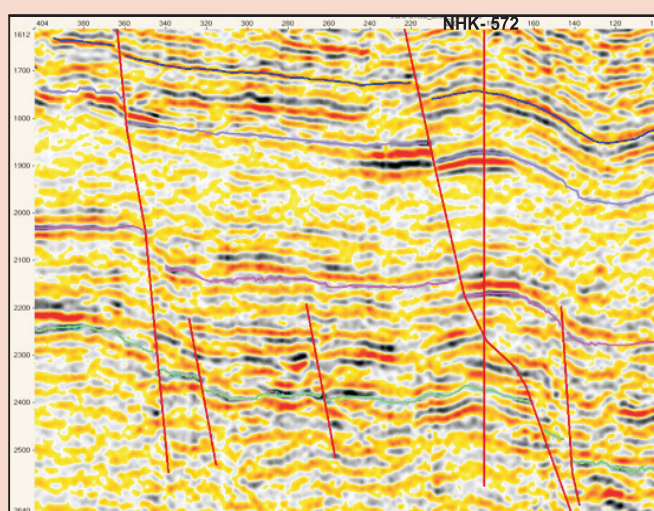


SEISMIC SECTION (XL-1332) PASSING THROUGH THE WELL

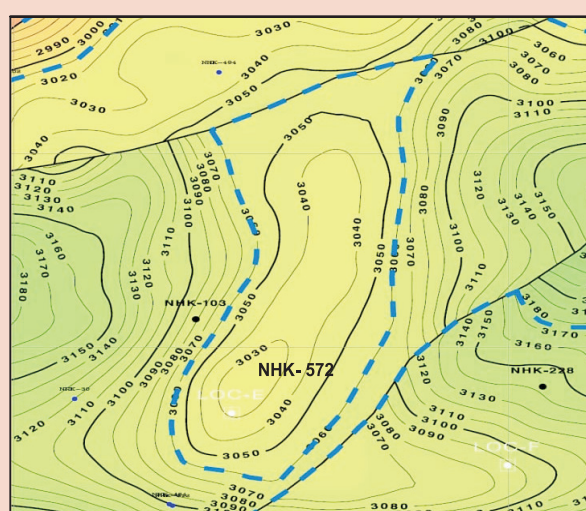


TINSUKIA PEL/ML : MECHAKI AREA
TWT MAPCLOSE TO LAKADONG-THERRIA

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
Nahorkatiya -572 , Madhuting area (refer figures 4-6)	Obj: Tested 3072-3078 m, the well produced @ 64 klpd (oil-47 %, water 53%) and gas @ 94045 SCUMD through 4mm bean.	Madhuting anticline structure with Four way closure at Barail level. Few hydrocarbon bearing sand ranges encountered within Barail and Tipam.



SEISMIC SECTION (IL-123) PASSING THROUGH THE WELL



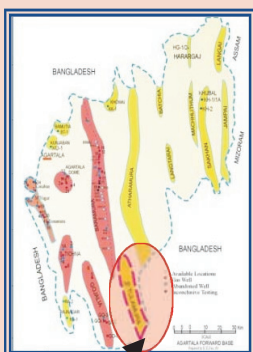
DEPTH CONTOUR MAP CLOSE TO BARAIL 4,
MADHUTING AREA

NEW DISCOVERIES : ASSAM & ASSAM - ARAKAN BASIN

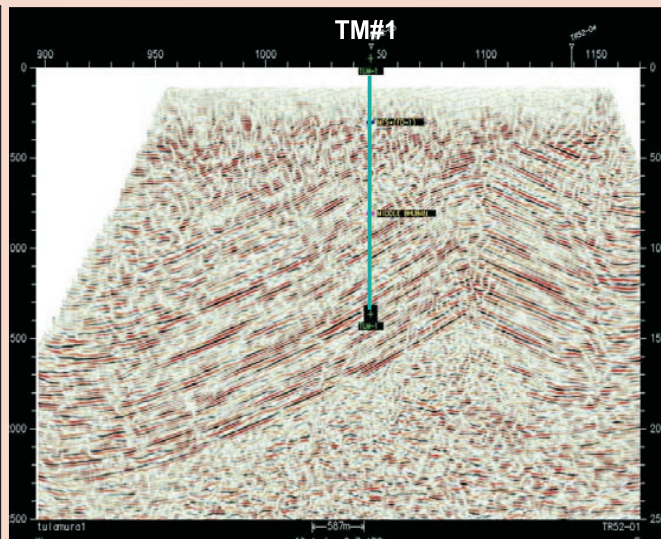
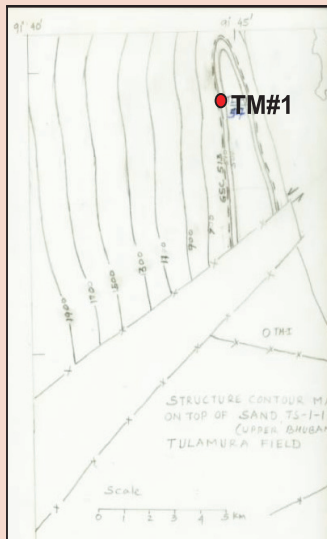
TULAMURA#1 & BORHOLLA-WEST (BR-W-1)

OPERATOR : ONGC

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
Tulamura Tulamura#1 (TMD)	Object-I: 676-671 m (Upper Bhuvan) Gas @ 50,976 m ³ /d, through 8 mm bean.	Further east of Baramura, on logistically difficult area, the well resulting into another discovery in Tripura has reaffirmed the potential of eastern part of Tripura.

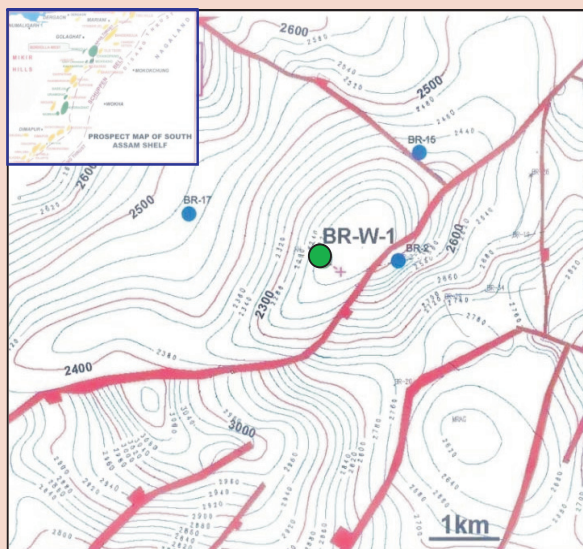


TULAMURA STRUCTURE

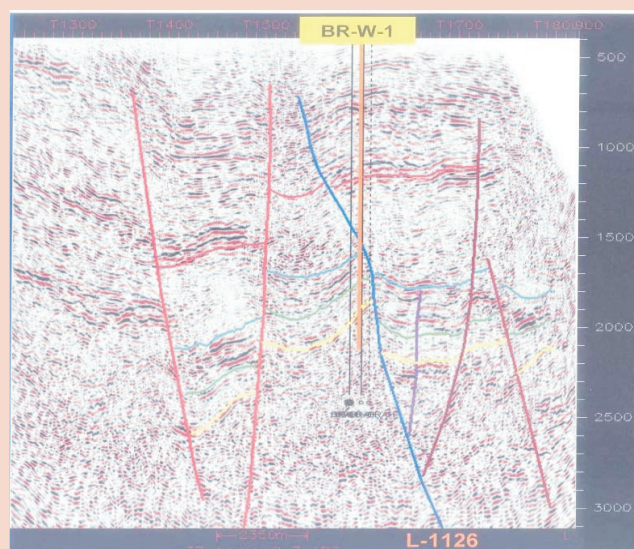


STRUCTURE MAP ON TOP OF UPPER BHUBAN

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
Borholla-West (BR-W-1)	Object-I& II: 2576-2550.5 m (Basement) & 2549-2543 m (Tura Formation) – Flowed Oil @ 7 m ³ /d through 8mm bean.	<i>The discovery is significant as away from Borholla this is first occurrence of commercial pool in Basement & Tura reservoirs. This would bring in to focus the similar play areas which were hitherto not found suitable for Basement exploration.</i>



STRUCTURE CONTOUR MAP ON SYLHET TOP



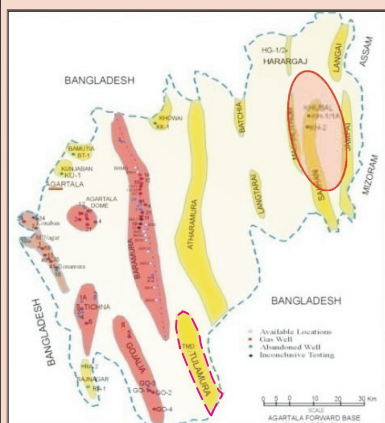
IN LINE 1126 PASSING THROUGH WELL BR-W-1

NEW DISCOVERIES : ASSAM & ASSAM - ARAKAN BASIN

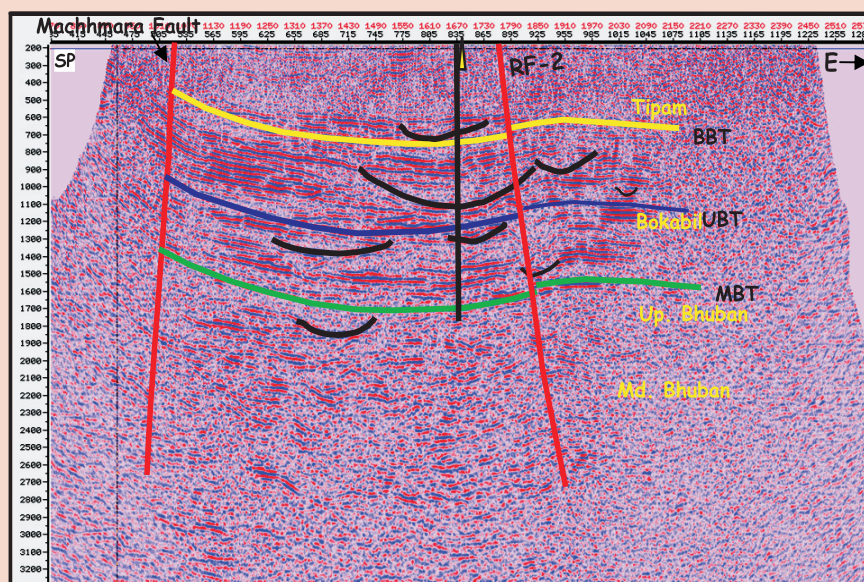
KHUBAL-4 & HAZARIGAON-1

OPERATOR : ONGC

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
Khubal / Khubal-4 / (KHBE)	Obj-II: 2955-2944 m – flowed gas @1,22,792 m ³ /d with 2.32 m ³ /d liquid through 6 mm bean.	<i>This is the first discovery in an NELP block (AA-ONN-2001/1) in Tripura that has given an impetus to hydrocarbon exploration in the eastern part of the state.</i>



PROSPECT MAP OF
TRIPURA SHOWING
KHUBAL STRUCTURE

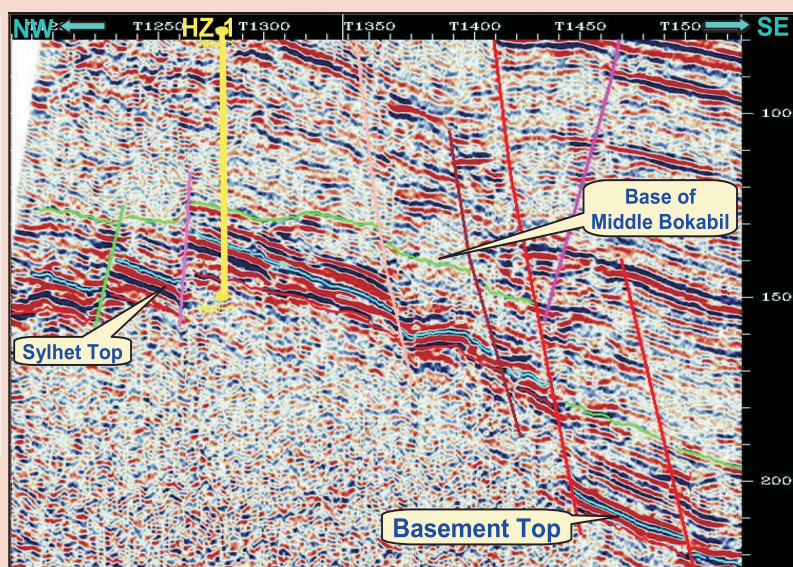


INTERPRETED SEISMIC SECTION OF LINE NO.TR-42-04

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
Hazarigaon / Hazarigaon-1 / (HZAA)	Obj-II: 1543.5-41, 1539.5-37 m - flowed gas @ 45,264 m ³ /d through 6 mm bean. Obj-III: 1500.5-1496, 1494.5-93.5 m flowed gas @ 40,224 m ³ /d through 6mm bean.	<i>This discovery proved the presence of hydrocarbons in this part of the PEL; north west of well Bardubi#1(dry) and would bring in to focus similar play areas in the sector.</i>



PROSPECT MAP OF SOUTH
ASSAM SHELF



IL 1492 SHOWING LOCATION HZ-1

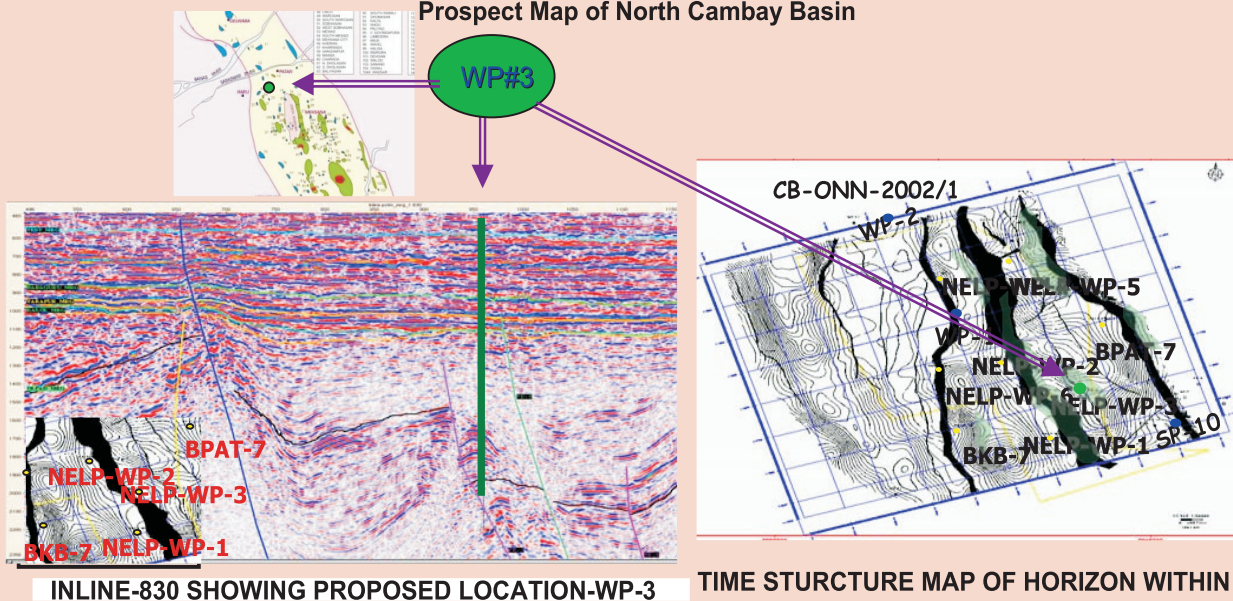
NEW DISCOVERIES : CAMBAY BASIN

WEST PATAN/WP-3 & CHARADA-3

OPERATOR : ONGC

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
West Patan / WP-3 CB-ONN-2002/1 (NELP Block)	Obj-I: 2483-2479 m - flowed oil & gas @2.8 m ³ /d on SRP.	<i>This is the first discovery in NELP Block CB-ONN-2002/1 and has opened up the entire Patan area for further exploration for syn-rift play.</i>

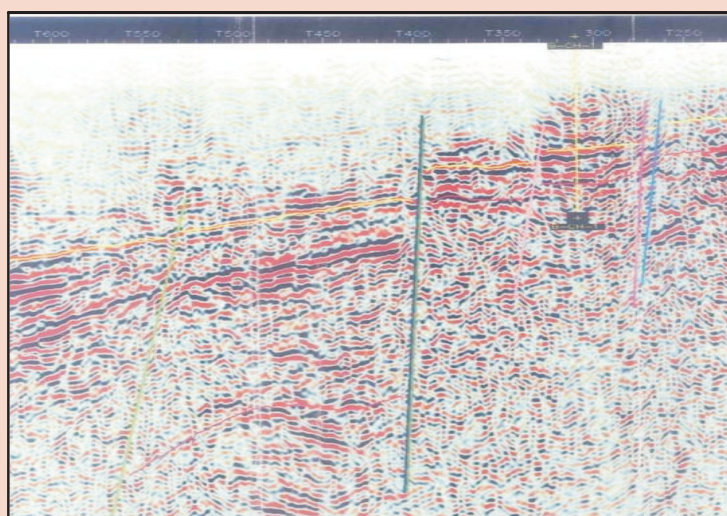
Prospect Map of North Cambay Basin



Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
Charada / Charada-3 / (CRAB)	Obj-I: 758-616 m (barefoot testing) - produced 25 litres of thick and viscous oil. Obj-II: 592.5-599.5, 577-563, 547-549, 534-538, 526-529, 521-524 m - produced approximately 505 litres of thick & viscous oil (after soaking with chemicals, it produced 3.5 m ³ heavy oil influx).	<i>Hydrocarbon was found for the first time in Olpad in the eastern part of Mehsana Block and also in Traps in the northern part of Eastern Margin. These provide leads for exploration of Olpad and Trap along the northern part of Eastern Margin.</i>



PROSPECT MAP



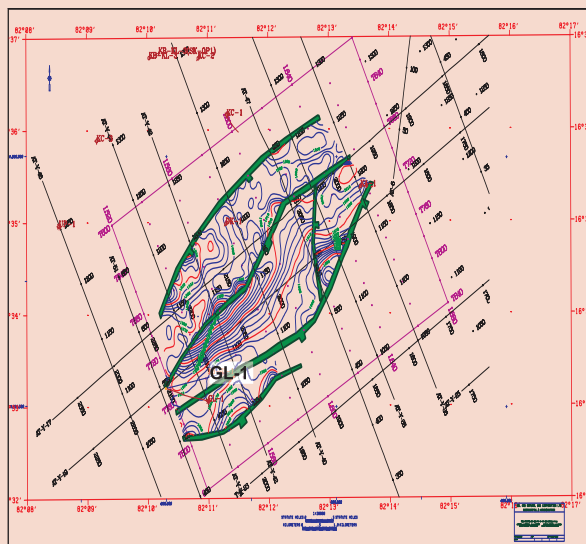
INLINE 660 THROUGH CHARADA-3

NEW DISCOVERIES : KRISHNA GODAVARI ONLAND BASIN

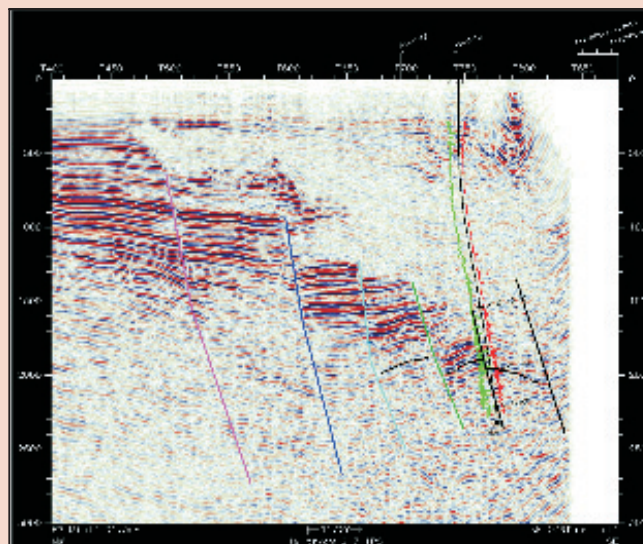
GEDANAPALLI-1 & VYGRESWARAM/VG-1

OPERATOR : ONGC

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
Gedanapalli-1 (GLAA)	Obj-II: 2365-2380 m (MD) [2044.9-2058.84 m TVD] flowed Oil @ 74.29 m ³ /d & feeble gas through 6 mm	This discovery within Matysyapuri / Ravva Formation has given a boost for further exploration of Mtsy/Ravva play in Amlapuram block of KG onland.

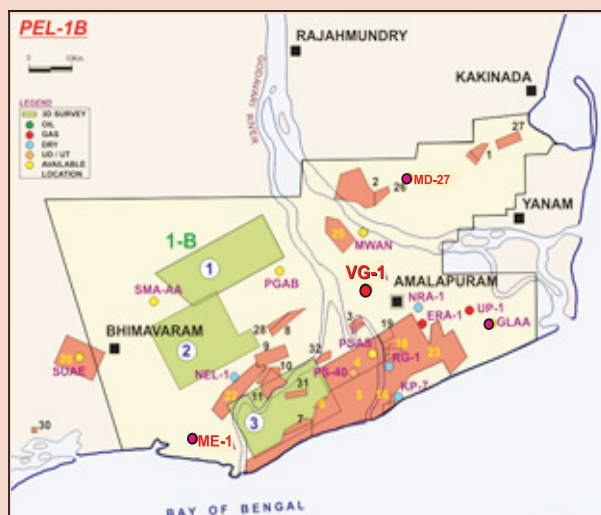


TIME STRUCTURE MAP AT THE TOP OF
OBJECT-II (2365 M (MD))

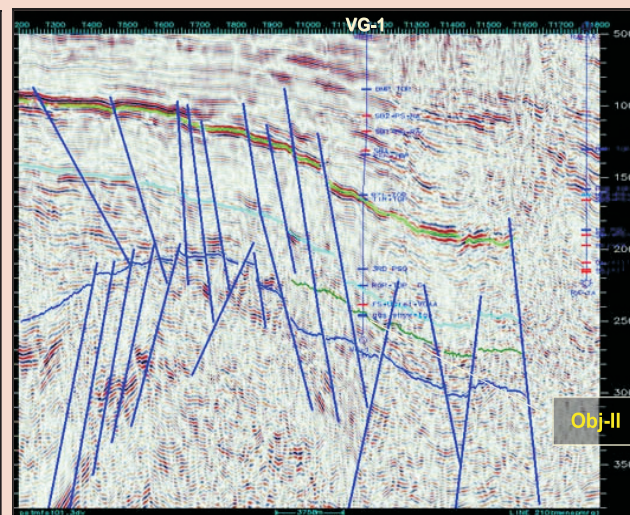


IL-539 PASSING THROUGH WELL

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
Vygreswaram / VG-1 (VGAA)	Obj-II: 3387.5-3385.5,3371-3369,3365-3361,3355-3350 & 3337-3335 m - flowed gas @2,21,867 m ³ /d with traces of condensate & water through 7 mm bean.	<i>This discovery has established for the first time a new play within Raghavapuram Shale Fm in North Pasarlupudi area of PEL 1B in KG Onland.</i>



LOCATION MAP



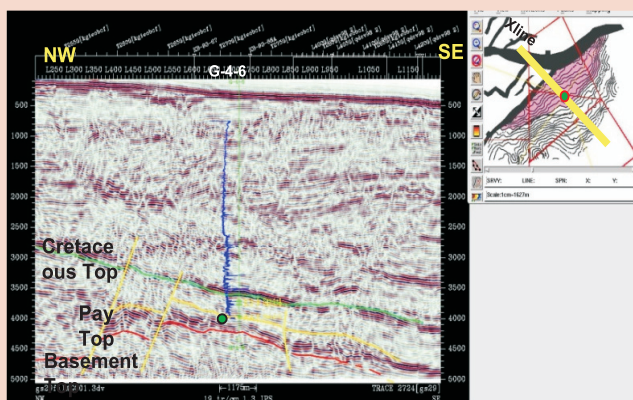
IN LINE - 210 PASSING THROUGH VG-1

NEW DISCOVERIES : KRISHNA GODAVARI OFFSHORE BASIN

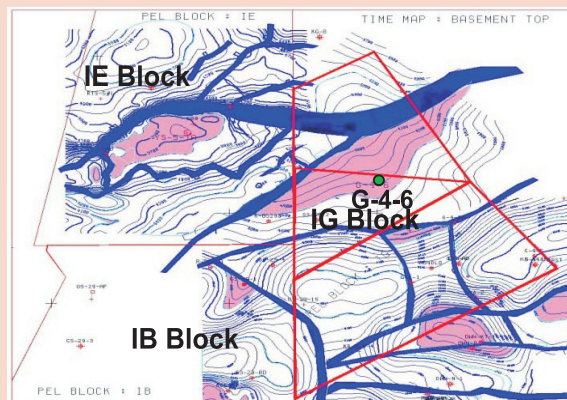
G-4-6 & GS-59-1A

OPERATOR : ONGC

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
G-4-6 / (G-4-AF)	> MDT Results 4113.50 m: 2.72 ft³ gas & 120 cc mud filtrate & 80 cc light oil. 4140.50 m: Little gas with mud 4155.20 m: 2.07 ft³ gas & 400 cc liquid (little oil & MF) 4167.30 m: 8.03 ft³ gas. & 3.6 lts liquid (little oil & MF) > Open hole straddle packer mini DST: - 3834.5 m : Oil & Gas	This discovery is significant since the potential of older Cretaceous sediments has been established for the first time in ONGC operated acreages in KG offshore. This discovery has given a boost to the exploratory efforts made in IG PEL block and has opened up vast areas for exploration of deeper Cretaceous play in PEL blocks of IG, IE & IB and NELP block of KG-DWN-98/2.

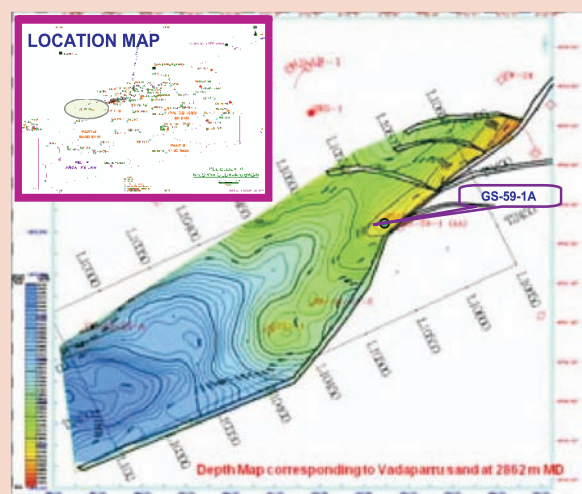


NW-SE CROSS LINE ACROSS DRILLED WELL G-4-6

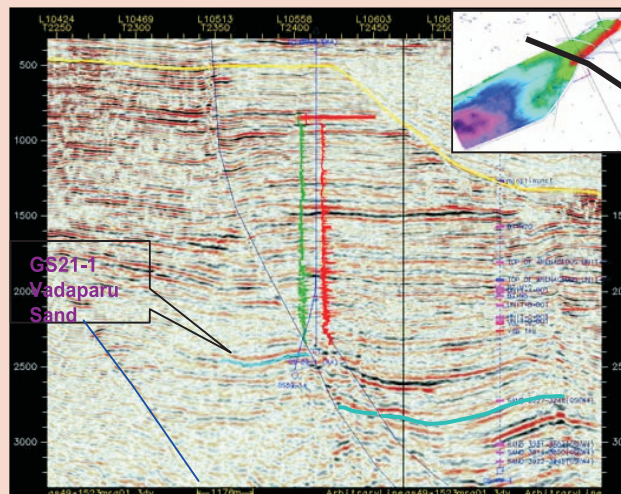


LOCATION & TIME STRUCTURE MAP : BASEMENT

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
GS-59-1A / (GS-59-AA)	Object-1: 2840.5-2852 m (Vadaparru Fm.) Q Liq: 58.32 m³/day (Oil-75% & water 25%) & Q gas: 13080 m³/day through 6 mm bean	This discovery has established the extension of Vadaparru play to the west of GS-KW Field. It has given a boost to the exploratory efforts for VDP play and opened up further areas in blocks IA and IF (applied for Vainateyam PML). Additionally, this VDP play is envisaged to extend further in the north in Onland part (south of Ponnamanda Field) where it is expected to encounter at shallower depth.



DEPTH MAP CORRESPONDING TO VADAPARRU SAND AT 2862 m MD



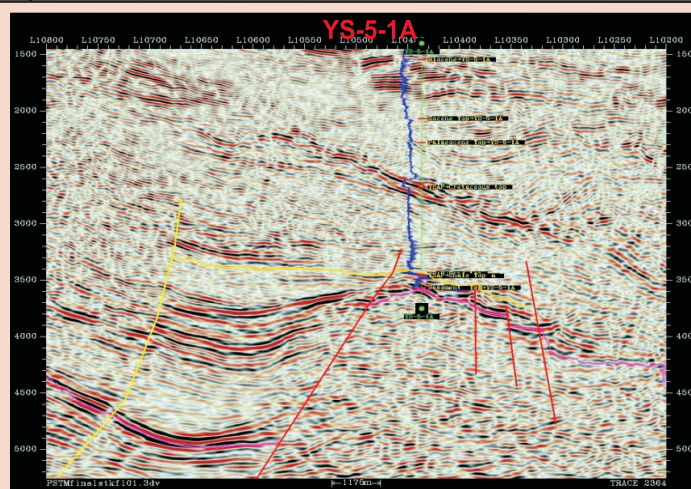
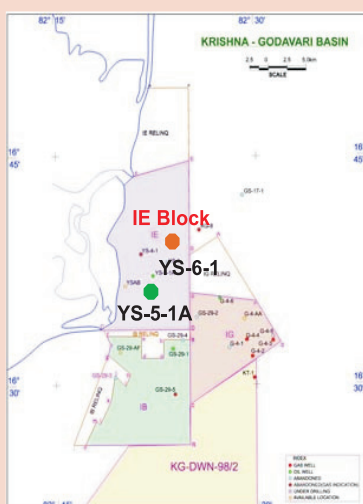
RC LINE CONNECTING THE ORIGINAL GS-59-1 AND THE PROPOSED DEVIATED GS-59-1A

NEW DISCOVERIES : KRISHNA GODAVARI OFFSHORE BASIN

YS-5/YS-5-1A

OPERATOR : ONGC

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
YS-5 / YS-5-1A / (YSAF)	Obj-II: 3968-3947 m flowed gas @ 54,203 m ³ /d through 16/64" choke.	<i>This is a significant discovery as the deeper Cretaceous rift fill play has been established in this well (water depth:16.5 m in IE PEL block) after discovery of G-4-6 in southern IG block.</i> <i>This has opened up a vast area for future exploration of deeper Cretaceous rift fill play. One location, YS-6-AA has been released to pursue this lead.</i>



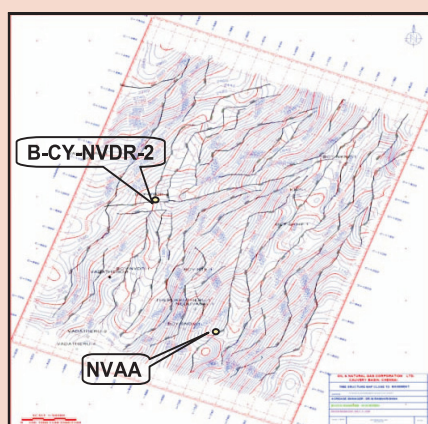
CROSSLINE 2364

NEW DISCOVERIES : CAUVERY BASIN

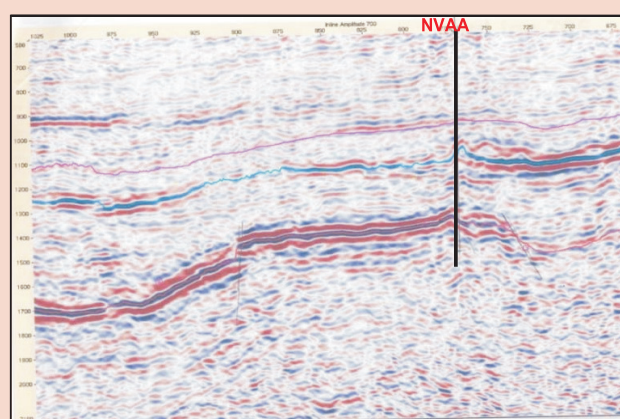
NEDUVASAL-2

OPERATOR : ONGC

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
Neduvasal / Neduvasal-2 / (NVAA)	Obj-I: 2030-2005 m - R/O 10 liters oil + water Obj-II: 1996-1960 m – flowed gas @ 45,000 m ³ /day & oil @ 2.8 m ³ /day (gas rate reduced to 5,000 m ³ /day with traces of oil. Obj-VII: 1705.5-10.5 m - oil @ 18 m ³ /day & gas @ 5000 m ³ /day through 6 mm bean.	<i>This discovery is significant since a limestone layer within Andimadam Fm and weathered basement are HC bearing in southern part of Tanjore sub basin.</i> <i>This has given a boost to the exploratory efforts and opened up total Tanjore sub-basin for further exploration of Basement and Andimadam play.</i>



BASEMENT TOP TIME STRUCTURE MAP

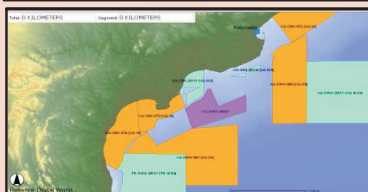
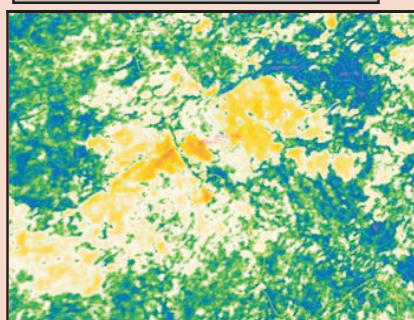
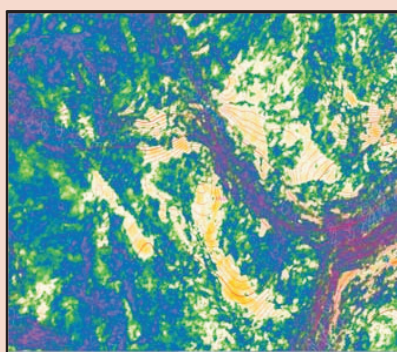
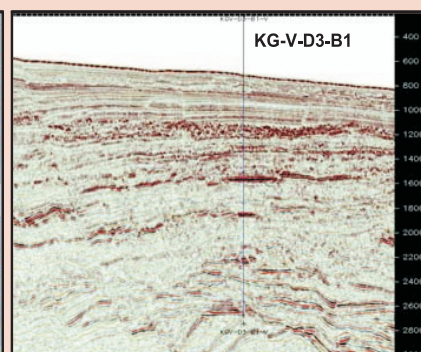


IN LINE 700

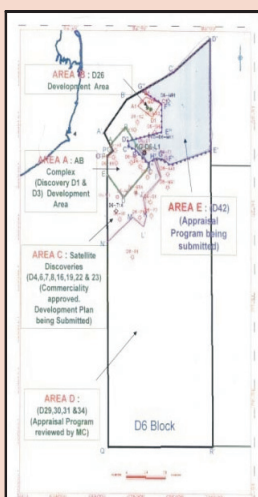
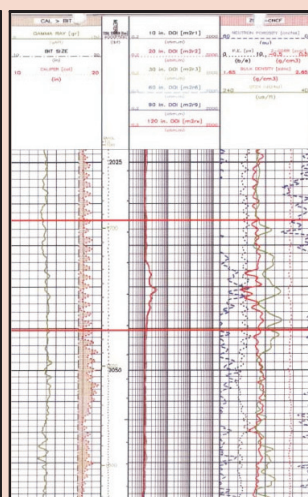
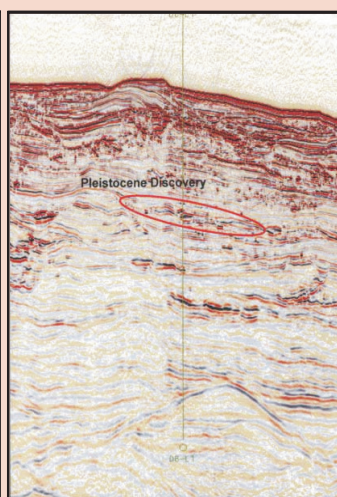
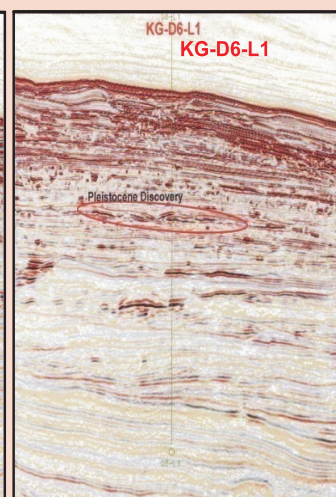
NEW DISCOVERIES : KRISHNA GODAVARI BASIN

KG-V-D3-B1 & KG-D6-L1
OPERATOR : RIL

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
KG-DWN-2003/1 (KG-V-D3) Well – KG-V-D3-B1	Pleistocene Sand-I : 1583- 1598m ~ 15m Pleistocene Sand – II : 1865- 1878 ~ 13m Miocene Sand : 2223- 2306 ~ 83m	The play type is unconformity trap and well has encountered 3 hydrocarbon bearing sands(2 at Pleistocene level and 1 at Miocene level).


LOCATION MAP

RMS AMPLITUDE MAP OF PLEISTOCENE SAND TOP WITH OVERLAIN STRUCTURE MAP

RMS AMPLITUDE MAP OF MIOCENE SAND 1 TOP WITH OVERLAIN STRUCTURE MAP

SEISMIC SECTION PASSING THROUGH THE WELL

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
KG-D6-98/3 Well : KG-D6-L1	Pleistocene sand: 2032-2046 m (MDRT)	The well has encountered hydrocarbon bearing sand at Pleistocene level. It is a stratigraphic trap.

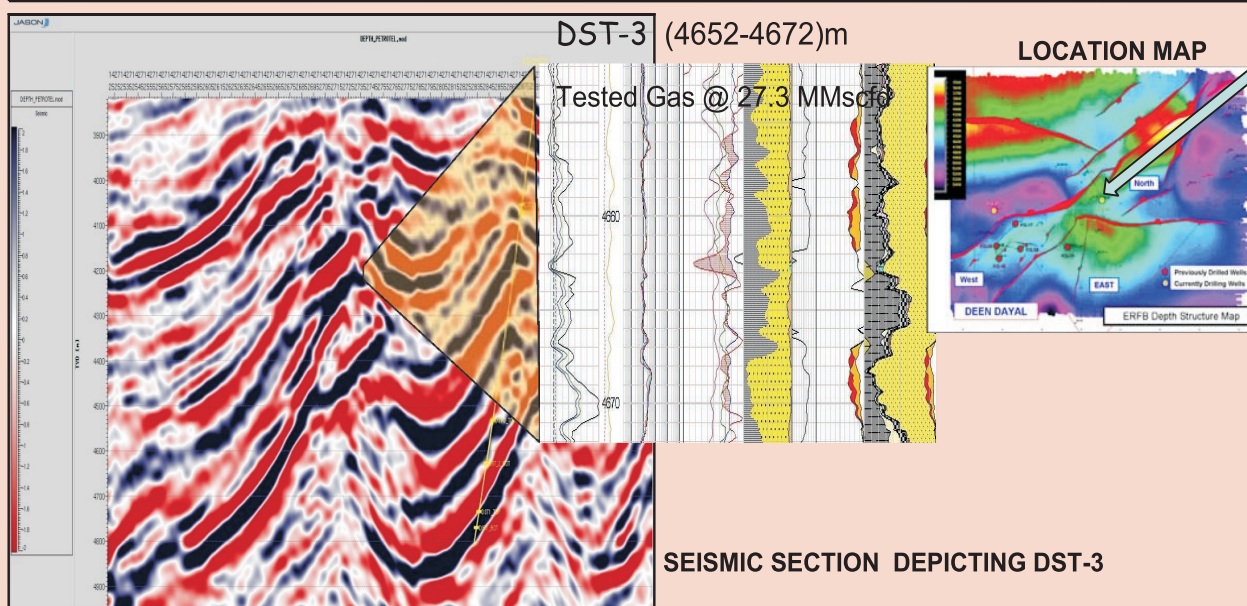

LOCATION MAP

LOG OF THE WELL AT INTERVAL 2032-2046 (MMDRT)

SEISMIC SECTION (XLINE) THROUGH WELL

SEISMIC SECTION (INLINE) THROUGH WELL

NEW DISCOVERIES : KRISHNA GODAVARI BASIN

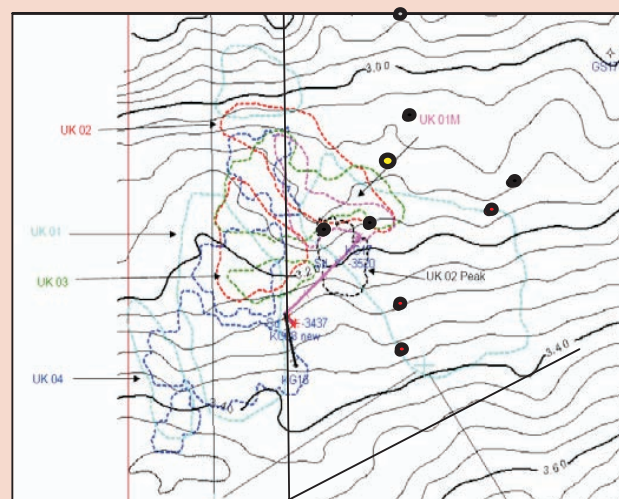
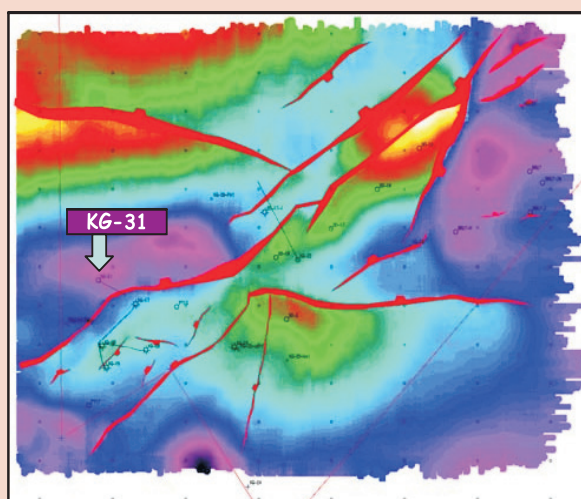
KG-22 & KG-31

OPERATOR : GSPC

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
Deen Dayal North KG-OSN-2001/3 Well : KG-22	Upper Cretaceous sand: 4652-4672 (20 m)	DST-III: Flow-Rate : Gas @27 MMscfd (32/64 " choke) Flowing WH Pressure: 4330 psi Opened New Exploration Lead in to Fan Deltaic Complex of Upper Cretaceous.



Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
Deen Dayal Down Thrown KG-OSN-2001/3 Well : KG-31	Upper Cretaceous sand: 3828-3937.5 (net 27.5m)	9 Established the extension of Upper Cretaceous Fan Complexes, fist struck in the discovery well KG-17. 9 Opened new regimes of Lr. Cretaceous / Jurassic at deeper levels ie. below 5400 m in the DDW (DT) structure.

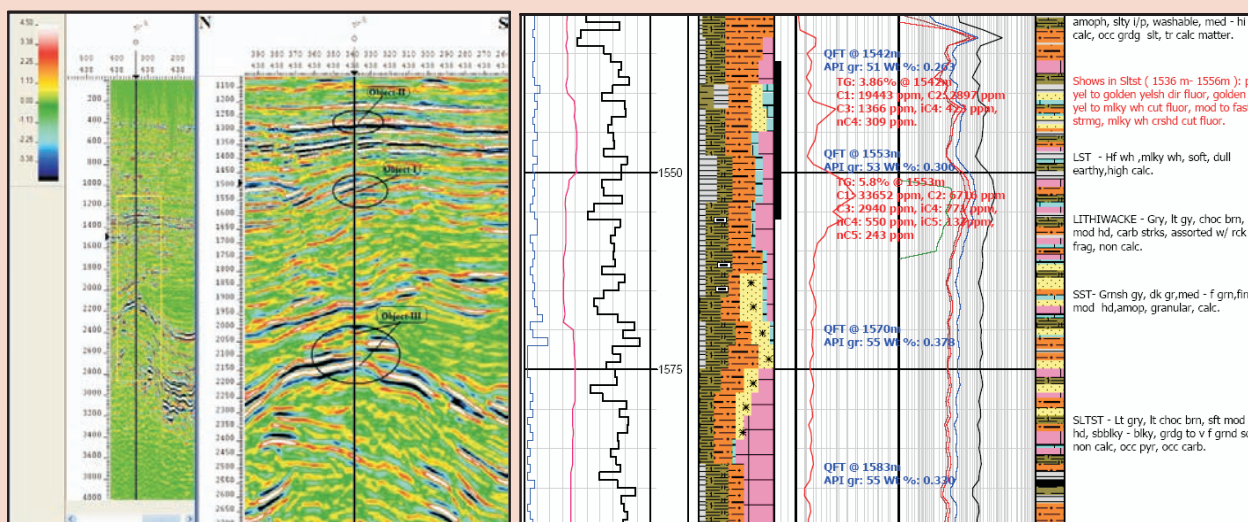


NEW DISCOVERIES : CAMBAY BASIN

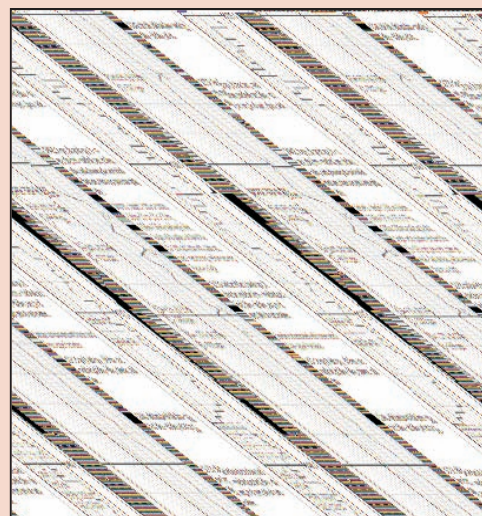
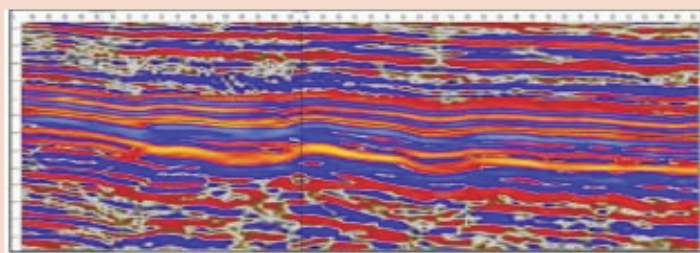
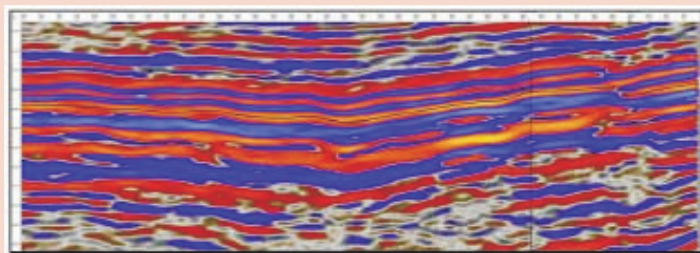
MIROLI-6 & SE-8

OPERATOR : GSPC

Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
Miroli Structure CB-ONN-2002/3 Well : Miroli-6	Siltstones in Cambay Shale Perforated Interval: 1538.5-1542.5, 1562-1568, 1575.5-1582.5 m (17 m)	9 Oil surfaced during reverse circulation @ 3.7 m3/day. 9 Established presence of Hydrocarbons towards western side of Infra-Cambrian in the block.

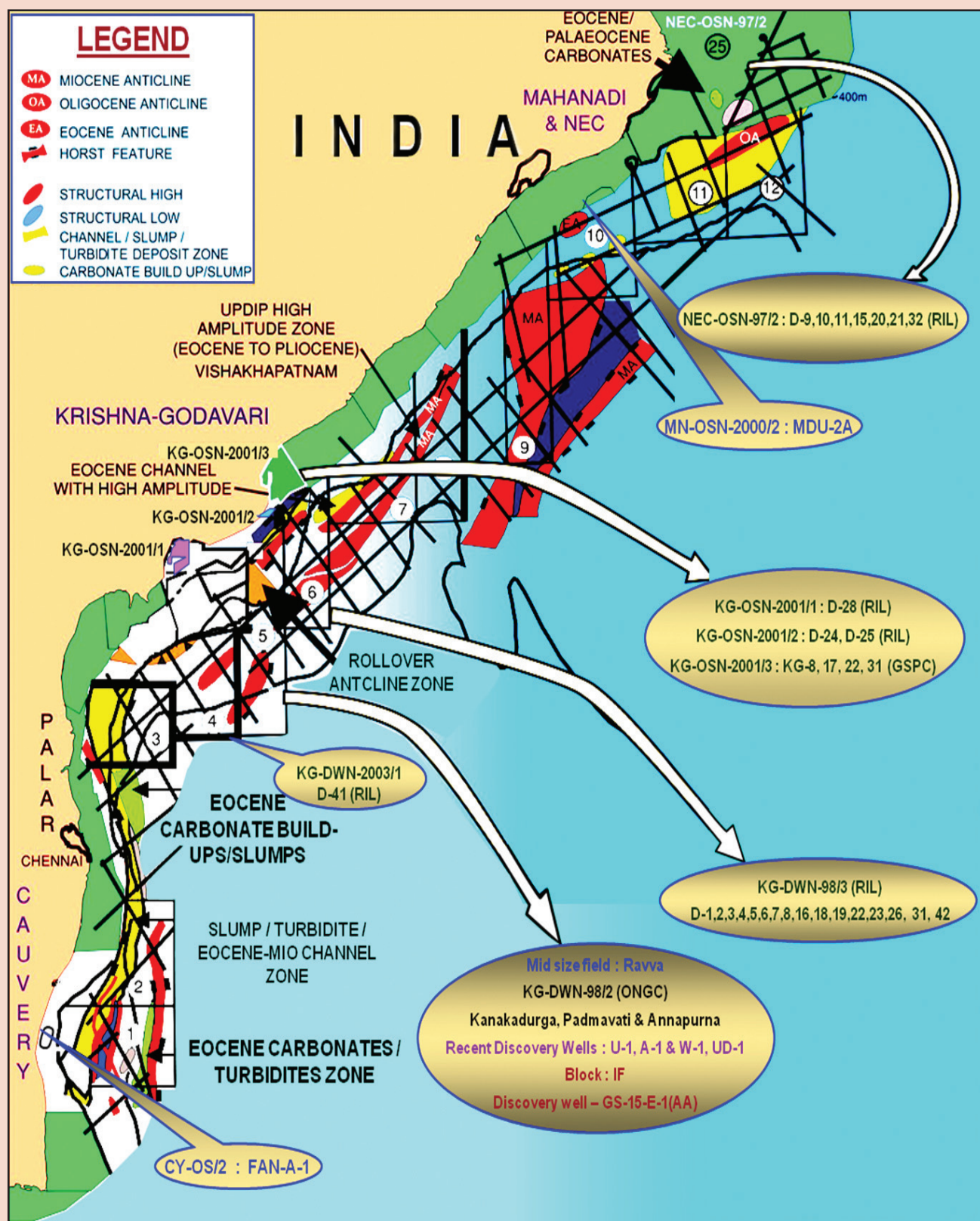


Structure / Well No. & Location	Testing Result	Leads / Expl. Efficacy
Sanand Structure CB-ONN-2002/3 Well : SE-8	Silty sands from Kalol Formation Perforated Interval: 1364-78 m	9 Established presence of Oil (@ 8-10 M3/Day) within the anticlines, developed due to draping and differential compaction of the Kalol & Cambay Shale Formations, over the rift generated Highs in the block. 9 This High is extending towards Jhalora Field

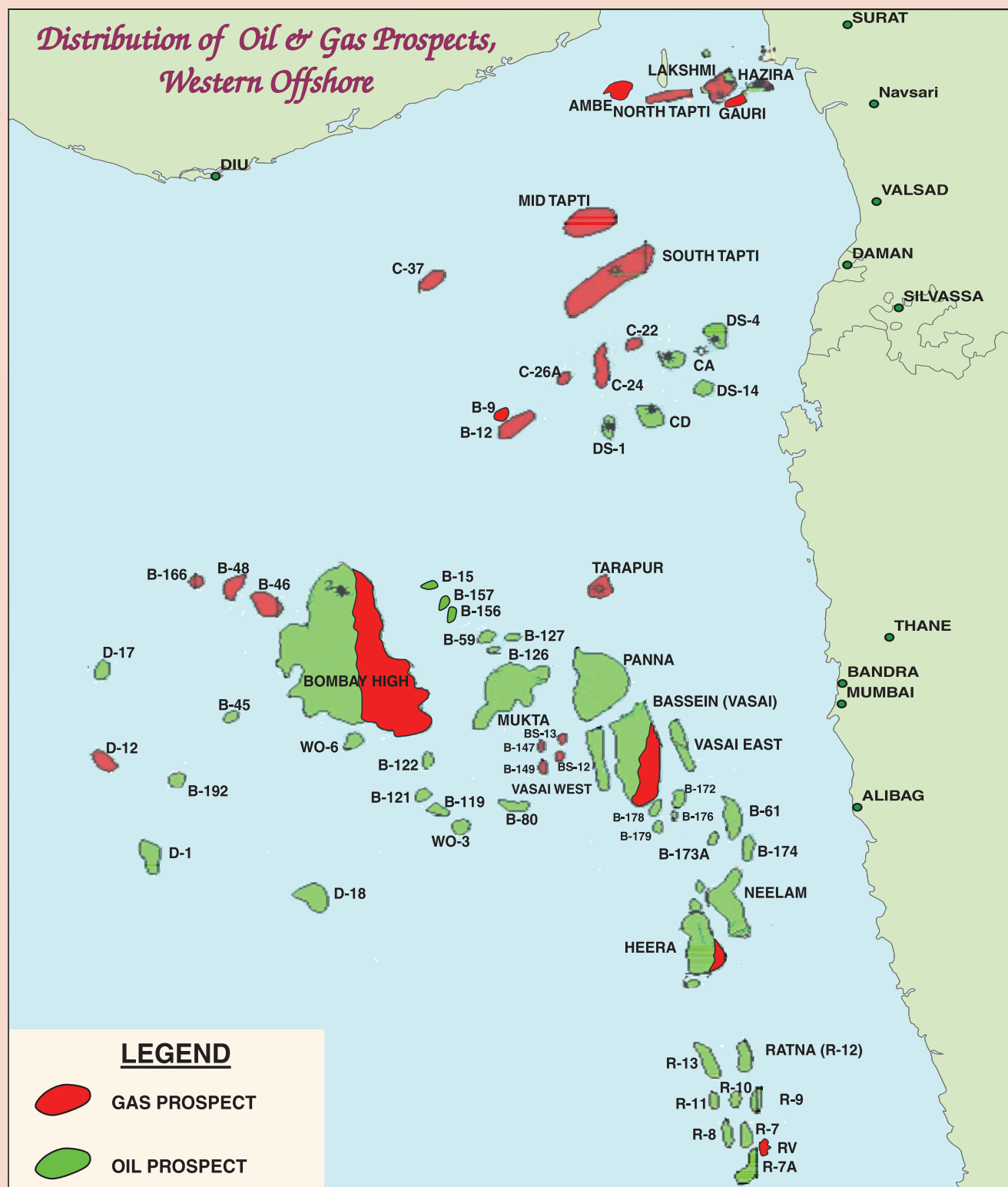


HYDROCARBON PROSPECTS/ GEOLOGICAL PLAYS

DISTRIBUTION OF HYDROCARBON PROSPECTS IN DEEP WATER AND OFFSHORE, EAST COAST

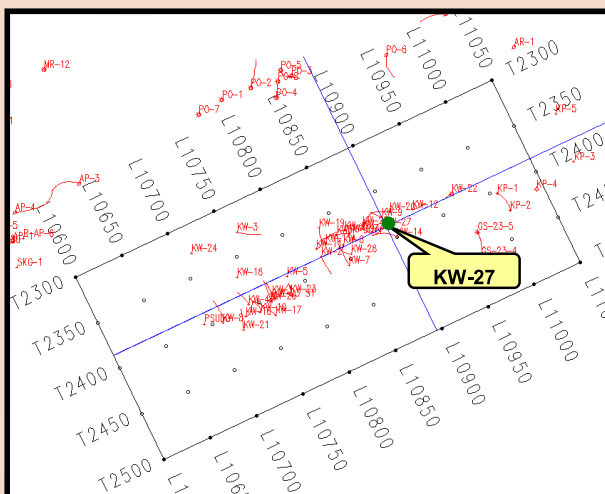


HYDROCARBON PROSPECT MAP – WEST COAST

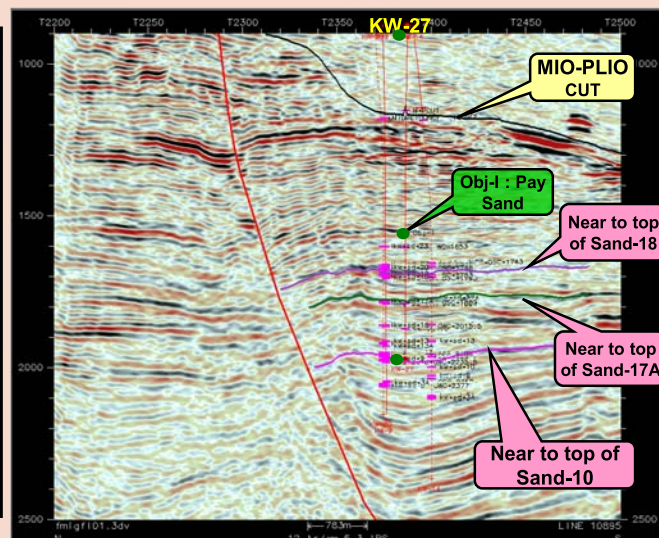


NEW POOL

Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
KG Onland	Kesanapalli West-27	Obj-I: 1667-1668 m flowed oil @42 m ³ /d and gas @3385 m ³ /d through 5 mm bean.	This discovery within Matsyapuri / Ravva Formation has given a boost for further exploration of Mtsy play in Kesanapalli-west and adjoining coastal tract areas of KG onland.

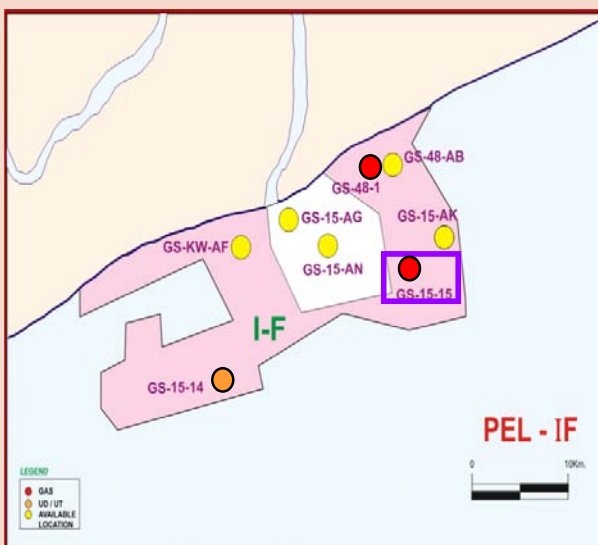


LOCATION MAP

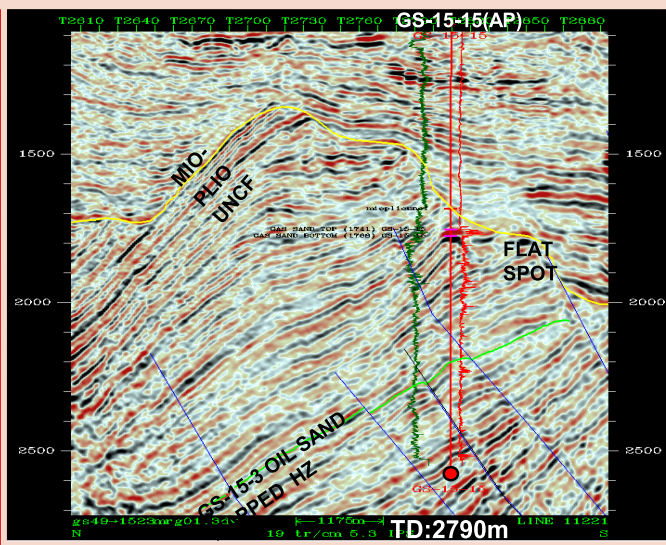


INLINE 10895 PASSING THROUGH WELL KESANAPALLI WEST-27

Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
KG Offshore	GS-15/GS-15-15 (GS-15-AP)	Obj-I: 1762-59, 1756-52 & 1747-43 m flowed gas @ 78,448 m ³ /d & condensate @ 3.8 m ³ /d through 6 mm bean.	This discovery within Ravva formation has given a boost for further exploration of sub conformity play in KG shallow offshore.



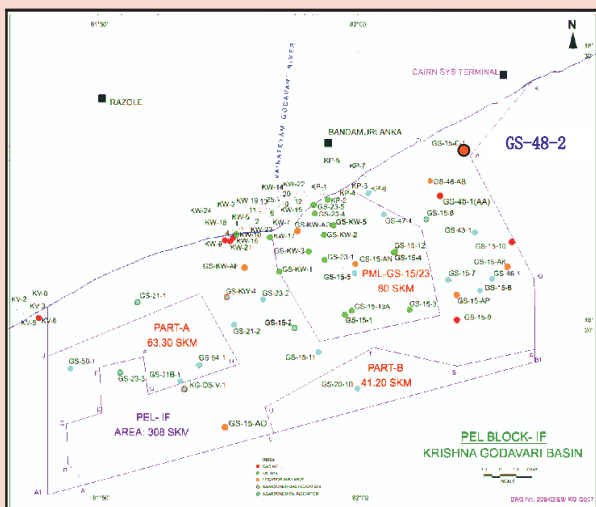
LOCATION MAP



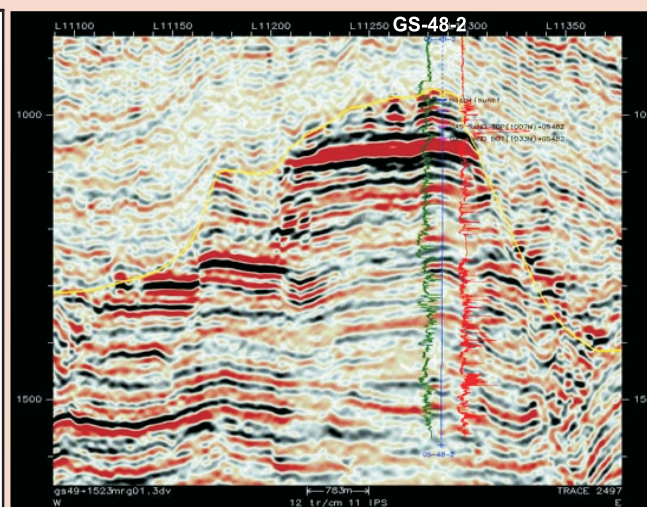
SEISMIC INL:11221 (gs4915/23 merged vol.)
Through GS-15-15(AP)

NEW POOL

Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
KG Offshore	GS-48-2 (AB)	Cased hole straddle packer Mini DST in three intervals: > 1009.25-1009.75 m: AOFP 0.148 MMm³/d > 1028.75-1029.25 m: AOFP 0.038 MMm³/d > 1032.25-1032.75 m: AOFP 0.027 MMm³/d	<i>This discovery within Ravva formation has given an impetus for further exploration of sub conformity play in KG shallow offshore.</i>



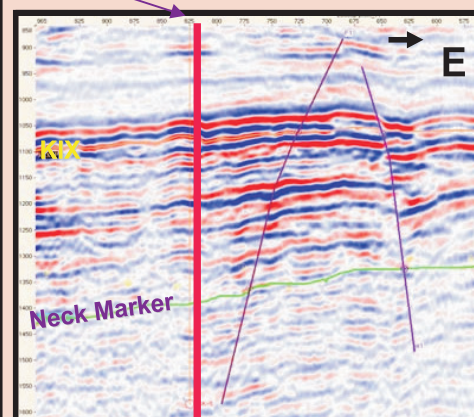
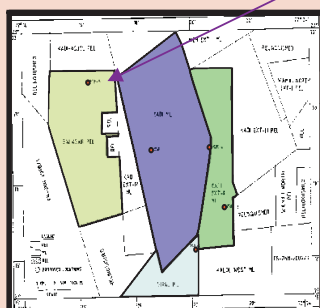
LOCATION MAP



SEISMIC TRACE 2497 THROUGH THE PAY SAND OF GS-48-2

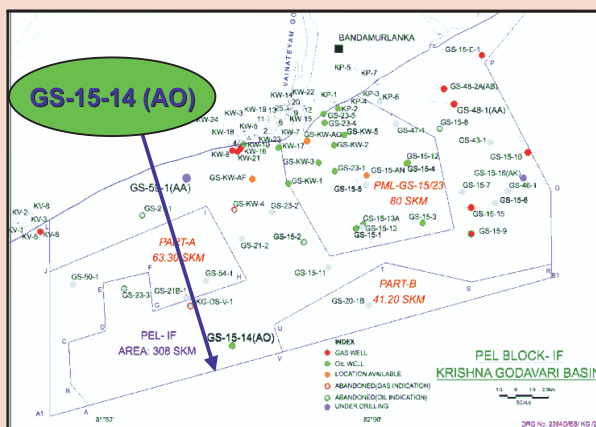
Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
Western Onland	South Kadi SK-144 (SKBF)	Obj-I: 1622-1619 m - flowed oil @4 m³/d on SRP.	<i>This has proved the extension of South Kadi pays in the NW of South Kadi Field and has resulted in conversion of the Balasar PEL to PML.</i>

SK-144

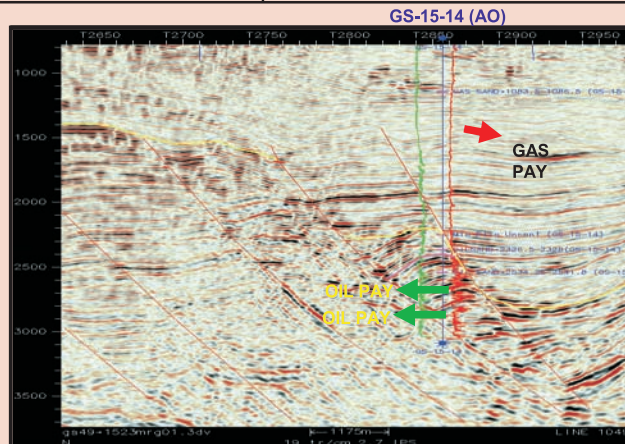


NEW POOL

Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
KG Offshore	GS-15 / GS-15-14 (GS-15-AO)	> MDT sample at 1084.6 m: 340 ft³ gas > Open hole straddle packer mini DST: - 2327.4 m (Production rate estimated in the interval 2326.5-2328 m): Qo=268.7 m³/d through 1½" choke) - 2539.9 m: (Production rate estimated in the interval 2534.2-2241.8 m): Qo=264 m³/d through 1½" choke)	<i>This discovery within Miocene (Ravva Fm.) and Pliocene (Godavari Clay Fm.) has given an impetus for further exploration of tilted fault blocks for Miocene and channel play within Pliocene in KG Shallow Offshore.</i>

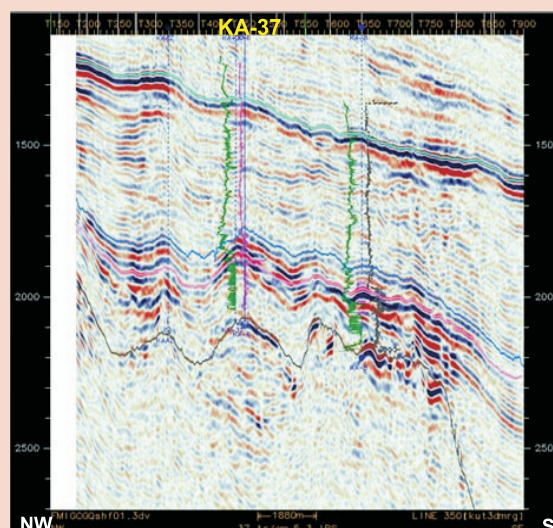
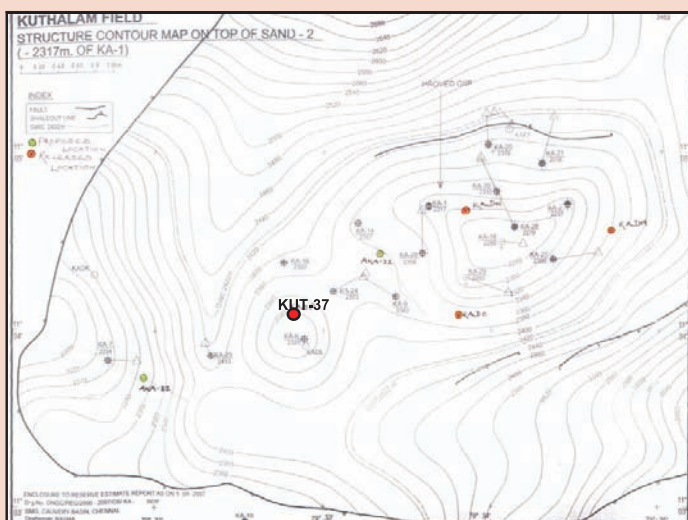


LOCATION MAP OF IF PEL BLOCK



SEISMIC INL:10494 THROUGH WELL GS-15-14(AO)

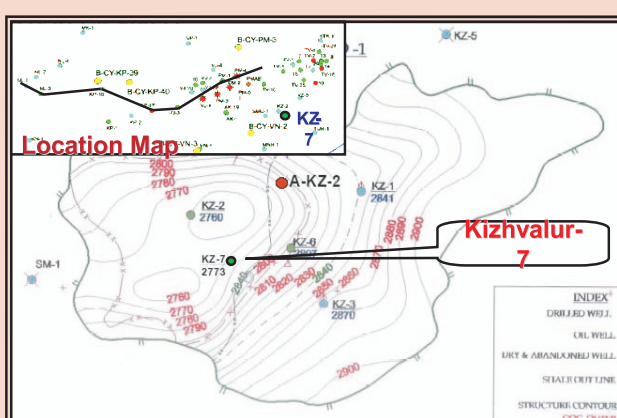
Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
Cauvery Onland	Kuthalam / Kuthalam-37 (KADP) [Development Well]	Obj-II: 2510-2518 m - Flowed gas @ 50,100 m ³ /d and condensate @ 8 m ³ /d through 6 mm bean.	<i>This discovery within Andimadam Formation has given an impetus for further exploration of Andimadam play in Kuthalam-Kali and adjoining areas of Tranquebar Sub-basin in Cauvery Onland.</i>



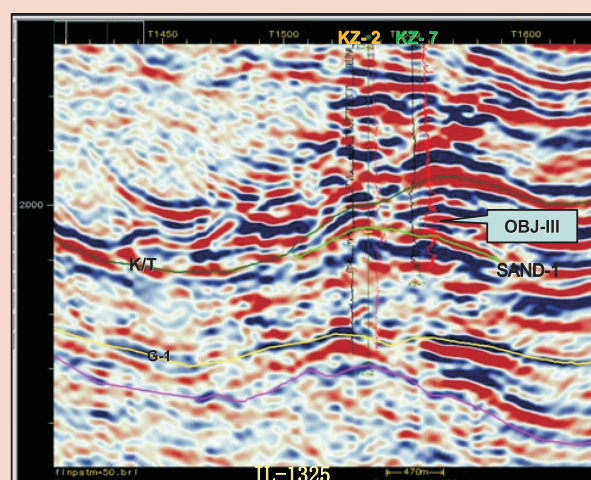
Line 350

NEW POOL

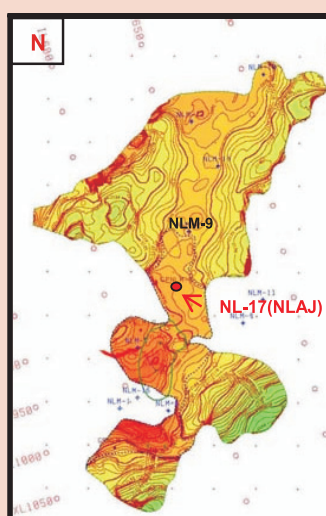
Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
Cauvery Onland	Kizhvalur-7 / (KZDB)	Object-IA: 2836.5-2832 m - Observed influx of 20 liters of oil on reverse out Object III: 2773-68 m - Q oil: 69 m ³ /day & Q gas: 8991 m ³ /day through 6mm bean	The development well, KZ-7 has produced commercial quantity of hydrocarbon from a new sand layer developed in the interval 2767-76 m and established a new pool within Nannilam Fm. This discovery within Nannilam Fm has given an impetus for further exploration of Nannilam play in Kizhvalur and adjoining areas of Nagapattinam sub basin in Cauvery Onland.



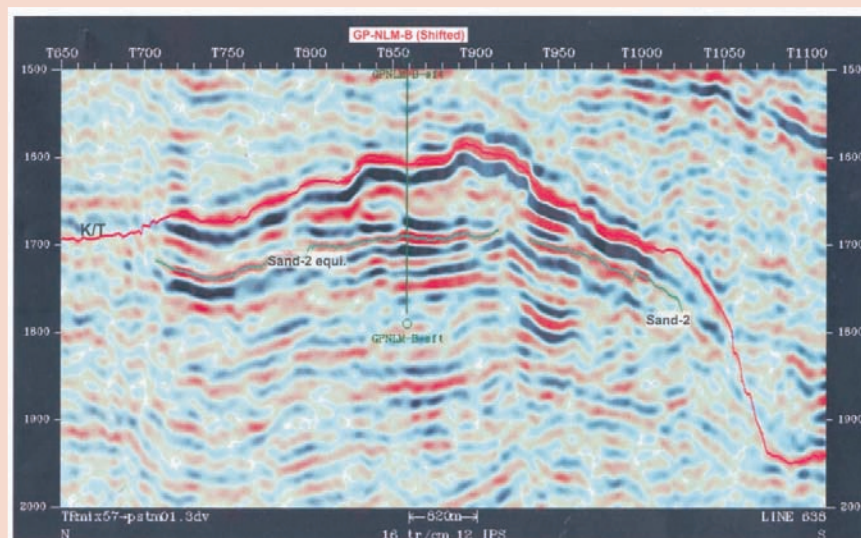
STRUCTURE CONTOUR MAP ON TOP OF SAND-1



Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
Cauvery Onland	Nannilam / Nannilam-17/ (NLAJ)	Obj-IIA: 2116-14 m - gas @ 45000 m ³ /d & condensate @ 27 m ³ /d through 6mm bean. Obj-IIIA: 2102-2099 m - gas @ 36000m ³ /d, condensate @ 13m ³ /d and water @ 17 m ³ /d through 6 mm bean.	This discovery has established the extension of Nannilam play to the north of NLM-5 and has given an impetus for further exploration of Nannilam play in Nannilam and adjoining areas.



Location & Depth Map on Nannilam Sand-2

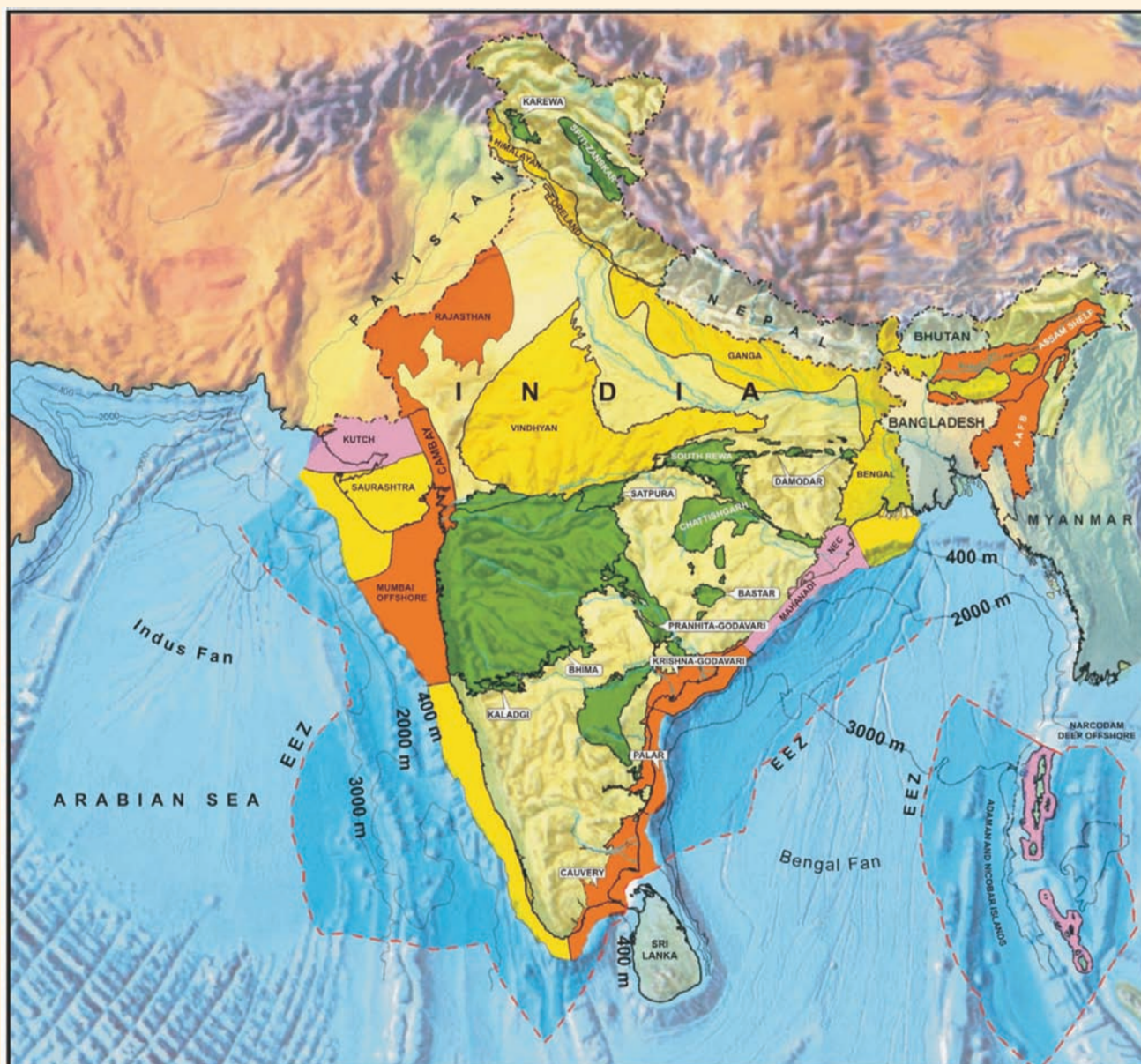


IL 638 passing through proposed location GP-NLM-B (shifted)

SEDIMENTARY BASINS - PEL & ML STATUS

- The sedimentary basins of India, onland and offshore up to the 200m isobath, have an areal extent of about 1.79 million sq. km. So far, 26 basins have been recognized and they have been divided into four categories based on their degree of prospectivity as presently known. In the deep waters beyond the 200m isobath, the sedimentary area has been estimated to be about 1.35 million sq. km. The total thus works out to 3.14 million sq. km.
- Over the last twelve years, there have been significant forward steps in exploring the hydrocarbon potential of the sedimentary basins of India. The unexplored area has come down to 13% which was 50% in 1995-96.
- Credit for this achievement goes in large measure to surveys carried out by DGH in unexplored/ poorly explored areas of the country including Deepwaters off west coast, east coast and in Andaman sea and accreages awarded for exploration under NELPs. Concerted efforts are continuously being done to reduce the unexplored area further.

SEDIMENTARY BASINS OF INDIA



LEGEND

 CATEGORY-I BASIN (Proven commercial productivity)	 CATEGORY-IV BASIN (Potentially Prospective)
 CATEGORY-II BASIN (Identified prospectivity)	 PRE-CAMBRIAN BASEMENT/ TECTONISED SEDIMENTS
 CATEGORY-III BASIN (Prospective Basins)	 DEEP WATER AREAS WITHIN EEZ

CATEGORIZATION OF SEDIMENTARY BASINS

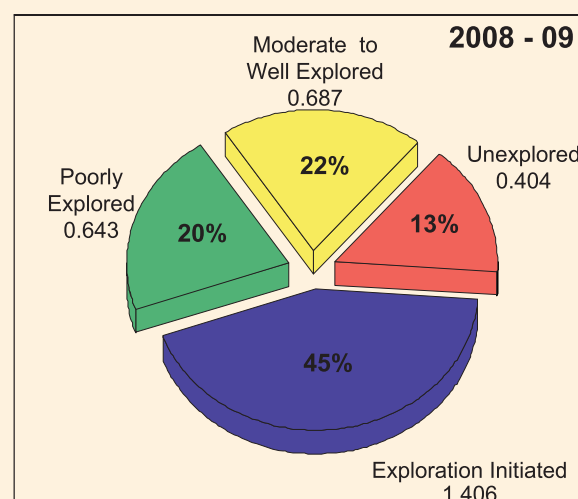
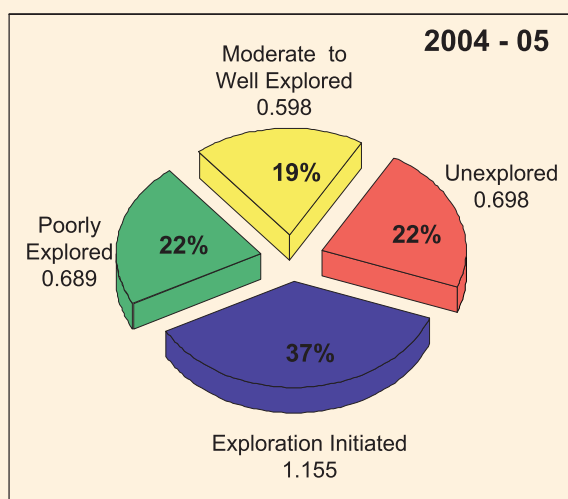
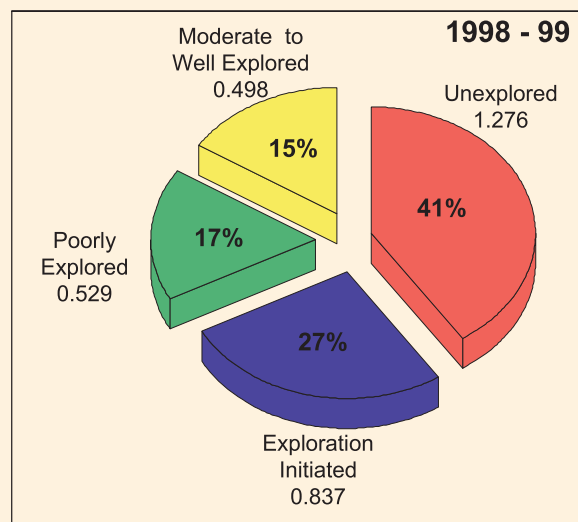
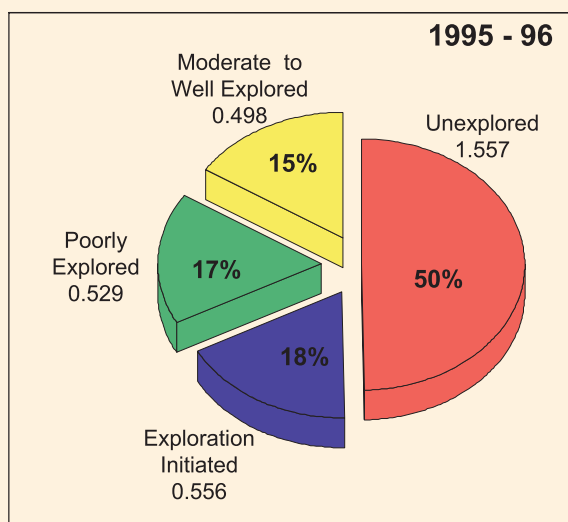
Basinal Area (Sq. Km.)

Category*	Basin	Onland	Offshore	Total
UP TO 200M ISOBATH				
I	Cambay	51,000	2,500	53,500
	Assam Shelf	56,000	----	56,000
	Mumbai offshore	----	116,000	116,000
	Krishna Godavari	28,000	24,000	52,000
	Cauvery	25,000	30,000	55,000
	Assam-Arakan Fold Belt	60,000	----	60,000
	Rajasthan	126,000	----	126,000
	SUB. TOTAL	346,000	172,500	518,500
II	Kutch	35,000	13,000	48,000
	Mahanadi-NEC	55,000	14,000	69,000
	Andaman-Nicobar	6,000	41,000	47,000
	SUB. TOTAL	96,000	68,000	164,000
III	Himalayan Foreland	30,000	----	30,000
	Ganga	186,000	----	186,000
	Vindhyan	162,000	----	162,000
	Saurashtra	52,000	28,000	80,000
	Kerala-Konkan-Lakshadweep	----	94,000	94,000
	Bengal	57,000	32,000	89,000
	SUB. TOTAL	487,000	154,000	641,000
IV	Karewa	3,700	----	3,700
	Spiti-Zaskar	22,000	----	22,000
	Satpura-South Rewa-Damodar	46,000	----	46,000
	Narmada	17,000	----	17,000
	Decan Syncline	273,000	----	273,000
	Bhima-Kaladgi	8,500	----	8,500
	Cuddapah	39,000	----	39,000
	Pranhita-Godavari	15,000	----	15,000
	Bastar	5,000	----	5,000
	Chhattisgarh	32,000	----	32,000
	SUB. TOTAL	461,200	----	461,200
	TOTAL	1,390,200	394,500	1,784,700
DEEP WATERS				
	Kori-Comorin } 85° E Narcodam }	----	----	1,350,000
	GRAND TOTAL	----	----	3,134,700

* `Categorization based on the prospectivity of the basin as presently known. The four recognized categories are basins which have :

- I Established commercial production
 - II Known accumulation of hydrocarbons but no commercial production as yet
 - III Indicated hydrocarbon shows that are considered geologically prospective
 - IV Uncertain potential which may be prospective by analogy with similar basins in the world.
- This categorization will necessarily change with the results of further exploration.

SEDIMENTARY BASINAL AREAS



Total Sedimentary Area : 3.14 Million Sq. Km.

LEVEL OF EXPLORATION	AREA (Million Sq.Km.)			
	1995-96	1998-99	2004-05	2008-09
UNEXPLORED	1.557	1.276	0.698	0.404
EXPLORATION INITIATED	0.556	0.837	1.155	1.406
POORLY EXPLORED	0.529	0.529	0.689	0.643
MODERATE TO WELL EXPLORED	0.498	0.498	0.598	0.687

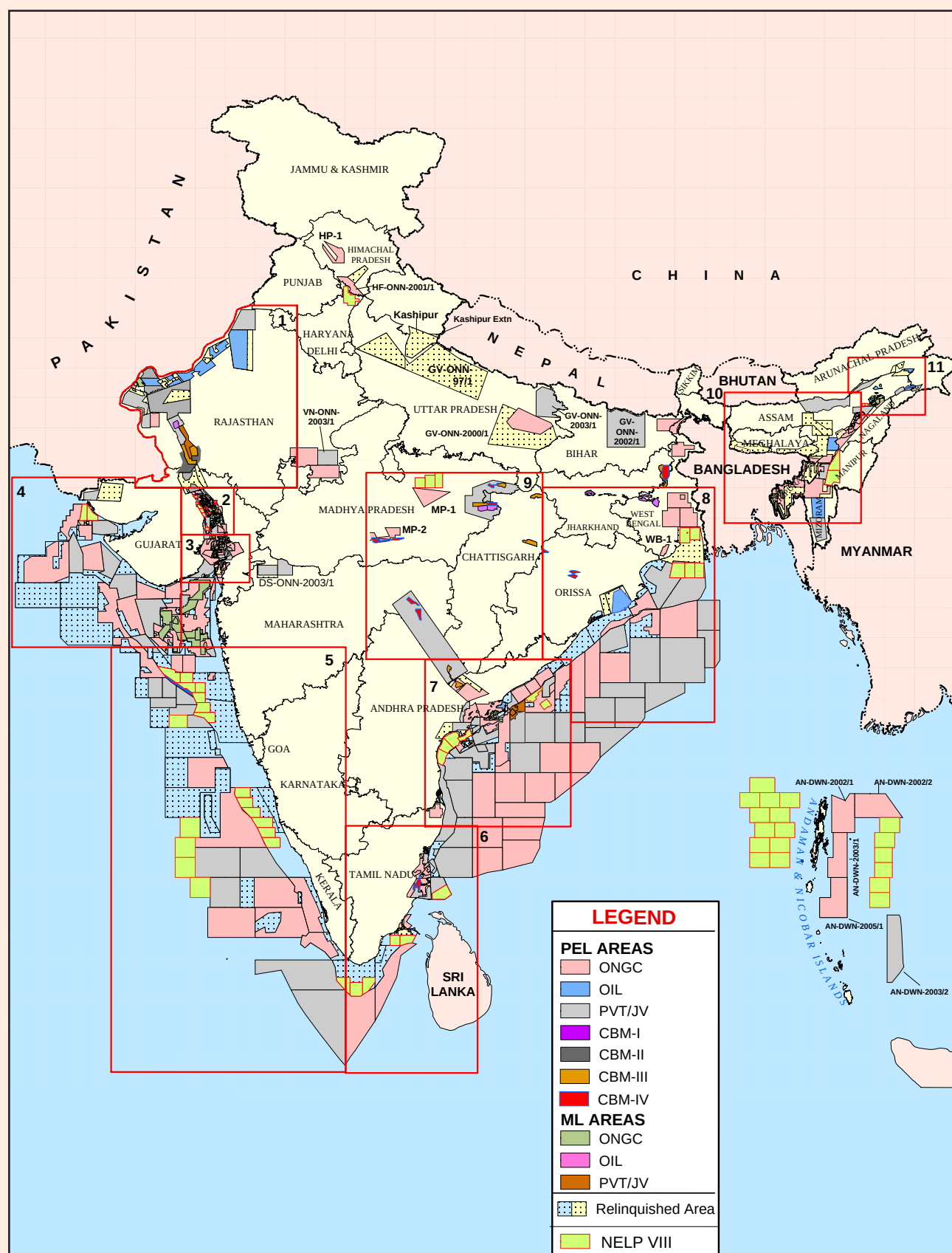
PEL & ML Status

As on 1.4.2009, operations are being carried out by national and private oil companies in 632 concessions, of which 286 are under Petroleum Exploration Licence (PEL) and 346 under Mining Lease (ML). The distribution pattern is as follows:

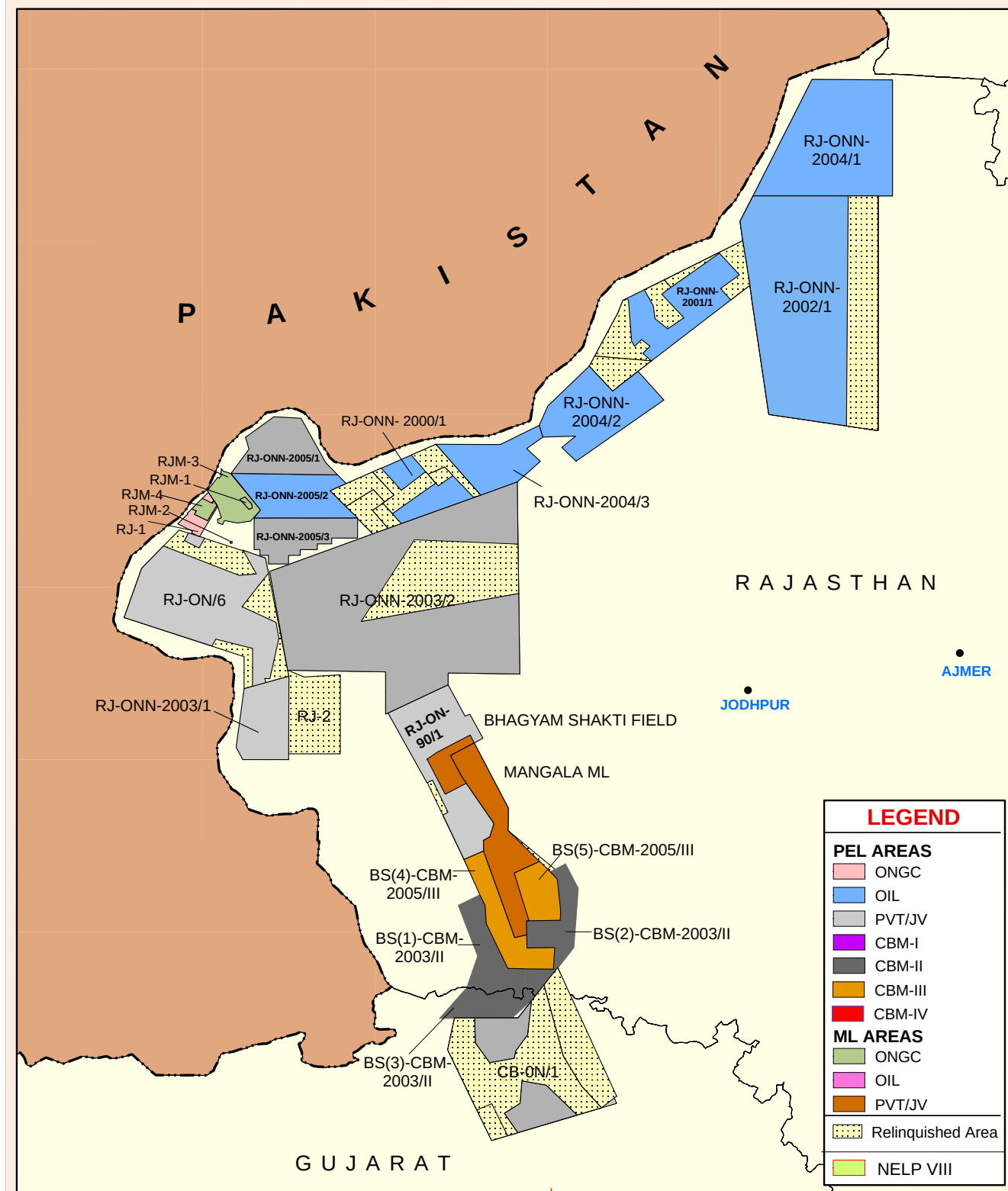
PEL	Company-wise	:	NOCs 53% and Pvt/JV 47%
	Basin-wise	:	Onland 21% and Offshore 79%
ML	Company-wise	:	NOCs 82% and Pvt/JV 18%
	Basin-wise	:	Onland 47% and Offshore 53%

From the figures given above, it is evident that substantial headway has already been made to encourage private sector participation. Against 203 PEL & 163 ML concessions operational during 1996, there are 286 PEL & 346 ML concessions presently under operation, showing an increase both in exploration and development efforts. Over the years, some of the PEL areas have been converted into MLs in part or fully for production of oil and gas due to which there has been an appreciable increase in the area of ML concessions.

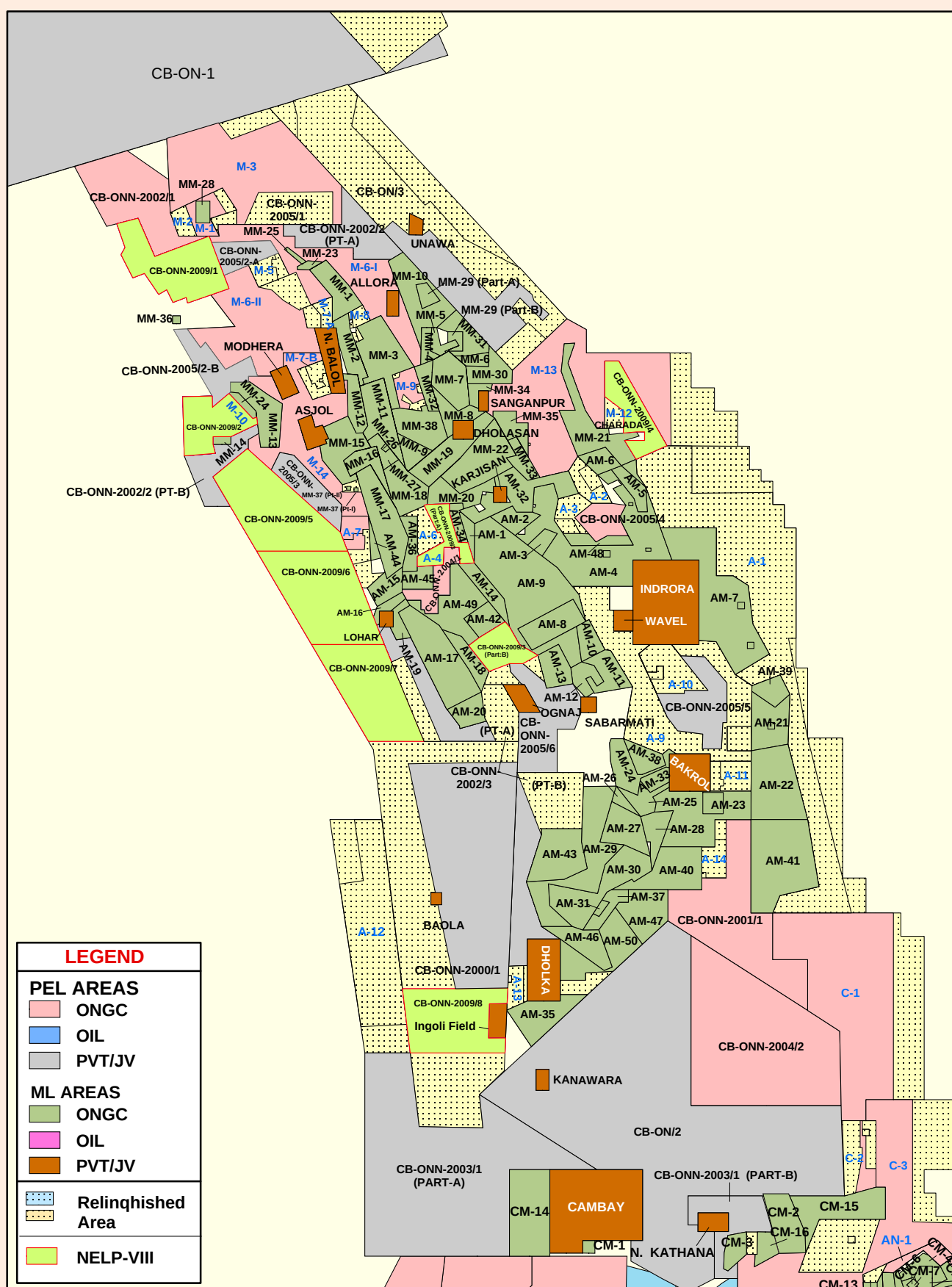
PEL AND ML AREAS UNDER OPERATION BY ONGC, OIL AND PVT/JV COMPANIES (AS ON 01.04.2009)



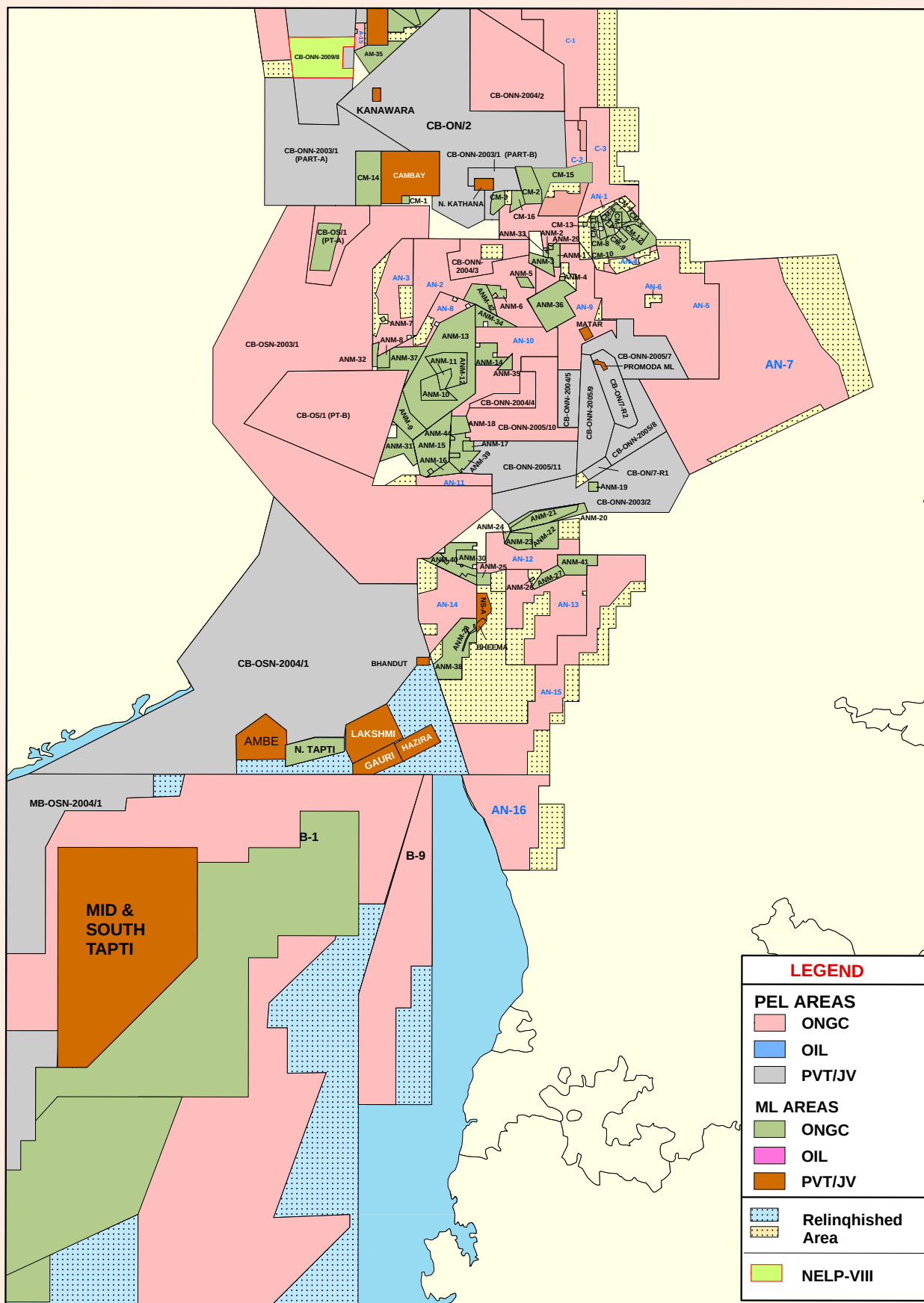
1. RAJASTHAN BASIN



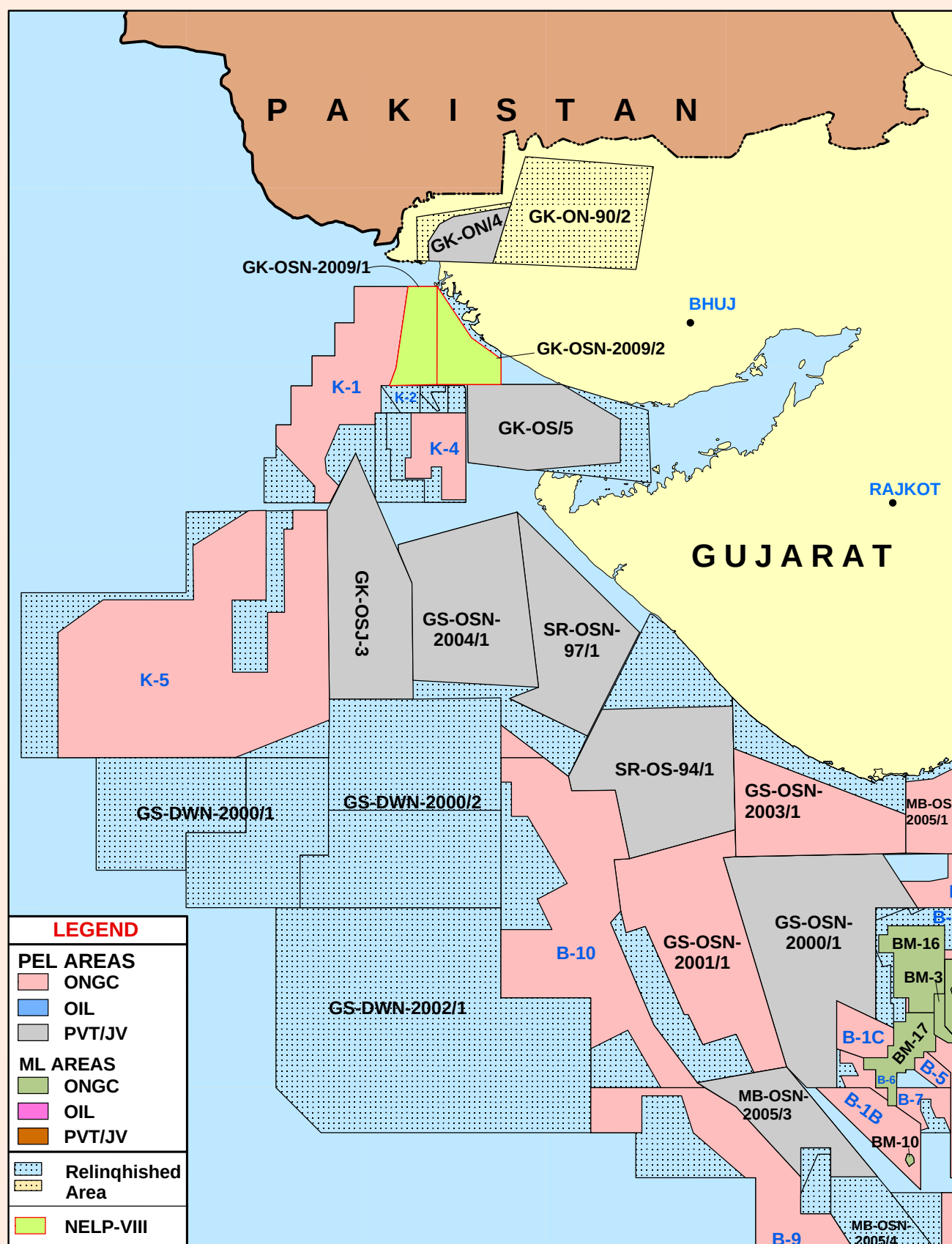
2. NORTH CAMBAY BASIN



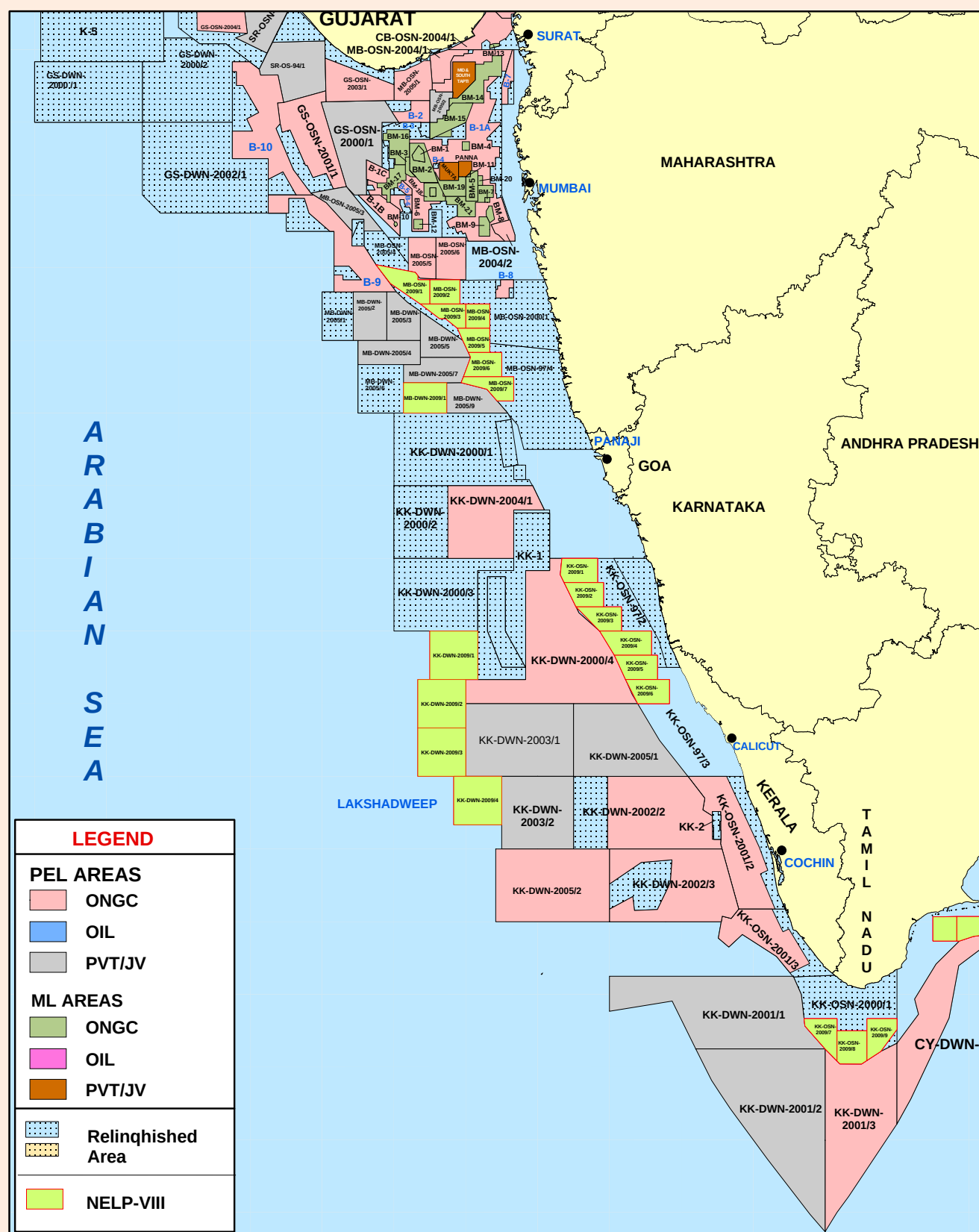
3. SOUTH CAMBAY BASIN



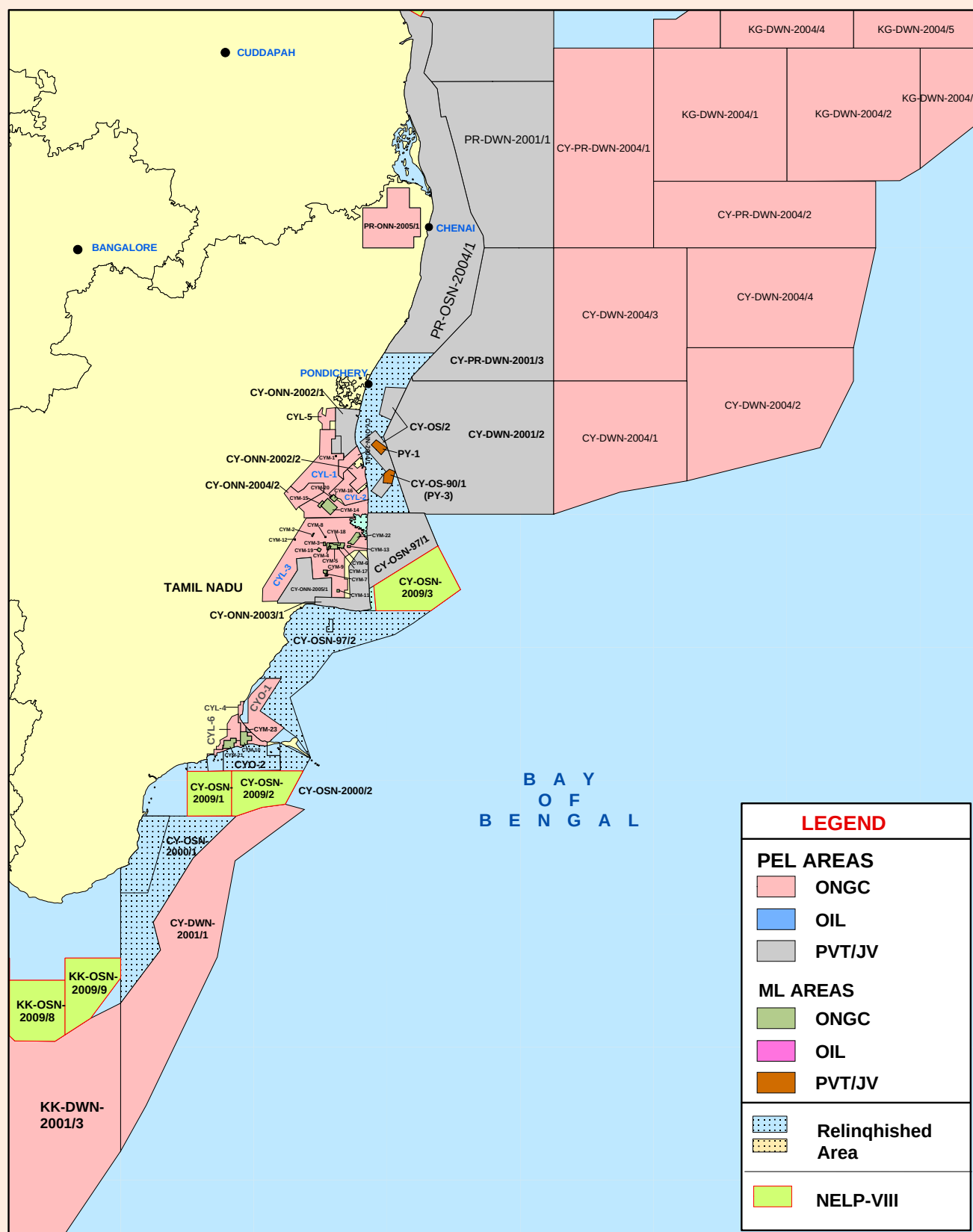
4. KUTCH-SAURASHTRA BASIN



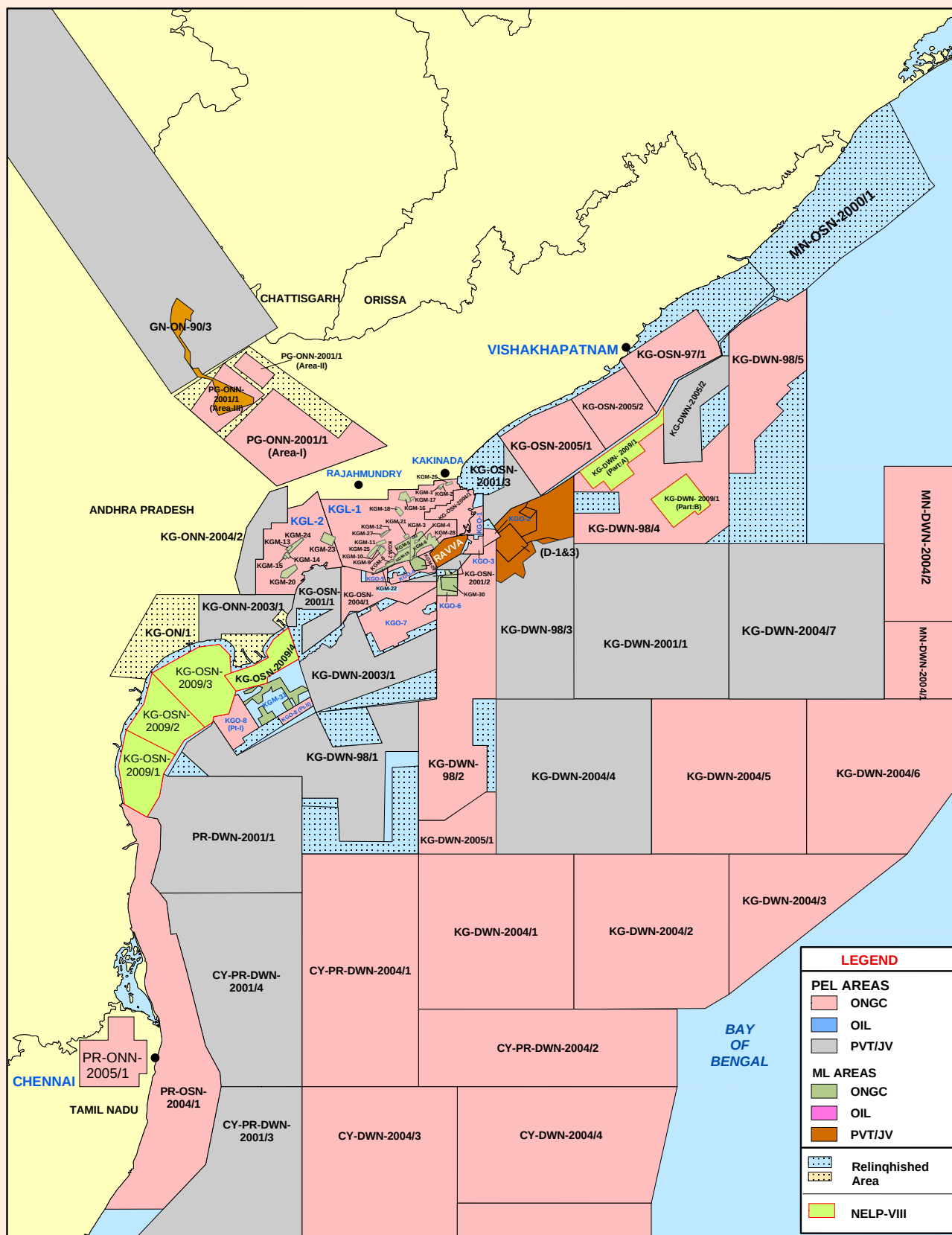
5. MUMBAI OFFSHORE & KERALA - KONKAN BASIN



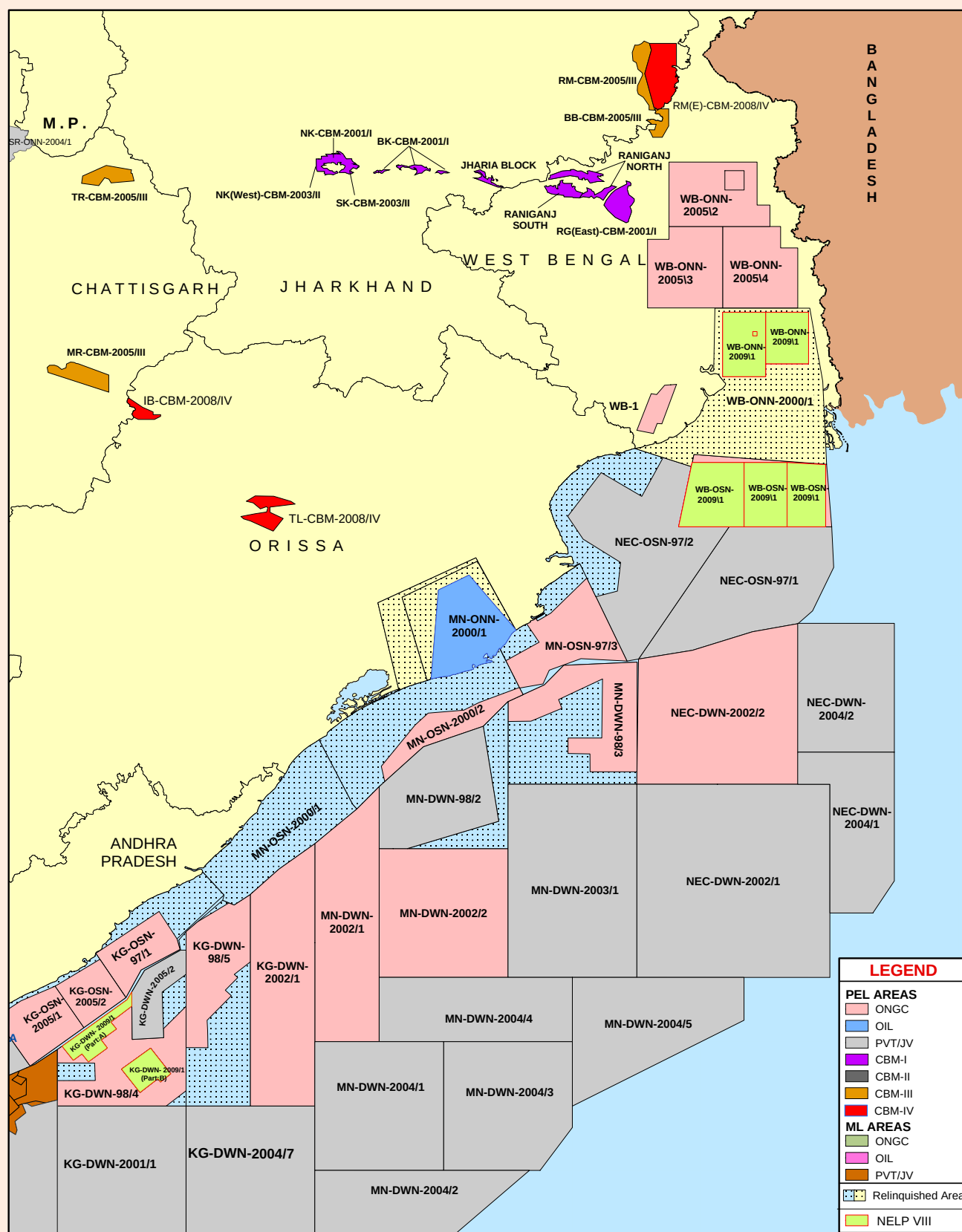
6. CAUVERY BASIN



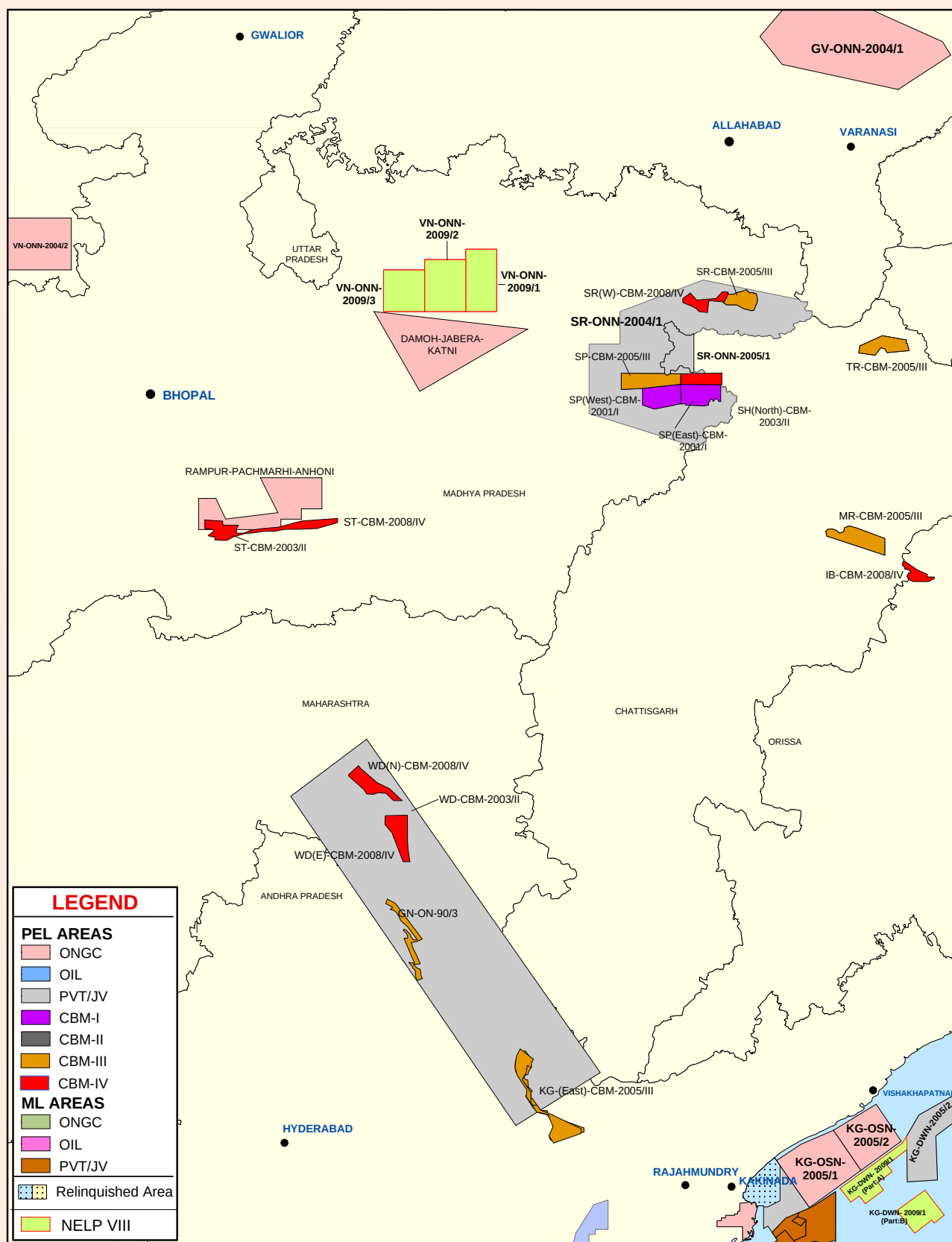
7. KRISHNA-GODAVARI BASIN



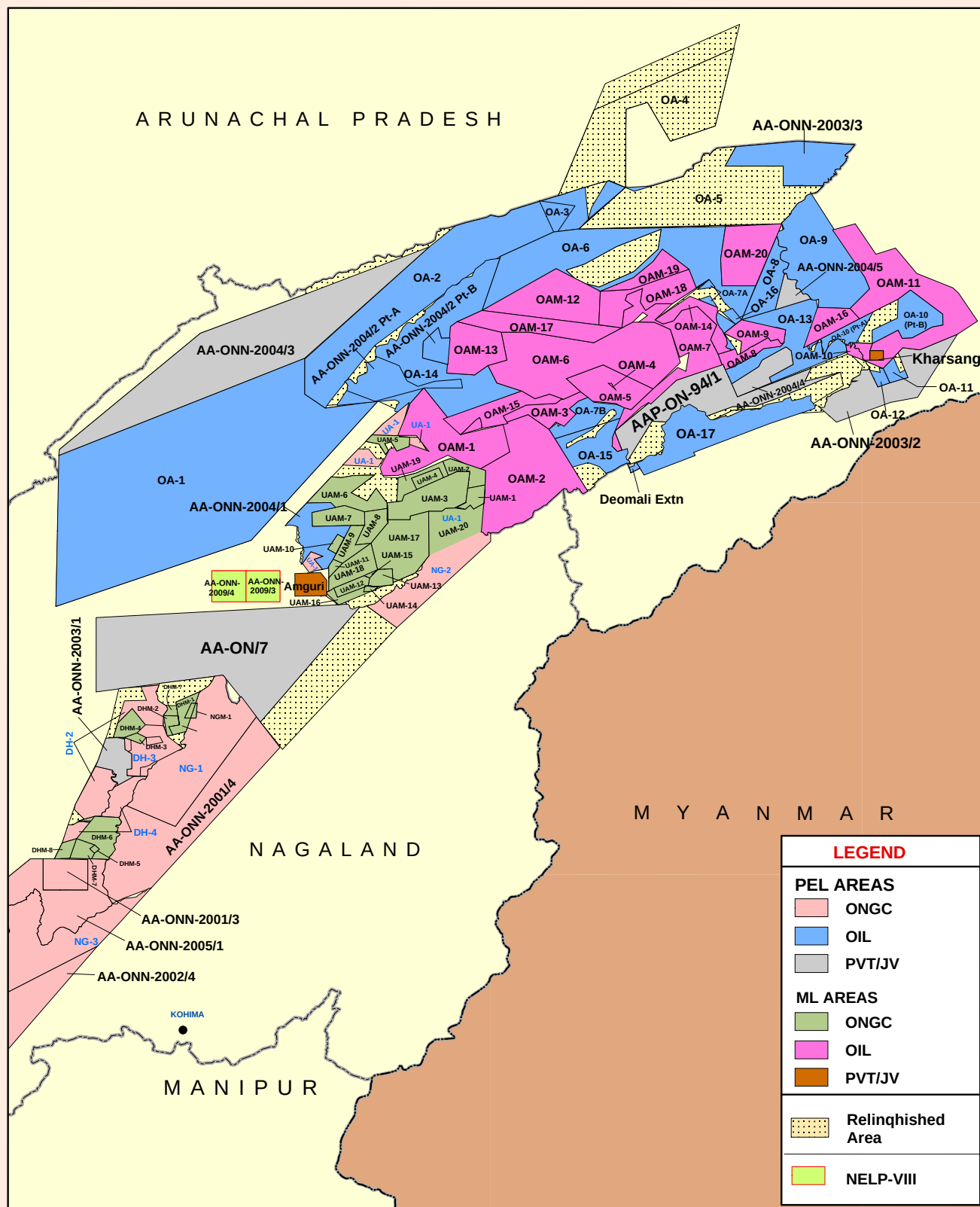
8. MAHANADI - NEC - BENGAL - DAMODAR BASINS



9. SATPURA-PRANHITA GODAVARI BASINS



11. ASSAM-ARAKAN BASIN



PELs OPERATED BY OIL						
As on 01.04.2009						
Sl. No.	BASIN	BLOCK NAME	REF. NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)
NOMINATION BLOCKS						
1	Assam-Arakan	Lakhimpur	OA-1	20.12.01	3150.00	
2		Murkongselek (NF)	OA-2	01.04.02	980.00	
3		Murkongselek (F)	OA-3	01.04.02	143.00	
4		Pasighat	OA-4	01.04.02	694.50	
5		Sadiya	OA-5	18.11.01	565.50	
6		Tinsukia	OA-6	01.04.02	703.00	
7		Dumduma Extn. (NF)	OA-7 A&B	01.08.03	133.00	
8		Dirak	OA-8	18.11.01	85.00	
9		Namsai	OA-9	25.11.04	370.00	
10		Namchik	OA-10	01.05.05	195.00	
11		Jairampur Extn.	OA-11	01.05.02	23.25	
12		Jairampur	OA-12	01.04.02	18.00	
13		Margherita	OA-13	01.04.02	184.00	
14		Dibrugarh	OA-14	01.04.02	641.00	
15		Borhat	OA-15	01.04.02	111.00	
16		Dumduma Extn. (F)	OA-16	01.04.02	19.00	
17		Deomali	OA-17	18.02.05	113.50	
TOTAL					8128.75	
PRE-NELP / NELP BLOCKS						
1	Rajasthan	RJ-ONN-2000/1	-	18.01.02	1267.50	
2		RJ-ONN-2001/1	-	23.07.03	2560.00	
3		RJ-ONN-2002/1	-	22.06.04	7425.00	
4		RJ-ONN-2004/2	-	21.01.08	2196.00	
5		RJ-ONN-2004/3	-	21.01.08	1330.00	
6		RJ-ONN-2005/2	-	22.12.08	1517.00	
7	Mahanadi Onland	MN-ONN-2000/1	-	24.04.02	3900.00	3900.00
8	Assam-Arakan	AA-ONN-2002/3	-	05.02.05	1460.00	
9		AA-ONN-2003/3	-	30.11.06	275.00	
10		AA-ONN-2004/1	-	28.06.07	144.00	
11		AA-ONN-2004/2	-	28.06.07	218.00	
12	Mizoram	MZ-ONN-2004/1	-	22.05.07	3213.00	3213.00
13	Krishna - Godavari	KG-ONN-2004/1	-	16.02.08	549.00	549.00
TOTAL					26054.50	
GRAND TOTAL					34183.25	

PELs OPERATED BY ONGC

As on 01.04.2009

Sl. No.	BASIN	BLOCK NAME	REF.NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)
NOMINATION BLOCKS						
1	Rajasthan	South Kharatar	RJ-1	01.08.03	181.39	1771.39
2		Miajlar-East	RJ-2	27.08.02	1590.00	
3	Cambay	Patan-Tharad	M-1	04.09.05	18.16	
4		N. Patan (Patan)	M-3	07.10.04	243.25	
5		Dhinoj - Chanasma	M-6	03.11.03	309.25	
6		Jotana Extn.III	M-8	07.07.03	7.22	
7		Jotana South	M-9	10.03.04	17.30	
8		Charada	M-12	07.10.02	35.50	
9		Charada - Mansa Extn.I	M-13	03.11.03	282.75	
10		Kadi-Asjol	M-14	28.08.03	133.00	
11		Varsoda-Halisa	A-1	25.11.03	478.50	
12		Limbodra Extn.III	A-2	06.05.02	11.45	
13		Kadi Extn. III	A-6	25.11.03	19.50	
14		Balasar	A-7	23.09.02	18.00	
15		Valod Extn.I	A-9	25.11.03	189.56	
16		Valod	A-10	10.12.05	45.41	
17		West of Baola	A-12	04.05.04	195.00	
18		Sajali	A-14	23.12.04	18.00	
19		Chaklasi-Rasnol	C-1	24.11.03	279.30	
20		Vasod-Kathol	C-3	24.11.03	307.56	
21		Sarod-Jambusar	AN-2	27.11.03	253.22	
22		Malpur-Degam (CB-ON-6A)	AN-3	26.03.04	150.20	
23		Karjan Extn.I	AN-4	24.10.02	25.94	
24		Karjan Extn.II	AN-5	24.10.03	550.60	
25		Raj-Pardi	AN-7	26.03.04	1251.00	
26		Tankari	AN-8	23.12.05	53.45	
27		Dabka-Sarbhan	AN-9	01.12.03	211.73	
28		Gandhar Extn.IX	AN-10	24.10.03	216.00	
29		Sisodra-Kosamba	AN-12	27.11.03	133.49	
30		Sayan	AN-13	24.10.03	283.63	
31		Olpad-Dandi	AN-14	27.11.03	165.20	
32		Tadkeshwar-Sachin	AN-15	27.11.03	528.45	
33		Navasari (West)	AN-16	30.11.04	312.00	6743.62
34	Cauvery Onland	L-I	CYL-1	01.04.04	1346.50	
35		L-I (Extn.)	CYL-2	01.08.03	444.00	
36		L-II	CYL-3	01.04.04	2185.00	
37		L-X	CYL-4	01.01.04	261.00	
38		L-XI	CYL-5	20.11.03	172.80	
39		L-XII	CYL-6	19.11.03	239.50	4648.80
40	K-G Onland	1A	KGL-1	28.12.03	2158.00	4932.00
41		1B	KGL-2	13.01.04	2774.00	
42	Bengal Onland	Contai	WB-1	22.08.03	611.00	611.00
43	Assam - Arakan	Sibsagar District	UA-1	01.04.02	737.00	
44		Golaghat Extn. IIA	DH-2	01.01.03	233.00	
45		Merapani	DH-3	01.10.01	80.00	
46		Golaghat District	DH-4	20.01.01	103.00	
47		Cachar District	CH-1 A&B	01.04.03	1100.00	
48		Karimganj District	CH-2	01.04.03	577.00	
49		Hailakandi District	CH-3	01.04.03	52.00	
50		Sector-V C (Assam)	CH-4	01.04.04	1116.00	
51		West Tripura	T-1	15.09.03	2360.00	
52		North Agartala	T-2	20.03.03	375.00	
53		Large Area	T-3	01.01.04	943.00	
54		Bhagty Bhandari	NG-1	28.04.06	620.00	
55		Singphan	NG-2	28.04.06	320.00	
56		Dimapur	NG-3	28.04.06	650.00	9266.00
57	Himalayan Foreland	Kangra-Mandi	HP-1	10.11.03	2848.00	2848.00

PELs OPERATED BY ONGC						
Sl. No.	BASIN	BLOCK NAME	REF. NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)
58	Vindhyan	Damoh-Jabera-Katni	MP-1	10.11.03	4208.00	4208.00
59	Satpura - South Rewa	Rampur-Pachmarhi-Anhon	MP-2	01.04.04	2457.00	2457.00
TOTAL ONLAND						37485.81
60	Gujarat - Kutch - Saurashtra Offshore	KD-GKH	K-1	01.04.04	4486.00	23440.00
61		Kutch A&B	K-2	06.06.04	279.00	
62		Kutch Off Block-I Extn.	K-4	01.01.05	2118.00	
63		GK-DW-1	K-5	01.10.04	16557.00	
64	Mumbai Offshore	Bombay Off (BOFF 1 / 2 / 3)	B-1 A,B&C	14.11.03	18589.00	38947.00
65		Saurashtra-Dahanu	B-2	20.07.05	1880.00	
66		WO-9	B-5	12.12.02	277.00	
67		SW of BH & DCS Area	B-6	01.01.04	846.00	
68		ED-A	B-7	18.11.02	506.00	
69		R-6 / R-28	B-8	01.11.02	362.00	
70		BB-OS-DW-I	B-9	28.12.04	7537.00	
71		BB-OS-DW-II	B-10	28.12.04	8950.00	
72	Kerala-Konkan Offshore	KKDW-17&12	KK-1	01.04.03	8500.00	8500.00
73	Cauvery Offshore	C-OS-IX	CYO-1	01.01.04	803.00	1669.00
74		C-OS-X	CYO-2	01.01.04	866.00	
75	K-G Offshore	Block - IE	KGO-1	16.12.04	201.00	2825.40
76		Block - IG	KGO-2	01.02.03	104.40	
77		Block - IB	KGO-3	16.12.04	123.00	
78		Block - IF	KGO-4	20.09.03	308.00	
79		Block - IA	KGO-5	22.10.04	110.00	
80		KG-OS-DW-III	KGO-7	15.05.03	1193.00	
81		KG-OS-DW Extn.	KGO-8	01.02.03	786.00	
TOTAL OFFSHORE						75381.40
TOTAL						112,867.21
PRE-NELP / NELP BLOCKS						
1	Cambay	CB-OS/1	-	19.11.06	60.00	3686.15
2		CB-ONN-2001/1	-	19.08.03	158.15	
3		CB-ONN-2002/1	-	18.10.04	135.00	
4		CB-OSN-2003/1	-	05.12.05	2394.00	
5		CB-ONN-2004/1	-	20.10.07	32.00	
6		CB-ONN-2004/2	-	28.05.07	423.00	
7		CB-ONN-2004/3	-	17.05.07	113.00	
8		CB-ONN-2004/4	-	28.05.07	70.00	
9		CB-ONN-2005/4	-	22.12.08	31.00	
10		CB-ONN-2005/10	-	22.12.08	270.00	
11	Cauvery Onland	CY-ONN-2002/2	-	31.08.04	210.00	799.00
12		CY-ONN-2004/1	-	02.05.08	214.00	
13		CY-ONN-2004/2	-	30.05.08	375.00	
14	Assam-Arakan	AA-ONN-2001/1	-	01.05.03	1496.00	7679.00
15		AA-ONN-2001/2	-	29.07.03	4005.00	
16		AA-ONN-2001/3	-	19.12.03	110.00	
17		AA-ONN-2001/4	-	28.04.06	645.00	
18		AA-ONN-2002/4	-	28.04.06	1060.00	
19		AA-ONN-2005/1	-	22.12.08	363.00	
20	Purnea	PA-ONN-2004/1	-	12.09.07	2537.00	6185.00
21		PA-ONN-2005/1	-	22.12.08	1096.00	
22		PA-ONN-2005/2	-	22.12.08	2552.00	
23	Ganga Valley	GV-ONN-2004/1	-	11.12.07	8354.00	10581.00
24		GV-ONN-2005/3	-	22.12.08	2227.00	

PELs OPERATED BY ONGC						
Sl. No.	BASIN	BLOCK NAME	REF.NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)
25	Vindhyan	VN-ONN-2004/1	-	17.01.08	5801.00	10267.00
26		VN-ONN-2004/2	-	17.01.08	4466.00	
27	Him. Foreland	HF-ONN-2001/1	-	10.06.03	1513.88	1513.88
28	Gujarat - Kutch - Saurashtra Offshore	GS-OSN-2001/1	-	12.03.03	7101.00	18167.50
29		GS-OSN-2003/1	-	15.12.05	4477.50	
30		GS-OSN-2004/1	-	25.04.07	6589.00	
31	Mumbai Offshore	MB-OSN-2005/1	-	22.12.08	2811.00	8033.00
32		MB-OSN-2005/5	-	22.12.08	2402.00	
33		MB-OSN-2005/6	-	22.12.08	2820.00	
34	Kerala-Konkan Offhsore	KK-OSN-2001/2	-	12.03.03	14120.00	119768.00
35		KK-OSN-2001/3	-	12.03.03	8595.00	
36		KK-DWN-2001/3	-	12.03.03	21775.00	
37		KK-DWN-2002/2	-	17.03.04	22810.00	
38		KK-DWN-2002/3	-	17.03.04	20910.00	
39		KK-DWN-2004/1	-	09.05.07	12324.00	
40		KK-DWN-2005/2	-	22.12.08	19234.00	
41	Cauvery Offshore	CY-DWN-2001/1	-	12.03.03	12425.00	58828.00
42		CY-DWN-2004/1	-	28.05.07	10302.00	
43		CY-DWN-2004/2	-	23.05.07	12059.00	
44		CY-DWN-2004/3	-	21.05.07	12017.00	
45		CY-DWN-2004/4	-	21.05.07	12025.00	
46	Cauvery-Palar Offshore	CY-PR-DWN-2004/1	-	15.05.07	13451.00	23445.00
47		CY-PR-DWN-2004/2	-	23.05.07	9994.00	
48	PALAR	PR-ONN-2005/1	-	22.12.08	1807.00	1807.00
49	K-G Offshore	KG-DWN-98/2	-	12.04.00	7294.60	87739.60
50		KG-DWN-98/4	-	19.05.00	4970.00	
51		KG-DWN-98/5	-	19.05.00	4490.00	
52		KG-DWN-2002/1	-	17.03.04	10600.00	
53		KG-OSN-2004/1	-	25.05.07	1131.00	
54		KG-DWN-2004/1	-	15.05.07	11951.00	
55		KG-DWN-2004/2	-	07.05.07	11851.00	
56		KG-DWN-2004/3	-	08.05.07	6205.00	
57		KG-DWN-2004/5	-	23.05.07	11922.00	
58		KG-DWN-2004/6	-	23.05.07	10907.00	
59		KG-DWN-2005/1	-	22.12.08	1727.00	
60		KG-OSN-2005/1	-	22.12.08	2810.00	
61		KG-OSN-2005/2	-	22.12.08	1881.00	
62	Mahanadi - NEC Offshore	MN-DWN-98/3	-	19.05.00	4988.00	48594.00
63		MN-OSN-97/3	-	19.05.00	2710.00	
64		MN-OSN-2000/2	-	16.08.01	4061.00	
65		MN-DWN-2002/1	-	17.03.04	9980.00	
66		MN-DWN-2002/2	-	17.03.04	11390.00	
67		NEC-DWN-2002/2	-	17.03.04	15465.00	
68	Bengal	WB-ONN-2005/2	-	22.12.08	3792.00	11733.00
69		WB-ONN-2005/3	-	22.12.08	4001.00	
70		WB-ONN-2005/4	-	22.12.08	3940.00	
71	Andaman-Nicobar Off.	AN-DWN-2002/1	-	17.03.04	10990.00	45292.00
72		AN-DWN-2002/2	-	17.03.04	12495.00	
73		AN-DWN-2003/1	-	05.12.05	9970.00	
74		AN-DWN-2005/1	-	22.12.08	11837.00	
TOTAL						464118.13
GRAND TOTAL						576985.34

PRE-NELP & NELP BLOCKS WITH PVT. / JV COMPANIES

As on 01.04.2009

Sl. No.	COMPANY / OPERATOR	BASIN	BLOCK NAME	REF.NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)
1	RELIANCE INDUSTRIES LIMITED	K-G Offshore	KG-DWN-98/1	-	07.06.00	6700.00	
2			KG-DWN-98/3	-	07.06.00	7645.00	
3			KG-OSN-2001/1	-	03.04.03	1100.00	
4			KG-OSN-2001/2	-	03.04.03	210.00	
5			KG-DWN-2001/1	-	03.04.03	11605.00	
6			KG-DWN-2003/1	-	05.12.05	3288.00	
7			KG-DWN-2004/4	-	21.05.07	11904.00	
8			KG-DWN-2004/7	-	23.05.07	11856.00	54308.00
9		Cauvery Offshore	CY-DWN-2001/2	-	03.04.03	14325.00	14325.00
10		Cauvery-Palar Offshore	CY-PR-DWN-2001/3	-	03.04.03	8600.00	19190.00
11			CY-PR-DWN-2001/4	-	03.04.03	10590.00	
12		Palar Offshore	PR-DWN-2001/1	-	03.04.03	8255.00	8255.00
13		Mahanadi-NEC Offshore	MN-DWN-98/2	-	07.06.00	7195.00	
14			NEC-OSN-97/2	-	07.06.00	10755.00	
15			NEC-DWN-2002/1	-	18.03.04	25565.00	
16			MN-DWN-2003/1	-	05.12.05	17050.00	
17			MN-DWN-2004/1	-	15.05.07	9885.00	
18			MN-DWN-2004/2	-	15.05.07	11813.00	
19			MN-DWN-2004/3	-	15.05.07	11316.00	
20			MN-DWN-2004/4	-	21.05.07	8822.00	
21			MN-DWN-2004/5	-	23.05.07	10454.00	112855.00
22		Kerala-Konkan Offshore	KK-DWN-2001/1	-	03.04.03	27315.00	
23			KK-DWN-2001/2	-	03.04.03	31515.00	
24			KK-DWN-2003/1	-	23.01.06	18245.00	
25			KK-DWN-2003/2	-	05.12.05	12285.00	89360.00
26		Gujarat-Kutch-Saurashtra Offshore	GK-OSJ/3	-	05.10.01	5725.00	
27			GK-OS/5(Onland Part)	-	05.03.03	41.00	
28			(Off. Part)	-	20.07.98	3709.00	
29			SR-OSN-97/1	-	07.06.00	5040.00	
30			SR-OS-94/1	-	12.04.00	6860.00	
31			GS-OSN-2000/1	-	16.08.01	5890.00	27265.00
32		Assam-Arakan	AS-ONN-2000/1	-	--	6215.00	6215.00
33		Cambay	CB-ON/1	-	05.09.03	1533.00	2168.00
34			CB-ONN-2003/1 (Pl.A&B)	-	05.06.06	635.00	
					TOTAL		333,941.00
34	CAIRN	Rajasthan Ganga Valley	RJ-ON-90/1	-	15.05.95	879.50	
35			GV-ONN-2002/1	-	08.06.05	15550.00	
36			GV-ONN-2003/1	-	06.02.07	7210.00	
37		Vindhyan	VN-ONN-2003/1	-	21.02.06	3585.00	
38		K-G Onland	KG-ONN-2003/1	-	08.02.07	1697.00	
39		Palar offshore	PR-OSN-2004/1	-	24.04.07	9417.00	38338.50
40	ESSAR	Cambay	CB-ON/3	-	11.02.03	143.50	
41		Assam-Arakan	AA-ONN-2004/3	-	02.05.08	1252.00	
42			AA-ONN-2004/5	-	02.05.08	46.00	
43		Mumbai offshore	MB-OSN-2005/3	-	22.12.08	2810.00	4251.50
44	HOEC	Pranhita-Godavari	GN-ON-90/3	-	29.03.93	21850.00	
45		Cambay	CB-ON/7	-	23.11.00	369.00	
46		Cauvery Off.	CY-OSN-97/1	-	16.03.01	2470.00	
47		Assam - Arakan	AAP-ON-94/1	-	28.11.00	435.00	
48		Rajasthan	RJ-ONN-2005/1	-	22.12.08	1424.00	26548.00
49	HEPI	Cauvery Off.	CY-OS/2	-	19.11.96	859.00	859.00
50	FOCUS	Rajasthan	RJ-ON/6	-	21.08.99	4026.16	
51			RJ-ONN-2003/2	-	28.01.06	13195.00	
52		G-K Onland	GK-ON/4	-	19.04.03	774.92	
53		Cambay	CB-OSN-2004/1	-	28.05.07	2616.00	20612.08
54	OAO GAZPROM	Mahanadi-NEC Off.	NEC-OSN-97/1	-	14.11.00	7779.00	7779.00

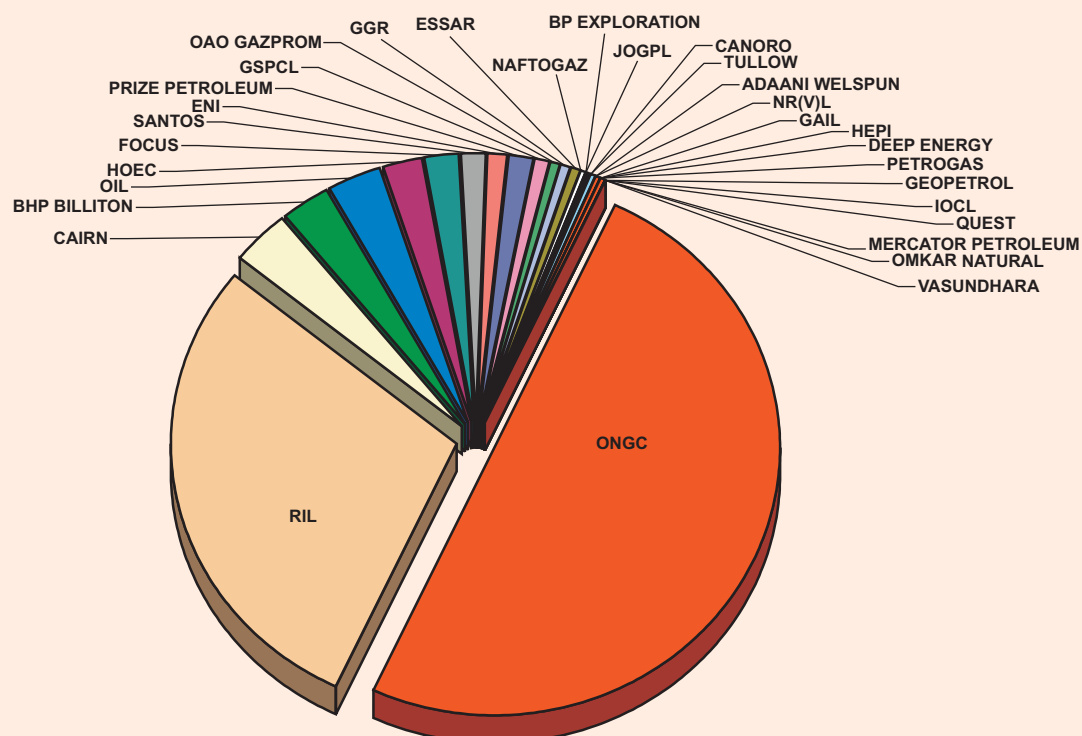
PRE-NELP & NELP BLOCKS WITH PVT. / JV COMPANIES

As on 01.04.2009

Sl. No.	COMPANY / OPERATOR	BASIN	BLOCK NAME	REF.NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)
55	CANORO	Assam-Arakan	AA-ON/7 (Assam Part)	-	27.03.01	1126.00	1444.70
			(Nagaland Part)	-	09.08.06	318.70	
56	GSPC	Cambay	CB-ON/2	-	23.11.00	1201.17	11632.17
57			CB-ONN-2000/1	-	03.01.02	425.00	
58			CB-ONN-2002/3	-	29.07.04	143.00	
59			CB-ONN-2003/2	-	01.04.06	448.00	
60		Krishna Godavari	KG-OSN-2001/3	-	12.03.03	925.00	
61			KG-ONN-2004/2	-	10.01.08	1140.00	
62		Mumbai Offshore Rajasthan	MB-OSN-2004/1	-	12.06.07	1520.00	
63			RJ-ONN-2004/1	-	06.11.07	4613.00	
64			RJ-ONN-2005/3	-	22.12.08	1217.00	
65	PETROGAS		MB-OSN-2004/2	-	21.05.07	741.00	741.00
66	JOGPL	Assam-Arakan	AA-ONN-2002/1	-	07.04.04	1260.00	1939.00
67			AA-ONN-2003/1	-	-	81.00	
68		Cauvery Onland Cambay	CY-ONN-2002/1	-	22.11.04	505.00	
69			CB-ONN-2002/2(Part - A&B)	-	21.05.04	93.00	
70	TULLOW	Assam-Arakan	AA-ONJ/2	-	--	1277.00	1277.00
71	GEO-PETROL	Assam-Arakan	AA-ONN-2003/2	-	16.02.06	295.00	295.00
72	GEO-GLOBAL RESOURCES	Deccan Synecise	DS-ONN-2003/1	-	-	3155.00	5804.00
73			DS-ONN-2004/1	-	07.06.07	2649.00	
74	ENI	Andaman-Nicobar Rajasthan	AN-DWN-2003/2	-	05.12.05	13110.00	14445.00
75			RJ-ONN-2003/1	-	04.01.06	1335.00	
76	NR(V)L	Cauvery Onland	CY-ONN-2003/1	-	28.07.06	957.00	957.00
77	NAFTOGAZ	Assam-Arakan	AA-ONN-2004/4	-	07.09.07	95.00	3789.00
78			MZ-ONN-2004/2	-	25.05.07	3619.00	
79		Cambay	CB-ONN-2004/5	-	26.09.07	75.00	
80	SANTOS	Mahanadi - NEC	NEC-DWN-2004/1	-	08.05.07	7790.00	16496.00
81			NEC-DWN-2004/2	-	09.05.07	8706.00	
82	PRIZE	South-Rewa	SR-ONN-2004/1	-	12.07.07	13277.00	13277.00
83	GAIL	Cauvery	CY-ONN-2005/1	-	22.12.08	946.00	946.00
84	IOCL	Cambay	CB-ONN-2005/2	-	22.12.08	77.68	276.68
85			CB-ONN-2005/7	-	22.12.08	199.00	
86	BHP Billiton	Mumbai	MB-DWN-2005/2	-	22.12.08	3660.00	34,471.00
87			MB-DWN-2005/3	-	22.12.08	3097.00	
88			MB-DWN-2005/4	-	22.12.08	3408.00	
89			MB-DWN-2005/5	-	22.12.08	3169.00	
90			MB-DWN-2005/7	-	22.12.08	3324.00	
91			MB-DWN-2005/9	-	22.12.08	3138.00	
92		Kerala-Konkan	KK-DWN-2005/1	-	22.12.08	14675.00	
93	BP Explo.	Krishna-Godavari	KG-DWN-2005/2	-	22.12.08	1949.00	1949.00
94	Adaani Welspun	Mumbai	MB-OSN-2005/2	-	22.12.08	1191.00	1191.00
95	Deep Energy	Satpura-Rewa	SR-ONN-2005/1	-	22.12.08	789.00	789.00
96	Mercator Petr.	Cambay	CB-ONN-2005/3	-	22.12.08	48.00	218.00
97			CB-ONN-2005/9	-	22.12.08	170.00	
98	Omkar Natural	Cambay	CB-ONN-2005/5	-	22.12.08	83.00	185.00
99			CB-ONN-2005/6	-	22.12.08	102.00	
100	Vasundhara	Cambay	CB-ONN-2005/8	-	22.12.08	133.00	133.00
101	Quest	Cambay	CB-ONN-2005/11	-	22.12.08	257.00	257.00
TOTAL							210900.63
GRAND TOTAL							544841.63

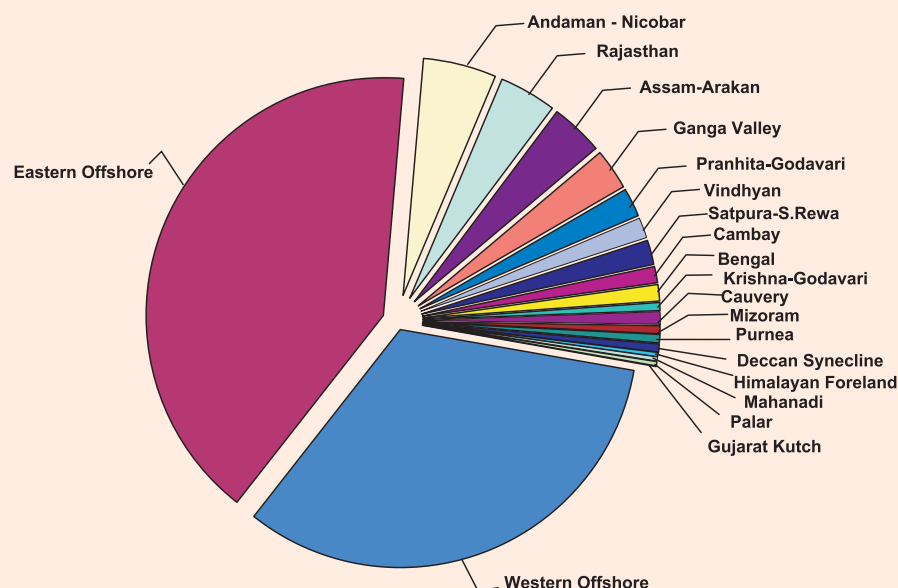
As on 01.04.09

PEL AREAS UNDER OPERATION BY NOC'S AND Pvt/JV COMPANIES



COMPANY / OPERATOR	PEL AREA	
	(Sq. Km.)	(%)
ONGC	576,985.34	49.93
RIL	333,941.00	28.90
CAIRN	38,338.50	3.32
BHP BILLITON	34,471.00	2.98
OIL	34,183.25	2.96
HOEC	26,548.00	2.30
FOCUS	20,612.08	1.78
SANTOS	16,496.00	1.43
ENI	14,445.00	1.25
PRIZE PETROLEUM	13,277.00	1.15
GSPCL	11,632.17	0.47
OAO GAZPROM	7,779.00	0.67
GGR	5,804.00	0.50
ESSAR	4,251.50	0.37
NAFTOGAZ	3,789.00	0.33
BP EXPLORATION	1,949.00	0.17
JOGPL	1,939.00	0.23
CANORO	1,444.70	0.13
TULLOW	1,277.00	0.11
ADAANI WELSPUN	1,191.00	0.10
NR(V)L	957.00	0.08
GAIL	946.00	0.08
HEPI	859.00	0.07
DEEP ENERGY	789.00	0.07
PETROGAS	741.00	0.06
GEOPETROL	295.00	0.03
IOCL	276.68	0.02
QUEST	257.00	0.02
MERCATOR PETROLEUM	218.00	0.02
OMKAR NATURAL	185.00	0.02
VASUNDHARA	133.00	0.01
TOTAL	1,156,010.22	100.00

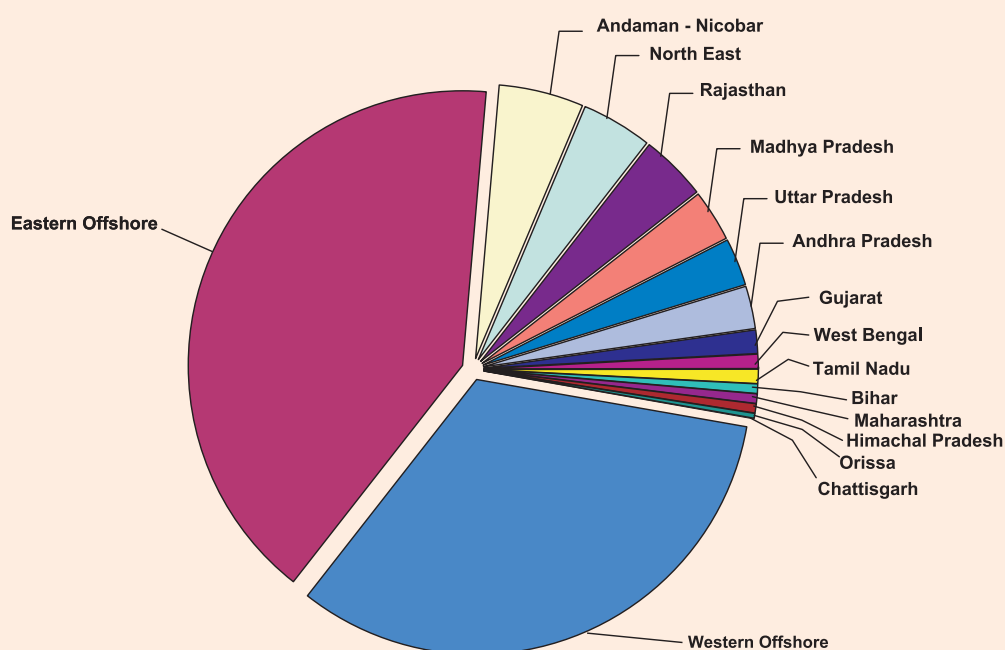
BASIN WISE DISTRIBUTION OF PEL AREAS



COMPANY / OPERATOR	PEL AREA	
	(Sq. Km.)	(%)
WESTERN	379,283.50	32.82
EASTERN	471,929.00	40.84
ANDAMAN - NICOBAR	58,402.00	5.05
TOTAL OFFSHORE	909,614.50	78.71
ONLAND		
RAJASTHAN	44,756.55	3.87
ASSAM - ARAKAN	39,571.45	3.42
GANGA VALLEY	33,341.00	2.89
PRANHITA - GODAVARI	21,850.00	1.89
VINDHYAN	18,060.00	1.56
SATPURA - S. REWA	16,523.00	1.43
CAMBAY	14,111.12	1.22
BENGAL	12,344.00	1.07
KRISHNA - GODAVARI	8,318.00	0.72
CAUVERY	7,855.80	0.68
MIZORAM	6,832.00	0.59
PURNEA	6,185.00	0.54
DECCAN SYNECLISE	5,804.00	0.50
HIMALAYAN FORELAND	4,361.88	0.38
MAHANADI	3,900.00	0.34
PALAR	1,807.00	0.16
GUJARAT - KUTCH	774.92	0.07
TOTAL ONLAND	246,395.72	21.31
GRAND TOTAL	1,156,010.22	100.00

As on 01.04.09

STATE WISE DISTRIBUTION OF PEL AREAS



COMPANY / OPERATOR	PEL AREA	
	(Sq. Km.)	(%)
WESTERN	379,283.50	32.82
EASTERN	471,929.00	40.84
ANDAMAN - NICOBAR	58,402.00	5.05
TOTAL OFFSHORE	909,614.50	78.71
STATE		
NORTH-EAST	46,403.45	4.02
RAJASTHAN	44,756.55	3.87
MADHYA PRADESH (MP)	34,583.00	2.99
UTTAR PRADESH	33,341.00	2.89
ANDHRA PRADESH	29,220.00	2.53
GUJARAT	14,886.04	1.29
WEST BENGAL(WB)	12,344.00	1.07
TAMIL NADU (TN)	9,662.80	0.84
BIHAR	6,185.00	0.54
MAHARASHTRA	5,912.00	0.51
HIMACHAL PRADESH	4,361.88	0.38
ORISSA	3,900.00	0.34
CHATTISGARH	840.00	0.07
TOTAL ONLAND	246,395.72	21.31
GRAND TOTAL	1,156,010.22	100.00

ML AREAS UNDER OPERATION BY NOC's AND PVT/JV COMPANIES							
Sl. No.	COMPANY / OPERATOR	BASIN	BLOCK NAME	REF.NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)
1	ONGC	Rajasthan	Manherra Tibba	RJM-1	01.05.94	24.00	704.46
2			Bakriwala	RJM-2	10.01.01	1.00	
3			Ghotaru Ext. - I	RJM-3	10.01.01	564.60	
4			Chinnewala Tibba	RJM-4	15.10.03	114.86	
5		Cambay	Lanwa	MM-1	09.12.02	30.00	
6			Balol	MM-2	25.05.90	24.00	
7			Jotana Ext.-I	MM-3	28.11.06	57.70	
8			West Sobhasan	MM-4	23.04.03	9.60	
9			Mehsana City	MM-5	08.08.96	8.85	
10			Mehsana City Ext.-II	MM-6	18.07.95	7.58	
11			Sobhasan	MM-7	20.08.93	35.89	
12			Geratpur	MM-8	20.08.00	18.31	
13			Linch Ext.-II	MM-9	25.03.87	13.35	
14			North Sobhasan Ext.-I	MM-10	12.03.01	56.85	
15			Jotana	MM-11	26.07.00	39.50	
16			Santhal	MM-12	09.06.94	19.46	
17			Bechraji	MM-13	31.08.91	37.11	
18			Bechraji Ext.-I	MM-14	29.03.04	3.06	
19			Kadi Ext.-II	MM-15	08.12.95	41.01	
20			N. Kadi Ext.-I	MM-16	03.05.93	20.42	
21			Kadi	MM-17	22.06.09	64.49	
22			Linch Ext. - I	MM-18	18.03.07	34.25	
23			Linch	MM-19	16.10.93	43.73	
24			Nandasan Ext.-I	MM-20	18.07.95	26.39	
25			Mansa	MM-21	26.07.95	58.72	
26			Nandasan - Langnaj	MM-22	27.04.06	61.90	
27			Chanasma	MM-23	28.09.96	2.81	
28			Dedana (ML)	MM-24	04.11.96	5.44	
29			Lanwa Ext.-I	MM-25	16.12.96	2.15	
30			Jotana Ext.-II	MM-26	16.06.97	0.87	
31			Jakasna(ML)	MM-27	02.06.01	9.80	
32			South Patan	MM-28	16.06.97	6.99	
33			N. Sobhasan Pt. A+B	MM-29	25.01.99	12.05	
34			East Sobhasan	MM-30	28.06.02	22.42	
35			North Sobhasan Ext.-II	MM-31	17.11.01	23.00	
36			West Mewad(ML)	MM-32	11.10.00	13.20	
37			Langhnaj-Wadasma	MM-33	05.02.01	13.84	
38			Sanganpur ML	MM-34	05.06.02	6.97	
39			Langhnaj ML	MM-35	23.07.02	17.92	
40			Chandrora	MM-36	16.02.04	1.39	
41			Kadi Asjol	MM-37	28.08.03	0.72	
42			Jotana-Warosan	MM-38	24.06.05	38.05	
43			Charada Mansa Extn.-I	MM-39	20.09.08	12.50	
44			Rajpur	AM-1	26.06.95	6.76	
45			Wadu	AM-2	26.05.90	15.41	
46			Kalol North-East	AM-3	15.03.90	9.44	
47			Paliyad-Kalol-Limbodra	AM-4	26.06.95	161.48	
48			Limbodra	AM-5	21.12.05	15.75	
49			Limbodra Ext.-I	AM-6	25.03.98	14.96	
50			Halisa	AM-7	30.01.98	143.44	
51			Kalol (Main)	AM-8	13.05.04	35.84	
52			Kalol Ext.-I	AM-9	04.08.86	159.92	
53			Kalol Ext.-II	AM-10	11.04.89	15.50	
54			Motera Ext.-II	AM-11	25.03.98	26.02	
55			Motera	AM-12	14.08.96	12.70	
56			Motera Ext.-I	AM-13	25.03.97	23.65	
57			Wamaj	AM-14	30.09.95	19.44	
58			Viraj	AM-15	26.07.00	17.49	
59			Lohar	AM-16	16.11.04	8.29	
60			Sanand	AM-17	10.05.89	81.36	
61			Sanand Ext.-I	AM-18	30.04.93	18.51	
62			Sanand Ext.-II	AM-19	23.03.99	10.37	
63			Sanand Ext.-III	AM-20	30.04.89	19.30	
64			Gamij	AM-21	13.10.94	39.16	
65			Gamij Ext.-I	AM-22	25.03.97	81.22	

ML AREAS UNDER OPERATION BY NOC's AND PVT/JV COMPANIES							
Sl. No.	COMPANY / OPERATOR	BASIN	BLOCK NAME	REF.NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)
66	ONGC	Cambay	Hirapur	AM-23	24.10.97	87.92	
67			Ahmedabad-Bakrol	AM-24	05.08.89	30.16	
68			Ahmedabad Ext.-I	AM-25	22.02.01	17.29	
69			Ahmedabad Ext.-II	AM-26	29.07.08	5.98	
70			Ahmedabad Ext.-III	AM-27	11.11.91	34.75	
71			Nandej East	AM-28	26.06.95	20.92	
72			Nandej	AM-29	25.03.97	90.18	
73			Nawagam Main	AM-30	28.03.07	72.23	
74			Nawagam Ext.-I	AM-31	21.03.03	2.77	
75			Wadu Ext.-I	AM-32	19.05.97	55.17	
76			Ahmedabad Ext.-IV	AM-33	08.10.98	10.21	
77			Rajpur Ext.-I	AM-34	02.02.99	8.70	
78			Asmali ML	AM-35	15.06.98	43.26	
79			Kadi Ext.-III	AM-36	02.02.99	16.07	
80			Nawagam Ext.-II	AM-37	26.11.99	14.66	
81			Ahmedabad Ext.-V	AM-38	08.05.00	17.75	
82			Gamij Ext.-III ML	AM-39	08.02.02	15.41	
83			Nandej Ext.-I	AM-40	08.02.02	56.18	
84			Gamij Ext. - II	AM-41	04.04.01	116.22	
85			South Wamaj ML	AM-42	28.06.02	18.29	
86			Nawagam Ext. - III	AM-43	31.08.00	56.00	
87			Kalol West Extn.-I	AM-44	04.10.05	54.25	
88			Kalol West ML	AM-45	21.11.03	14.53	
89			Nawagam South Ext.-I	AM-46	21.11.03	30.88	
90			Nawagam South Ext.-II	AM-47	21.11.03	43.94	
91			Rupal	AM-48	29.10.04	14.06	
92			Kadi Extn.-IV	AM-49	13.11.03	5.28	
93			Nawagam South Ext.-III	AM-50	13.12.05	53.71	
94			Cambay	CM-1	14.12.04	2.60	
95			Siswa	CM-2	12.02.00	37.78	
96			Kathana	CM-3	22.11.88	16.95	
97			Padra Ext.-II	CM-4	03.09.93	14.50	
98			Padra Ext.-I	CM-5	12.04.91	8.42	
99			Padra	CM-6	18.09.06	1.25	
100			Padra Ext.-III	CM-7	12.05.94	0.38	
101			Padra Ext.-IV	CM-8	14.03.96	6.37	
102			Padra Ext.-V	CM-9	03.02.97	3.58	
103			Padra Ext.-VI	CM-10	28.01.99	83.95	
104			Padra Ext.-VII	CM-11	26.04.00	7.11	
105			Padra Ext.-VIII	CM-12	08.11.00	15.68	
106			Padra Ext.-IX	CM-13	10.03.04	21.00	
107			Akholjuni	CM-14	27.07.00	81.25	
108			Anklav Ext.-I	CM-15	15.02.02	61.00	
109			Kathana Ext.-I	CM-16	15.03.04	16.99	
110			Dabka Ext.-I	ANM-1	23.08.88	12.85	
111			Dabka Ext.-II	ANM-2	30.06.89	0.56	
112			Dabka	ANM-3	01.05.93	21.67	
113			Dabka Ext.-III	ANM-4	21.07.89	1.15	
114			Umera	ANM-5	10.08.87	8.44	
115			Umera Ext.-I	ANM-6	19.10.94	9.93	
116			Malpur (ML)	ANM-7	03.06.87	1.00	
117			Nada	ANM-8	19.02.89	9.85	
118			Gandhar Ext.-IV	ANM-9	30.08.94	36.75	
119			Gandhar Ext.-I	ANM-10	08.10.06	32.75	
120			Gandhar	ANM-11	07.01.05	11.78	
121			Gandhar Ext.-II (Denwa)	ANM-12	08.07.06	54.30	
122			Gandhar Ext.-III	ANM-13	24.02.87	235.38	
123			Gandhar Ext.-V	ANM-14	22.03.96	29.43	
124			Dahej Ext.-I	ANM-15	17.04.94	90.90	
125			Dahej	ANM-16	06.02.05	18.52	
126			Pakhajan(ML)	ANM-17	21.08.87	6.25	
127			Pakhajan Ext.-I	ANM-18	10.01.95	18.00	
128			Kasiyabet	ANM-19	12.09.89	5.06	
129			Ankleshwar Ext.-I	ANM-20	26.05.05	17.43	
130			Ankleshwar (Main)	ANM-21	15.08.01	38.98	
131			Motwan	ANM-22	04.07.99	42.20	

ML AREAS UNDER OPERATION BY NOC's AND PVT/JV COMPANIES								
Sl. No.	COMPANY / OPERATOR	BASIN	BLOCK NAME	REF.NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)	
132	ONGC	Cambay	Sanaokhurd	ANM-23	30.12.96	23.29		
133			Kudara	ANM-24	28.06.02	2.60		
134			Elav	ANM-25	30.03.90	10.37		
135			Kharach	ANM-26	23.03.95	0.72		
136			Kosamba	ANM-27	29.12.87	19.17		
137			Olpad (A)	ANM-28	24.11.02	2.75		
138			Dabka Ext.-IV (D#6)	ANM-29	20.02.97	1.00		
139			Kim(ML)	ANM-30	10.03.97	18.33		
140			Gandhar Ext.-VI (G#388)	ANM-31	22.01.97	44.47		
141			Nada Ext.-I	ANM-32	03.09.98	6.12		
142			Dabka Ext.-V (D#38)	ANM-33	29.06.99	2.00		
143			Gandhar Ext.-VII(G#155)	ANM-34	24.04.99	25.82		
144			Gandhar Ext.-VIII	ANM-35	16.08.00	7.23		
145			Kural (ML)	ANM-36	03.04.01	83.49		
146			Gandhar Ext. - IX	ANM-37	20.08.02	40.91		
147			Olpad - Dandi Ext. - I	ANM-38	01.01.04	94.40		
148			Pakhajan Extn. - II	ANM-39	16.09.02	38.50		
149			Kim Ext. - I	ANM-40	04.01.02	56.11		
150			Kosamba Extn.-I	ANM-41	01.03.03	39.00		
151			Umra Extn.-II	ANM-42	13.03.03	34.43		4477.77
152	Cauvery Onland	Greater Bhuvanagiri	Mattur	CYM-1	15.12.07	14.00		
153			Nannilam-I	CYM-2	04.05.94	3.00		
154			Kamalapuram-II	CYM-3	26.04.93	4.70		
155			Kamalapuram-I	CYM-4	04.05.94	3.50		
156			Adiyakka Mangalam	CYM-5	27.05.99	23.50		
157			Greater Kovilkalappal	CYM-6	27.05.99	17.80		
158			Nannilam-II	CYM-7	15.05.07	33.61		
159			Perungulam-Periyapattinam	CYM-8	27.05.99	1.00		
160			Tulsapatnam	CYM-10	15.07.97	75.00		
161			Pundi	CYM-11	27.05.99	3.70		
162			Kizhavalur	CYM-12	27.05.99	1.00		
163			Kuthalam	CYM-13	27.05.99	3.60		
164			Kuthalam-13	CYM-14	01.06.01	91.00		
165			Kali	CYM-15	12.02.04	12.00		
166			Vijayapuram #13	CYM-16	01.06.01	19.00		
167			Greater Kamalapuram	CYM-17	03.11.02	2.00		
168			Kuthanallur	CYM-18	26.02.04	22.00		
169			Kali-6	CYM-19	26.02.04	6.25		
170			Kanjirangudi	CYM-20	01.01.04	1.60		
171			Greater Narimanam	CYM-21	13.10.03	68.00		
172	PBS-1-1	CYM-22	27.01.06	54.00				
173	K-G Onland	Endamuru-I	PBS-1-1	CYM-23	01.10.03	9.00		
174			Adichapuram	CYM-24	13.04.07	2.30		
175			Neyveli	CYM-25	15.03.08	3.84		
176			Karaikal	CYM-26	10.09.08	2.00		
177			Vadatheru	CYM-27	31.12.07	15.18		492.58
178			Endamuru-4	KGM-1	03.04.92	3.00		
179			Pasarlapudi-9	KGM-2	30.04.03	6.00		
180			Pasarlapudi-8	KGM-3	27.06.92	6.60		
181			Tatipaka-Pasarlapudi	KGM-4	27.06.92	5.50		
182			Kesanapalli-I	KGM-5	14.02.94	62.00		
183			Mori-5	KGM-6	08.07.92	3.70		
184			Mori-1	KGM-7	02.06.94	1.56		
185			Razole-1 & 2	KGM-8	08.04.91	6.50		
186			Elamanchali	KGM-9	23.01.93	18.85		
187			Medapadu-1	KGM-10	21.12.91	8.00		
188			Penumadam-1	KGM-11	08.07.92	16.60		
189			Lingala	KGM-12	03.04.02	9.60		
190			Kaikalur-3	KGM-13	21.12.99	7.60		
191			Vadali	KGM-14	10.09.06	9.00		
192			Mandapeta	KGM-15	20.04.90	4.00		
193			Mandapeta-19	KGM-16	22.08.95	40.00		
194			Mandepeta West	KGM-17	01.05.98	6.00		
195			Addvipalem-Ponnamanda	KGM-18	01.06.04	20.00		
196				KGM-19	30.07.96	95.00		

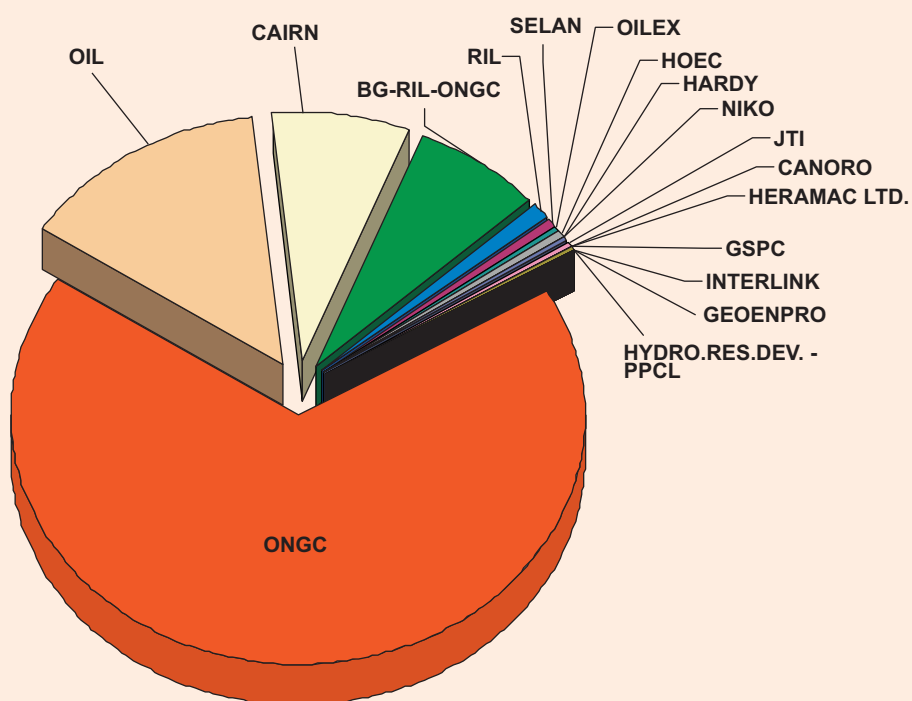
ML AREAS UNDER OPERATION BY NOC's AND PVT/JV COMPANIES							
Sl. No.	COMPANY / OPERATOR	BASIN	BLOCK NAME	REF.NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)
197	ONGC	K-G Onland	Nandigama	KGM-20	31.01.00	55.00	820.01
198			Enugupalli	KGM-21	06.07.00	7.00	
199			Kesavadasupalem	KGM-22	30.07.02	26.50	
200			Suryaraopeta	KGM-23	30.07.02	56.00	
201			Lingala Ext. & Kaikalur-12	KGM-24	30.07.02	30.00	
202			Lakshmaneswaram	KGM-25	30.07.02	23.50	
203			Endamuru-7&9	KGM-26	19.05.03	7.30	
204			Penumadam-2	KGM-27	01.07.04	3.20	
205			Srikatpalli	KGM-28	30.07.02	163.00	
206			Vasistha	KGM-29	15.02.08	119.00	
207		Assam-Arakan	Sonari	UAM-1	01.08.89	30.00	2460.75
208			Banamali	UAM-2	17.12.02	50.00	
209			Lakwa	UAM-3	29.09.08	172.49	
210			Laipling-Gaon	UAM-4	13.10.03	26.00	
211			Panidihing	UAM-5	19.05.04	34.00	
212			North Rudrasagar	UAM-6	30.01.06	149.00	
213			Rudrasagar	UAM-7	30.05.89	70.50	
214			Charali	UAM-8	20.03.99	51.64	
215			Charali Ext.-I	UAM-9	20.05.98	45.00	
216			West Charali	UAM-10	01.11.03	12.00	
217			Changmaigaon	UAM-11	07.02.04	10.00	
218			Namti	UAM-12	09.11.07	35.55	
219			Geleki	UAM-13	16.08.90	27.94	
220			Geleki Ext.-I	UAM-14	23.10.89	5.01	
221			Geleki Ext.- II	UAM-15	14.12.01	2.65	
222			SE Geleki	UAM-16	30.01.06	20.50	
223			Mekeypore-Santak-Nazira	UAM-17	01.08.01	77.00	
224			Changmaigaon East	UAM-18	30.01.06	15.00	
225			Laiplingaon Extn.	UAM-19	30.01.06	37.00	
226			Charaideo-Nahorhabi	UAM-20	01.11.03	14.00	
227			Changpang ML	NGM-1	14.03.07	12.00	
228			Borholla	DHM-1	17.06.98	32.12	
229			Mekrang	DHM-2	19.09.97	16.00	
230			East Lakhibari	DHM-3	23.07.03	8.50	
231			East Lakhibari Extn.	DHM-4	27.01.06	49.00	
232			Khoraghat	DHM-5	27.07.89	3.00	
233			Khoraghat Ext. - I	DHM-6	17.07.00	83.00	
234			Namber	DHM-7	05.09.99	26.00	
235			Namber Extn.	DHM-8	27.01.06	20.00	
236			Badarpur	CHM-1	01.08.89	2.30	
237			Banaskandi	CHM-2	21.07.97	15.00	
238			Adamtila	CHM-3	24.11.89	4.00	
239			Bhubandar	CHM-4	22.12.02	6.00	
240			Baramura(BRM-1)	TM-1	18.07.04	4.71	
241			Baramura(BRM-10)	TM-2	15.03.87	2.22	
242			Baramura(BRM-11)	TM-3	27.07.91	1.41	
243			Baramura(BRM-12)	TM-4	01.10.93	2.41	
244			Agartala Dome (AD-1)	TM-5	01.05.09	15.75	
245			Agartala Dome (AD-4)	TM-6	01.01.98	32.58	
246			Konaban (RO-4)	TM-7	01.01.98	11.11	
247			Manikya Nagar (RO-15)	TM-8	01.01.98	0.80	
248			Rokhia (RO-2)	TM-9	14.11.88	5.04	
249			Rokhia (RO-19)	TM-10	26.02.92	0.58	
250			Agartala Dome Extn.-II	TM-11	01.02.06	160.86	
251			Baramura Extn.-IV	TM-12	01.02.06	150.25	
252			Konaban Extn.-III	TM-13	01.02.06	16.89	
253			Manikyanagar-Sonamura Extn-I	TM-15	01.02.06	138.55	
254			Konaban Field (Rokihia)	TM-14	01.08.04	0.81	
255			Tichna block	TM-16	07.02.06	195.41	
256			Gojalia block	TM-17	07.02.06	271.17	
257			Kunjaban	TM-18	14.07.08	288.00	
258	Mumbai Off.	Bombay High	Bombay High	BM-1	20.05.96	303.69	
259			Bombay High-II	BM-2	14.10.00	1712.45	
260			Bombay High-West	BM-3	25.10.90	199.66	
261			B-55	BM-4	30.06.99	135.85	

ML AREAS UNDER OPERATION BY NOC's AND PVT/JV COMPANIES										
Sl. No.	COMPANY / OPERATOR	BASIN	BLOCK NAME	REF.NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)			
262	ONGC	Mumbai Off.	South Bassein	BM-5	01.10.87	743.00	15598.25			
263			B-119 / B-121	BM-6	15.05.97	113.40				
264			B-173A	BM-7	01.06.98	51.95				
265			Neelam	BM-8	14.11.89	213.00				
266			Heera	BM-9	20.11.04	448.05				
267			D-1 Field	BM-10	31.07.05	25.60				
268			Bassein Field Extn. (SB-II)	BM-11	15.06.05	22.55				
269			D-18	BM-12	01.01.05	194.00				
270			North Tapti Field	BM-13	09.01.06	68.14				
271			C-Series Fields	BM-14	01.04.06	3620.00				
272			B-12/C-26 Fields	BM-15	01.01.07	1815.90				
273			Mumbai High NW	BM-16	01.04.06	1567.67				
274			Mumbai High-SW	BM-17	01.04.06	1064.71				
275			Mumbai High-South	BM-18	09.01.06	696.60				
276			West of Bassein	BM-19	01.04.06	901.10				
277			Vasai East	BM-20	10.04.06	103.69				
278			S&E of Bassein	BM-21	01.04.06	1447.31				
279			North Heera	BM-22	04.12.07	82.00				
280			Ratna (R-12) field	BM-23	11.02.01	67.93				
281			K-G Off.	GS-15 & 23	KGM-29	04.09.98		80.00	585.00	
282					G-1 Field	KGM-30		05.09.03		105.00
283					KD-I*	KGM-31		02.03.07		400.00
ONGC TOTAL								25138.82		
284	OIL	Rajasthan	Dandewala (Jaisalmer)	ORJM-1	01.01.86	250.00	460.00			
285			Baghewala	ORJM-2	30.05.03	210.00				
286		Assam - Arakan	Moran	OAM-1	01.11.06	429.42				
287			Moran Extn.	OAM-2	10.01.91	560.00				
288			Dum-Duma BK-A	OAM-3	26.11.89	98.42				
289			Nahorkatiya	OAM-4	04.02.04	1.42				
290			Nahorkatiya Extn.	OAM-5	10.01.91	165.76				
291			Hugrijan	OAM-6	10.01.01	725.20				
292			Dum-Duma BK-B	OAM-7	26.11.89	311.96				
293			Digboi	OAM-8	14.10.01	49.33				
294			Dum-Duma BK-C	OAM-9	26.11.89	85.47				
295			Dum-Duma BK-D	OAM-10	26.11.89	10.36				
296			Ningru	OAM-11	27.11.03	540.67				
297			Tinsukia	OAM-12	02.08.01	250.00				
298			Dibrugarh	OAM-13	06.08.01	186.00				
299			Borhapan	OAM-14	07.08.01	87.00				
300			Dholiya	OAM-15	02.08.01	131.00				
301			Ningru Extension	OAM-16	04.06.03	75.00				
302			Chabua	OAM-17	12.06.02	189.00				
303			Tinsukia Extension	OAM-18	17.05.03	185.00				
304			Baghjan	OAM-19	14.05.03	75.00				
305			Mechaki	OAM-20	19.05.03	195.00				
OIL TOTAL								5271.01		
306	CAIRN	K-G Off. Gulf of Cambay	Rawa	—	28.10.94	331.26	2934.96			
307			Lakshmi	—	07.07.98	121.06				
308			Gauri	—	—	52.70				
309		Ambe	—	—	107.47					
310		CBX	—	—	33.30					
311		Rajasthan	Mangala (RJ-ON-90/1)	—	21.06.05	1859.00				
312	Bhagyam-Shakti		—	15.11.06	430.17					
313	BG-RIL-ONGC		Mumbai Off.	Mid & South Tapti	—	22.12.94	1471.00			
314		Panna		—	22.12.94	430.00				
315		Mukta		—	22.12.94	777.00				
316	GEOENPRO	Assam-Arakan	Kharsang	—	21.10.97	11.00	11.00			
317	CANORO	Assam-Arakan	Amguri	—	01.11.03	52.75	52.75			
318	HOEC	Cambay	Asjol	—	09.04.96	15.00	120.84			
319			N. Balol	—	21.03.02	27.30				
320		Cauvery Off.	Promoda	—	21.09.05	3.54				
321			PY-1	—	06.10.95	75.00				

ML AREAS UNDER OPERATION BY NOC's AND PVT/JV COMPANIES

Sl. No.	COMPANY / OPERATOR	BASIN	BLOCK NAME	REF.NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)
322	INTERLINK	Cambay	Baola	—	12.12.96	4.00	16.70
323			Modhera	—	19.05.07	12.70	
324	JTI	Cambay	Wavel	—	20.02.95	9.00	57.00
325			Dholka	—	20.02.95	48.00	
326	NIKO	Cambay	Hazira	—	23.09.94	50.00	74.25
327			NS-A	—	01.05.04	20.22	
328			Bheema	—	29.09.04	4.03	
329	SELAN	Cambay	Lohar	—	13.03.95	5.00	189.65
330			Indrora	—	13.03.95	130.00	
331			Bakrol	—	13.03.95	36.00	
332			Karjisan	—	23.11.05	5.00	
333			Ognaj	—	05.08.08	13.65	
334	Heramec	Cambay	Kanawara	—	04.02.03	6.30	34.15
335			Dholasan	—	27.02.03	8.80	
336			Allora	—	16.05.03	6.85	
337			N. Kathana	—	11.06.03	12.20	
338	HYDROCARBON RES. DEV.-PPCL	Cambay	Sanganpur	—	27.02.02	4.40	4.40
339	OILEX	Cambay	Cambay	—	23.09.94	161.00	172.80
340			Sabarmati	—	23.09.94	5.80	
341			Bhandut	—	23.09.94	6.00	
342	GSPCL	Cambay	Unawa	—	19.05.03	5.65	19.75
343			Ingoli Field (CB-ONN-2001/1)	—	—	14.10	
344	HARDY	Cauvery Off.	CY-OS-90/1 (PY-3)	—	20.07.98	81.00	81.00
345	RIL	KG Off.	KG-DWN-98/3(D-1&3)	—	02.03.05	339.70	389.41
346			KG-DWN-98/3 (D-26)	—	17.04.08	49.71	
Pvt./JV TOTAL							6836.66
GRAND TOTAL							37246.49

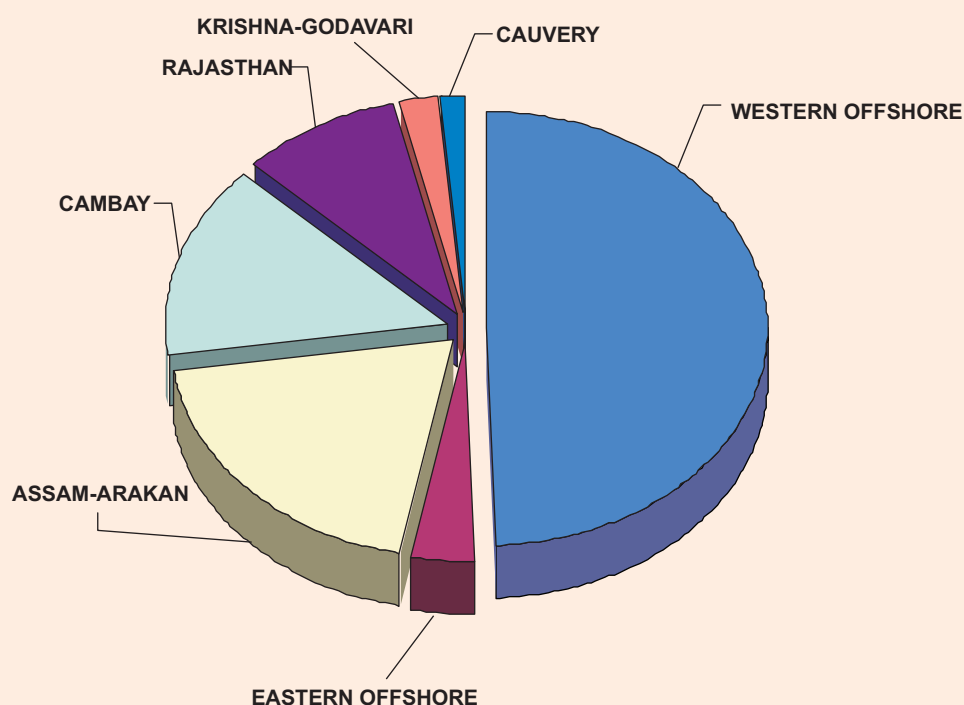
ML AREAS UNDER OPERATION BY NOC'S AND PVT/JV COMPANIES



COMPANY / OPERATOR	PEL AREA	
	(Sq. Km.)	(%)
ONGC	25,138.82	67.49
OIL	5,271.01	14.15
CAIRN	2,934.96	7.88
BG-RIL-ONGC	2,678.00	7.19
RIL	389.41	1.05
SELAN	189.65	0.51
OILEX	172.80	0.46
HOEC	120.84	0.32
HARDY	81.00	0.22
NIKO	74.25	0.20
JTI	57.00	0.15
CANORO	52.75	0.14
HERAMAC LTD.	34.15	0.09
GSPC	19.75	0.05
INTERLINK	16.70	0.04
GEOENPRO	11.00	0.03
HYDRO.RES.DEV. - PPCL	4.40	0.01
TOTAL	37,246.49	100.00

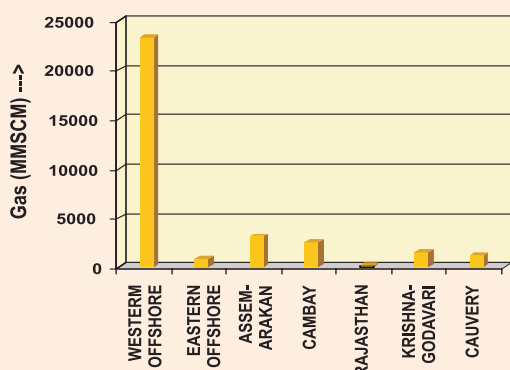
As on 01.04.09

BASIN WISE DISTRIBUTION OF ML AREAS

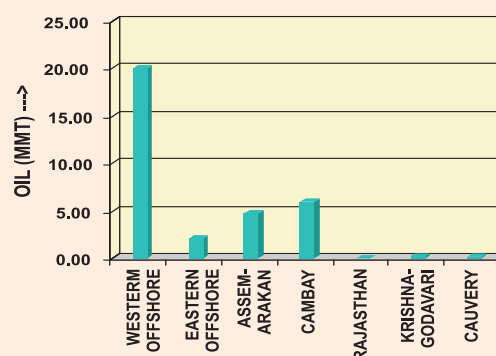


OFFSHORE/BASIN	ML AREA		PRODUCTION (2008-09)	
	(Sq.km)	(%)	Gas (MMSCM)	Oil (MMT)
OFFSHORE				
WESTERN PART	18,432.25	49.49	23220	20.036
EASTERN PART	1,305.67	3.51	866	2.196
TOTAL OFFSHORE	19,737.92	52.99	24,086.000	22.232
ONLAND				
ASSAM - ARAKAN	7,335.51	19.69	3156	4.775
CAMBAY	5,406.84	14.52	2605	5.944
RAJASTHAN	3,453.63	9.27	216	0.000
KRISHNA-GODAVARI	820.01	2.20	1524	0.289
CAUVERY	492.58	1.32	1242	0.265
TOTAL ONLAND	17,508.57	47.01	8743	11.273
GRAND TOTAL	37,246.49	100.00	32829	33.505

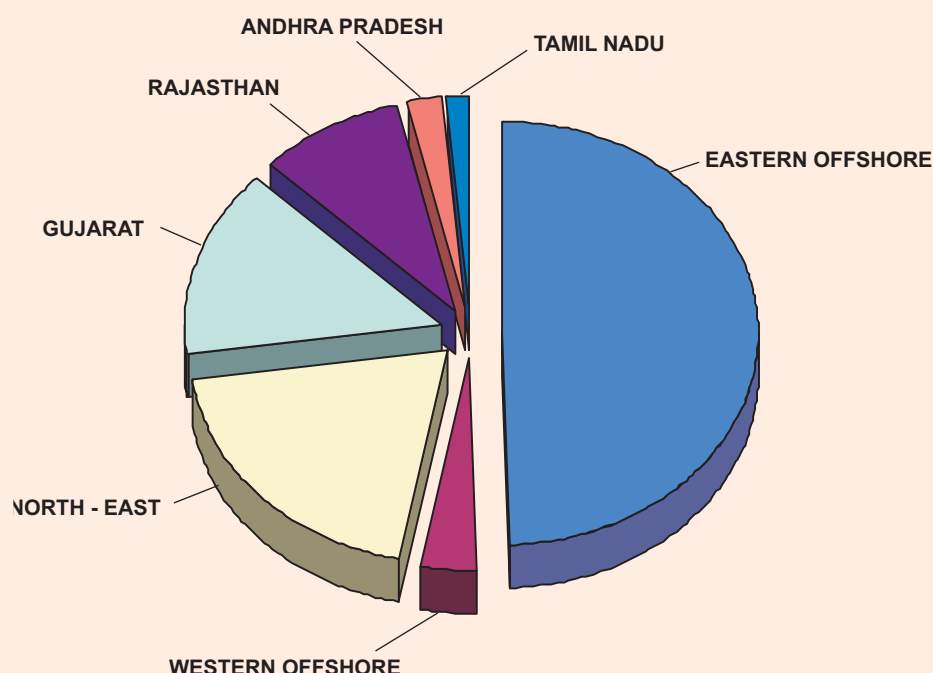
GAS PRODUCTION (2008-09)



OIL PRODUCTION (2008-09)

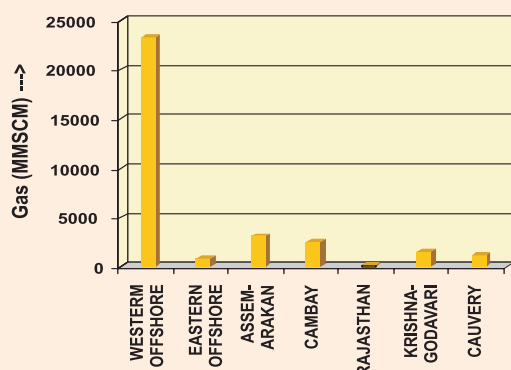


STATE WISE DISTRIBUTION OF ML AREAS

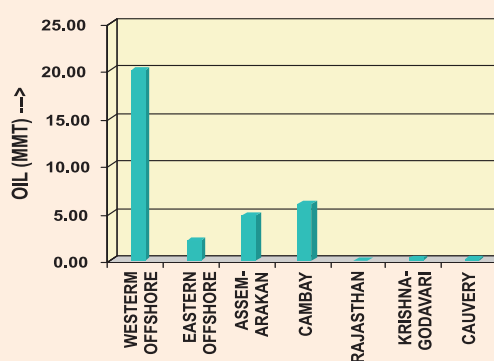


OFFSHORE/BASIN	ML AREA		PRODUCTION (2008-09)	
	(Sq.km)	(%)	Gas (MMSCM)	Oil (MMT)
OFFSHORE				
WESTERN PART	18,432.25	49.49	23220	20.036
EASTERN PART	1,305.67	3.51	866	2.196
TOTAL OFFSHORE	19,737.92	52.99	24,086.000	22.232
ONLAND				
NORTH - EAST	7,335.51	19.69	3156	4.775
GUJARAT	5,406.84	14.52	2605	5.944
RAJASTHAN	3,453.63	9.27	216	0.000
ANDHRA PRADESH	820.01	2.20	1524	0.289
TAMIL NADU	492.58	1.32	1242	0.265
TOTAL ONLAND	17,508.57	47.01	8743.000	11.273
GRAND TOTAL	37,246.49	100.00	32,829.000	33.505

GAS PRODUCTION (2008-09)



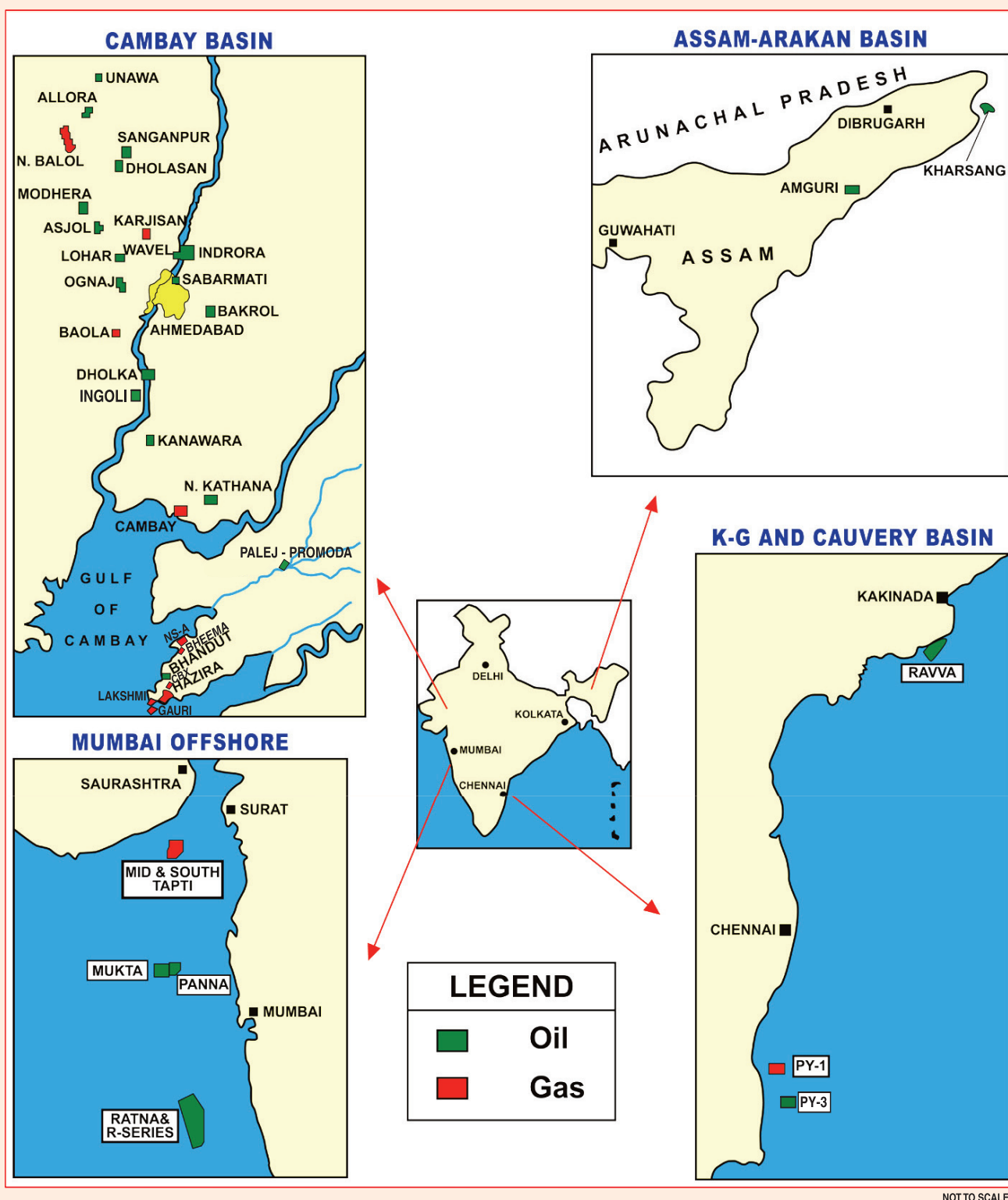
OIL PRODUCTION (2008-09)



SMALL & MEDIUM SIZED FIELDS AWARDED TO PVT./JV COMPANIES

SL. NO.	ROUND/ BASIN	FIELD	CONSORTIUM (PARTICIPATING INTEREST)	DATE OF SIGNING CONTRACT	AREA (Sq. Km.)
A. FIELDS AWARDED					
MEDIUM- SIZED FIELDS					
1.	I ASSAM-ARAKAN	KHARSANG	GEO-ENPRO (10), JUBLIANT ENERGY (KHARSANG) (25), GEOPETROL (25) & OIL (40)	16.06.95	11.00
2.	I K-G OFF.	RAVVA	CEIL (22.5), Videocon Industries Ltd.(25), RAVVA OIL PTE. LTD. (12.5) & ONGC (40)	28.10.94	331.26
3.	I MUMBAI OFF.	MID & SOUTH TAPTI	BRITISH GAS EXPLO. & PROD. INDIA LTD. (BGEPIL) (30), ONGC (40) & RELIANCE IND. LTD. (RIL) (30)	22.12.94	1,471.00
4.		PANNA	BGEPIL (30), RIL(30) & ONGC (40)	22.12.94	430.00
5.		MUKTA	BGEPIL (30), RIL(30) & ONGC (40)	22.12.94	777.00
TOTAL AREA :					3,020.26
SMALL- SIZED FIELDS					
6.	I CAMBAY	ASJOL	HOEC (50) & GSPCL (50)	03.02.95	15.00
7.		LOHAR	SELAN EXPL. TECH. LTD. (100)	13.03.95	5.00
8.		INDRORA	SELAN EXPL. TECH. LTD. (100)	13.03.95	130.00
9.		BAKROL	SELAN EXPL. TECH. LTD. (100)	13.03.95	36.00
10.		KARJISAN	SELAN EXPL. TECH. LTD. (100)	16.02.04	5.00
11.		WAVEL	JOSHI TECH. INC. (JTI) (100)	20.02.95	9.00
12.		DHOLKA	JOSHI TECH. INC. (JTI) (100)	20.02.95	48.00
13.		BAOLA	INTERLINK PETROLEUM LTD (100)	05.04.95	4.00
14.		MODHERA	INTERLINK PETROLEUM LTD. (100)	23.02.01	12.70
15.		SABARMATI	OILEX NL HOLDINGS(I) LTD. (40) & GSPCL (60)	23.09.94	5.80
16.		CAMBAY	OILEX NL (30), GSPC (55), & OILEX NL HOLDINGS (I) LTD. (15)	23.09.94	161.00
17.		BHANDUT	OILEX NL HOLDINGS(I) LTD. (40) & GSPCL (60)	23.09.94	6.00
18.		HAZIRA	NIKO (33.33) & GSPCL (66.67)	23.09.94	50.00
19.	I CAUVERY OFF.	PY-1	HOEC (100)	06.10.95	75.00
20.	II ASSAM-ARAKAN	AMGURI	CANORO (60) & ASSAM CO. LTD. (40)	23.02.01	52.75
21.	II CAMBAY	N. BALOL	HOEC (25), GSPCL (45) & HERAMAC LTD. (30)	23.02.01	27.30
22.		KANAWARA	HERAMAC LTD. (30) & GSPCL (70)	23.02.01	6.30
23.		ALLORA	HERAMAC LTD. (30) & GSPCL (70)	23.02.01	6.85
24.		UNAWA	GSPCL (70) & HERAMEC LTD. (30)	23.02.01	5.65
25.		N. KATHANA	HERAMAC LTD. (30) & GSPCL (70)	23.02.01	12.20
26.		DHOLASAN	HERAMAC LTD. (30) & GSPCL (70)	23.02.01	8.80
27.		SANGANPUR	HYDROCARBON RES. DEV. CO. (P) LTD. (50) & PRIZE PETROLEUM CORP. LTD. (50)	23.02.01	4.40
28.		OGNAJ	SELAN EXPL. TECH. LTD. (100)	16.02.04	13.65
29.		MATAR	NIKO (65) & GSPC (35)	RELINQUISHED	
TOTAL AREA :					700.40
GRAND TOTAL : 3720.66 Sq.Km.					
B. AWARD OF FIELD AWAITING FINALIZATION OF CONTRACT					
1.	II MUMBAI	RATNA-R-SERIES	POPL(10), ESSAR OIL LTD.(50) & ONGC(40)		57.60
C. PRODUCING FIELDS DISCOVERED/DEVELOPED IN EXPLORATION BLOCKS BY PVT./JV COMPANIES					
1.	CAUVERY OFF.	PY-3(CY-OS-90/1)	HARDY (18), ONGC (40), TPL (21) & HOEC (21)		81.00
2.	GULF OF CAMBAY	LAKSHMI (CB-OS/2)	CAIRN(40), ONGC(50) & TPL(10)		121.06
3.		GAURI (CB-OS/2)	CAIRN(40), ONGC(50) & TPL(10)		80.70
4.		CB-X	CAIRN(40), ONGC(50) & TPL(10)		33.30
5.	CAMBAY	NS-A (CB-ONN-2000/2)	NIKO(100)		20.22
6.		BHEEMA (CB-ONN-2000/2)	NIKO(100)		4.03
7.		PALEJ-PROMODA (CB-ON/7)	HOEC(35), GSPC(35) & ONGC(30)		3.54
8.		INGOLI (CB-ONN-2000/1)	GSPC (50), GAIL (50)		14.10
9.		ESU (CB-ON/3)	EOL (70) & ONGC (30)		7.81
10.		TARAPUR-1 (CB-ON/2)	GSPC(56), GGR(14) & ONGC (30)		2.17
11.	RAJASTHAN	MANGLA-AISHWARYA- RAAGESHWARI-SARAWATI BHAGYAM-SHAKTI	CEIL (35), CEHL (35) & ONGC (30)		1859 430.17
12.	KG OFFSHORE	D-1, 3 & MA (KG-DWN-98/3)	RIL (90) & NIKO(10)		389.12

DEVELOPMENT OF SMALL AND MEDIUM SIZE FIELDS BY PVT/JV COMPANIES





AWARD OF ACREAGES - NELP

India has an estimated sedimentary area of 3.14 million Sq Km. comprising 26 sedimentary basins, out of which, 1.35 million Sq Km. area is in deepwater and 1.79 million Sq Km. area is in onland and shallow offshore. At present 1.06 million Sq Km. area is held under Petroleum Exploration Licenses in 18 basins by national oil companies viz. Oil and Natural Gas Corporation Limited (ONGC), OIL India Limited (OIL) and Private/Joint Venture companies. Before implementing the New Exploration Licensing Policy (NELP) in 1999, 11% of Indian sedimentary basins were under exploration, which has now increased significantly.

New Exploration Licensing Policy (NELP):

New Exploration Licensing Policy (NELP) was formulated by the Government of India, with Directorate General of Hydrocarbons (DGH) as a nodal agency, during 1997-98 to provide a level playing field to both Public and Private sector companies in exploration and production of hydrocarbons. Government of India's commitment to the liberalization process is reflected in NELP, which has been conceptualized keeping in mind the immediate need for increasing domestic production. To attract more investment in oil exploration and production, NELP has steered steadily towards a healthy spirit of competition between National Oil Companies and private companies. This has been a landmark event in the growth of the upstream oil sector in India. The foreign and Indian private companies are invited to supplement the efforts of National Oil Companies in the discovery of hydrocarbons. The development of E&P sector has been significantly boosted through this policy of Government of India, which brought major liberalization in the sector and opened up E&P for private and foreign investment, where 100% Foreign Direct Investment (FDI) is allowed.

Under NELP, which became effective in February 1999, acreages are offered to the participating companies through the process of open competitive bidding. The terms and conditions of this open and transparent policy rank amongst the most attractive in the world. The first round of offer of blocks was in the year 1999 and second to seventh rounds were in the years 2000, 2002, 2003, 2005, 2006 and 2008 respectively. The government of India has so far completed seven rounds of offer of acreages under NELP where in 256 exploration blocks have been offered and 203 blocks have been awarded. Oil and Oil-Equivalent Gas (O+OEG) in place reserve accretion under NELP is approximately 600 million metric tonnes including world-class gas discovery by Reliance Industries Limited and Niko Resources in KG basin.

- In the first round of NELP (NELP-I), 24 blocks were awarded for hydrocarbon exploration, which include 7 blocks in east coast deep water, 16 blocks in shallow water of east and west coasts and 1 onland. 12 blocks have been relinquished / surrendered. 12 exploration blocks are presently under operation.
- Under NELP-II, 23 blocks were awarded for exploration including 8 in the deep waters off the west coast, 8 in the shallow water of both east and west coasts, and 7 onland. 17 blocks have been relinquished / surrendered. 6 exploration blocks are presently under operation.
- Under NELP-III, 23 blocks were awarded for exploration including 9 in the deep waters off the west and east coast of India, 6 in the shallow water of both east and west coasts, and 8 onland. One block has been relinquished and presently 22 blocks are under operation.

- Under NELP-IV, a total of 20 blocks were awarded, of which 10 blocks are in onland and 10 in the deep water of the west coast, east coast and Andamans. Blocks in Andaman offshore were awarded for the first time. One block has been relinquished and presently 19 blocks are under operation.
- Under NELP-V, a total of 20 blocks were awarded, of which 6 blocks in the deepwater, 2 in the shallow water and 12 in onland. All 20 blocks are presently under operation.
- Under NELP-VI, a total of 52 blocks were awarded of which 21 blocks fall in deepwater, 6 blocks in shallow water and 25 blocks fall in onland. 3 blocks - 1 in Andaman and 2 in Kerala - Konkan deep water have not received any bids. Blocks awarded in NELP-VI were granted PELs in the year 2007-08. 52 blocks are presently under operation.
- Under NELP-VII, out of 57 offered blocks, bids were received for 44 blocks. The total area of these blocks is about 0.171 million sq.km. The offered blocks comprise 19 deepwater, 9 shallow offshore and 29 onland blocks. All the bids of 44 are awarded to winner company / consortium but contract was signed for only 41 blocks.
- Under NELP-VIII, a total of 70 blocks, which are the highest number of exploration blocks ever offered under NELP, are on offer for exploration of hydrocarbon. Total area of these blocks is about 0.163 million sq.km. The offered blocks comprise 24 deepwater, 28 shallow offshore and 18 onland including type S blocks.

The following are bid evaluation criteria under NELP-VIII :

Technical capability of the proposed Operator:

1. For the onland blocks under Type-S, only work programme & fiscal package are considered for bid evaluation. Technical capability is neither a pre-qualification criterion nor a bid evaluation criterion.
2. For the onland and shallow water blocks, technical capability is a pre-qualification criterion. Bidder is required to score non-zero on one out of the three sub criteria of technical capability apart from non-zero score on operatorship experience.
3. For deepwater blocks Technical capability is an evaluation criterion.

Companies required to bid for :

- Work programme commitment.
- Percentage of value of annual production sought to be allocated towards cost recovery.
- Profit petroleum share offer to GOI by the contractor at minimum and maximum levels of pre-tax multiple of investments expected to be reached

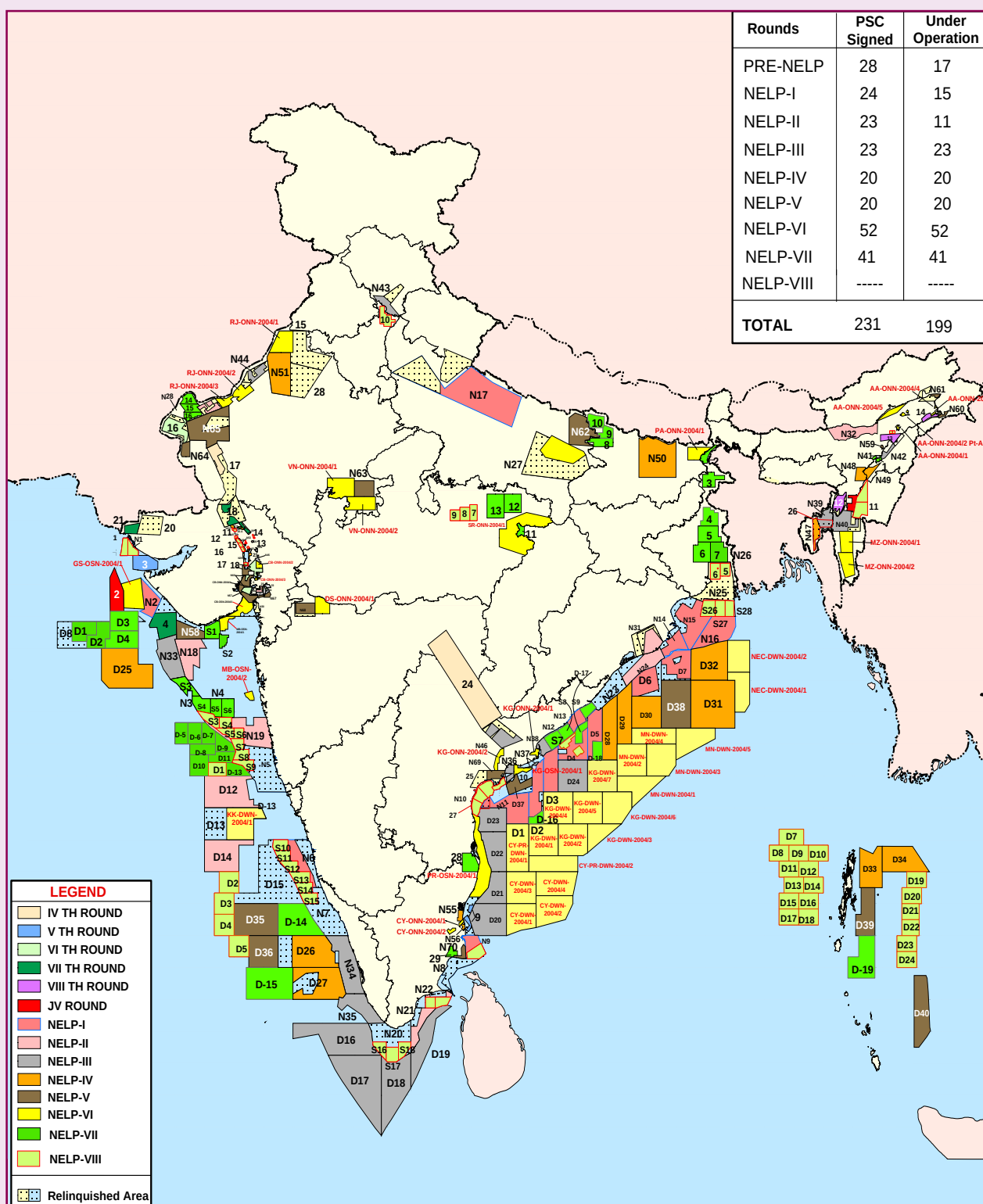
Some of the features of the attractive terms offered by the Government are:

- There will be only one exploration phase of 7 years for all blocks. There will be no compulsory relinquishment after 4 years and operators will have option to relinquish entire area after completion of MWP or retain the block by committing to carryout drilling of one well per year

in case of onland and shallow water blocks or one well in 3 years in case of deepwater blocks. In any case, the entire area would require to be relinquished at the end of 7 years of exploration.

- Up to 100% participation by foreign companies.
- No signature, discovery or production bonus.
- No mandatory state participation.
- No carried interest by National Oil Companies (NOCs).
- Income Tax Holiday for seven years from start of commercial production of 'Mineral Oil'.
- No customs duty on imports required for petroleum operations.
- Biddable cost recovery limit: Up to 100%.
- Option to amortise exploration and drilling expenditures over a period of 10 years from first commercial production.
- Sharing of profit petroleum with Government of India based on pre-tax investment multiple achieved by the contractor and is biddable.
- Royalty for onland areas is payable at the rate of 12.5% for crude oil and 10% for natural gas. For shallow water offshore areas, royalty is payable at the rate of 10% for both crude oil and natural gas where as for deepwater offshore areas (beyond 400 m iso-bath) royalty is payable for both crude oil & natural gas at the rate of 5% for the first seven years of commercial production and thereafter at the rate of 10%.
- Fiscal stability provision in the contract.
- Predetermined Liquidated Damages (LD) specified for unfinished MWP.
- One time Bank Guarantee (BG) at a lower rate for the total committed work programme.
- A nominal bid bond at specified rate to encourage serious bidders.

PRE-NELP & NELP EXPLORATION BLOCKS UNDER OPERATION BY NOC'S & Pvt/JV COMPANIES



* Effective dates of operation of NELP-VIII Blocks fall in 2009-10

(AS ON 01-04-2009)

EXPLORATION BLOCKS AWARDED UNDER PRE-NELP

(As on 01.04.2009)

SL NO.	ROUND	BASIN	BLOCK NAME	REF. NO ON MAP	CONSORTIUM (PARTICIPATING INTEREST)	DATE OF SIGNING CONTRACT	APPROX AREA (SQ. KM.)
A. BLOCKS AWARDED							
ONLAND							
1.	IV	PRANHITA-GODAVARI	GN-ON-90/3	24	HOEC (75) & MIL (25)	29-03-1993	21,850
2.		RAJASTHAN	RJ-ON-90/1	17	CEIL (50) & CEHL (50)	15-05-1995	879.50
3.	VI	RAJASTHAN	RJ-ON/6	16	FEL (10), ISIL (65) & NOCL (25)	30-06-1998	4,026.16
4.		CAMBAY	CB-ON/7	22	HOEC (50) & GSPCL (50)	12-04-2000	369
5.			CB-ON/2	23	GSPC (80) & GGR (20)	12-04-2000	1,201.17
6.	VII	CAMBAY	CB-ON/1	18	RIL (40), TIOL (50) & OOHL (10)	16-07-1998	1533
7.			CB-ON/3	19	EOL (100)	16-07-1998	143.50
8.		GUJARAT-KUTCH	GK-ON/4	21	FEL (100)	30-06-1998	774.92
9.	VIII	ASSAM-ARAKAN	AAP-ON-94/1	14	HOEC (40), OIL (16) & IOC (44)	30-06-1998	435
10.			AA-ON-07	13	CRL (65) & ACL (35)	19-02-1999	1,444.70
11.	JV	ASSAM-ARAKAN	AA-ONJ/2	11	TULLOW (60) & ONGC (40)	07-11-2003	1,277
TOTAL AREA : 33,933.95							
SHALLOW WATER							
12.	V	CAUVERY	CY-OS/2	9	HEPI (75) & GAIL (25)	19-11-1996	859
13.		GUJARAT-KUTCH	GK-OS/5	3	RIL (40), TIOL (50) & OKLAND (10)	16-07-1998	3,750
14.	VI	CAMBAY	CB-OS/1	6	ONGC(32.89), HOEC (57.11) & TPL (10)	19-11-1996	60
15.	VII	SAURASHTRA	SR-OS-94/1	4	RIL (100)	12-04-2000	6,860
16.	JV	GUJARAT-KUTCH	GK-OSJ-3	2	RIL (60), ONGC (25) & OIL (15)	06-09-2001	5,725
TOTAL AREA : 17254.00							
GRAND TOTAL : 51,187.95							

Blocks Relinquished / Surrendered : Eleven

Sl. No.	Block Name	Map Ref. No.	Consortium
1.	KG-ON/1	25	RIL & TIOL
2.	BB-OS/5	5	Petrom SA & EOL
3.	GK-OSJ/1	1	RIL, TIOL & ONGC
4.	GK-ON-90/2	20	Okland
5.	RJ-ON-90/5	15	EOL & POGC
6.	CB-OS/2	7	CEIL, CEIW, CEC, CEG TPL & ONGC
7.	KG-OS/6	10	Cairn & VPL
8.	AA-ON/3	26	Okland
9.	KG-OS-90/1	27	Hardy, HOEC, NIKO & Naga. Fertiliser
10.	RJ-ON-90/4	28	EOL & POGC
11.	CR-ON-90/1	12	PONEI, OIL, EOL & IOC

1. CY-OS-90/1 Block converted to ML.

EXPLORATION BLOCKS AWARDED UNDER FIRST ROUND OF NELP (NELP-I)

(As on 01.04.2009)

SL NO.	BASIN	BLOCK NAME	REF.NO ON MAP	CONSORTIUM (PARTICIPATING INTEREST)	DATE OF SIGNING CONTRACT	APPROX AREA (SQ. KM.)
DEEP WATER						
1.	KRISHNA-GODAVARI	KG-DWN-98/1	D1	RIL (100)	12-04-2000	6700
2.		KG-DWN-98/2	D2	ONGC (90) & CEIL (10)	12-04-2000	7,294.60
3.		KG-DWN-98/3	D3	RIL (90) & NIKO (10)	12-04-2000	7,645
4.		KG-DWN-98/4	D4	ONGC (85) & OIL (15)	12-04-2000	4,970
5.		KG-DWN-98/5	D5	ONGC (100)	12-04-2000	4,490
6.	MAHANADI-NEC	MN-DWN-98/2	D6	RIL (100)	12-04-2000	7,195
7.		MN-DWN-98/3	D7	ONGC (100)	12-04-2000	4,988
TOTAL AREA :						43,282.60
SHALLOW WATER						
8.	SAURASHTRA	SR-OSN-97/1	N-2	RIL (100)	12-04-2000	5,040
9.	CAUVERY	CY-OSN-97/1	N-9	HOEC (80) & MIL (20)	08-01-2001	2,470
10.	MAHANADI-NEC	MN-OSN-97/3	N-14	ONGC (85) & GAIL (15)	12-04-2000	2,710
11.		NEC-OSN-97/2	N-15	RIL (90) & NIKO (10)	12-04-2000	10,755
12.		NEC-OSN-97/1	N-16	OAD GAZPROM (50) & GAIL (50)	03-10-2000	7,779
TOTAL AREA :						28,754
GRAND TOTAL : 720.36.60 SQ.KM.						

Blocks Relinquished : Twelve

Sl. No.	Block Name	Map Ref. No.	Consortium
1.	MB-OSN-97/2	N-3	RIL & NIKO
2.	MB-OSN-97/3	N-4	RIL
3.	MB-OSN-97/4	N-5	ONGC & IOC
4.	CY-OSN-97/2	N-8	OIL
5.	GK-OSN-97/1	N-1	RIL
6.	KK-OSN-97/3	N-7	ONGC
7.	KG-OSN-97/2	N-12	RIL
8.	KG-OSN-97/3	N-11	RIL
9.	KG-OSN-97/4	N-10	RIL
10.	KK-OSN-97/2	N-6	RIL
11.	GV-ONN-97/1	N-17	ONGC, IOC, CEIL & CEEPC
12.	KG-OSN-97/1	N-13	ONGC

EXPLORATION BLOCKS AWARDED UNDER SECOND ROUND OF NELP (NELP-II)

(As on 01.04.2009)

SL NO.	BASIN	BLOCK NAME	REF. NO ON MAP	CONSORTIUM (PARTICIPATING INTEREST)	DATE OF SIGNING CONTRACT	APPROX AREA (SQ. KM.)
SHALLOW WATER						
1.	GUJARAT-SAURASHTRA	GS-OSN-2000/1	N18	RIL (90) & HEPI (10)	17-07-2001	5,890
2.	MAHANADI-NEC	MN-OSN-2000/2	N24	ONGC (40), IOC (20), GAIL (20) & OIL (20)	17-07-2001	4,061
TOTAL AREA : 9,951						
ONLAND						
3.	CAMBAY	CB-ONN-2000/1	N-29	GSPC (50) & GAIL (50)	17-07-2001	425.00
4.	RAJASTHAN	RJ-ONN-2000/1	N28	OIL (60) & SUNTERA (40)	17-07-2001	1,267.50
5.	MAHANADI	MN-ONN-2000/1	N31	OIL (25), ONGC (20), IOC (20), GAIL (20) & SUNTERA (15)	17-07-2001	3,900
6.	ASSAM-ARAKAN	AS-ONN-2000/1	N32	RIL (90) & HEPI (10)	17-07-2001	6,215
TOTAL AREA : 11,807.50						
GRAND TOTAL : 21,758.50 SQ.KM.						

Blocks Relinquished : Seventeen

Sl. No.	Block Name	Map Ref. No.	Consortium
1.	KK-DWN-2000/2	D13	ONGC & GAIL
2.	KK-OSN-2000/1	N20	ONGC
3.	KK-DWN-2000/4	D15	ONGC
4.	GV-ONN-2000/1	N27	ONGC & IOC
5.	GS-DWN-2000/1	D8	ONGC
6.	GS-DWN-2000/2	D9	ONGC & GAIL
7.	CB-ONN-2000/2	N30	NIKO
8.	WB-ONN-2000/1	N26	ONGC & IOC
9.	MN-OSN-2000/1	N23	ONGC
10.	MB-DWN-2000/1	D10	ONGC & IOC
11.	MB-DWN-2000/2	D11	ONGC, IOC, GAIL, OIL, GSPC
12.	KK-DWN-2000/1	D12	RIL
13.	KK-DWN-2000/3	D14	RIL
14.	MB-OSN-2000/1	N19	ONGC, IOC & GSPC
15.	CY-OSN-2000/1	N21	ONGC
16.	CY-OSN-2000/2	N22	ONGC
17.	WB-OSN-2000/1	N25	ONGC & IOC

EXPLORATION BLOCKS AWARDED UNDER THIRD ROUND OF NELP (NELP-III)						
(As on 01.04.2009)						
SL NO.	BASIN	BLOCK NAME	REF.NO ON MAP	CONSORTIUM (PARTICIPATING INTEREST)	DATE OF SIGNING CONTRACT	APPROX AREA (SQ. KM.)
DEEP WATER						
1.	KERALA-KONKAN	KK-DWN-2001/1	D16	RIL (100)	04-02-2003	27,315
2.		KK-DWN-2001/2	D17	RIL (100)	04-02-2003	31,515
3.		KK-DWN-2001/3	D18	ONGC (100)	04-02-2003	21,775
4.	CAUVERY	CY-DWN-2001/1	D19	ONGC (80), OIL (20)	04-02-2003	12,425
5.		CY-DWN-2001/2	D20	RIL (100)	04-02-2003	14,325
6.	CAUVERY-PALAR	CY-PR-DWN-2001/3	D21	RIL (100)	04-02-2003	8,600
7.		CY-PR-DWN-2001/4	D22	RIL (100)	04-02-2003	10,590
8.	PALAR	PR-DWN-2001/1	D23	RIL (100)	04-02-2003	8,255
9.	KRISHNA-GODAVARI	KG-DWN-2001/1	D24	RIL (90) & HEPI (10)	04-02-2003	11,605
TOTAL AREA : 146,405						
SHALLOW WATER						
10.	GUJARAT-SAURASHTRA	GS-OSN-2001/1	N33	ONGC (100)	04-02-2003	7,101
11.	KERALA-KONKAN	KK-OSN-2001/2	N34	ONGC (100)	04-02-2003	14,120
12.		KK-OSN-2001/3	N35	ONGC (100)	04-02-2003	8,595
13.	KRISHNA-GODAVARI	KG-OSN-2001/1	N36	RIL (100)	04-02-2003	1,100
14.		KG-OSN-2001/2	N37	RIL (100)	04-02-2003	210
15.		KG-OSN-2001/3	N38	GSPC (80), GGR (10) & JOGPL (10)	04-02-2003	925
TOTAL AREA : 32,051						
ONLAND						
16.	ASSAM-ARAKAN	AA-ONN-2001/1	N39	ONGC (100)	04-02-2003	1,496
17.		AA-ONN-2001/2	N40	ONGC (80) & IOC (20)	04-02-2003	4,005
18.		AA-ONN-2001/3	N41	ONGC (85) & OIL (15)	04-02-2003	110
19.		AA-ONN-2001/4	N42	ONGC (100)	04-02-2003	645
20.	HIMALAYAN FORELAND	HF-ONN-2001/1	N43	ONGC (100)	04-02-2003	1,513.88
21.	RAJASTHAN	RJ-ONN-2001/1	N44	OIL (40), ONGC (30) & SUNTERA (30)	04-02-2003	2,560
22.	CAMBAY	CB-ONN-2001/1	N45	ONGC (70), CEIL (15) & CED (15)	04-02-2003	158.15
TOTAL AREA : 10,488.03						
GRAND TOTAL : 188,944.03 SQ.KM.						
Block Relinquished : ONE PG-ONN-2001/1 (N46) - ONGC						

EXPLORATION BLOCKS AWARDED UNDER FOURTH ROUND OF NELP (NELP-IV)														
(As on 01.04.2009)														
SL NO.	BASIN	BLOCK NAME	REF.NO ON MAP	CONSORTIUM (PARTICIPATING INTEREST)	DATE OF SIGNING CONTRACT	APPROX AREA (SQ. KM.)								
DEEP WATER														
1.	KERALA-KONKAN	KK-DWN-2002/2	D-26	ONGC (80) & HPCL (20)	06-02-2004	22,810								
2.		KK-DWN-2002/3	D-27	ONGC (80) & HPCL (20)	06-02-2004	20,910								
3.	KRISHNA-GODAVARI	KG-DWN-2002/1	D-28	ONGC (70), OIL (20) & BPCL (10)	06-02-2004	10,600								
4.	MAHANADI-NEC	MN-DWN-2002/1	D-29	ONGC (36), ENI (34), OIL (20) & BPCL (10)	06-02-2004	9,980								
5.		MN-DWN-2002/2	D-30	ONGC (100)	06-02-2004	11,390								
6.	ANDAMAN-NICOBAR	NEC-DWN-2002/1	D-31	RIL (90) & HEPI (10)	06-02-2004	25,565								
7.		NEC-DWN-2002/2	D-32	ONGC (100)	06-02-2004	15,465								
8.		AN-DWN-2002/1	D-33	ONGC (100)	06-02-2004	10,990								
9.		AN-DWN-2002/2	D-34	ONGC (100)	06-02-2004	12,495								
TOTAL AREA : 140,205														
ONLAND														
10.	ASSAM-ARAKAN	AA-ONN-2002/1	N-47	JOGPL (20) & GAIL (80)	06-02-2004	1,260								
11.		AA-ONN-2002/3	N-48	OIL (20), ONGC (70) & SUNTERA (10)	06-02-2004	1,460								
12.		AA-ONN-2002/4	N-49	ONGC (90) & OIL (10)	06-02-2004	1,060								
13.	GANGA	GV-ONN-2002/1	N-50	CEIL (50) & CESL (50)	06-02-2004	15,550								
14.	RAJASTHAN	RJ-ONN-2002/1	N-51	OIL (60) & ONGC (40)	06-02-2004	7,425								
15.	CAMBAY	CB-ONN-2002/1	N-52	ONGC (70) & CEGB1(30)	06-02-2004	135								
16.		CB-ONN-2002/2	N-53	JOGPL (30), GSPC (60) & GGR (10)	06-02-2004	93								
17.		CB-ONN-2002/3	N-54	GSPC (55), JEPL (20), PPCL (15) & GGR (10)	06-02-2004	143								
18.	CAUVERY	CY-ONN-2002/1	N-55	JOGPL (30), GAIL (50)& GSPC (20)	06-02-2004	505								
19.		CY-ONN-2002/2	N-56	ONGC (60) & BPRL (40)	06-02-2004	210								
TOTAL AREA : 27,841														
GRAND TOTAL : 168,046 SQ.KM.														
Block Relinquished : One														
<table><tr><th>Sl. No.</th><th>Block Name</th><th>Map Ref. No.</th><th>Consortium</th></tr><tr><td>1.</td><td>GS-DWN-2002/1</td><td>D-25</td><td>ONGC</td></tr></table>							Sl. No.	Block Name	Map Ref. No.	Consortium	1.	GS-DWN-2002/1	D-25	ONGC
Sl. No.	Block Name	Map Ref. No.	Consortium											
1.	GS-DWN-2002/1	D-25	ONGC											
ONGC	-	Oil & Natural Gas Corpn. Ltd.	TIOL	-	Tullow India Opn. Ltd.									
IOC	-	Indian Oil Corpn. Ltd.	CEIL	-	Cairn Energy India Pty. Ltd.									
OIL	-	Oil India Ltd.	CEIW	-	Cairn Energy India West B.V									
GSPC	-	Gujarat State Petroleum Corporation Ltd.	CEC	-	Cairn Energy Cambay B.V									
RIL	-	Reliance Industries Ltd.	CEG	-	Cairn Energy Gujarat B.V									
EOL	-	Essar Oil Ltd.	CED	-	Cairn Energy Discovery Ltd.									
Okland	-	Okland Offshore Holdings Ltd.	CEEPC	-	Cairn Energy Explo. & Prod. Company Ltd.									
TPL	-	Tata Petrodyne Ltd.	OOHL	-	Okland Offshore Holdings Ltd.									
FEL	-	Focus Energy Ltd.	PONEI	-	Premier Oil North East India									
VPL	-	Videocon Petroleum Ltd.	POGC	-	Polish Oil & Gas Company									
HEPI	-	Hardy Exploration & Production (India) Inc.	HOEC	-	Hindusthan Oil Exploration Company Ltd.									
JTI	-	Joshi Technologies Inc.	GAIL	-	Gas Authority of India Ltd.									
EEIPL	-	Energy Equity India Petroleum Pty. Ltd.	CEHL	-	Cairn Energy Hydrocarbons Ltd.									
JOGPL	-	Jubilant Oil & Gas Pvt. Ltd.	NIKO	-	Niko Resources Ltd.									
BPCL	-	Bharat Petroleum Corporation Ltd.	GEO	-	Geo Global Resources (India) Inc.									
CPIL	-	Cairn Petroleum India Ltd.	HPCL	-	Hindustan Petroleum Corporation Ltd.									
CESL	-	Cairn Energy Search Ltd.	PPCL	-	Prize Petroleum Company Ltd.									
CEGB1	-	Cairn Energy Gujarat Block -1	GGR	-	GeoGlobal Resources (Barbados) Inc.									
MIL	-	Mosbacher India LLC	CRL	-	Canoro Resources Ltd.									
BGEPII	-	British Gas Explo. & Prod. India Ltd.	ACL	-	Assam Company Ltd.									

EXPLORATION BLOCKS AWARDED UNDER FIFTH ROUND OF NELP (NELP-V) (As on 01.04.2009)						
SL NO.	BASIN	BLOCK NAME	REF.NO ON MAP	CONSORTIUM (PARTICIPATING INTEREST)	DATE OF SIGNING CONTRACT	APPROX AREA (SQ. KM.)
DEEP WATER						
1.	KERALA-KONKAN	KK-DWN-2003/1	D-35	RIL (100)	23-09-2005	18,245
2.		KK-DWN-2003/2	D-36	RIL (100)	23-09-2005	12,285
3.	KRISHNA-GODAVARI	KG-DWN-2003/1	D-37	RIL (90) & HEPI (10)	23-09-2005	3,288
4.	MAHANADI-NEC	MN-DWN-2003/1	D-38	RIL (85) & NR(V)L (15)	23-09-2005	17,050
5.	ANDAMAN-NICOBAR	AN-DWN-2003/1	D-39	ONGC (100)	23-09-2005	9,970
6.		AN-DWN-2003/2	D-40	ENI (40), ONGC (45) & GAIL (15)	23-09-2005	13,110
TOTAL AREA :						73,948
SHALLOW WATER						
7.	GULF OF CAMBAY	CB-OSN-2003/1	N-57	ONGC (100)	23-09-2005	2,394
8.	SAURASHTRA	GS-OSN-2003/1	N-58	ONGC (51) & CE7L (49)	23-09-2005	4477.50
TOTAL AREA :						6871.50
ONLAND						
9.	ASSAM-ARAKAN	AA-ONN-2003/1	N-59	JOGP (10), JSPL (35), GSPC (20) & GAIL (35)	16-12-2005	81
10.		AA-ONN-2003/2	N-60	GPI (30), NTPC (40) & CRL (30)	16-12-2005	295
11.		AA-ONN-2003/3	N-61	OIL (85) & HPCL (15)	23-09-2005	275
12.	GANGA VALLEY	GV-ONN-2003/1	N-62	CEIL (24), CE1L (25) & ONGC (51)	23-09-2005	7,210
13.	VINDHYAN	VN-ONN-2003/1	N-63	CEIL (24), CE6L (25) & ONGC (51)	23-09-2005	3,585
14.	RAJASTHAN	RJ-ONN-2003/1	N-64	ENI (34), ONGC (36) & CE2L (30)	23-09-2005	1,335
15.		RJ-ONN-2003/2	N-65	FEL (10), BIL (40) & XOH (50)	23-09-2005	13,195
16.	CAMBAY	CB-ONN-2003/1 (PART - A&B)	N-66	RIL (100)	23-09-2005	635
17.		CB-ONN-2003/2	N-67	GSPC (50), GAIL (20), JCPL (20) & GGR (10)	23-09-2005	448
18.	DECCAN SYNECLISE	DS-ONN-2003/1	N-68	GGR (100)	23-09-2005	3,155
19.	KRISHNA-GODAVARI	KG-ONN-2003/1	N-69	CEIL (24) ONGC (51) & CE4L (25)	23-09-2005	1,697
20.	CAUVERY	CY-ONN-2003/1	N-70	NR(V)L (100),	23-09-2005	957
TOTAL AREA :						32,868
GRAND TOTAL : 113,687.50 SQ.KM.						

EXPLORATION BLOCKS AWARDED UNDER SIXTH ROUND OF NELP (NELP-VI)						
(As on 01.04.2009)						
SL NO.	BASIN	BLOCK NAME	REF. NO ON MAP	CONSORTIUM (PARTICIPATING INTEREST)	DATE OF SIGNING CONTRACT	APPROX AREA (SQ. KM.)
DEEP WATER						
1	KERALA-KONKAN	KK-DWN-2004/1	D-1	ONGC(45), CIL(40) & TATA(15)	02.03.07	12324
2	CAUVERY	CY-DWN-2004/1	D-4	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	10302
3		CY-DWN-2004/2	D-5	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	12059
4		CY-DWN-2004/3	D-6	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	12017
5		CY-DWN-2004/4	D-7	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	12025
6		CY-PR-DWN-2004/1	D-8	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	13451
7		CY-PR-DWN-2004/2	D-9	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	9994
8	KRISHNA-GODAVARI	KG-DWN-2004/1	D-10	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	11951
9		KG-DWN-2004/2	D-11	ONGC(60), GSPC(10) HPCL(10), GAIL(10) & BPCL(10)	02.03.07	11851
10		KG-DWN-2004/3	D-12	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	6205
11		KG-DWN-2004/4	D-13	RIL(100)	02.03.07	11904
12		KG-DWN-2004/5	D-14	ONGC(50), GSPC(10), HPCL(10), GAIL(10), OIL(10) & BPCL(10)	02.03.07	11922
13		KG-DWN-2004/6	D-15	ONGC(60), GSPC(10), HPCL(10), GAIL(10) & OIL(10)	02.03.07	10907
14		KG-DWN-2004/7	D-16	RIL(100)	02.03.07	11856
15	MAHANADI - NEC	MN-DWN-2004/1	D-17	RIL(100)	02.03.07	9885
16		MN-DWN-2004/2	D-18	RIL(100)	02.03.07	11813
17		MN-DWN-2004/3	D-19	RIL(100)	02.03.07	11316
18		MN-DWN-2004/4	D-20	RIL(100)	02.03.07	8822
19		MN-DWN-2004/5	D-21	RIL(100)	02.03.07	10454
20		NEC-DWN-2004/1	D-22	Santos (100)	02.03.07	7790
21		NEC-DWN-2004/2	D-23	Santos (100)	02.03.07	8706
TOTAL						2,27,554
SHALLOW OFFSHORE BLOCKS (6)						
22	GUJARAT-SAURASHTRA	GS-OSN-2004/1	1	ONGC(100)	02.03.07	6589
23	GULF OF CAMBAY	CB-OSN-2004/1	2	FOCUS(10) & NEWBURY(90)	02.03.07	2616
24	MUMBAI	MB-OSN-2004/1	3	GSPC(20), IOC(20), GAIL(20), HPCL(20) & PETRO GAS(20)	02.03.07	1520
25		MB-OSN-2004/2	4	PETROGAS(20), GAIL(20), IOC(20), GSPC(20) & HPCL(20)	02.03.07	741
26	PALAR	PR-OSN-2004/1	5	CEIL(10), ONGC(35), CAIRN INDIA(25) & TATA(30)	02.03.07	9417
27	KRISHNA-GODAVARI	KG-OSN-2004/1	6	ONGC(55) & BGEPI(45)	02.03.07	1131
TOTAL						22,014
ONLAND BLOCKS (25)						
28	MIZORAM	MZ-ONN-2004/1	7	OIL(75), SUNTERA(10) & SHIV-VANI(15)	02.03.07	3213
29		MZ-ONN-2004/2	8	NAFTOGAZ(10), RNRL(10), GEOPETROL (10) & REL(70)	02.03.07	3619
30	ASSAM	AA-ONN-2004/1	9	OIL(85) & SHIV-VANI(15)	02.03.07	144
31	ASSAM-ARAKAN	AA-ONN-2004/2	10	OIL(90) & SUNTERA(10)	02.03.07	218
32		AA-ONN-2004/3	11	ESSAR ENERGY (90), ESSAR OIL(10)	02.03.07	1252
33		AA-ONN-2004/4	12	ADANI ENTERPRISES(35), ADANI PORT(20), NAFTOGAZ(10) & JAYCEE MUMBAI(35)	02.03.07	95
34		AA-ONN-2004/5	13	ESSAR ENERGY (90) & ESSAR OIL (10)	02.03.07	46
35	PURNEA	PA-ONN-2004/1	14	ONGC(100)	02.03.07	2537
36	GANGA	GV-ONN-2004/1	15	ONGC(100)	02.03.07	8354
37	SOUTH REWA	SR-ONN-2004/1	16	PRICE PETROLEUM(10), Jaiprakash Associates Ltd.(90)	02.03.07	13277
38	VINDHYAN	VN-ONN-2004/1	17	ONGC(100)	02.03.07	5801
39		VN-ONN-2004/2*	18	ONGC(100)	02.03.07	4466
40	RAJASTHAN	RJ-ONN-2004/1	19	GSPC(20), GAIL(20), HPCL(20), BPCL(10), NITINFIRE (10) HALLWORTHY (PANAMA(10) & SIVERWAVE(10)	02.03.07	4613
41		RJ-ONN-2004/2	20	OIL(75), GEOGLOBAL(25)	02.03.07	2196
42		RJ-ONN-2004/3	21	OIL(60), GEOGLOBAL(25) & HPCL(15)	02.03.07	1330
43	CAMBAY	CB-ONN-2004/1	22	ONGC(50), GSPC(40) & HERAMEC(10)	02.03.07	32
44		CB-ONN-2004/2	23	ONGC(50), GSPC(40) & SUNTERARES LTD.(10)	02.03.07	423
45		CB-ONN-2004/3	24	ONGC(40), GSPC(35) & ENSEARCH(25)	02.03.07	113
46		CB-ONN-2004/4	25	ONGC(50), GSPC(40) & HERAMEC(10)	02.03.07	70
47		CB-ONN-2004/5	26	ADANI ENTERPRISES(35), WELSPUN(35) ADANI PORT(20) & NAFTOGAZ(10)	02.03.07	75
48	DECCAN SYNECLISE	DS-ONN-2004/1	27	GEOGLOBAL RESOURCES BARBADOS(100)	02.03.07	2649
49	KRISHNA-GODAVARI	KG-ONN-2004/1	28	OIL(90) & GEOGLOBAL(10)	02.03.07	549
50		KG-ONN-2004/2	29	GSPC(40), GAIL(40) & PETROGAS(20)	02.03.07	1140
51	CAUVERY	CY-ONN-2004/1	30	ONGC(80) & BPCL(20)	02.03.07	214
52		CY-ONN-2004/2	31	ONGC(80) & BPCL(20)	02.03.07	375
TOTAL						56,801
GRAND TOTAL						3,06,369

EXPLORATION BLOCKS AWARDED UNDER SEVENTH ROUND OF NELP (NELP-VII)						
(As on 01.04.2009)						
SL NO.	BASIN	BLOCK NAME	REF.NO ON MAP	CONSORTIUM (PARTICIPATING INTEREST)	DATE OF SIGNING CONTRACT	APPROX AREA (SQ. KM.)
DEEP WATER						
DEEP WATER						
1.	MUMBAI	MB-DWN-2005/2	D-6	BHP BILLITON (26) & GVK (74)	22-12-2008	3,660
2.		MB-DWN-2005/3	D-7	BHP BILLITON (26) & GVK (74)	22-12-2008	3,097
3.		MB-DWN-2005/4	D-8	BHP BILLITON (26) & GVK (74)	22-12-2008	3,408
4.		MB-DWN-2005/5	D-9	BHP BILLITON (26) & GVK (74)	22-12-2008	3,169
5.		MB-DWN-2005/7	D-11	BHP BILLITON (26) & GVK (74)	22-12-2008	3,324
6.		MB-DWN-2005/9	D-13	BHP BILLITON (26) & GVK (74)	22-12-2008	3,138
7.	KERALA-KONKAN	KK-DWN-2005/1	D-14	BHP BILLITON (26) & GVK (74)	22-12-2008	14,675
8.		KK-DWN-2005/2	D-15	ONGC (90) & GSPC (10)	22-12-2008	19,234
9.	KRISHNA-GODAVARI	KG-DWN-2005/1	D-16	ONGC (70), IOCL (20) & GSPC (10)	22-12-2008	1,727
10.		KG-DWN-2005/2	D-17	BP EXPLORATION (30) & RIL (70)	22-12-2008	1,949
11.	ANDAMAN-NICOBAR	AN-DWN-2005/1	D-19	ONGC (90) & OIL (10)	22-12-2008	11,837
TOTAL AREA : 69,218						
SHALLOW WATER						
12.	MUMBAI	MB-OSN-2005/1	S-1	ONGC (80) & GSPC (20)	22-12-2008	2811
13.		MB-OSN-2005/2	S-2	ADAANI WELSPUN (100)	22-12-2008	1191
14.		MB-OSN-2005/3	S-3	EEPL (50) & NEIL (50)	22-12-2008	2810
15.		MB-OSN-2005/5	S-5	ONGC (70) & GSPC (30)	22-12-2008	2402
16.		MB-OSN-2005/6	S-6	ONGC (80) & GSPC (20)	22-12-2008	2820
17.	KRISHNA-GODAVARI	KG-OSN-2005/1	S-7	ONGC (60), GSPC (20)&HPCL(20)	22-12-2008	2810
18.		KG-OSN-2005/2	S-8	ONGC (80) & HPCL-MITTAL (20)	22-12-2008	1881
TOTAL AREA : 16,725						
ONLAND						
19.	ASSAM-ARAKAN	AA-ONN-2005/1	1	ONGC (60), OIL (30) & ACL (10)	22-12-2008	363
20.	PURNEA	PA-ONN-2005/1*	2	ONGC (100)	22-12-2008	1096
21.		PA-ONN-2005/2*	3	ONGC (100)	22-12-2008	2552
22.	BENGAL	WB-ONN-2005/2*	5	ONGC (100)	22-12-2008	3792
23.		WB-ONN-2005/3*	6	ONGC (100)	22-12-2008	4001
24.		WB-ONN-2005/4*	7	ONGC (75) & OIL (25)	22-12-2008	3940
25.	GANGA	GV-ONN-2005/3*	10	ONGC (80) & TATA PETRO (20)	22-12-2008	2227
26.	SATPURA-REWA	SR-ONN-2005/1*	11	DEEP ENERGY(10),DEEP INDUS(70)	22-12-2008	789
				KANVEL FINANCE (10) & SAVLA ELECTRONICS (10)		
27.	RAJASTHAN	RJ-ONN-2005/1	14	HOEC (25), BPRL (25), JSPL (25)	22-12-2008	1424
				ONGC & IMC (25)		
28.		RJ-ONN-2005/2	15	OIL (60), HOEC (20)	22-12-2008	1517
				HPCL & MITTAL ENERGY (20)		
29.		RJ-ONN-2005/3	16	GSPC (60) & ONGC (40)	22-12-2008	1217
30.	CAMBAY	CB-ONN-2005/2	18A&B	IOCL (100)	22-12-2008	77.68
31.		CB-ONN-2005/3	19	MERCATOR PETROLEUM (100)	22-12-2008	48
32.		CB-ONN-2005/4	20	ONGC (51) & GSPC (49)	22-12-2008	31
33.		CB-ONN-2005/5	21	OMKAR NATUAL RESOUR. (100)	22-12-2008	83
34.		CB-ONN-2005/6	22	OMKAR NATUAL RESOUR. (100)	22-12-2008	102
35.		CB-ONN-2005/7	23	IOCL (100)	22-12-2008	199
36.		CB-ONN-2005/8	24	VASUNDHARA RESOUR (100)	22-12-2008	133
37.		CB-ONN-2005/9	25	MERCATOR PETROLEUM (100)	22-12-2008	170
38.		CB-ONN-2005/10	26	ONGC (51) & GSPC (49)	22-12-2008	270
39.		CB-ONN-2005/11	27	QUEST (20), QQVS (40), SREI (20), VIPL2 (10) & PRIM (10)	22-12-2008	257
40.	PALAR	PR-ONN-2005/1	28	ONGC (80) & TATA PETRO. (20)	22-12-2008	1807
41.	CAUVERY	CY-ONN-2005/1	29	GAIL (40), GSPC (30) & BENGAL ENERGY (30)	22-12-2008	946
TOTAL AREA : 27,041.68						
GRAND TOTAL : 1,12,984.68						

BASIN-WISE DISTRIBUTION OF PEL AREAS UNDER OPERATION (PRE-NELP & NELP BLOCKS)

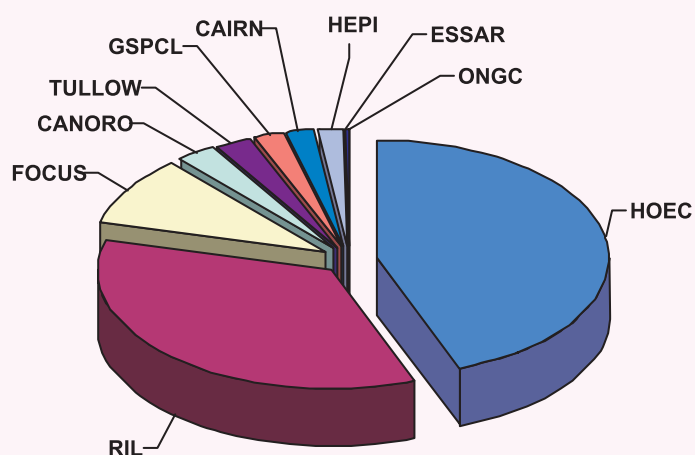
(As on 01.04.2009)

SL. NO.	BASIN (No. of Blocks)	AREA (Sq. Km)								
		PRE-NELP	NELP-I	NELP-II	NELP-III	NELP-IV	NELP-V	NELP-VI	NELP-VII	TOTAL
DEEP WATER (63)										
1.	MUMBAI (6)	--	--	--	--	--	--	--	19,796	19,796
2.	KERALA-KONKAN (10)	--	--	--	80,605	43,720	30,530	12,324	33,909	2,01,088
3.	CAUVERY (6)	--	--	--	26,750	--	--	46,403	--	73,153
4.	CAUVERY-PALAR (4)	--	--	--	19,190	--	--	23,445	--	42,635
5.	PALAR (1)	--	--	--	8,255	--	--	--	--	8,255
6.	KRISHNA-GODAVARI (17)	--	3,1099.60	--	11,605	10,600	3,288	76,596	3,676	136,864.60
7.	MAHANADI-NEC (14)	--	12,183	--	--	62,400	17,050	68,786	--	160,419
8.	ANDAMAN-NICOBAR (5)	--	--	--	--	23,485	23,080	--	11,837	58,402
TOTAL AREA :		--	43,282.60	--	146,405	140,205	73,948	2,27,554	69,218	7,00,612.60
SHALLOW WATER (33)										
9.	GUJARAT-KUTCH (2)	9,475	--	--	--	--	--	--	--	9,475
10.	GUJARAT-SAURASHTRA (6)	6,860	5,040	5,890	7101	--	4477.50	6,589	--	35,957.50
11.	CAMBAY (3)	60	--	--	--	--	2,394	2,616	--	5,070
12.	MUMBAI (7)	--	--	--	--	--	--	2,261	12,034	14,295
13.	KERALA-KONKAN (2)	--	--	--	22,715	--	--	--	--	22,715
14.	CAUVERY (2)	859	2,470	--	--	--	--	--	--	3,329
15.	KRISHNA-GODAVARI (6)	--	--	--	2,235	--	--	1,131	4,691	8,057
16.	MAHANADI-NEC (4)	--	21,244	4,061	--	--	--	--	--	25,305
17.	PALAR (1)	--	--	--	--	--	--	9,417	--	9,417
TOTAL AREA :		17,254	28,754	9,951	32,051	--	6,871.50	22,014	16,725.00	133,620.50
ONLAND (92)										
18.	VINDHYAN (3)	--	--	--	--	--	3,585	10,267	--	13,852
19.	GUJARAT-KUTCH (1)	774.92	--	--	--	--	--	--	--	774.92
20.	RAJASTHAN (13)	4,905.66	--	1,267.50	2560	7425	14,530	8,139	4,158	42,985.16
21.	CAMBAY (26)	3246.67	--	425	158.15	371	1,083	713	1370.68	7,367.50
22.	PRANHITA-GODAVARI (1)	21,850	--	--	--	--	--	--	--	21,850
23.	MAHANADI (1)	--	--	3,900	--	--	--	--	--	3,900
24.	PALAR (1)	--	--	--	--	--	--	--	1,807	1,807
25.	CAUVERY (6)	--	--	--	--	715	957	589	946	3,207
26.	HIMALAYAN FORELAND (1)	--	--	--	1,513.88	--	--	--	--	1,513.88
27.	GANGA VALLEY (4)	--	--	--	--	15,550	7,210	8,354	2,227	33,341
28.	ASSAM-ARAKAN (20)	3156.70	--	6,215	6256	3780	651	1,755	363	22176.70
29.	DECCAN SYNECLISE (2)	--	--	--	--	--	3,155	2,649	--	5,804
30.	KRISHNA-GODAVARI (3)	--	--	--	--	--	1,697	1,689	--	3,386
31.	MIZORAM (2)	--	--	--	--	--	--	6,832	--	6,832
32.	PURNEA (3)	--	--	--	--	--	--	2,537	3,648	6,185
33.	BENGAL (3)	--	--	--	--	--	--	--	11,733	11,733
34.	SOUTH REWA (2)	--	--	--	--	--	--	13,277	789	14,066
TOTAL AREA :		33,933.95	--	11,807.50	10,488.03	27,841	32,868	56,801	27,041.68	200,781.16
GRAND TOTAL :		51,187.95	72,036.60	21,758.50	1,88,944.03	1,68,046	113,687.50	306,369	1,12,984.68	1,035,014.26

COMPANY-WISE DISTRIBUTION OF PEL AREAS UNDER OPERATION (PRE-NELP & NELP ROUNDS)											
(As on 01.04.2009)											
SL. NO.	COMPANY/ OPERATOR	NO. OF BLOCKS	PRE-NELP	NELP-I	NELP-II	NELP-III	NELP-IV	NELP-V	NELP-VI	NELP-VII	TOTAL
1	ONGC	74	60	24,452.60	4,061	71944.03	116,045	16,841.50	165,113	65,601	464,118.13
2	RIL	33	17,868	37,335	12,105	113,515	25,565	51,503	76,050	—	333,941
3	OIL	13	—	—	5,167.50	2,560	8,885	275	7,650	1,517	26,054.50
4	CAIRN	6	879.50	—	—	—	15,550	12,492	9,417	—	38,338.50
5	GSPC	8	1,201.17	—	425	925	143	448	7,273	1,217	11,632.17
6	HOEC	5	22,654	2,470	—	—	—	—	—	1,424	26,548
7	OAo GAZPROM	1	—	7,779	—	—	—	—	—	—	7,779
8	CANORO	1	1,444.70	—	—	—	—	—	—	—	1,444.70
9	TULLOW	1	1,277	—	—	—	—	—	—	—	1,277
10	ESSAR	4	143.50	—	—	—	—	—	1,298	2,810	4251.50
11	JOGP	4	—	—	—	—	1,858	81	—	—	1,939
12	FOCUS	4	4,801.08	—	—	—	—	13,195	2,616	—	20,612.08
13	GGR	2	—	—	—	—	—	3,155	2,649	—	5,804
14	NR(V)L	1	—	—	—	—	—	957	—	—	957
15	GPI	1	—	—	—	—	—	295	—	—	295
16	ENI	2	—	—	—	—	—	14,445	—	—	14,445
17	HEPI	1	859	—	—	—	—	—	—	—	859
18	SANTOS	2	—	—	—	—	—	—	16,496	—	16,496
19	PETROGAS	1	—	—	—	—	—	—	741	—	741
20	NAFTOGAZ	3	—	—	—	—	—	—	3,789	—	3,789
21	PRIZE PETROLEUM	1	—	—	—	—	—	—	13,277	—	13,277
22	GAIL	1	—	—	—	—	—	—	—	946	946
23	IOCL	2	—	—	—	—	—	—	—	276.68	276.68
24	BHP BILLITON	7	—	—	—	—	—	—	—	34,471	34,471
25	BP EXPLORATION	1	—	—	—	—	—	—	—	1,949	1,949
26	ADAANI WELSPUN	1	—	—	—	—	—	—	—	1,191	1,191
27	DEEP ENERGY	1	—	—	—	—	—	—	—	789	789
28	MERCATOR PET.	2	—	—	—	—	—	—	—	218	218
29	OMKAR NATURAL	2	—	—	—	—	—	—	—	185	185
30	VASUNDHARA RES.	1	—	—	—	—	—	—	—	133	133
31	QUEST	1	—	—	—	—	—	—	—	257	257
TOTAL		187	51,187.95	72,036.60	21,758.50	188,944.03	168,046	113,687.50	306,369	112,984.68	1,035,014.26

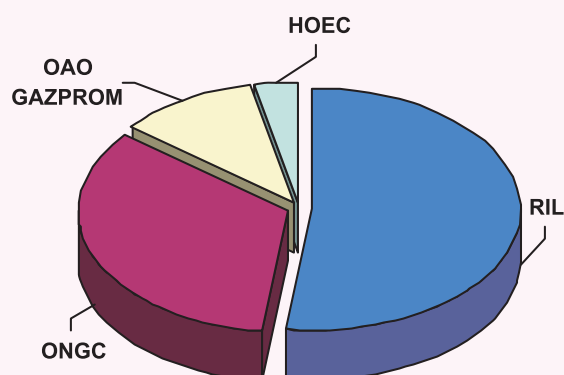
COMPANY-WISE DISTRIBUTION OF PEL AREAS UNDER OPERATION (PRE-NELP & NELP ROUNDS)

PRE-NELP



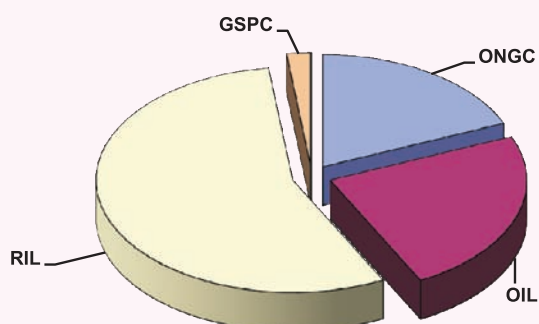
COMPANY / OPERATOR	AREA (Sq. Km.)	(%)
HOEC	22,654.00	44.26
RIL	17,868.00	34.91
FOCUS	4,801.08	9.38
CANORO	1,444.70	2.82
TULLOW	1,277.00	2.49
GSPCL	1,201.17	2.35
CAIRN	879.50	1.72
HEPI	859.00	1.68
ESSAR	143.50	0.28
ONGC	60.00	0.12
TOTAL	51,187.95	100

NELP-I



COMPANY / OPERATOR	AREA (Sq. Km.)	(%)
RIL	37,335.00	51.83
ONGC	24,452.60	33.94
OAO GAZPROM	7,779.00	10.80
HOEC	2,470.00	3.43
TOTAL	72,036.60	100

NELP-II

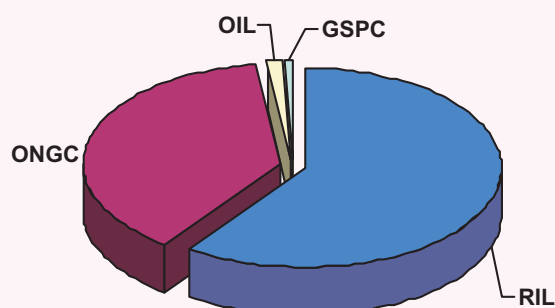


COMPANY / OPERATOR	AREA (Sq. Km.)	(%)
ONGC	4,061.00	18.66
OIL	5,167.50	42.69
RIL	12,105.00	55.63
GSPC	425.00	1.95
TOTAL	21,758.50	100

(As on 01.04.2009)

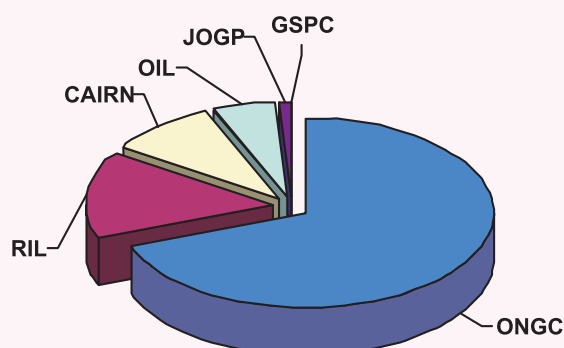
COMPANY-WISE DISTRIBUTION OF PEL AREAS UNDER OPERATION (PRE-NELP & NELP ROUNDS)

NELP-III



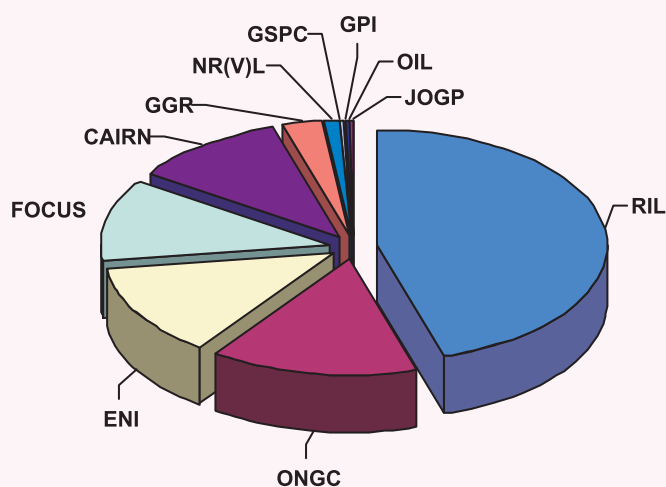
COMPANY / OPERATOR	AREA (Sq. Km.)	(%)
RIL	113,515.00	60.08
ONGC	71,944.03	38.08
OIL	2,560.00	1.35
GSPC	925.00	0.49
TOTAL	188,944.03	100.00

NELP-IV



COMPANY / OPERATOR	AREA (Sq. Km.)	(%)
ONGC	116,045.00	69.06
RIL	25,565.00	15.21
CAIRN	15,550.00	9.25
OIL	8,885.00	5.29
JOGP	1,858.00	1.11
GSPC	143.00	0.09
TOTAL	168,046.00	100.00

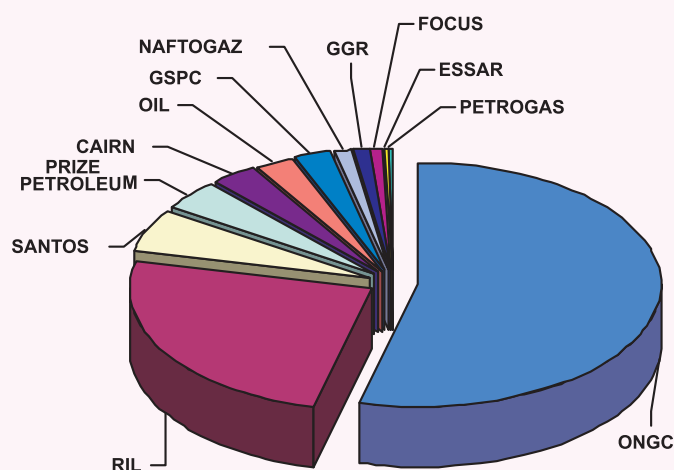
NELP-V



COMPANY / OPERATOR	AREA (Sq. Km.)	(%)
RIL	51,503.00	45.30
ONGC	16,841.50	14.81
ENI	14,445.00	12.71
FOCUS	13,195.00	11.61
CAIRN	12,492.00	10.99
GGR	3,155.00	2.78
NR(V)L	957.00	0.84
GSPC	448.00	0.39
GPI	295.00	0.26
OIL	275.00	0.24
JOGP	81.00	0.07
TOTAL	113,687.50	100.00

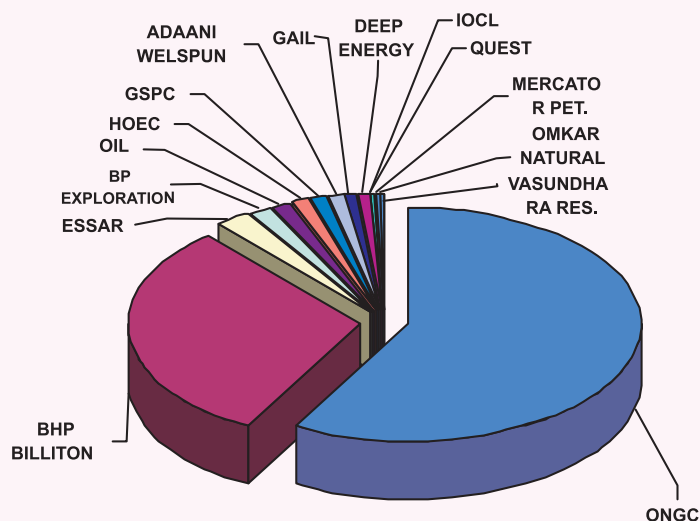
COMPANY-WISE DISTRIBUTION OF PEL AREAS UNDER OPERATION (PRE-NELP & NELP ROUNDS)

NELP-VI



COMPANY / OPERATOR	AREA (Sq. Km.)	(%)
ONGC	165,113.00	53.89
RIL	76,050.00	24.82
SANTOS	16,496.00	5.38
PRIZE PETROLEUM	13,277.00	4.33
CAIRN	9,417.00	3.07
OIL	7,650.00	2.50
GSPC	7,273.00	2.37
NAFTOGAZ	3,789.00	1.24
GGR	2,649.00	0.86
FOCUS	2,616.00	0.85
ESSAR	1,298.00	0.42
PETROGAS	741.00	0.24
TOTAL	306,369.00	100.00

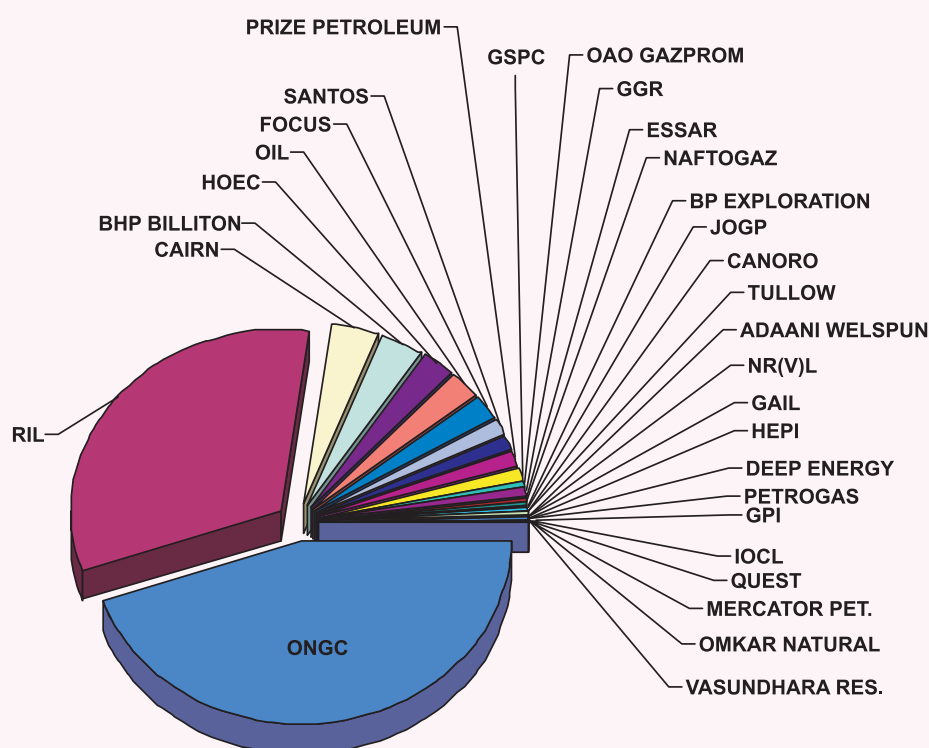
NELP-VII



COMPANY / OPERATOR	AREA (Sq. Km.)	(%)
ONGC	65,601.00	58.06
BHP BILLITON	34,471.00	30.51
ESSAR	2,810.00	2.49
BP EXPLORATION	1,949.00	1.73
OIL	1,517.00	1.34
HOEC	1,424.00	1.26
GSPC	1,217.00	1.08
ADAANI WELSPUN	1,191.00	1.05
GAIL	946.00	0.84
DEEP ENERGY	789.00	0.70
IOCL	276.68	0.24
QUEST	257.00	0.23
MERCATOR PET.	218.00	0.19
OMKAR NATURAL	185.00	0.16
VASUNDHARA RES.	133.00	0.12
TOTAL	112,984.68	100.00

(As on 01.04.2009)

COMPANY-WISE DISTRIBUTION OF PEL AREAS UNDER OPERATION (PRE-NELP & NELP ROUNDS)

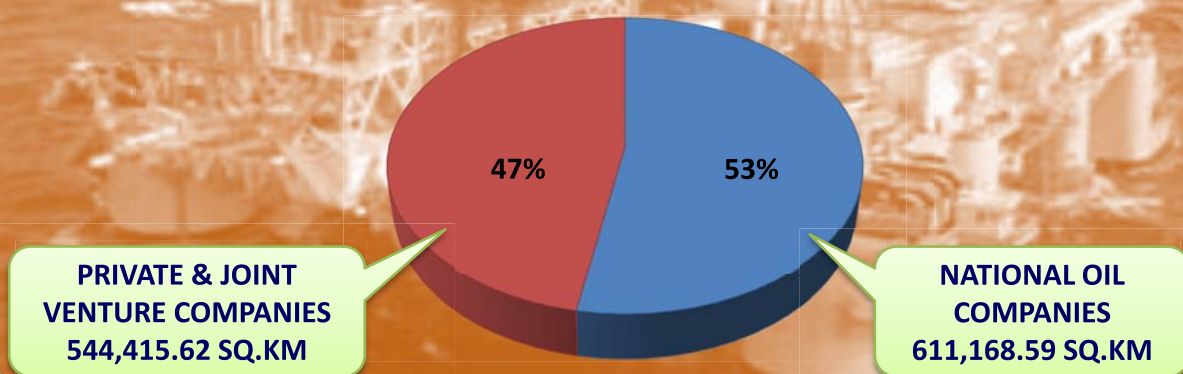
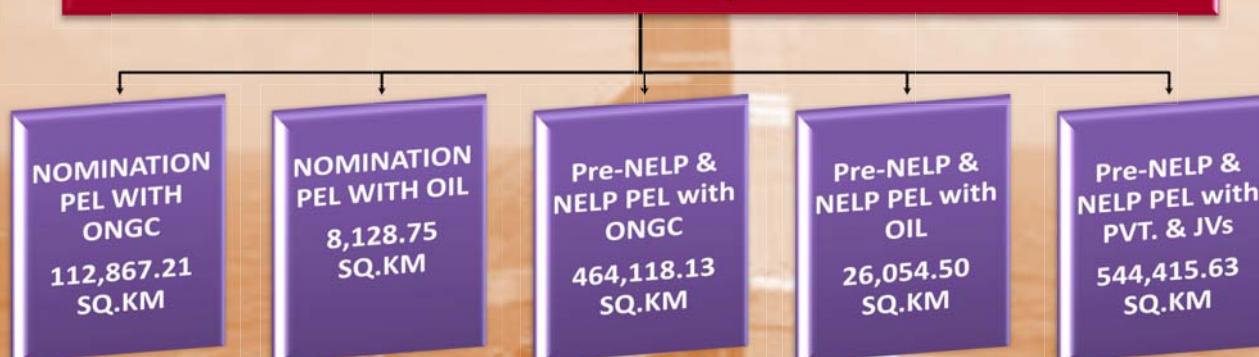


SL.NO.	COMPANY/ OPERATOR	TOTAL
1	ONGC	464,118.13
2	RIL	333,941.00
3	CAIRN	38,338.50
4	BHP BILLITON	34,471.00
5	HOEC	26,548.00
6	OIL	26,054.50
7	FOCUS	20,612.08
8	SANTOS	16,496.00
9	ENI	14,445.00
10	PRIZE PETROLEUM	13,277.00
11	GSPC	11,632.17
12	OAO GAZPROM	7,779.00
13	GGR	5,804.00
14	ESSAR	4,251.50
15	NAFTOGAZ	3,789.00
16	BP EXPLORATION	1,949.00
17	JOGP	1,939.00
18	CANORO	1,444.70
19	TULLOW	1,277.00
20	ADAANI WELSPUN	1,191.00
21	NR(V)L	957.00
22	GAIL	946.00
23	HEPI	859.00
24	DEEP ENERGY	789.00
25	PETROGAS	741.00
26	GPI	295.00
27	IOCL	276.68
28	QUEST	257.00
29	MERCATOR PET.	218.00
30	OMKAR NATURAL	185.00
31	VASUNDHARA RES.	133.00
TOTAL		1,035,014.26

EXPLORATION ACREAGE PORTFOLIO

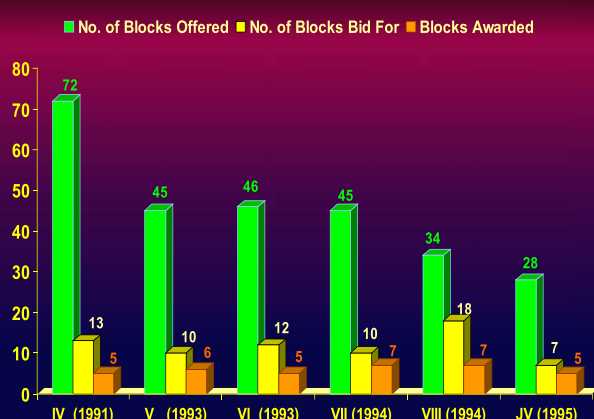
TOTAL ACREAGE UNDER PETROLEUM EXPLORATION LICENSE

1155584.22 Sq.km

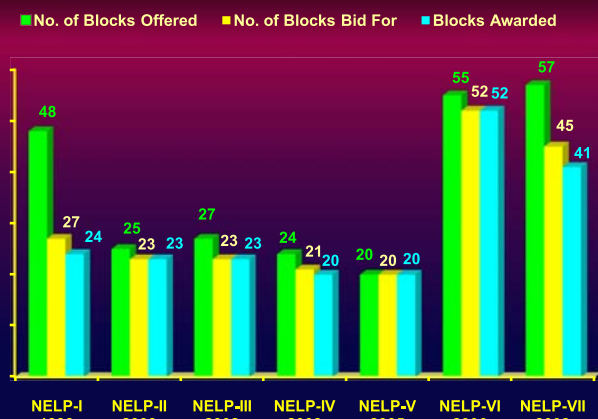


BLOCKS AWARDED

PRE NELP



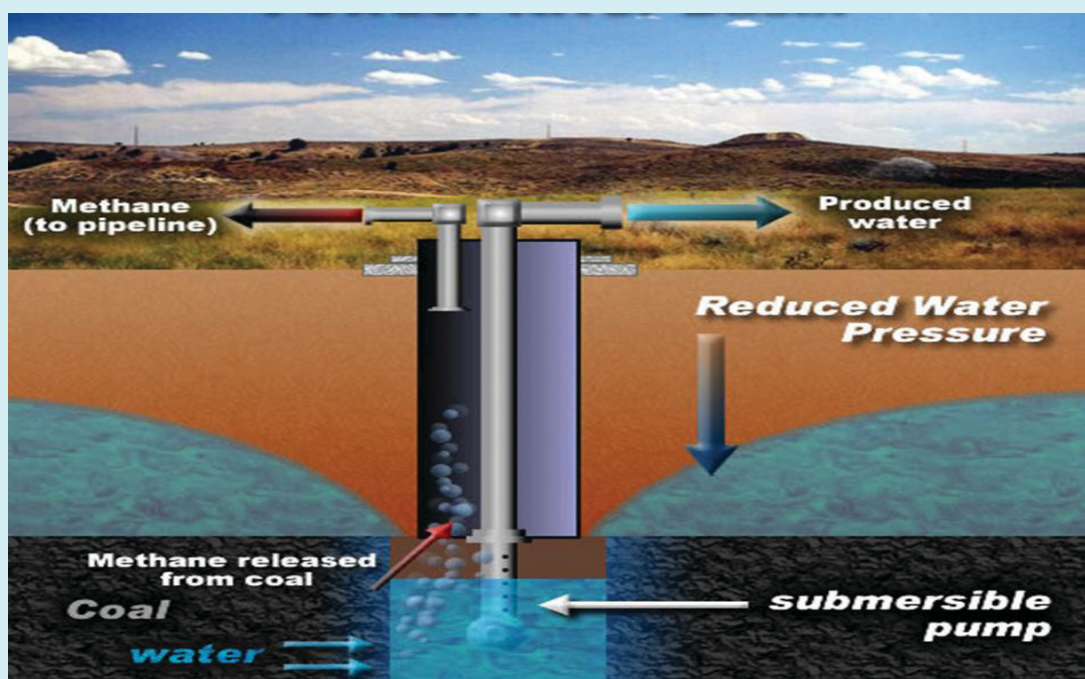
NELP



COAL BED METHANE

The exploration awareness for Coal Bed Methane (CBM) in India shows a dramatic change of scenario from lukewarm response in the first round of bidding (2001) to 'CBM rush' in the third round (2006), within a span of five years. 54 bids were received from 26 companies, including 8 foreign and 18 Indian Companies, for 10 blocks, in CBM-III. In other words, there is a sea change in the perception on commercial viability of CBM operation in the minds of national and international players. Major International players like BP and Arrow Energy were successful in winning blocks. India, having the fourth largest proven coal reserves in the world, holds significant prospects for exploration and exploitation of CBM.

The total sedimentary area for CBM exploration in India is of the order of 26,000 sq. km. Out of this, exploration has been initiated in only 52% of the area. In other words, a large area remains to be explored. The prognosticated CBM resources are about 50 TCF, out of which only 8.4 TCF has been established. There is, therefore, a huge opportunity for potential CBM investors in India. The exploration carried out by various operators in the state of Jharkhand, West Bengal and Madhya Pradesh reveals that Gondwana coals constitute excellent CBM plays that can be harnessed commercially with the induction of appropriate technology.



Commercial production of CBM has already commenced in Raniganj (South) CBM block in West Bengal. Efforts are also being made in Sohagpur blocks in Madhya Pradesh, Raniganj (East) block in West Bengal and Jharia block in Jharkhand for commencement of commercial production at the earliest. From a current level of a total CBM production of 0.15 MMSCMD in the country, it is expected to go up to 7.4 MMSCMD by the year 2014.

26 blocks altogether have been allocated to different Indian and Foreign operators during the previous 3 rounds of CBM bidding. In the present CBM round-IV, 10 blocks are being offered which are located in the States of Madhya Pradesh, Chattisgarh, Jharkhand, Orissa, Maharashtra, Tamil Nadu and Assam, hold sizable resources of CBM and the broad reservoir characteristics show good prospectivity.

The CBM policy in India is one of the most investor friendly policies in the world. Besides attractive fiscal and contractual terms, a totally transparent and fair bid evaluation criteria (BEC) has been evolved and is in place.

Chronology of CBM Development In India

☞ 1997

- CBM policy formulated
- MOP&NG became the Administrative Ministry and DGH became the implementing agency for CBM policy
- MOU signed between Ministry of Coal (MOC) & Ministry of Petroleum & Natural Gas (MOP&NG) for delineation of CBM block

☞ 1998

- DGH drafted Model Contract and other bid documents for CBM

☞ 1999 - 2000

- DGH carved out prospective CBM blocks
- Data Package (DP) & Information Docket (ID) prepared in collaboration with CMPDIL & GSI

☞ 2001

- First offer of CBM blocks announced in May, 2001
- One block awarded on Nomination basis

☞ 2002

- Contract signed for 5 blocks awarded under Round-I
- 2 more blocks, awarded on Nomination basis

☞ 2003

- 9 blocks offered under round - II

☞ 2004

- Contract signed for 8 blocks awarded under round-II

☞ 2005

- 10 blocks identified for round – III
- DP & ID Prepared for all the blocks

☞ 2006

- 10 blocks offered under round-III
- Contract signed for all 10 blocks

☞ 2007

- Field Development plan approved for 3 blocks : Raniganj (South), Sohagpur (East) & Sohagpur (West)
- Reserve established for four blocks
- Commercial production started w.e.f. 14.07.2007 from Raniganj (South) block

☞ 2008

- 10 blocks identified for offer under round-IV
- ID & DP prepared for all the block.

☞ 2009

- 10 blocks offered under round-IV
- Reserve established for the fifth CBM block (Raniganj – East)



MARKETING OF CBM AS CNG FOR THE FIRST TIME IN THE COUNTRY

Status of CBM Blocks

1	Blocks awarded	i. Nomination basis	3
		ii. Under Round - I	5
		iii. Under Round - II	8
		iv. Under Round - III	10
		Total	26
2	Status of Blocks	i. Exploration Phase - I	10
		ii. Exploration Phase - II	8
		iii. Development Phase-III	3
		DGH approved Development Plan for 3 Blocks	
		◆ Raniganj(S), ◆ Sohagpur(E) & ◆ Sohagpur (W)	
		iv. Relinquished after Phase-I	3
		v. Awaiting grant of PEL	2
3	Area awarded, sq. km.		13,600
4	Total CBM Resources, BCM		1374
5	CBM wells drilled so far (Core Hole/ Test well/ Pilot well)		280
6	CBM reserve established (Gas Initial In Place), TCF/BCM for 4 blocks		8.4
7	Expected Production Potential, MMSCMD		38
8	Commercial Production commenced, w.e.f		14.07.07
9	Approved gas sale price, \$/MMBTU		6.79
10	Present Gas Production from 3 blocks: RG(S), SP(E) & SP(W), MMSCMD		0.20
11	Expected CBM gas production from 3 blocks by 2014 [Raniganj (S), SP (E), SP(W)], MMSCMD		7.4
12	State wise award of blocks		
		I. West Bengal	4
		II. Jharkhand	6
		III. Madhya Pradesh	5
		IV. Rajasthan	4
		V. Chattisgarh	3
		VI. Maharashtra	1
		VII. Gujarat	1
		VIII. Andhra Pradesh	2

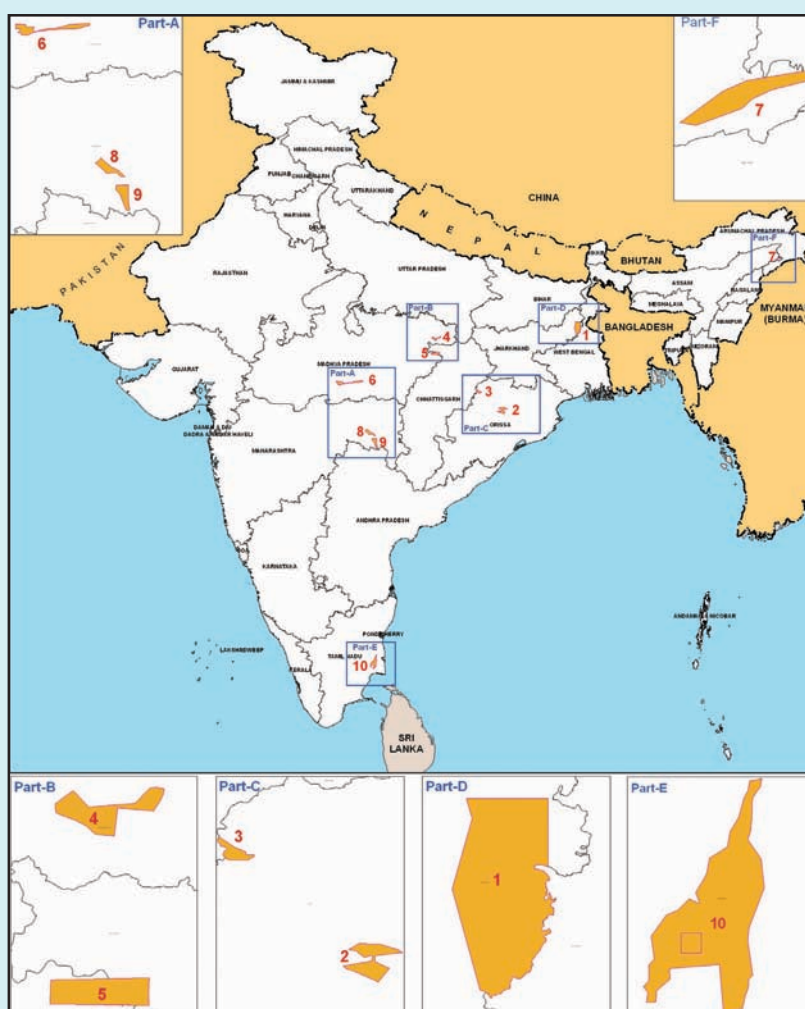
Highlights of CBM Policy

- The blocks would be awarded through open international competitive bidding system
- No participating interest of the Government
- No upfront payment
- No signature bonus
- Exemption from payment of customs duty on imports required for CBM operation
- Walkout option at the end of Phase-I & II
- Freedom to sell gas in the domestic market
- Provision of fiscal stability
- A seven years tax holidays

Round IV (Under Offer)

In order to explore and produce Coal Bed Methane (CBM) and to increase the pace of exploration and development in the country, ten more blocks covering an area of about 5000 Sq Km are on offer under CBM-IV. These blocks are located in the states of Jharkhand, Orissa, Madhya Pradesh, Chhattisgarh, Assam, Maharashtra and Tamil Nadu and holds sizable resources of CBM. Locations of these blocks are shown in the map given below:

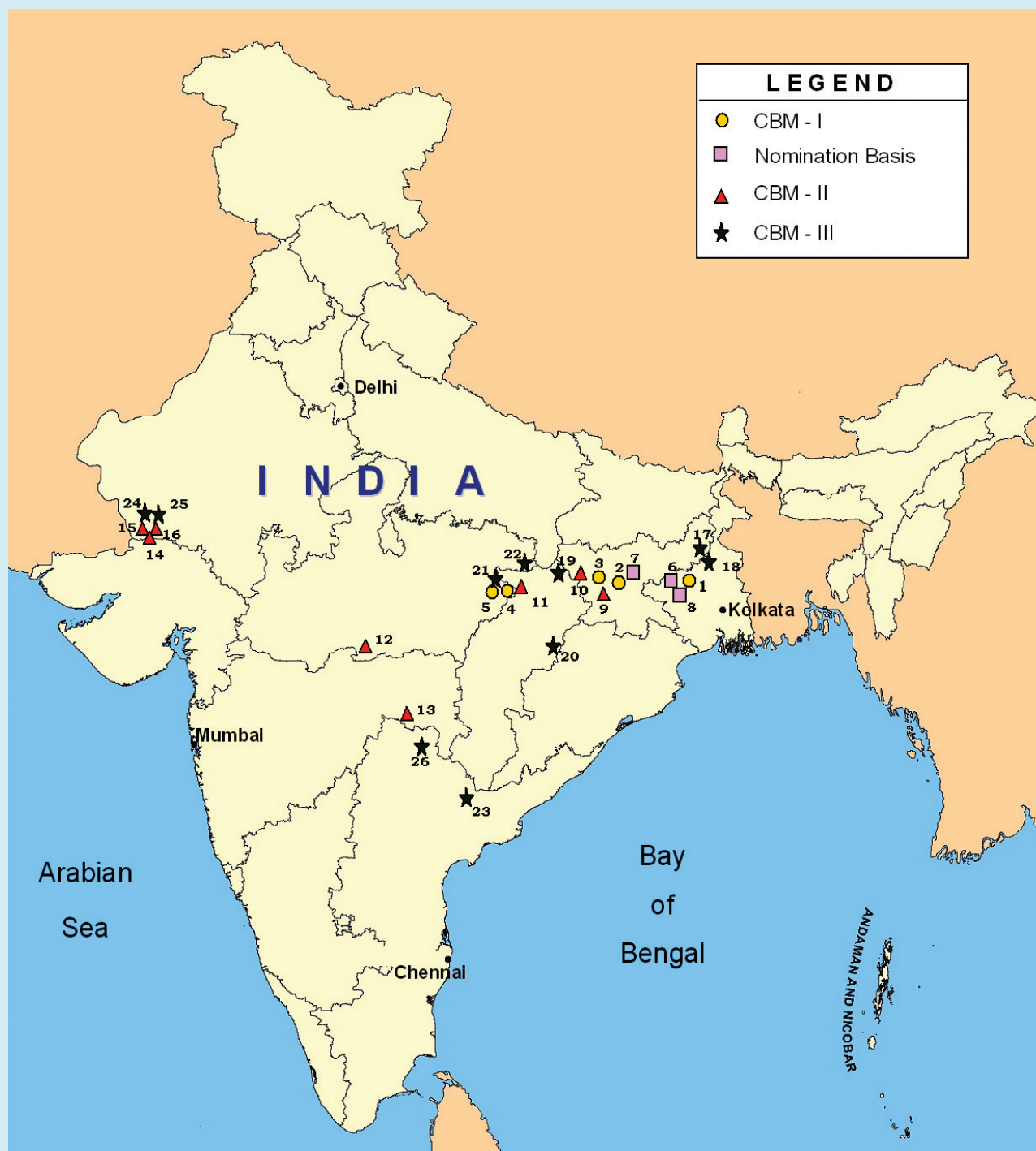
The CBM policy in India is one of the most investor friendly policies in the world and it has the most attractive fiscal and contractual terms and a totally transparent and fair bid evaluation criteria (BEC) has been evolved and is in place. It is expected that the present round would also draw a good attention from all investors around the Globe.



Sl. No.	Coal Field	Block Name	Area (Sq. Km.)	State
1.	Raj Mahal	RM(E)-CBM-2008/IV	1128	Jharkhand
2.	Talchir	TL-CBM-2008/IV	557	Orissa
3.	IB Valley	IB-CBM-2008/IV	209	Orissa
4.	Singrauli	SR(W)-CBM-2008/IV	269	Madhya Pradesh
5.	Sohagpur	SP(NE)-CBM-2008/IV	339	Madhya Pradesh & Chhattisgarh
6.	Satpura	ST-CBM-2008/IV	714	Madhya Pradesh
7.	North East	AS-CBM-2008/IV	113	Assam
8.	Wardha	WD(N)-CBM-2008/IV	442	Maharashtra
9.	Wardha	WD(E)-CBM-2008/IV	503	Maharashtra
10.	Mannargudi	MG-CBM-2008/IV	691	Tamil Nadu

CBM BLOCKS AWARDED						
SL NO.	COAL FIELD / STATE	BLOCK NAME	REF. NO ON MAP	CONSORTIUM (PARTICIPATING INTEREST)	DATE OF SIGNING CONTRACT	APPROX AREA (SQ. KM.)
CBM-I ROUND						
1.	RANIGANJ EAST / WEST BENGAL	RG(E)-CBM-2001/1	1	EOL (100)	26.07.2002	500
2.	BOKARO / JHARKHAND	BK-CBM-2001/1	2	ONGC (80) & IOC (20)	26.07.2002	95
3.	N. KARANPURA / JHARKHAND	NK-CBM-2001/1	3	ONGC (80) & IOC (20)	26.07.2002	340
4.	SOHAGPUR EAST / M.P.	SP(E)-CBM-2001/1	4	RIL (100)	26.07.2002	495
5.	SOHAGPUR WEST / M.P.	SP(W)-CBM-2001/1	5	RIL (100)	26.07.2002	500
TOTAL AREA :						1930
ON NOMINATION BASIS						
6.	RANIGANJ NORTH / WEST BENGAL	RANIGANJ NORTH	6	ONGC (74) & CIL (26)	06.02.2003	350
7.	JHARIA / JHARKHAND	JHARIA	7	ONGC (90) & CIL (10)	06.02.2003	85
8.	RANIGANJ SOUTH / WEST BENGAL	RANIGANJ SOUTH	8	GEECL (100)	31.05.2001	210
TOTAL AREA :						645
CBM-II ROUND						
9.	SOUTH KARANPURA / JHARKHAND	SK-CBM-2003/II	9	ONGC (100)	06.02.2004	70
10.	NORTH KARANPURA / JHARKHAND	NK(WEST)-CBM-2003/II	10	ONGC (100)	06.02.2004	267
11.	SONHAT / CHATTISGARH & M.P.	SH(NORTH)-CBM-2003/II	11	RIL (100)	06.02.2004	825
12.	SATPURA / M.P.	ST-CBM-2003/II	12	ONGC (100)	06.02.2004	714
13.	WARDHA / MAHARASHTRA	WD-CBM-2003/II	13	ONGC (100)	06.02.2004	503
14.	BARMER-SANCHOR / GUJARAT	BS(3)-CBM-2003/II	14	ONGC(70)&GSPCL(30)	06.02.2004	790
15.	BARMER / RAJASTHAN	BS(1)-CBM-2003/II	15	RIL (100)	06.02.2004	1045
16.	BARMER / RAJASTHAN	BS(2)-CBM-2003/II	16	RIL (100)	06.02.2004	1020
TOTAL AREA :						5234
CBM-III ROUND						
17.	RAJMAHAL / JHARKHAND	RM-CBM-2005/III	17	ARROW-GAIL-EIG-TATA	07.11.06	469
18.	BIRBHUM / WEST BENGAL	BB-CBM-2005/III	18	BPE	16.11.06	248
19.	TATAPANI RAMKOLA / CHATTISGARH	TR-CBM-2005/III	19	ARROW-GAIL-EIG-TATA	07.11.06	458
20.	MAND RAIGARH / CHATTISGARH	MR-CBM-2005/III	20	ARROW-GAIL-EIG	07.11.06	634
21.	SOHAGPUR / M.P.	SP(N)-CBM-2005/III	21	REL-RNPL-GEO	07.11.06	609
22.	SINGRAULI / M.P.	SR(N)-CBM-2005/III	22	COALGAS-DIL	07.11.06	330
23.	KOTHAGUDEM / ANDHRA PRADESH	KG(E)-CBM-2005/III	23	REL-RNRL-GEO	07.11.06	750
24.	BARMER / RAJASTHAN	BS(4)-CBM-2005/III	24	REL-RNRL-GEO	07.11.06	1168
25.	BARMER / RAJASTHAN	BS(5)-CBM-2005/III	25	REL-RNRL-GEO	07.11.06	739
26.	GODAVARI / ANDHRA PRADESH	GV(N)-CBM-2005/III	26	COALGAS-DIL-ADINATH	07.11.06	386
TOTAL AREA :						5791
GRAND TOTAL :						13600 SQ.KM
ONGC : Oil & Natural Gas Corporation Ltd. IOC : Indian Oil Corporation Ltd. GSPCL : Gujarat State Petroleum Corporation Ltd. RIL : Reliance Industries Ltd. EOL : Essar Oil Ltd. CIL : Coal India Ltd. GEECL : Great Eastern Energy Corporation Ltd. GAIL : GAIL (India) Ltd. BPE : BP Exploration Alpha Ltd. ARROW : Arrow Energy India Pvt. Ltd. RNRL : Reliance Natural Resources Ltd. GEO : Geopetrol International Inc. REL : Reliance Energy Ltd. TATA : Tata Power Company Ltd. EIG : EIG Energy Infrastructure Group AB DIL : Deep Industries Ltd. COALGAS : Coalgas Mart LLC. ADINATH : Adinath Exim Resources Ltd.						

CBM BLOCKS AWARDED SO FAR





CNG GGS SITE



CNG METERING STATION AT GGS SITE



GROUP GATHERING STATION OF A CBM FIELD



GAS HYDRATES

To keep pace with the global trend, India launched National Gas Hydrate Program (NGHP). Steered by the Ministry of Petroleum & Natural Gas and technically coordinated by Directorate General of Hydrocarbons (DGH), NGHP is a consortium of National E&P companies (Oil and Natural Gas Corporation Ltd., Gas Authority of India Ltd & Oil India Ltd.) and National Research Institutions (National Institute of Oceanography, National Geophysical Research Institute and National Institute of Ocean Technology). The NGHP roadmap envisages achieving the commercial production of gas from gas hydrates beyond 2010.

To understand the subsurface distribution of gas hydrates along the continental margins of India, an integrated study through acquisition of multidisciplinary investigations were undertaken in the year 2002-03 under National Gas Hydrate Programme (NGHP) of Ministry of Petroleum and Natural Gas (MOPNG) coordinated by Directorate General of Hydrocarbons (DGH).

Based on geophysical, geological and geochemical data, areas were identified for gas hydrate coring/drilling operations and a dedicated gas hydrate coring/drilling/LWD/MWD expedition NGHP-01 was launched for exploring four Indian Offshore areas during 28th April 2006 to 19th August 2006 through a Consortium consisting of Overseas Drilling Ltd (ODL), Fugro McClelland Marine Geosciences, Geotek Ltd, Lamont-Doherty Earth Observatory (LDEO) and scientists from numerous universities and national laboratories.

The NGHP efforts in Indian offshore for gas hydrate exploration led to the following:

- Comprehensive analysis of gas hydrate bearing marine sediments in both passive continental margin and marine accretionary wedge settings;
- Discovery of gas hydrate in numerous complex geologic settings and collection of unprecedented number of gas hydrate cores (more than 2800 m from 21 sites and 39 holes);
- Discovery in Krishna-Godavari basin of one of the thickest marine gas hydrate accumulations in the world;
- Discovery in Andaman Islands of one of the thickest and deepest gas hydrate occurrences yet known which revealed gas hydrate bearing volcanic ash layers as deep as 600 meters below the seafloor;
- Establishing the existence of a fully developed gas hydrate system in the Mahanadi basin of the Bay of Bengal.

The NGHP Expedition-01, 2006 was a Collaborative Research Programme in its true sense with the active participation of foreign organizations like Overseas Drilling Ltd, Fugro/Geotek, Lamont-Doherty Earth Observatory, USGS and the US DOE. In addition, there were 24 other foreign organizations involved. The Indian participation included scientists from DGH, ONGC, GAIL, RIL, OIL and NIO.

Some of the studies carried out on the Gas Hydrate samples acquired during the NGHP Expedition – 01 have yielded very positive results.

The SEM studies of core 29 at Site 10 in the KG basin show fully formed crystals (Figure 1 to Figure 3). In fact these crystals are quite similar to the ones generated in laboratories.

FIGURE - 1

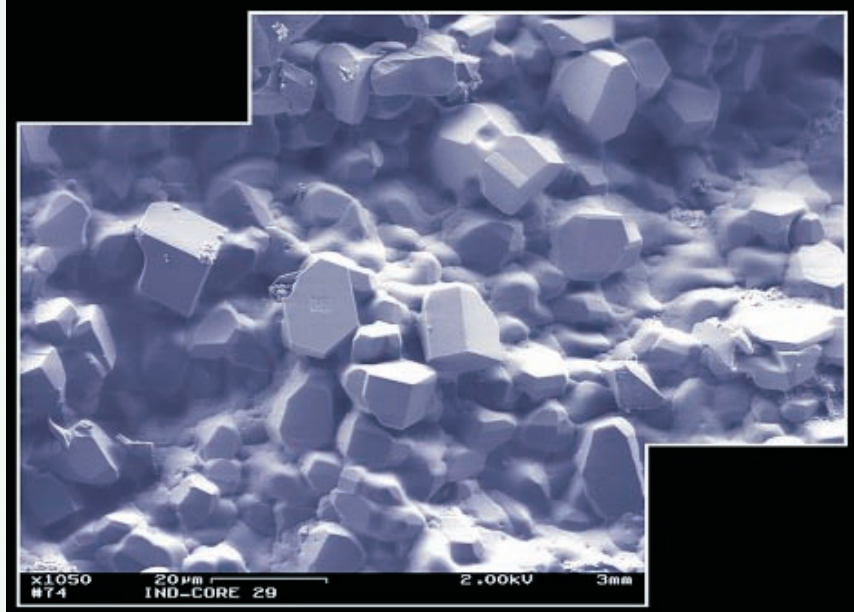


FIGURE - 2

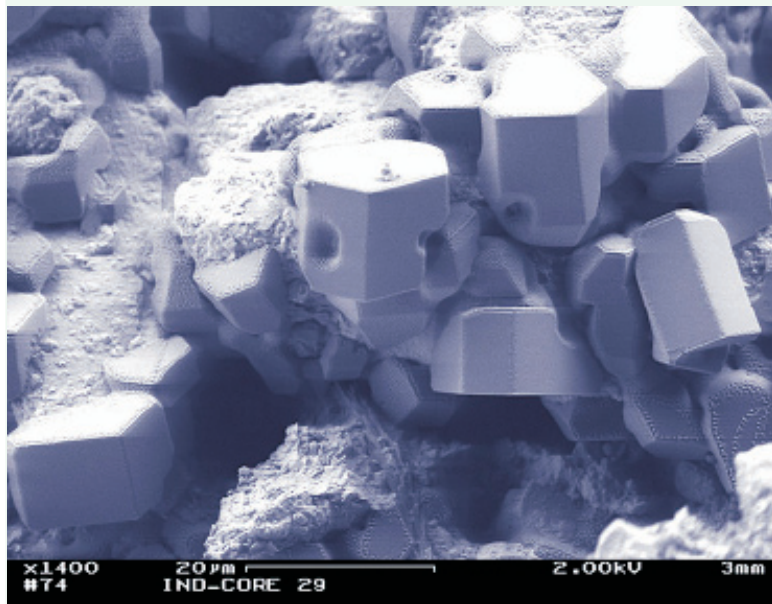


FIGURE - 3

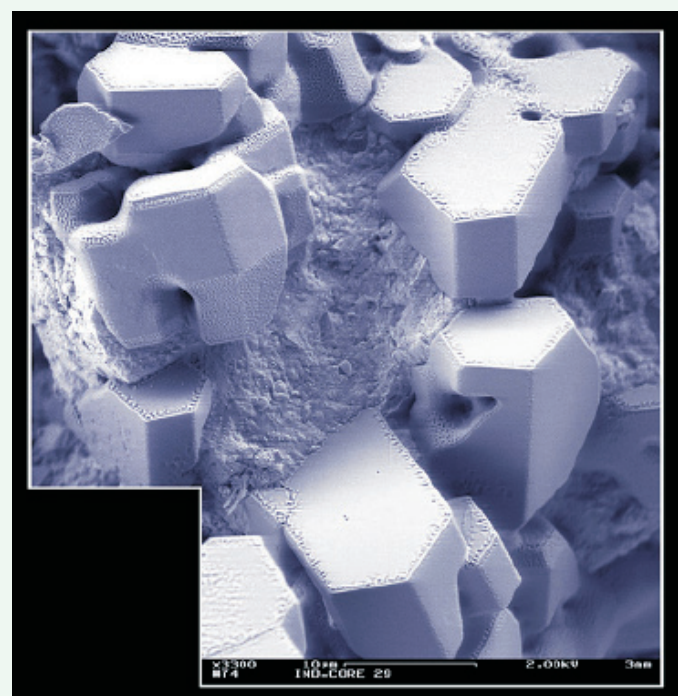


FIGURE - 1, 2 & 3 : CRYSTALS OF GAS HYDRATES

The Summary of gas hydrate occurrence type in sediments recovered from offshore India along with the matrix is shown in Table below:

Hole	Core	Sample Number	Depth (mbsf)	Sediment matrix	Gas hydrate occurrence
NGHP-01-10B K-G Basin	4X	1	26	Dark fine sediments	Platy
	cc*	9	42	Dark fine sediments	Massive
	10X	18	63	Dark fine sediments	Vein-like
	12X	20	72	Dark fine sediments	Film-like
	14X	23	90	Dark fine sediments	Thin vein-like
	17X	30	110	Dark fine sediments	Patchy
	cc	33	128	Dark fine sediments	Thin film like
NGHP-01-10C K-G Basin	1H	35	29	Dark fine sediments	Vein-like
	1H	39	31	Dark fine sediments	Thin film-like
NGHP-01-10D K-G Basin	5X	40	35	Dark fine sediments	Thin film-like
	cc	42	43	Dark fine sediments	Thin film-like
	cc	56	65?	Dark fine sediments	Patchy
	10X	58	60	Dark fine sediments	Thin vein-like
	cc	68	69	Dark fine sediments	Thin vein-like
	14X	69	92	Dark fine sediments	Vein-like
	17X	73	101	Dark fine sediments	Vein-like
	17X	76	114	Dark fine sediments	Thin film-like
	18X	78	123	Dark fine sediments	Thin vein-like
	20X	86	128	Dark fine sediments	Massive
	cc	87	132	Dark fine sediments	Massive
	cc	88	149	Dark fine sediments	Nodular
NGHP-01-14A K-G Basin	16X	95	105	Dark fine sediments	Pore-filling
	16X	97	106	Dark fine sediments	Pore-filling
NGHP-01-15A K-G Basin	9X	100	79	Grey medium sands	Pore-filling
NGHP-01-17A Offshore Andaman Islands	39X	105	336	Green fine sediments	Pore-filling
	47X	111	408	White fine volcanic ash	Pore-filling
	55X	112	467	Green fine sediments	Pore-filling
	63X	116	525	Green fine sediments	Pore-filling
	67X	119	566	Green fine sediments	Pore-filling
	72X	123	588	Green fine sediments	Pore-filling
NGHP-01-21A K-G Basin	12X	128	84.67	Dark fine sediments	Pore-filling
	12X	131	84.37	Dark fine sediments	Pore-filling
	12X	133	84.17	Dark fine sediments	Massive
	12X	138	83.67	Dark fine sediments	Pore-filling

*: cc, core catcher; K-G Basin: Krishna-Godavari Basin.

The following are the conclusions drawn based on the Hydrate characterization studies carried out.

- 1) The structure of the gas hydrates in the samples studied is always S-1 with methane as the dominant guest.
- 2) The occupancy of methane in large cage is almost 100%, while it is variable in the small cage (0.75 to 0.99).
- 3) For pore filling gas hydrate, the saturation level in silty clay is low, generally less than 2.7% of pore space, while high in sands (26.1% of pore space) and volcanic ash (22.6% of pore space), indicating an obvious sedimentary control on hydrate saturation level.

The NGHP would now endeavor, utilizing the inputs from the geoscientific data generated during the Expedition-01, in finding an efficient, and cost effective method to delineate our Gas hydrate reserves, carry out volumetric reserve estimation and finally of course, to produce the gas from these hydrates in an environmentally friendly manner.

International Conference on Gas Hydrates

International Gas Hydrate Conference was held during 6-8 February 2008 in New Delhi, India. The leadership and participants in the Indian National Gas Hydrate Program (NGHP) Expedition 01 released the results of the first modern, fully integrated gas hydrate research and exploration program conducted in the offshore of India. The conference witnessed the participation of delegates from various parts of the globe. There were 28 papers presented in the poster session and 20 papers presented in the oral session. The conference witnessed participation of scientists from USA, Japan, India, Canada, Taiwan, Korea, UK and Spain. Representatives from countries like Australia and Russia also participated in the conference. A wide range of topics were deliberated upon which comprised of progress made in the gas hydrate programme of various countries and studies in the fields of Geophysics, Petrophysics, Sedimentology, Paleontology, Core studies, Production and Reservoir. A paper on the commercialization of Gas Hydrate prospects was also presented during the conference.

Expedition Objectives :

NGHP Expedition 01 was designed to study the gas hydrate occurrences both spatially and temporally off the Indian Peninsula and along the Andaman convergent margin with special emphasis on understanding the geologic and geochemical controls on the occurrence of gas hydrate in these two diverse settings. The primary goal of NGHP Expedition 01 was to conduct scientific ocean drilling/coring, logging, and analytical activities to assess the geologic occurrence, regional context, and characteristics of gas hydrate deposits along the continental margins of India in order to meet the long term goal of exploiting gas hydrates as a potential energy resource in a cost-effective and safe manner. During NGHP Expedition 01, dedicated gas hydrate coring, drilling and downhole logging operations were conducted from 28 April 2006 to the 19 August 2006.

Based on analysis of geological and geophysical data, the Expedition was planned to visit ten sites in four areas: the Kerala-Konkan Basin in the Arabian Sea – western continental shelf of India; the petroliferous Krishna-Godavari Basin and Mahanadi Basin in the Bay of Bengal – eastern continental shelf of India; and the previously unexplored Andaman Islands. The goals of the cruise were to conduct scientific drilling, well logging, coring and shipboard scientific analyses of recovered samples from each site to provide further insight into:

- the distribution and nature of gas hydrate in marine sediments
- the geologic controls on the formation and occurrence of gas hydrate in nature
- the processes that transport gas from source to reservoir
- the effect of gas hydrate on the physical properties of the host sediments
- the microbiology and geochemistry of gas hydrate formation and dissociation
- the calibration of geophysical and other predictive tools to the observed presence and concentration of gas hydrates.

Participants

NGHP Expedition 01 was planned and managed through collaboration between the Directorate General of Hydrocarbons (DGH) under the Ministry of Petroleum and Natural Gas (Government of India), the U.S. Geological Survey (USGS), and the Consortium for Scientific Methane Hydrate Investigations (CSMHI) led by Overseas Drilling Limited (ODL) and FUGRO McClelland Marine Geosciences (FUGRO). The platform for the drilling operation was the research drill ship JOIDES Resolution (JR),

operated by ODL. The science team was led by Dr. Timothy Collett of the USGS, and consisted of more than 100 leading scientists and professionals representing the following organizations :

- Binghamton University Colorado School of Mines
- Directorate General for Hydrocarbons (India)
- Fugro-McClelland, Inc.
- GAIL (India) Ltd
- Geological Survey of Canada
- Geotek Ltd
- Idaho National Laboratory
- Integrated Ocean Drilling Program
- Joint Oceanographic Institutions, Inc.
- Lamont-Doherty Earth Observatory
- Ministry of Petroleum and Natural Gas (India)
- McGill University
- National Energy Technology Laboratory
- National Institute of Oceanography (India)
- National Institute of Ocean Technology (India)
- Oil and Natural Gas Corporation (India)
- Ocean Drilling Limited
- Oregon State University OIL India Ltd
- Pacific Northwest National Laboratory
- Reliance Industries Limited (India)
- Schlumberger
- Technical University of Berlin
- Texas A&M University
- University of California, San Diego
- University of Cardiff
- University of New Hampshire
- Universität Bremen
- University of Rhode Island
- U.S. Department of Energy
- U.S. Geological Survey
- U.S. National Science Foundation
- Woods Hole Oceanographic Institution

Operational Highlights

During its 113.5-day voyage, the expedition cored and drilled 39 holes at 21 sites (one site in the Kerala-Konkan Basin, 15 sites in the Krishna-Godavari Basin, four sites in the Mahanadi Basin and one site in the Andaman deep offshore areas), penetrated more than 9,250 meters of sedimentary section, and recovered nearly 2,850 meters of core. Twelve holes were logged with logging-while-drilling (LWD) tools and an additional 13 holes were wireline logged. The operational highlights of NGHP Expedition 01 included the following:

- 113.5 days of operation without any reportable injury or incident.

- Only 1% of total operation time was down time due to equipment malfunction or weather.
- Examination of 9,250 meters of sedimentary section at 39 locations within 21 sites located in four geologically distinct settings.
 - ☞ Collected LWD log data in 12 holes at 10 sites.
 - ☞ Collected wireline log data at 13 sites.
 - ☞ Collected vertical seismic profile data at six sites.
 - ☞ Collected 494 cores, encompassing 2,850 meters of sediment, from 21 holes (78% overall recovery).
 - ☞ Collected detailed shallow geochemical profiles at 13 locations.
 - ☞ Established temperature gradients at 11 locations.
- Extensive sample collection to support a wide range of post-cruise analysis, including:
 - ☞ Collected about 6,800 whole round core samples for examination of interstitial water geochemistry, microbiology and other information.
 - ☞ Collected more than 12,500 core sub samples for paleomagnetic, mineralogical, paleontological, and other analyses.
 - ☞ Collected about 140 gas-hydrate-bearing sediment samples for storage in liquid nitrogen.
 - ☞ Collected five one-meter-long gas-hydrate-bearing pressure cores for analysis of the physical and mechanical properties of gas-hydrate-bearing sediment.
 - ☞ Collected 21 re-pressurized cores (nine representing sub-samples from gas-hydrate-bearing pressure cores).
- Conducted 97 deployments of advanced pressure coring devices, resulting in the collection of 49 cores that contain virtually undisturbed gas hydrate in host sediments at near *in situ* pressure conditions.

Scientific Findings and Impact

The NGHP Expedition 01 Initial Reports, released at the conference in New Delhi, includes a series of integrated site chapters (Sites 1-21) describing the operational history and scientific data collected during the expedition. The Initial Reports volume also includes a companion publication that contains all downhole log data collected during the expedition.

The NGHP Expedition 01 science team utilized extensive on-board lab facilities to examine and prepare preliminary reports on the physical properties, geochemistry and sedimentology of all the data collected prior to the end of the expedition. Although the data will continue to inform gas hydrates science for years to come, the following are some key scientific highlights of the expedition to date:

- Conducted comprehensive analyses of gas-hydrate-bearing marine sediments in both passive continental margin and marine accretionary wedge settings.
- The calculated depth to the base of the methane hydrate stability zone, as derived from downhole temperature measurements, closely matches the depth of the seismic identified bottom simulating reflectors (BSRs) at most of the sites established during this expedition.

- Discovered gas hydrates in numerous complex geologic settings and collected an unprecedented number of gas hydrate cores.
- Most of the recovered gas hydrate was characterized as either pore-filling grains or particles disseminated in coarser grain sediments or as a fracture-filling material in clay dominated sediments.
- The occurrence of concentrated gas hydrate is mostly controlled by the presence of fractures and/or coarser grained (mostly sand-rich) sediments.
- Gas hydrate was found occurring in “combination reservoirs” consisting of horizontal or sub horizontal coarse-grained permeable sediments (sands for the most part) and apparent vertical to sub vertical fractures that provide the conduits for gas migration.
- Delineated and sampled one of the richest marine gas hydrates accumulations ever discovered (Site NGHP-01-10 in the Krishna-Godavari Basin).
- Discovered one of the thickest and deepest gas hydrate occurrences yet known (offshore of the Andaman Islands, Site NGHP-01-17) which revealed gas-hydrate-bearing volcanic ash layers as deep as 600 meters below the seafloor.
- Established the existence of a fully developed gas hydrate system in the Mahanadi Basin of the Bay of Bengal.
- Most of the gas hydrate occurrences discovered during this expedition appear to contain mostly methane, which was generated by microbial processes. However, there is also evidence of a thermal origin for a portion of the gas within the hydrates of the Mahanadi Basin and the Andaman offshore area.
- Gas hydrate in the Krishna-Godavari Basin appears to be closely associated with large-scale structural features, in which the flux of gas through local fracture systems, generated by the regional stress regime, controls the occurrence and distribution of gas hydrate.

Future Directions

NGHP Expedition 01 has shown that conventional sand and fractured-clay reservoirs are the primary emerging economic targets for gas hydrate production in India. Because conventional marine exploration and production technologies favor the sand-dominated gas hydrate reservoirs, investigation of sand reservoirs will likely have a higher near-term priority in the NGHP program. It is perceived that the NGHP effort will likely include future seismic studies, drilling, coring and field production testing. It has been concluded that Site 10 represents a world-class shale dominated fracture gas hydrate reservoir, worthy of further investigation.

Future Program

The NGHP is working to launch its expedition - 02 to identify locations for the production testing in mid of 2010 and it would be primarily a CWD exercise. Both the USGS & VSDOE have shown keen interest to be partners in the expedition by offering their technical advice and scientific support.

Ongoing Cooperation with USGS / USDOE & DGH:**BROAD AREA OF COOPERATION: - GAS HYDRATES**

1. Indo-US workshop on Gas Hydrates conducted in 2002 at New Delhi
2. One Scientist from NGHP given one year Advance Training on Gas Hydrate Laboratory techniques at Colorado School of Mines, Denver USA
3. US Scientists participated in the pre-conference on gas hydrates at New Delhi in 2003 & 2005.
4. NGHP joined "International Mallik Gas Hydrate Research well consortium" consisting of USA, Japan, Canada, India & Germany
5. Eight NGHP Scientists underwent training in Gas Hydrates in Texas A&M University in October 2005.
6. Letter of Agreement (LOA) placed on 17th February 2006 for Conducting studies prior, during and after Gas Hydrate Coring / Drilling in Indian Offshore

Future Cooperation

1. Direct participation of NGHP scientists in various R&D programme in US Universities for upgrading knowledge
2. Participation in US technology development programme for production of gas from natural gas hydrates.
3. Cooperation with Lawrence Berkley National Laboratory (LBNL), USA for developing mathematical / simulation models.
4. US technical and scientific support in setting up of a "National Gas Hydrate R&D Centre" in India under NGHP. MOU in this regard between DGH & Department of Energy USA has already signed.
5. An MOU between DGH and USGS furthering the collaboration made under the Science & Technology MOU signed between Indian and the US is also in the pipeline focusing the areas of R&D in Gas Hydrates.

STUDY ON ENVIRONMENTAL ISSUES

TRACKING STUDY FOR OLIVE RIDLEY TURTLES IN EAST COAST OF INDIA

The need for a better understanding of the distribution, habitat requirement and movement pattern of olive ridley sea turtles in the coastal waters off Orissa coast was essential (a) for their long term conservation and (b) for rational planning of developmental activities such as hydrocarbon exploration in this region.

In this connection, the Wildlife Institute of India, Dehradun (WII) under the direction of Ministry of Environment & Forests, government of India undertook the project study under an MOU between DGH & WII, having the contractual values of Rs 3.4568 crore. The fund has been realized from the concerned operators ONGC, RIL & OAO GAZPROM in proportion to their area of operation in the coast. It has been planned to carry out satellite telemetry tracking study with 70 Platform Transmitter Terminals (PTT) in a span of two years for the following objectives:



1. To estimate abundance and spatial distribution of Olive Ridley turtles to determine their critical marine habitat requirements during the breeding season.
2. To study the movement of satellite tagged turtles in the coastal waters in East Coast of India.
3. To track the long range migratory route of the adult Olive Ridley turtles and to determine the non breeding area in east coast in India for nesting.

In the first phase of the project, a total of 30 olive ridley sea turtles along the coast were deployed with Kiwisat 101 Marine Turtle Platform terminal transmitters (PTT) of SIRTRACK, between March and May 2007 to study their movement pattern. Movement of all PTT tagged turtles was monitored through ARGOS Satellite Tracking System. Most of the tagged turtles were observed to leave the breeding grounds of the off shore waters of Orissa by April- May and moved south wards reaching the south east coast of Sri Lanka and appeared to move in to the Indian ocean when last location was received. Analysis on movements of PTT fixed turtles revealed that majority of the turtles are using Orissa coast for longer period of time. However, all the PTTs stopped giving signals by the end of September 2007. The reason of such low response could be due to mortality of turtles due to fishing in deep sea, battery failure, antenna failure or other technical faults. After taking certain corrective measures, a subsequent batch of 32 female olive ridley turtles has been deployed with PTTs during 2008- 09 for study and 8 nos PTTs is planned to deploy at Sri Lanka to track the returning path also..

Further, as desired by MOEF, studies on socio economic concerns of fishermen and other stake holders residing in the region to evolve an appropriate strategy for conflict resolution and wise use of marine resources in the region has been included in the the scope of the study at no extra cost.

The final report by WII shall be submitted to DGH after completion of the project study.

Probable Land Subsidence Study Report

DGH has always been pro active in taking suitable measures to address environmental issues before hand. DGH initiated a study on probable land subsidence due to extraction of oil & natural gas from shallow reservoir in Bheema Gas field (Block CB-ONN-2000/2), near Surat Gujarat, where the gas reservoir is at a shallow depth (about 200 Mtrs below the ground surface level), apprehending a possibility of Land subsidence. **Two subject expert agencies**, The Central Institute of Mining and Fuel Research (CIMFR), Dhanbad and a team of IIT, Mumbai have been carrying out the aforesaid study in parallel to acquire geodetic data by using method of levelling survey and GPS respectively.

The Land Subsidence Monitoring Programme has been carried out before commencement of Gas production since February 2004. The same is being continued for further monitoring in future as well.

Further more, an additional area NS-3 in the same field NS-A of the block has been included in the study owing to higher withdrawal of gas.

Land Subsidence investigation conducted by the two subject expert agencies led to the following observation and recommendations :

Only few seasonal local minor negligible level changes are detected in the area under study, indicating that overall the area is stable. Also the trend in the behavior of some points, which had been observed in a particular region, has also now been proven to be due to seasonal variations, and **no resultant subsidence is observed**. However, close monitoring is required in future, especially at some points to estimate the trends, and the probable changes.”

It is recommended to monitor ground movements thrice in a year to see further effect of pressure depletion of shallow gas reservoir on the ground surface from safety point of view as five villages and roads are lying above the reservoir. And it is also recommended to monitor water level in the 30 selected tube/ dug wells monthly as it will give a prior indication of ground movements due to shallow gas exploitation.

More over, the study is being continued by CIMFR, Dhanbad for a comprehensive conclusion and future references.

- All boundaries shown in the maps are not authenticated.
- The statistics given in this report are pertaining to the period from 1st April, 2008 to 31st March, 2009.
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Glimpses



We care for Environment !!



"Mass Nesting of Olive Ridley Sea Turtles in the East Coast of India"



DIRECTORATE GENERAL OF HYDROCARBONS
(Under Ministry of Petroleum & Natural Gas, Govt. of India)

C - 139, Sector-63, NOIDA-201301, U.P. (India)
Telephone: +91-120-4029400, Fax: +91-120-4029410
E-mail: dg@dghindia.org

www.dghindia.org