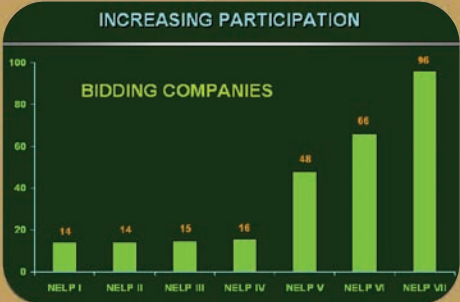
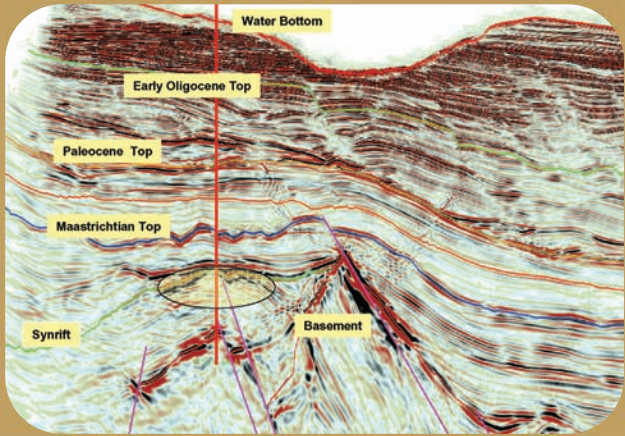


PETROLEUM EXPLORATION AND PRODUCTION ACTIVITIES

INDIA 2007-08



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



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

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- All boundaries shown in the maps are not authenticated.
- The statistics given in this report are pertaining to the period from 1st April, 2007 to 31st March, 2008.
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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

Today India imports around 75% of its oil requirements. Currently we are the world's 5th largest consumer of energy which accounts for approximately 3.9% of world consumption. USA, China, Russian federation and Japan are the top four energy consumers. In the past few years, country's economy has witnessed a healthy 7% to 9% growth rate. To sustain this high growth, India needs substantial quantity of crude and natural gas. India's energy needs are growing at a faster rate as income levels and population are both showing rising trends. Indian economy has been dependent on oil prices during the year 2007-08. The oil price rise so far witnessed has been unprecedented impacting oil import bill of India. As the consumption of petroleum products is increasing in India due to rapid economic growth, the spiralling prices of oil have put enormous pressure on national exchequer.

Our main focus is to enhance energy security for the country. Government of India and our Oil Companies have initiated several measures to enhance energy security for the country, viz (a) increasing exploration and production activities in the country (b) acquiring oil and gas assets abroad (c) development of alternate sources of energy (d) strategic storage of crude oil (e) conservation and implementation of environment friendly policies.

The national endeavor to bridge the ever-increasing gap between demand and supply of petroleum products by intensifying exploratory efforts for oil and gas in the Indian sedimentary basins and abroad need to be supported by other alternate sources of energy like Coal Bed Methane, Gas Hydrates, Coal Liquefaction, Ethanol and bio-diesel, etc. I am happy that first CBM gas production from Raniganj CBM block in West Bengal has started in July 2007. This is

reflection of the relentless efforts put in by the Government of India in achieving this aim.

The development of E&P sector has been significantly boosted through the New Exploration Licensing Policy (NELP) of Government of India, which ushered in major liberalization in the sector and opened it up for private and foreign investment, where 100% Foreign Direct Investment (FDI) is allowed. Under NELP, licenses for exploration are being awarded only through a competitive bidding system and National Oil Companies (NOCs) are required to compete on an equal footing with Indian and foreign companies to secure Petroleum Exploration Licences (PEL). Six rounds of bids have so far been completed under NELP, in which 162 exploration blocks have been awarded in a transparent manner. The seventh round of NELP has been very successful as 96 companies including 21 foreign companies, have submitted 181 bids for 45 exploration blocks. Before implementing New Exploration Licensing Policy (NELP), 11% of Indian sedimentary basins was under exploration which has now been increased to cover 44% of Indian sedimentary basins. In the next four years, it is planned to increase coverage of 80% of total Indian sedimentary basins. By 2015, entire area of Indian sedimentary basins is likely to be under exploration.

As the exploration work is progressing in NELP blocks, the results in terms of new oil and gas discoveries are pouring in. Under NELP regime, oil production has commenced from deep water block D-6 in KG basin during September 2008 and this is first oil from deep waters of India. Natural gas production is likely to commence from January 2009 at a rate of 80 MMSCMD from the same block.

I compliment the Directorate General of Hydrocarbons for demonstrating enormous capabilities particularly in offering 57 blocks in NELP-VII and making bid terms investor friendly. I hope this momentum of offering more areas will be maintained in the coming years. Learning from our NELP experience, we have endeavoured to make the NELP regime even more attractive both for domestic and the foreign companies. Every change in the PSC is aimed at improving the transparency and efficiency of the NELP process and has been done in full consultation with stake holders.

The report "Petroleum Exploration and Production Activities India 2007-08" is a compilation of important information of upstream oil sector and is of immense use to all stake holders in upstream sector.



(Murli Deora)

दिनशा पटेल
DINSHA PATEL



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

The production of both oil and gas has increased marginally during 2007-08 compared to 2006-07. Though the increase is very less it is welcome in the context of high oil price and increasing demand. India's population has crossed the 1 billion mark and our consumption of oil has been on the increase. Till the mid 80s, we had been self-sufficient to the extent of 70% in oil. Today we are importing around 75% of our oil requirements. Economic growth rate of 9% to 10% calls for rapid development of energy market. To maintain high growth rate of the economy, we need substantial amount of oil and natural gas. Ensuring uninterrupted availability of petroleum products is essential for sustained economic growth. The success story of India's economic growth is being watched by whole world with renewed interest. Today India is the fifth largest consumer of primary energy and the third largest consumer of oil in the Asia-Pacific region, after China and Japan. In the wake of the high-octane growth in the economy, energy independence has to be a nation's first and highest priority since growth is linked with high consumption of energy. For all those engaged in the oil & gas business, India presents a tremendous opportunity to create value and wealth and to be a partner in our growth.

Several oil and gas discoveries have already been made in onland and offshore areas including deepwater, for which development plans by the operators are in progress. In India, apart from the two national oil companies, ONGC & OIL, more than two dozen foreign companies are working in E&P sector including

global majors like BG, BP, ENI, Petrobras, Santos, Cairn and NIKO. With recent exploration and development efforts under way in India, Crude oil production is likely to increase by over 30% in the next five years. Similarly, by year 2012 natural gas production will more than double from the present level of about 90 million standard cubic metres per day (MMSCMD).

Directorate General of Hydrocarbons has been playing a pivotal role in promoting and regulating upstream activities. DGH is instrumental in bringing more and more basinal area in to active exploration. With the implementation of NELP more operators are joining the group searching for hydrocarbons. DGH has been a key player in operationalising NELP efficiently and effectively. Exploration in new areas with state-of-the art technology is the key to identifying new geological features which eluded the oil explorers so far. The continuous participation of International companies is a welcome sign and a testimony to the acceptability of our policies.

The report "Petroleum Exploration and Production Activities India 2007-08" summarizes all important events and achievements of India's upstream sector in an informative manner. The report will be a valuable guide to the future investors and the existing operators.



(Dinsha Patel)



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

The need for affordable and sustainable energy resources is arguably the most pressing issue facing the Indian economy today. Economic growth rate of above 8% in the country demands rapid development of the energy resources. The production of hydrocarbons in India has more or less been stagnant over the past 3-4 years while the demand for hydrocarbons is increasing. In view of unfavourable demand – supply balance of hydrocarbons in the country, acquiring equity oil and gas assets overseas is one of the important components of enhancing energy security. Government of India and our Oil Companies have taken several steps to enhance energy security for the country. The Government is encouraging Oil PSUs, ONGC Videsh Limited and others to aggressively pursue equity oil and gas opportunities overseas. In addition, private companies such as Reliance Industries Limited, Essar and Videocon are also investing on overseas E&P assets. The key to success is attractive investment terms in India and competitive bidding abroad.

The upward oil price trend has made several areas considered uneconomical hitherto, a centre of focus worldwide as well as in India. Many foreign and Indian companies are showing keen interest in the Indian sedimentary basins. The E&P scenario in India has significantly changed after the implementation of NELP both in terms of exploration activity and investment. Further dividends will be reaped when most of the blocks which are in initial stages of exploration enter advanced stages in the next four years. NELP has brought in a healthy competition between private and public sector companies and this trend is good for the economy of the

country and also the upstream oil sector. Efforts are on to make the NELP regime even more attractive and transparent both for domestic and the foreign companies.

The Directorate General of Hydrocarbons has taken several initiatives to open up new areas for exploration by conducting speculative surveys, by promoting Indian exploration acreages abroad through board room meetings and by road shows at important venues abroad. Increasing geological information of the Indian basins being made available will help International companies looking for opportunities in Indian basins. DGH has done a commendable job in presenting a positive outlook for oil & gas in the global market. Frontier areas are also to be brought in to active exploration in the near future. NELP-VIII and CBM-IV are planned to be launched in the coming months. We are confident that the blocks offered will generate great interest among domestic and International players.

The report "Petroleum exploration and production activities India 2007-08" is an elaborate and useful compilation of E&P events and figures of 2007-08 and will be a reference volume for government officials as well as for investors & operators.



(R.S.Pandey)

FROM THE DIRECTOR GENERAL'S DESK



Energy remains 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 need of the hour, therefore, is to enhance exploration and production activities to meet our energy requirements.

We have an estimated sedimentary area of 3.14 million square kilometers, comprising 26 sedimentary basins, out of which 1.35 million square kilometers area is in deepwater and 1.79 million square kilometers area is in onland and shallow offshore. At present 1.06 million square kilometers 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.

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. Under NELP, licenses for exploration are being awarded only through a competitive bidding system. Six rounds of bids have so far been completed under NELP, in which 162 exploration blocks have been awarded.

A total of 57 blocks were offered in NELP-VII following road shows held at Mumbai, London, Houston, Calgary, Singapore and Perth. There was an overwhelming response with 45 blocks attracting 181 bids. A total of 149 blocks are under operation under PSC regime. A total of 1,060,295 Sq Km area is under PEL. A total of 35,601 Sq Km area is under ML. Operations are being carried out by National and Private oil companies in 597 concessions, of which 259 are under Petroleum Exploration Licence (PEL) and 338 are under Mining Lease (ML).

The discoveries of oil and gas in various basins has resulted in a paradigm shift in the way E & P companies across the globe view the hydrocarbon prospectivity of India. Today, India is a favoured destination for companies to invest in E & P business. The fair and transparent procedures and practices adopted by the DGH have resulted in creating an E & P brand image that has become the hallmark of our efforts. A total of 67 hydrocarbon discoveries were made that includes ONGC (38), OIL (8), RIL (8), GSPC (5), HOEC (2), Essar (2), Jubilant (2), Cairn (1) and Focus (1). Accretion of In-place reserves (O+OEG) of 363.06 MMT and Ultimate Reserves (O+OEG) of 115.26 MMT was achieved. Commercial production of coal bed methane commenced from Raniganj South block from 14th July 2007.

During the year 2007-08 India has produced 34.132 MMT of oil and 32.402 BCM of gas which is higher compared to previous year 2006-07 (33.99 MMT of oil & 31.746 BCM of gas). Profit petroleum of US\$ 995.25 Million and Royalty of Rs 3527.38 crores accrued to government during 2007-08. Essentiality certificates have been issued for clearance of 13,221 cases valued at Rs 34,958 crores.

The functions and responsibilities of DGH have been steadily increasing. The requirement of manpower in the burgeoning E & P sector has been a cause of serious concern. In continuation of the policy of building up necessary skills and experience in bridging the gap between requirement of human resources and the availability, particularly in the technical disciplines, DGH recruited 46 trainee officers from various universities across India based on merit. These young earth science graduates and engineers have been extensively trained in India and abroad on the latest technologies to equip them for the industry. I am very happy to mention here that 26 of these trainee officers have been selected by ONGC. ONGC has posted 16 of them on deputation to DGH. This is a win-win situation where the trained manpower requirement of ONGC as well as DGH is fulfilled.

An International Conference on Gas Hydrate was held during 6-8 February 2008 in New Delhi, India. The participants in the Indian National Gas Hydrate Program (NGHP) Expedition 01 presented the results of the first modern, fully integrated gas hydrate research and exploration program conducted in the offshore basins 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, Australia, Russia and Spain. A wide range of topics were deliberated upon, that included status of progress made in the gas hydrate program 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. A detailed scientific report consisting of scientific findings of the studies and on the expedition results is under preparation.

The principal work components of the project include geological mapping, sampling and geochemical analysis of oil shale, shallow geophysical survey, shallow drilling for characterizing the oil shales, development of 3-D model and preliminary environmental studies. The project is expected to be completed in the third quarter of the FY 2009-10. Geological mapping and sampling program is in progress. Analytical studies in respect of 50 samples have been completed. Out of the total 3000m of drilling activity envisaged, about 1200m have been completed.

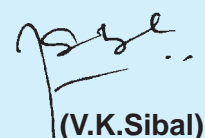
The Petroleum System Modeling of the offshore Kerala-Konkan basin and the Bengal onland basin is currently being carried out in Beicip-Franlab, France and is expected to be completed by March/April, 2009.

I have consistently maintained that there should be regular and active interaction between the Industry and Academic institutions to develop in-house talent for R & D activities in the E & P sector. Towards achieving this objective, a brain storming session was held to enhance mutual cooperation, collaboration and contribution in each others' domain.

Speculative surveys have been carried out in the KG basin and also old data has been reprocessed at GGS Spectrum, UK to open up new areas for NELP-VIII. We have continued to acquire Geochemical survey data in various basins for enhancing our knowledge of the basins and for adding value to the basin information dockets that are made available to prospective bidders. Open Acreage Licensing policy (OALP) will be implemented in the near future and NDR (National Data Repository) being a prerequisite to OALP is also being actively pursued.

NELP-VIII and CBM-IV are in the offing. The efforts will be to offer as many blocks as possible to attain the goals of the Hydrocarbon Vision 2025. Judging by the previous rounds, I expect a good response from investors, both domestic and International.

The compilation of report "Petroleum Exploration and Production Activities India 2007-08" is an effort to present the E&P activities of 2007-08 in India in a cogent manner for the reference of all stake-holders.



(V.K.Sibal)

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Hon'ble Minister for Petroleum & Natural Gas Shri Murli Deora delivering his inaugural address at Gas Hydrates Conference



Hon'ble Minister of State for Petroleum & Natural Gas Sri Dinsha Patel addressing at NELP-VII Road Show at Houston.

HIGHLIGHTS

1. A total of 67 hydrocarbon discoveries have been made by ONGC (38), OIL (8), RIL (8), GSPC (5), HOEC (2), ESSAR (2), JUBILANT (2), CAIRN (1) and FOCUS (1). 24 of these discoveries are from pre-NELP, NELP blocks and fields.
2. Profit petroleum of US \$ 995.25 Million and royalty of Rs. 3527.38 Crores was contributed to the Government exchequer.
3. Accretion of In-place reserves (O+OEG) of 363.06 MMT and Ultimate Reserves (O+OEG) of 115.26 MMT was made.
4. Production of 32.402 BCM of gas and 34.132 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 57 blocks were offered in NELP-VII and road shows held at Mumbai, London, Houston, Calgary, Singapore and Perth.
7. A total of 149 blocks are under operation under PSC regime.
8. A total of 1,060,295 Sq Km area is under PEL.
9. A total of 35,602 Sq Km area is under ML.
10. Essentiality certificates have been issued for clearance of 13,221 cases valued at Rs. 34,958 crores.
11. A total of 481.4 GLK of 2D seismic data in Kutch area and 2416.5 Sq Km of CSEM data in KG basin were acquired. 12000 lkm of 2D seismic data of Western offshore was processed.
12. International Conference on Gas Hydrates was held during 6-8 February 2008.



Shri M.S. Srinivasan, Secretary, MOPNG addressing at NELP-VII Road Show at Houston



DG, DGH making a presentation at NELP-VII Road Show at Mumbai

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.

The following Public Sector Undertakings function under Ministry of Petroleum and Natural Gas.

1. Balmer Lawrie & Co. Ltd.
2. Bharat Petroleum Corporation Ltd.
3. Biecco Lawrie Co. Ltd.
4. Bongaigaon Refinery and Petro-Chemicals Ltd.
5. Chennai Petroleum Corporation Limited.
6. Cochin Refineries Ltd.
7. Engineers India Ltd.
8. Gas Authority of India Ltd.
9. Hindustan Petroleum Corporation Ltd.
10. IBP Co. Ltd.
11. Indian Oil Corporation Ltd.
12. Numaligarh Refinery Ltd.
13. Oil India Ltd
14. Oil & Natural Gas Corporation Ltd

In addition to the above companies the following organizations also function under Ministry of Petroleum and Natural Gas

1. Centre For High Technology
2. Directorate General of Hydrocarbons
3. Oil Industry Development Board
4. Oil Industry Safety Directorate
5. Petroleum Conservation Research Association
6. Petroleum Planning And Analysis Cell
7. Petroleum Federation of India (PetroFed)

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&D (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.

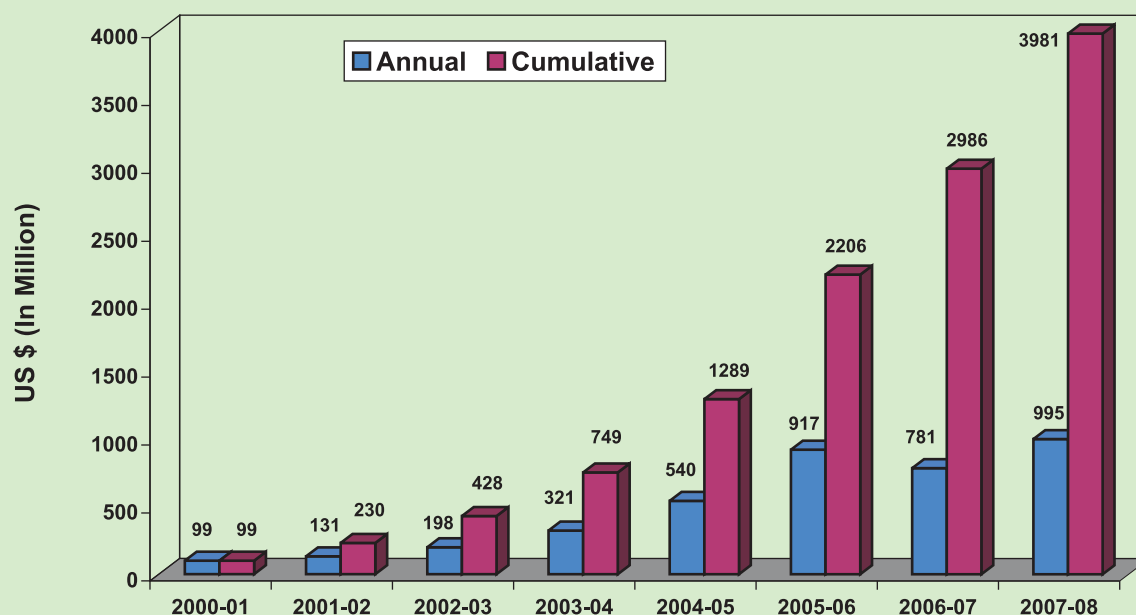
- ✓ Identification of blocks, preparation of Basin Dockets & Data Packages, organizing road shows in the country and abroad for promotion of blocks & sale of data.
- **Technical advice to MOP&NG on issues relevant to exploration and optimal exploitation of oil and gas**
 - ✓ Technical evaluation of NELP 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.
 - ✓ Clearances issued during April 2007 to March 2008: 13,221 cases valued at Rs. 34,957.51 crores.
 - ✓ Facilitating clearances from MOD for foreign rigs/vessels and from MOEF for all projects under Pvt /JV operations.

Contribution to Government Exchequer

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

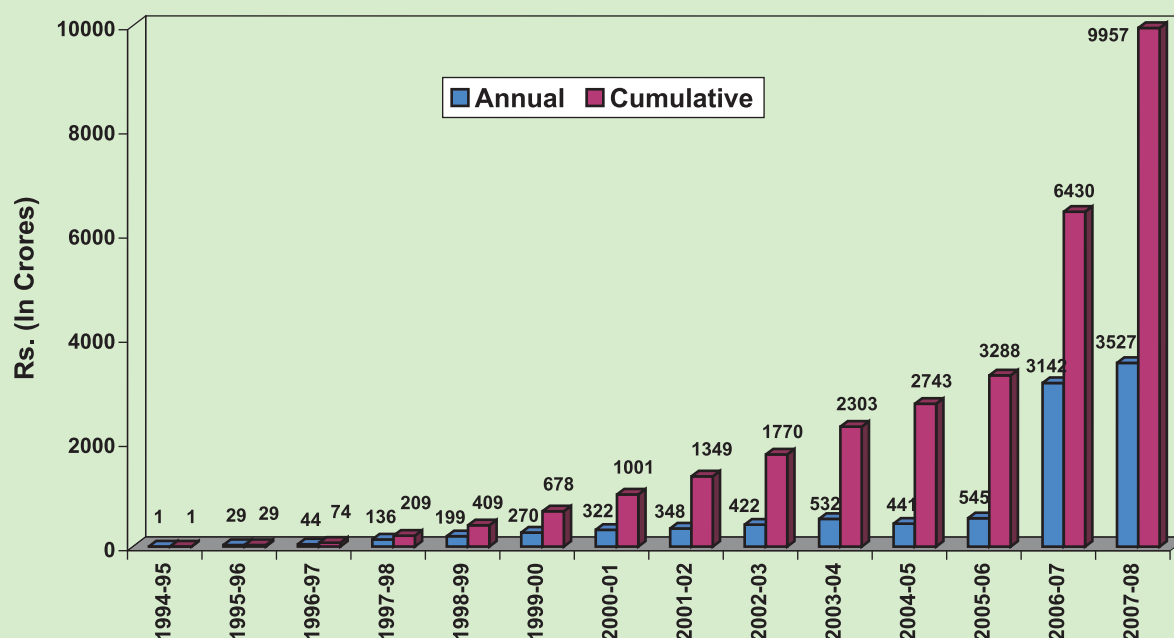
Profit Petroleum

During the Financial Year 2007-08, Profit Petroleum of US \$ 995.25 Million was contributed to Government Exchequer. The cumulative Profit Petroleum earned as on 31st. March 2008 is US \$ 3981.56 Million



Royalty

During the Financial Year 2007-08, Royalty paid to Central Exchequer was Rs. 3527.38 crores. The cumulative Royalty contributed is Rs. 9957.38 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.
- 481.4 GLK of 2D seismic data has been acquired through NGRI in poorly explored Kutch onland basin.
- Integrated geophysical surveys, carried out jointly by DGH and NGRI in the northwestern part of the Deccan Syncline, revealed sub-trappean Mesozoic-Gondwana sediments with a maximum thickness of 3 Kms.

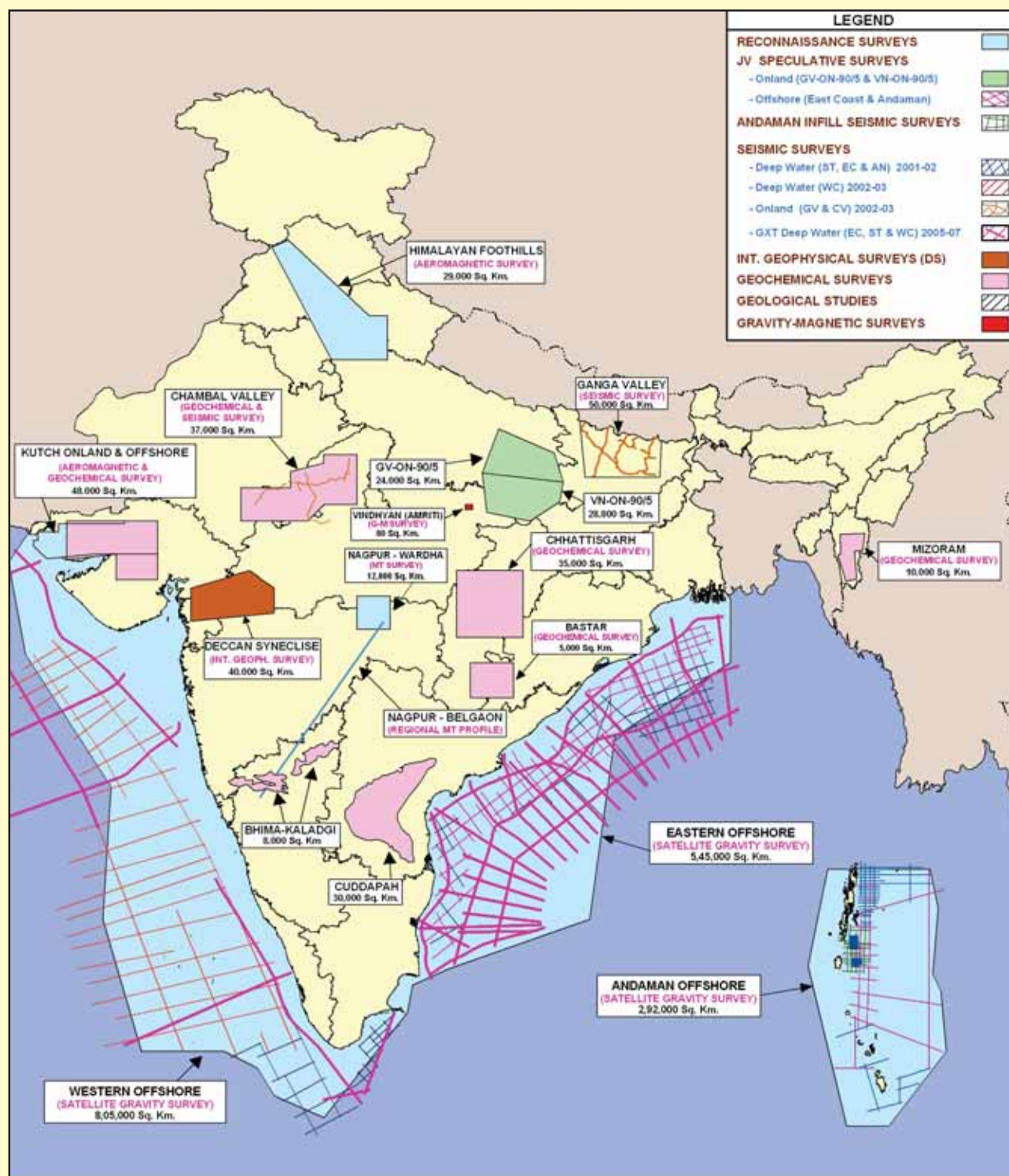
- Aeromagnetic surveys amounting to 24,723 LKM were carried out in Himalayan Foreland area during the year 2003-04, 2004-05 and 2005-06.
- DGH has completed reprocessing of 12000 LKM of 2D seismic data of west coast of India from M/s GGS Spectrum during the 2007-08.
- DGH has completed acquisition & processing of speculative Controlled Source Electromagnetic (CSEM) survey in KG-DWN-2005/3 by EMGS, Norway in 2008.
- DGH has acquired 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 planned analysis of aerial images/Remote sensing data for 500 × 500 Sq. km area in Narmada-Cambay basin by NGRI.
- Geochemical surveys in Deccan Syncline 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	2416.5 Sq Km	—
IV. SEISMIC SURVEYS						
OFFSHORE						
13	Andaman Infill	2D Seismic	Andaman Off.	1999	1484.75 LKM	—
14	Southern Tip (ST)	2D Seismic	Deep waters	2001-02	2835.925 LKM	0.029
15	East Coast (EC)	2D Seismic	Deepwaters	2001-02	4319.45 LKM	0.040*
16	Andaman-Nicobar (AN)	2D Seismic	Deepwaters	2001-02	4307.275 LKM	0.025
17	West Coast (WC)	2D Seismic	Deepwaters	2002-03	12,000.65 LKM	0.061
ONLAND						
18	Ganga Valley (GV)	2D Seismic	Bihar	2002-03	1135.05 GLK	0.050*
19	Chambal Valley (CV)	2D Seismic	MP & Rajasthan	2003-04	805.00 GLK	0.037*
20	Kutch	2D Seismic	Gujarat	2007-08	481.4 GLK	—
V. INTEGRATED GEOPHYSICAL SURVEYS						
21	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						
22	Vindhyan (Amriti)	GM	MP	2003-04	303 Stations (80 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*
TOTAL						2.039

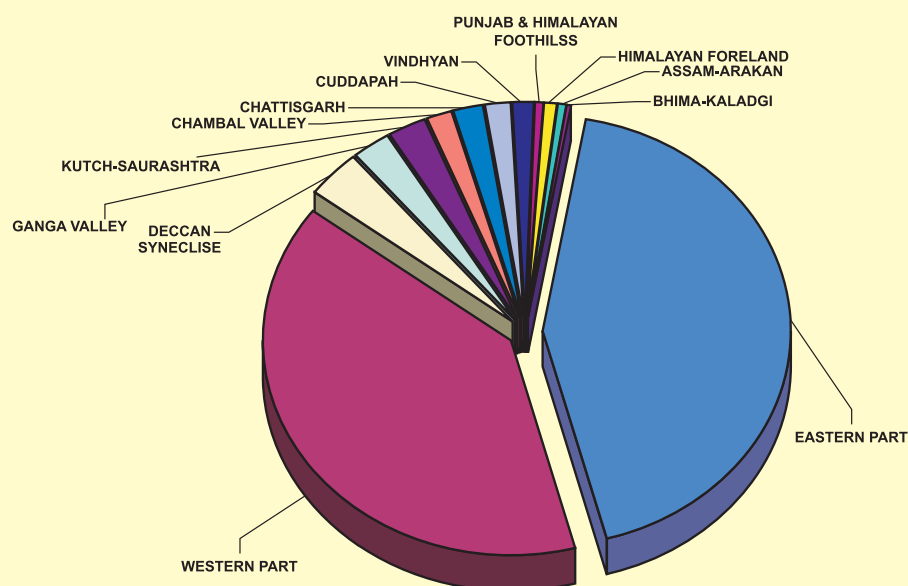
* Considered for totalling

GEOPHYSICAL AND GEOCHEMICAL SURVEYS CARRIED OUT BY DGH



GEOPHYSICAL & GEOCHEMICAL SURVEYS UNDER DGH SUPERVISION AND COLLABORATION

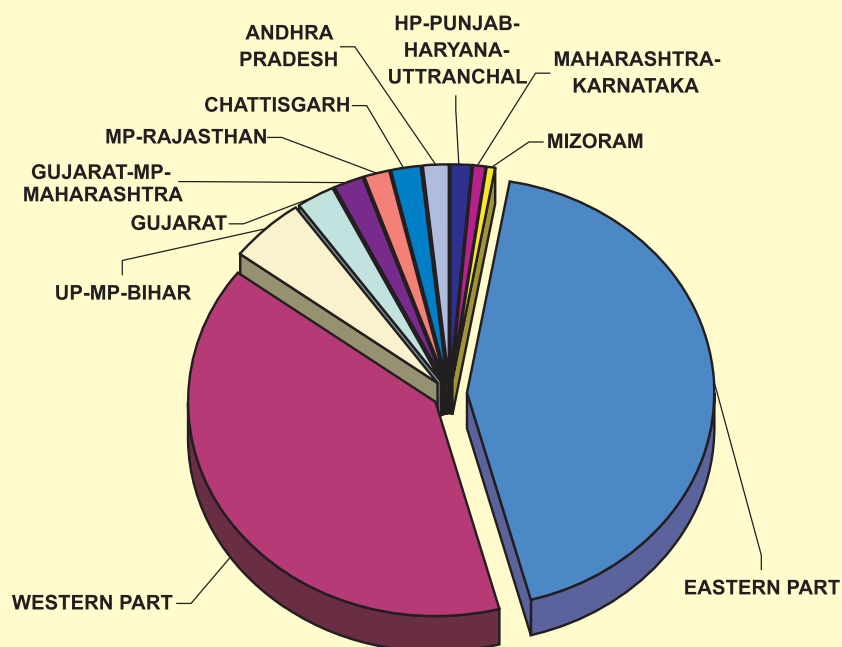
A. BASIN-WISE DISTRIBUTION



OFFSHORE / ONLAND	AREA	
	(Sq. Km.)	(%)
OFFSHORE		
EASTERN PART	877,000.00	43.01
WESTERN PART	805,000.00	39.48
TOTAL OFFSHORE	1,682,000.00	82.49
ONLAND		
GANGA VALLEY	74,000.00	3.63
DECCAN SYNECLISE	52,000.00	2.55
KUTCH-SAURASHTRA	48,000.00	2.35
CHAMBAL VALLEY	37,000.00	1.81
CHATTISGARH	40,000.00	1.96
CUDDAPAH	30,000.00	1.47
VINDHYAN	29,000.00	1.42
PUNJAB & HIMALAYAN FOOTHILLS	15,000.00	0.74
HIMALAYAN FORELAND	14,000.00	0.69
ASSAM-ARAKAN	10,000.00	0.49
BHIMA-KALADGI	8,000.00	0.39
TOTAL ONLAND	357,000.00	17.51
GRAND TOTAL	2,039,000.00	100.00

GEOPHYSICAL & GEOCHEMICAL SURVEYS UNDER DGH SUPERVISION AND COLLABORATION

B. STATE-WISE DISTRIBUTION

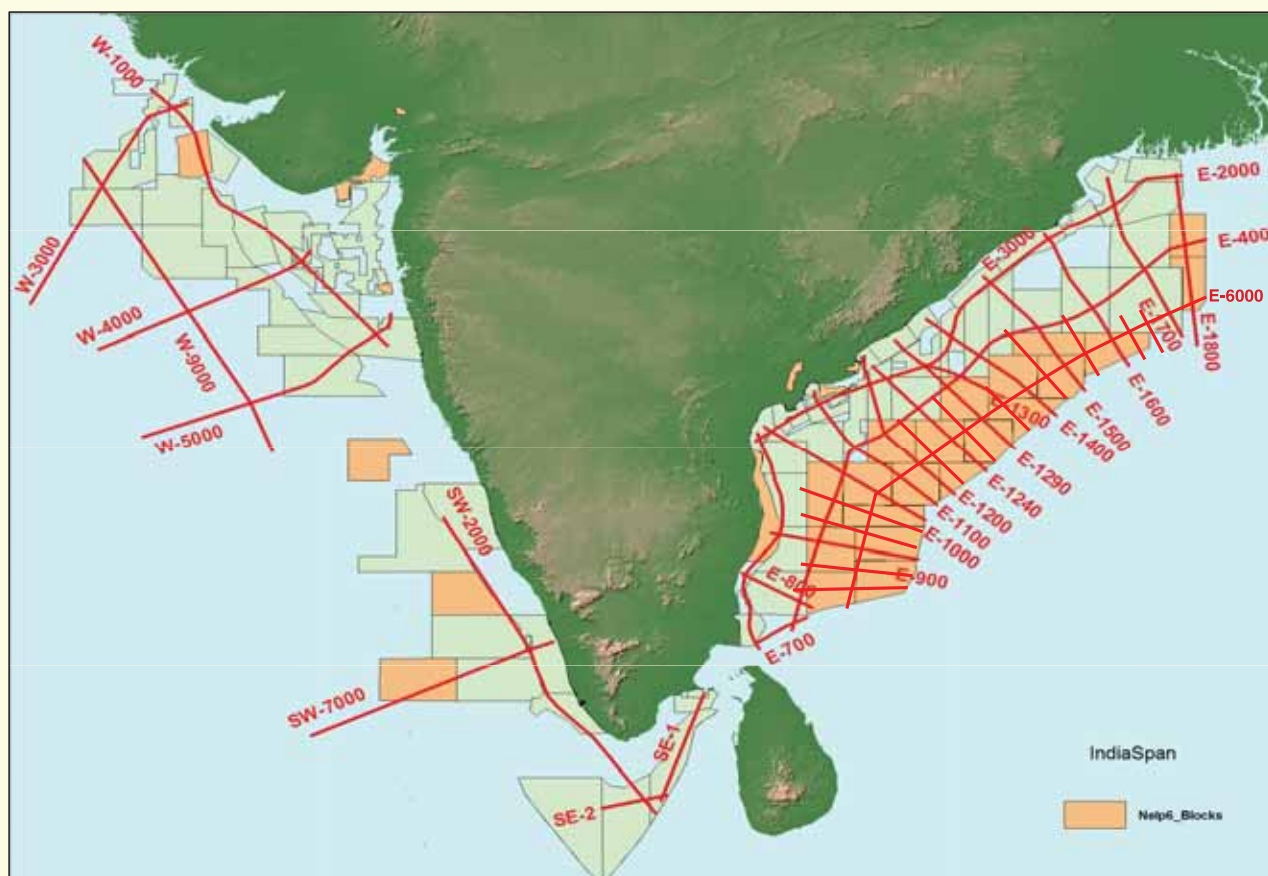


OFFSHORE / ONLAND	AREA	
	(Sq. Km.)	(%)
OFFSHORE		
EASTERN PART	877,000.00	43.01
WESTERN PART	805,000.00	39.48
TOTAL OFFSHORE	1,682,000.00	82.49
ONLAND		
UP-MP-BIHAR	103,000.00	5.05
GUJARAT	48,000.00	2.35
GUJARAT-MP-MAHARASHTRA	40,000.00	1.96
MP-RAJASTHAN	37,000.00	1.81
CHATTISGARH	40,000.00	1.96
ANDHRA PRADESH	30,000.00	1.47
HP-PUNJAB-HARYANA-UTTRANCHAL	29,000.00	1.42
MAHARASHTRA-KARNATAKA	20,000.00	0.98
MIZORAM	10,000.00	0.49
TOTAL ONLAND	357,000.00	17.51
GRAND TOTAL	2,039,000.00	100.00

SPECULATIVE SEISMIC SURVEY IN EAST COAST & WEST COAST OF INDIA

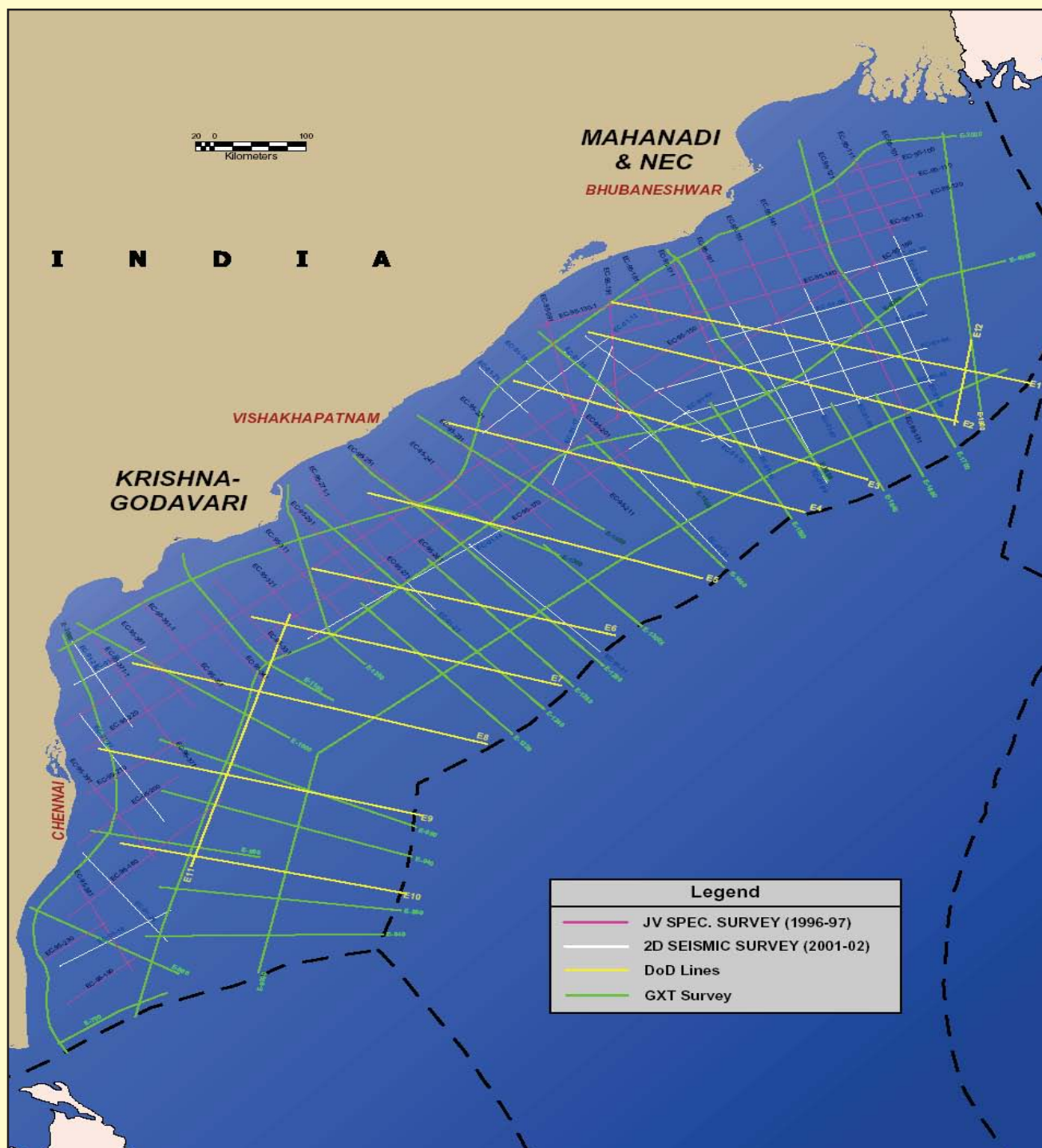
Agency	DGH & GX Technology, USA
Objective	To reveal deep features and architecture that shall aid in postulating new ideas about continental margins around India.
Volume of Work	16964 LKM API

INDIA SPAN : SURVEY LOCATION MAP

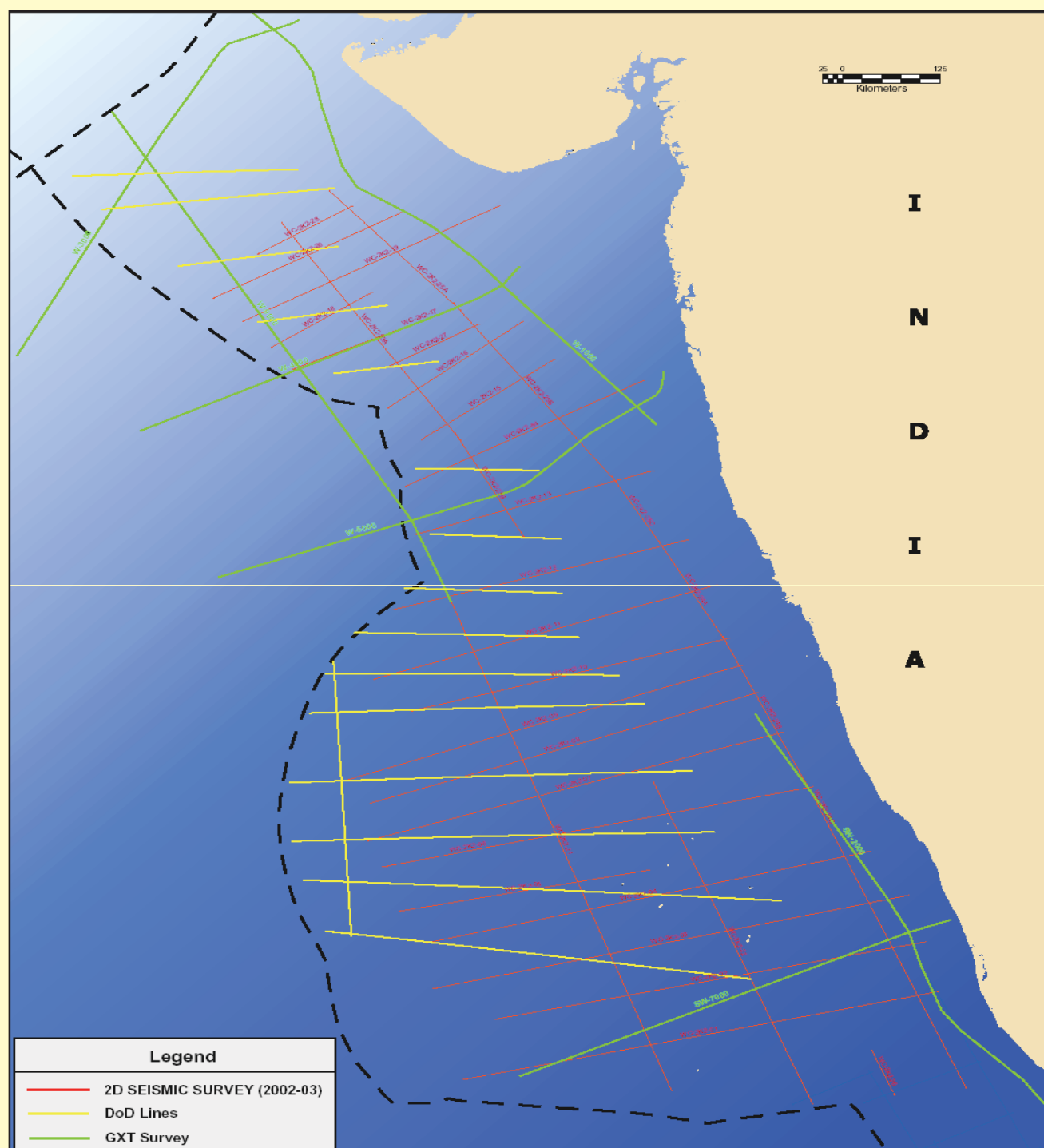


SPECULATIVE SEISMIC SURVEY IN EAST & WEST OFFSHORE BY GX TECHNOLOGY, USA

SEISMIC COVERAGE MAP – EAST COAST



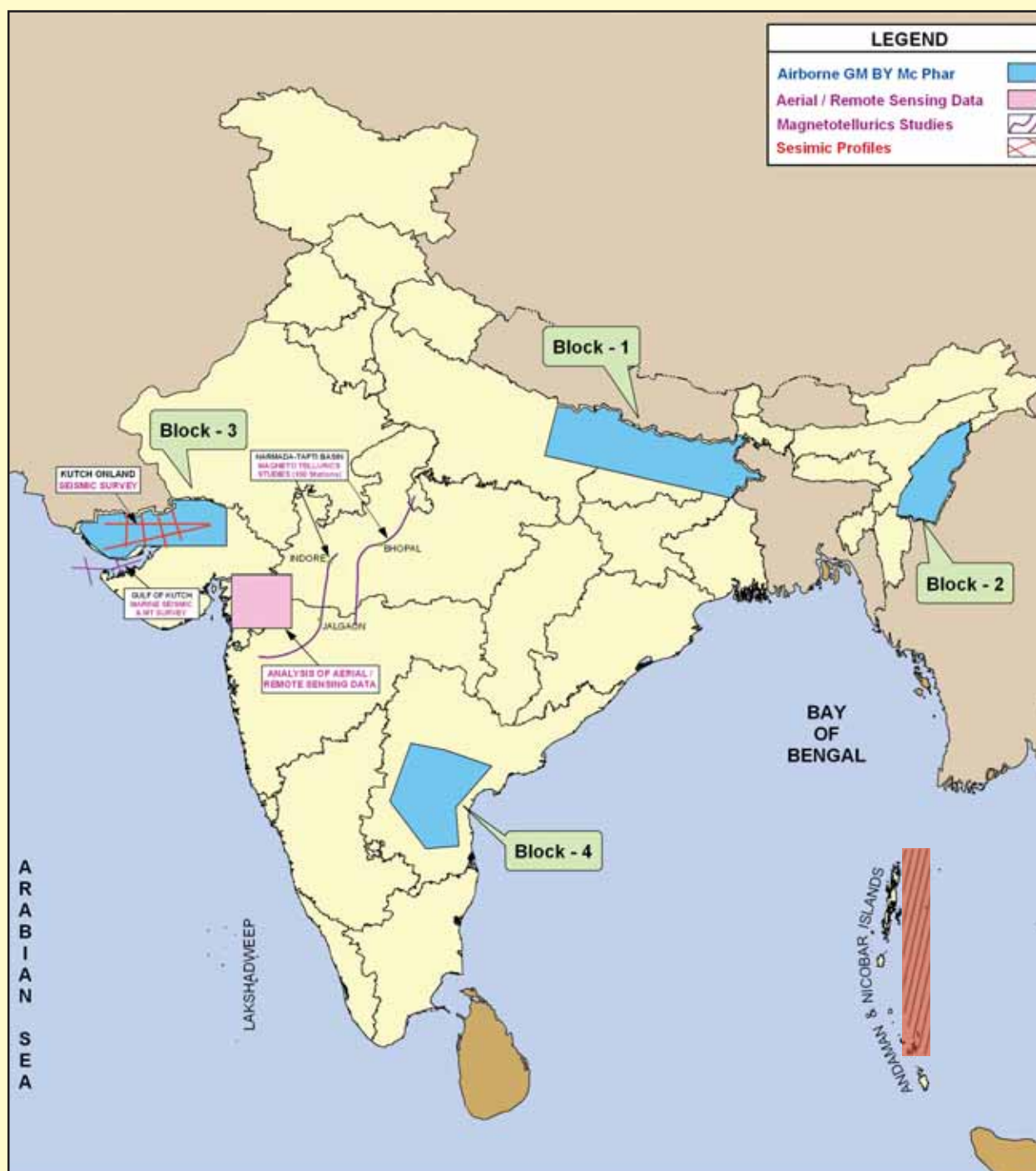
SEISMIC COVERAGE MAP – WEST COAST



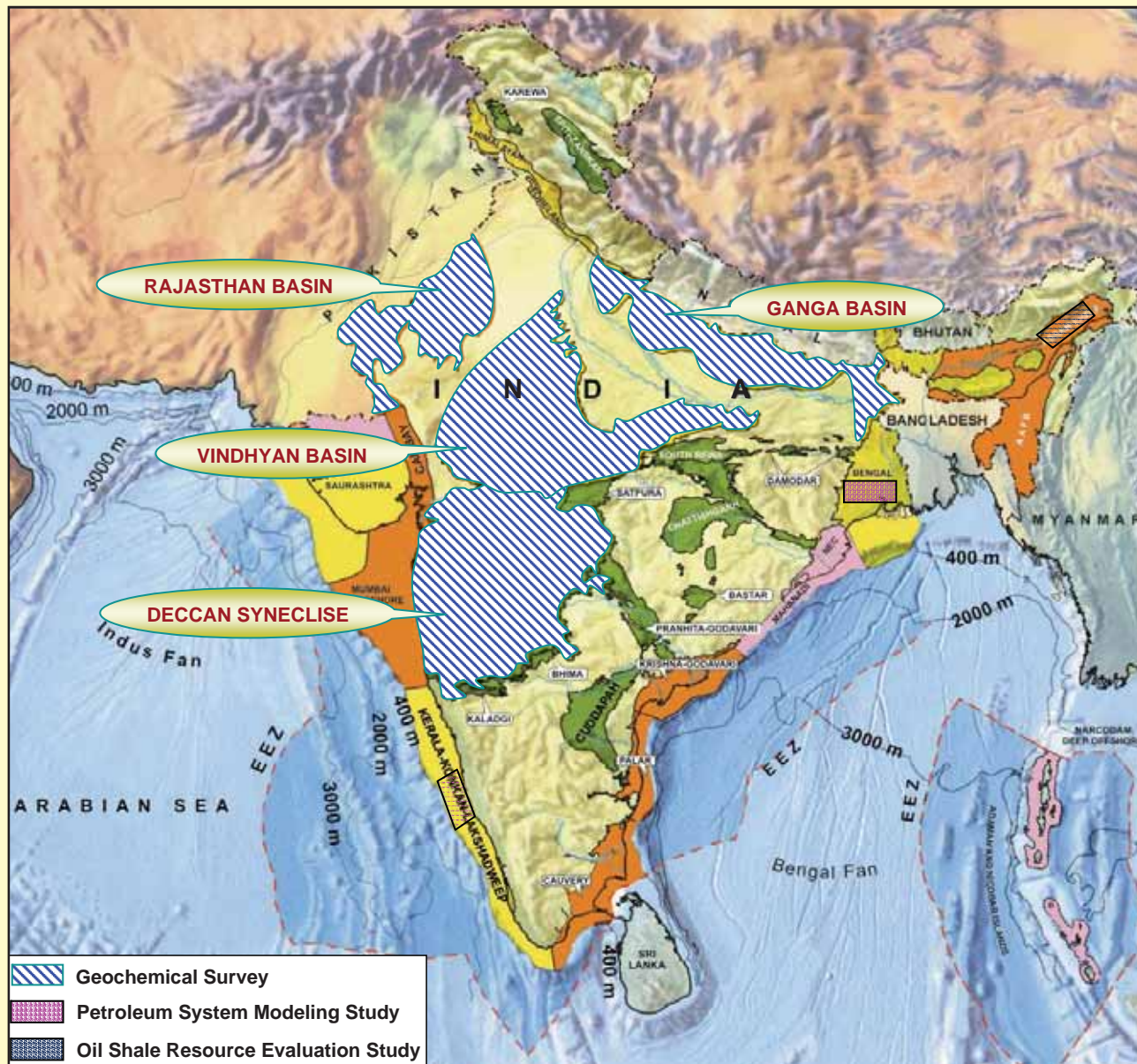
FUTURE SURVEYS / REPROCESSING / STUDIES BY DGH

Sl. No.	AREA / BLOCK NAME	SURVEY TYPE	STATE/ OFFSHORE	AGENCY	TARGET
I. RECONNAISSANCE SURVEY					
1	Narmada-Tapti Basin	MT	Madhya Pradesh & Maharashtra	NGRI	100 Stations
2	Analysis of Aerial / Remote Sensing data over Narmada-Cambay-Tapti / Deccan Syneclise	Study / Analysis	Madhya Pradesh, Maharashtra & Gujarat	NGRI	500 x 500 km
3	Block I, II, III & IV	Speculative Airborne Gravity & Magnetic	Bihar, Jharkhand, West Bengal, Manipur, Nagaland, Kutch, Cuddapah/A.P	Mc Phar	375226 LKM
II. 2D SEISMIC & GM SURVEYS					
OFFSHORE					
1	Gulf of Kutch	Marine Seismic & MT	Gujarat	NGRI	235 LKM & 32 Stations
2	Andaman	2D Marine Seismic	Andaman	PGS	5000 LKM
ONLAND					
1	Kutch Basin	2D Seismic	Gujarat	NGRI	419 LKM
III. GEOCHEMICAL SURVEYS					
ONLAND					
1.	Ganga Basin	Geochemical	U.P., Bihar,	--	--
2.	Rajasthan Basin	Geochemical	Rajasthan, M.P.	--	3000 Samples
3.	Vindhyan Basin	Geochemical	--	--	--
4.	Deccan Syneclise	Geochemical	Maharashtra	--	--
IV. OTHER STUDIES					
1.	Petroleum system modeling study of sedimentary basins	--	Kerala-Konkan Offshore Bengal Onland	--	--
2.	Oil shale Resource Evaluation in Assam	--	--	BRGM. France-- MECL India	--

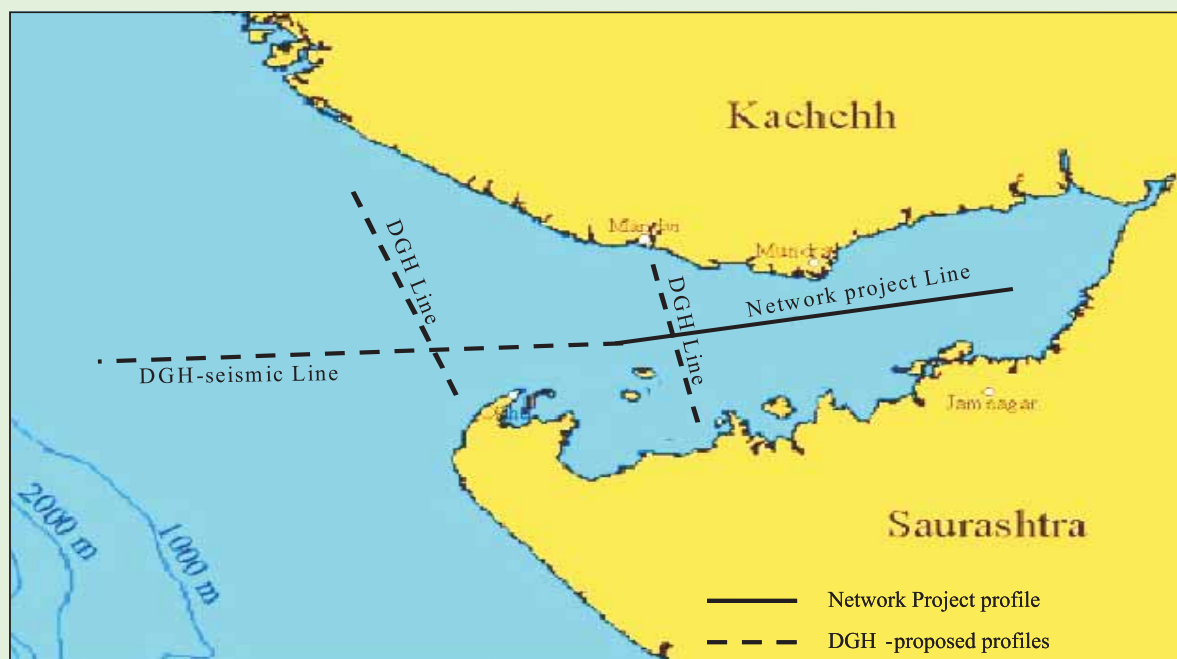
FUTURE GEOPHYSICAL SURVEYS / STUDIES BY DGH



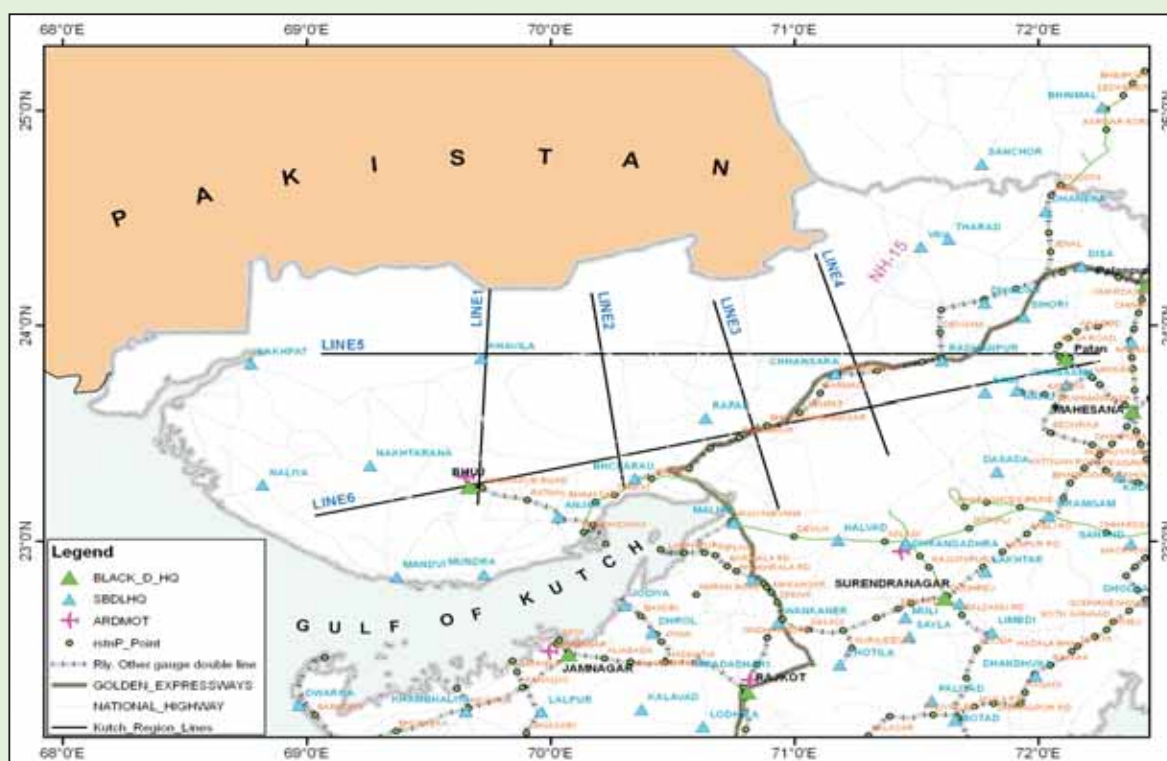
Future Geochemical Surveys / Studies By DGH



FUTURE SURVEYS TO BE CARRIED OUT BY DGH



MARINE SEISMIC AND MAGNETOTELLURICS IN GULF OF KUTCH REGION



ONLAND 2D SEISMIC REFLECTION SURVEY IN KUTCH



DG, DGH in discussions with Hon'ble Minister P&NG Shri Murli Deora

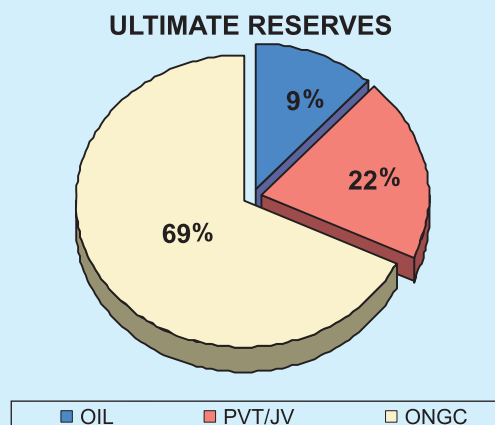
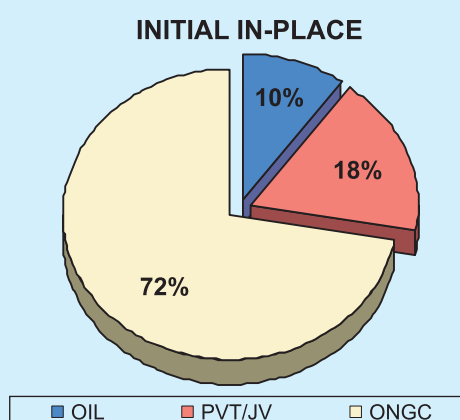


Hon'ble Minister P&NG Shri Murli Deora inaugurating Gas Hydrates Conference

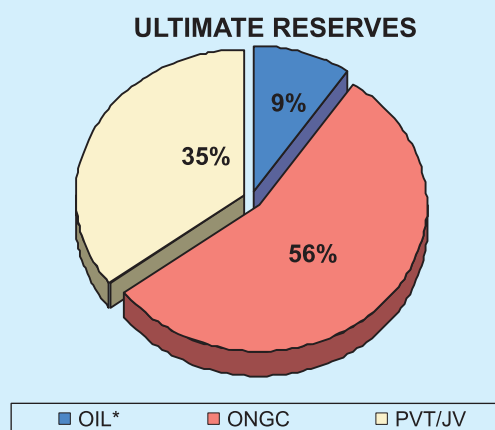
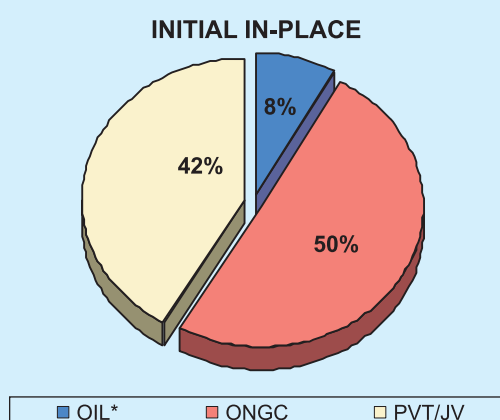
EXPLORATION & PRODUCTION

S. No.	Parameter	Item	ONGC	OIL	Pvt/JVs	Total
1	Initial In-place reserves	Gas (BCM)	2016.79	242.27	980.42	3239.48
		Oil (MMT)	4588.06	668.17	638.82	5895.00
		O+OEG (MMT)	6604.85	910.44	1619.24	9134.53
2	Ultimate Reserves	Gas (BCM)	1083.48	128.18	550.99	1755.44
		Oil (MMT)	1276.05	197.55	172.35	1645.95
		O+OEG (MMT)	2359.53	325.73	723.34	3401.39
3	Accretion of In-place reserves 2007-08	Gas (BCM)	112.35	9.760	142.03	264.14
		Oil (MMT)	69.88	19.44	9.60	98.92
		O+OEG (MMT)	182.23	29.20	151.63	363.06
4	Accretion of Ultimate Reserves 2007-08	Gas (BCM)	43.53	6.49	39.73	89.75
		Oil (MMT)	20.29	4.38	0.85	25.51
		O+OEG (MMT)	63.82	10.87	40.58	115.26
5	2D seismic data acquired	Onland (lkm)	995.70	154.34	2879.0	4029.04
		Offshore (lkm)	7161.15	0.0	18359.00	25520.15
6	3D seismic data acquired	Onland (Sq km)	4487.8	1445.45	2369.0	8302.25
		Offshore (Sq Km)	14868.81	0.00	12736.0	27604.81
7	Exploratory wells drilled	Onland	71	13	54	138
		Offshore	27	0	34	61
8	Development wells drilled	Onland	163	39	13	215
		Offshore	61	0	37	98
9	Exploratory meterage drilled	Onland ('000 M)	167.26	41.58	129.77	338.61
		Offshore ('000 M)	84.429	0	101.31	185.739
10	Development meterage drilled	Onland ('000 M)	308.31	96.27	18.529	423.109
		Offshore ('000 M)	173.65	0	119.04	292.69
11	Seismic parties deployed	2D	6	4	6	16
		3D	36	9	6	51
12	Seismic vessels deployed	2D & 3D	11	0	10	21
13	Rigs deployed	Onland	71	31	4	106
		Offshore	25	0	11	36
14	Oil & Gas production	Gas (BCM)	22.334	2.340470	7.727	32.401470
		Oil (MMT)	25.944	3.100711	5.087	34.131711
		O+OEG (MMT)	48.278	5.441181	12.814	66.533181

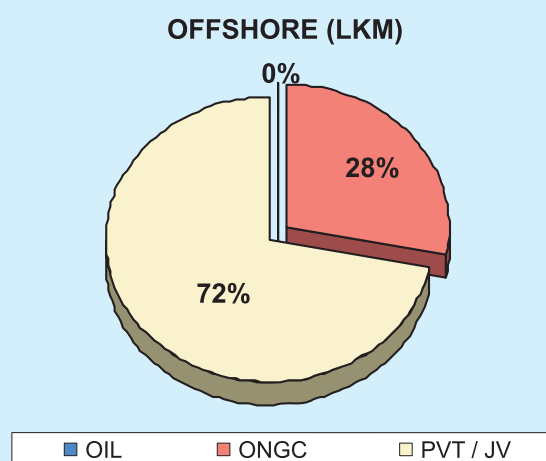
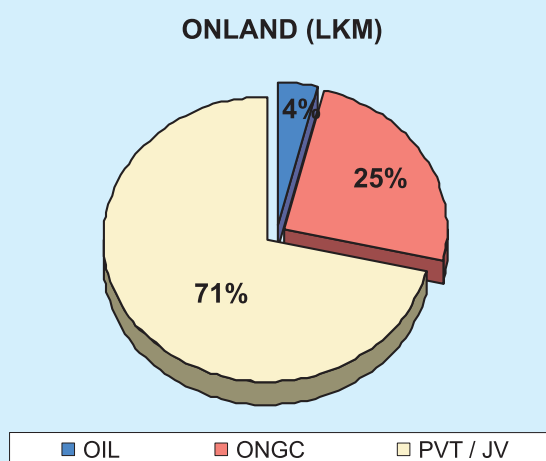
INITIAL IN-PLACE AND ULTIMATE RESERVES OF HYDROCARBONS (AS ON 01-04-2008)



ACCRETION OF IN-PLACE AND ULTIMATE RESERVES ACHIEVED DURING 2007-08



2-D SEISMIC DATA ACQUIRED (2007-08)



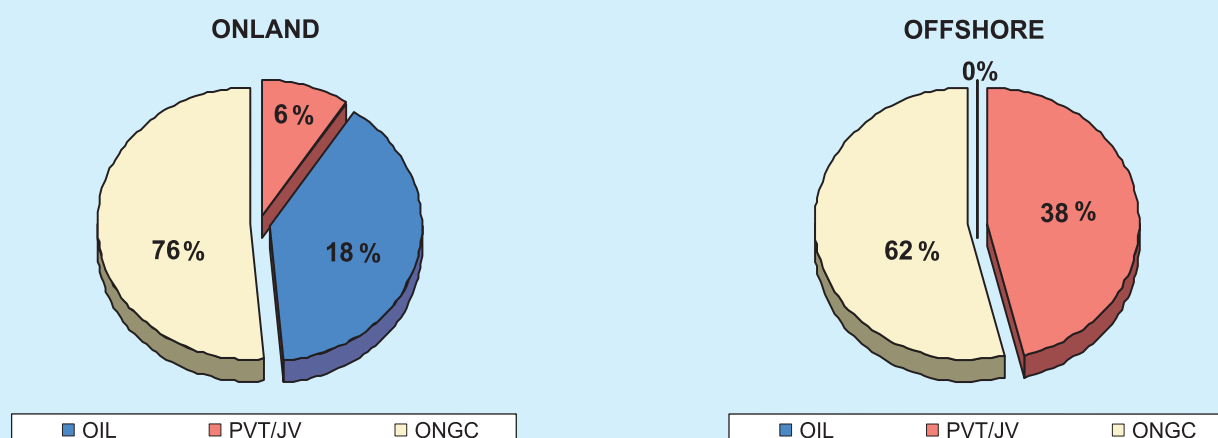
3-D SEISMIC DATA ACQUIRED (2007-08)



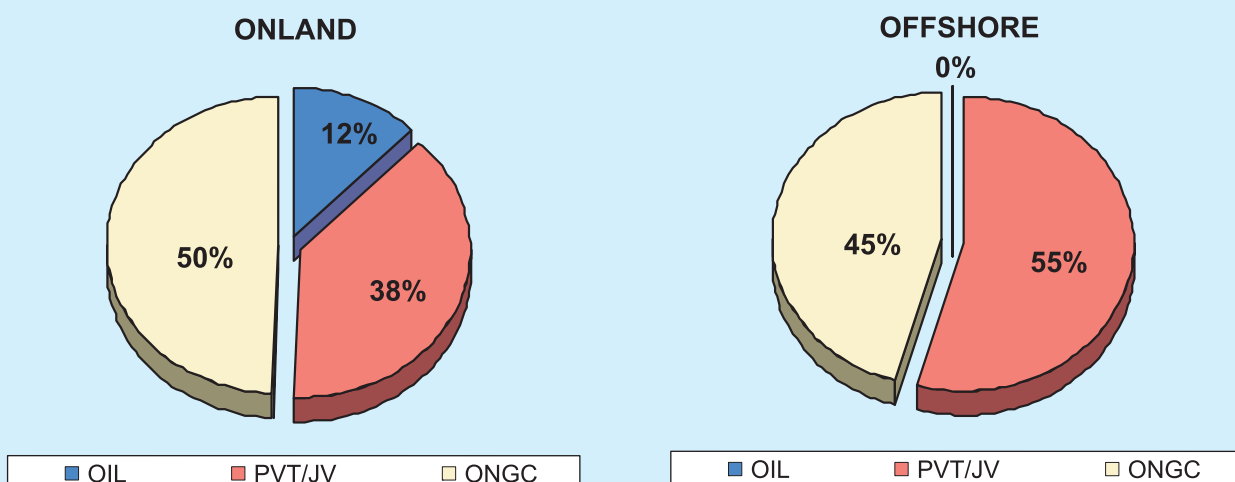
EXPLORATORY WELLS DRILLED (2007-08)



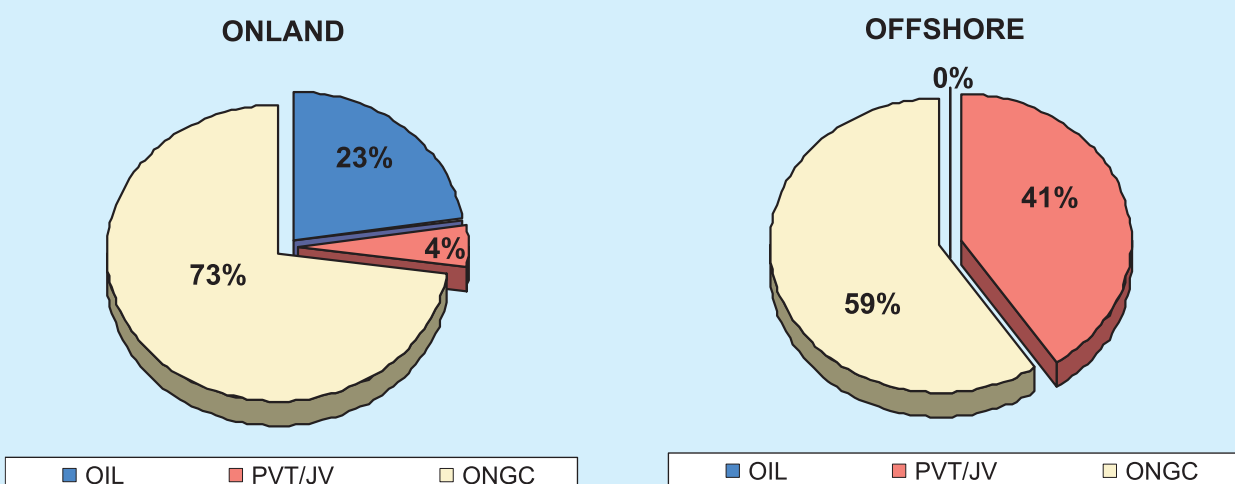
DEVELOPMENT WELLS DRILLED (2007-08)



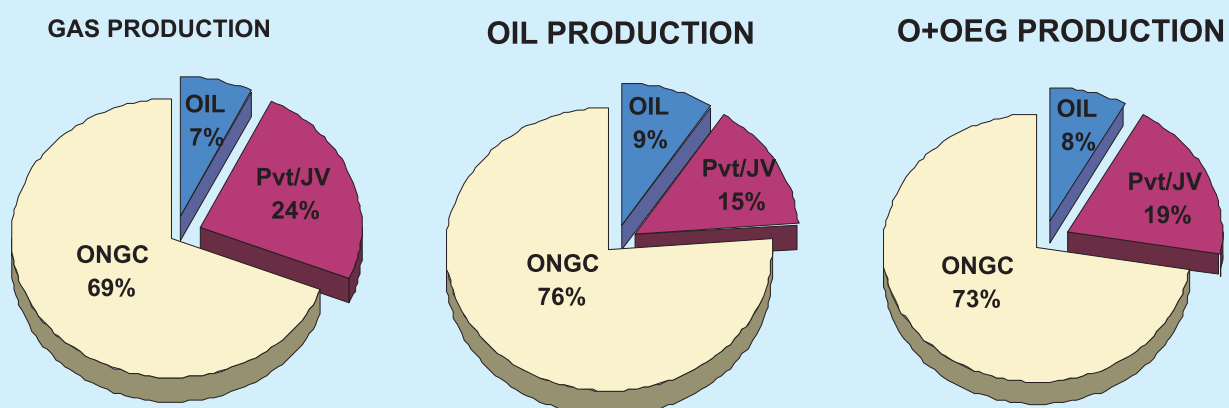
EXPLORATORY METERAGE DRILLED (2007-08)



DEVELOPMENT METERAGE DRILLED (2007-08)



OIL & GAS PRODUCTION (2007-08)

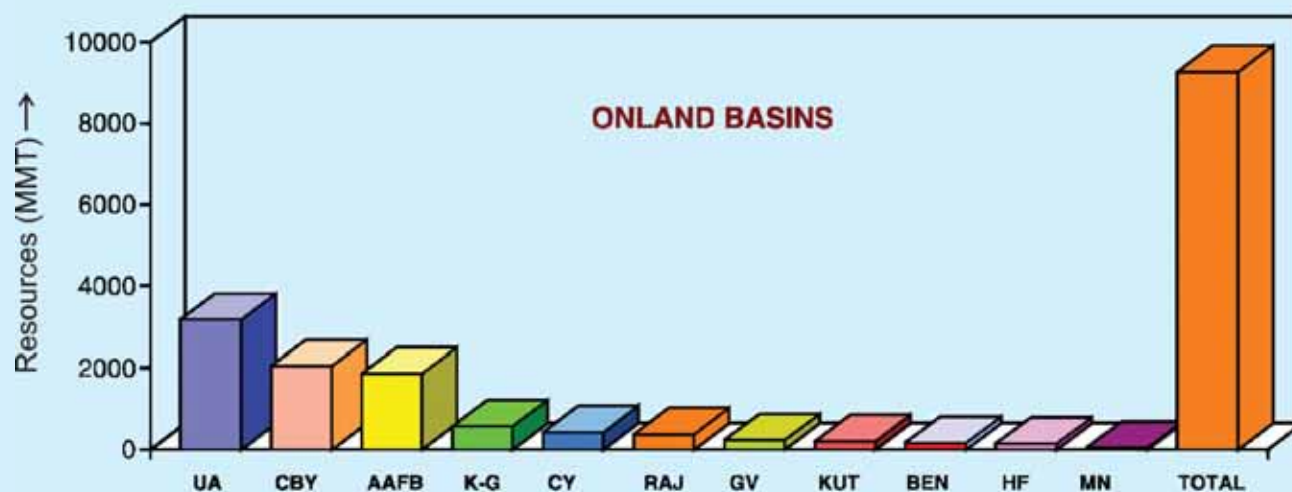
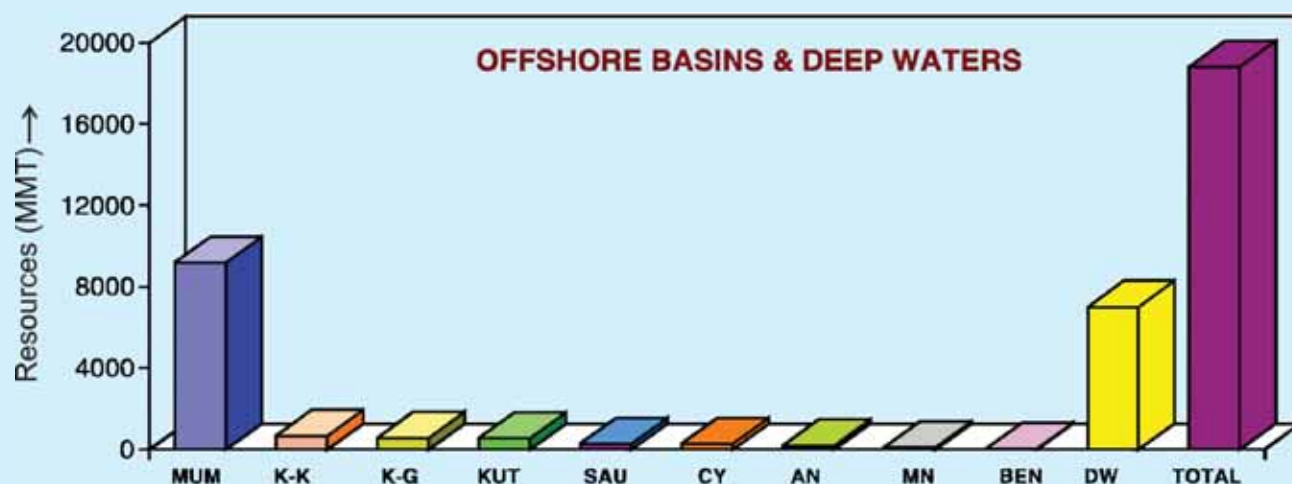


**COMPANY / BASIN WISE OIL & GAS PRODUCTION
(01.04.2007 TO 31.03.2008)**

Sl. No.	COMPANY / OPERATOR	BASIN	PRODUCTION		
			OIL (MMT)	GAS (MMSCM)	O+OEG (MMT)
NATIONAL OIL COMPANIES					
1	ONGC	Rajasthan	—	15.996	0.016
2		Cambay	6.055	2091.755	8.147
3		Cauvery Onland	0.299	1169.405	1.468
4		KG Onland	0.279	1566.927	1.846
5		Assam-Arakan	1.290	1032.94	2.323
6		Mumbai Offshore	18.020	16456.98	34.477
		TOTAL	25.944	22334.003	48.277
7	OIL	Rajasthan	—	239.38	0.239
8		Assam-Arakan	3.100711	2101.09	5.2018
		TOTAL	3.100711	2340.47	5.4408
		TOTAL NOCs	29.045	24674.47	53.72
PVT / JV COMPANIES					
9	CAIRN	KG Offshore	2.362	848.318	3.210
10		Gulf of Cambay	0.229	429.575	0.659
11	BG-RIL-ONGC	Mumbai Offshore	2.142	5539.657	7.682
12	GEO-ENPRO	Assam-Arakan	0.061	5.117	0.066
13	CANORO	Assam-Arakan	0.009	22.363	0.031
14	HOEC	Cambay	0.020	10.862	0.031
15		Cauvery Offshore	0.000	0	0.000
16	INTERLINK	Cambay	0.000	0	0.000
17	JTI	Cambay	0.020	10.103	0.030
18	NIKO	Cambay	0.032	815.563	0.848
19	SELAN	Cambay	0.019	0.438	0.019
20	HERAMAC	Cambay	0.002	1.252	0.003
21	HRD - PPCL	Cambay	0.001	0.126	0.001
22	GSPCL	Cambay	0.022	0.352	0.022
23	HARDY	Cauvery Offshore	0.162	43.299	0.205
24	OILEX	Cambay	0.003	0.00	0.003
25	ESSAR	Cambay	0.003	0.363	0.003
TOTAL PVT./JV			5.087	7727.000	12.813
GRAND TOTAL			34.132	32401.470	66.533

TOTAL HYDROCARBON RESOURCES

(AS ON 01-04-2008)



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 67 hydrocarbon discoveries have been made by ONGC (38), OIL (8), RIL (8), GSPC (5), HOEC (2), ESSAR (2), JUBILANT (2), CAIRN (1) and FOCUS (1) in nomination, NELP and pre-NELP blocks and fields during 2007-08.

ONGC

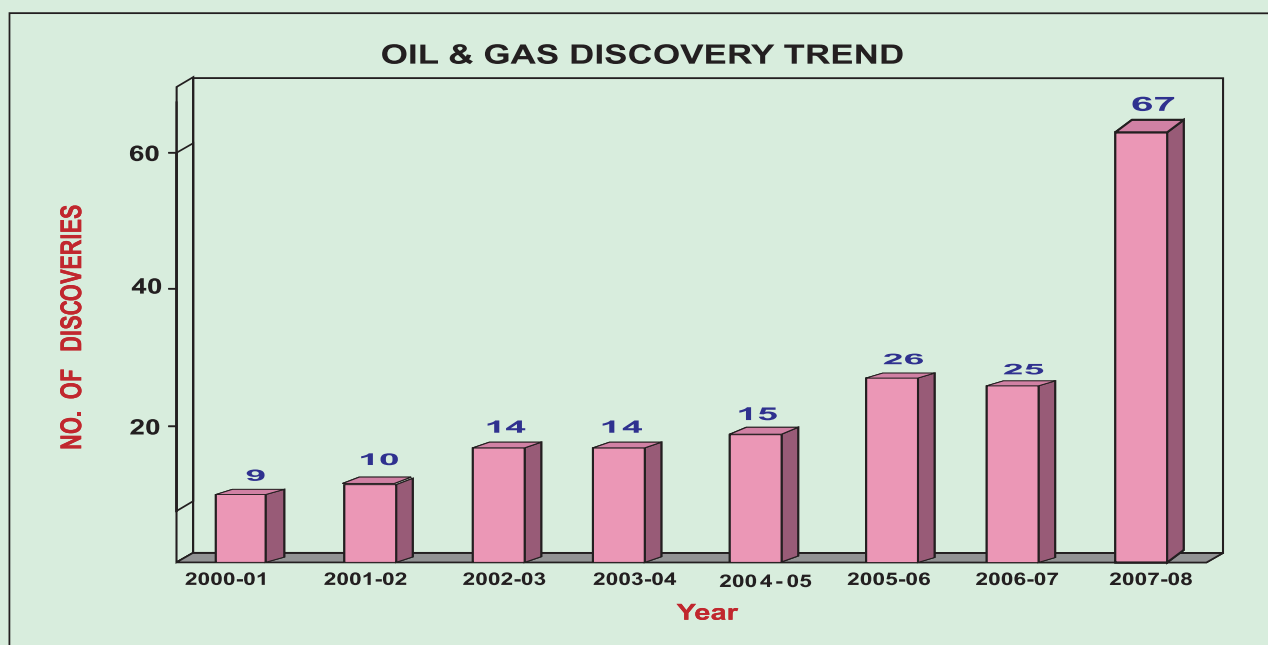
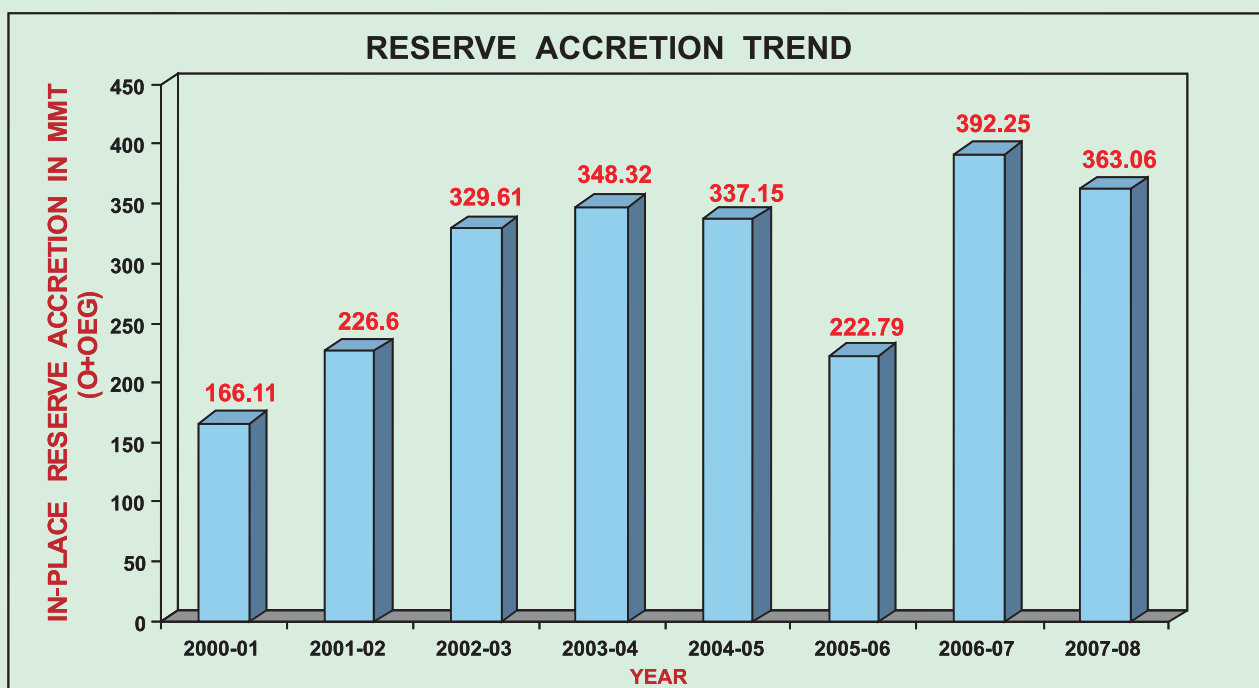
Sl. No.	Basin/State	Prospect Name	Discovery Well	Name of PEL / ML / NELP	Type of Discovery
1	A&AA / Assam	Disangmukh DS-3	DS-3	Sivasagar District	Oil
2	A&AA / Assam	Babejia	Babejia-1 (BJAA)	Golaghat Extn-IIA	Oil
3	A&AA / Tripura	Kunjaban (KUAC)	KU-2	North Agartala	Gas
4	A&AA / Tripura	Sundalbari (SDAA)	SD-2	Large Area	Gas
5	KG Onland / AP	Uppidi-1 (UPAA)	Uppidi-1	IB	Gas
6	Western Offshore	B-12-11	B-12-11	B-12-9 (BOFF-1,2,3)	Gas
7	Western Offshore	B-55-5	B-55-5	BOFF	Gas
8	Western Offshore	BNP-2	BNP-2	BOFF-1,2,3	Gas
9	Western Offshore	B-7-2	B-7-2	BOFF Extn-III	Gas
10	KG Onland / AP	East Rangapuram-1	ERA-1	IB	Gas
11	KG Offshore (SW)	GS-48-1	GS-48-1	IF	Gas
12	Cambay / Gujarat	Karzan	Karzan-9 (KZAH)	Karzan Extn.-I	Oil
13	Mahanadi (Offshore)	MN-DWN-98/3-A1	MDW-4A	MN-DWN-98/3	Gas
14	Mahanadi (Offshore)	MN-DWN-98/3-B	MDW-5	MN-DWN-98/3	Gas
15	A&AA/Assam	Panidihing	PD-6 (PDAF)	Panidihing	Oil
16	Cauvery Onland / TN	Pallivarmangalam	Pallivarmangalam-5	Adiyakkamangalam (L-II Block)	Oil
17	Cambay / Gujarat	Ankleshwar	Ankleshwar-317	Ankleshwar (Main)	Gas
18	Cambay / Gujarat	Ankleshwar	Ankleshwar-320	Ankleshwar (Main)	Oil
19	Cauvery Onland / TN	Kali	Kali-7	Kali Block	Oil & Gas
20	KG Offshore	GS-KW-AE	GS-KW-5	GS-15/23	Oil & Gas
21	Jaisalmer / Rajasthan	Chinnewala Tibba	CT-2 (CTAA)	Chinnewala	Gas
22	Cambay / Gujarat	Kosamba	Kosamba-41 (KMAN)	Kosamba	Gas
23	KG Onland / AP	Pasarlapudi	Pasarlapudi-40	Tatipaka-Pasarlapudi	Gas
24	Cambay / Gujarat	Akhouljuni-18	Akhouljuni-18	Akhouljuni	Oil
25	Cambay / Gujarat	Dabka	Dabka-57 (DBBG)	Dabka Sarbhan	Gas
26	Cambay / Gujarat	Chaklasi	Chaklasi-8	Chaklasi-Rasnol	Oil
27	A&AA / Assam	Mekrang	Mekrang-7 (MRAG)	Titabar	Oil
28	A&AA / Tripura	Kunjaban	Kunjaban-3 (KUAD)	North Agartala	Gas
29	Western Offshore	D-1-14	D-1-14	BOFF	Oil
30	Western Offshore	B-172-9	B-172-9	BOFF	Gas
31	KG Offshore	KG-DWN-98/2-KT-1	KG-DWN-98/2-KT-1	KG-DWN-98/2	Gas
32	KG Onland / AP	Gopavaram-12	Gopavaram	Srikatpalli-Pasarlapudi-24 & Gopavaram	Oil
33	Cambay / Gujarat	South Kadi	South Kadi-143 (SKPP)	Kadi	Oil
34	Cambay / Gujarat	Olpad	Olpad-31	Olpad-Dandi Extn-I	Gas
35	Cambay / Gujarat	Mewad	Mewad-25	Sobhasan	Oil
36	Cauvery Onland / TN	Kamalapuram	Kamalapuram-9	Kamalapuram-I(L-II Block)	Oil
37	Cambay / Gujarat	Halisa	Halisa-12	Halisa	Oil
38	Cambay / Gujarat	Linch	Linch-65	Jotana Warosan	Oil

OIL

Sl. No.	Well No (Location)	Description	Type of Discovery
1.	South Chandmari-2 Loc. DFQ	<ul style="list-style-type: none"> Stratigraphic-structural plays within the Barail Fourth+Fifth sand of the South Chandmari structure. 2420-m Tipam sand 	Oil
2.	Sapkaint-1 Loc. DGD	<ul style="list-style-type: none"> Tipam and Barail formation in the Sapkaint Structure of Tinali area. 3350-m Lower Tipam sand 	Oil
3.	Moran-112 Loc. MEW	<ul style="list-style-type: none"> Khatkhathi structure at Barail Fourth sand 3357-m Barail sand 	Gas
4.	Hapjan – 48 (Loc. HRP)	<ul style="list-style-type: none"> Paleocene / Lower Eocene formations in the eastern part of North Hapjan structure. 4000-m Lakadong+Therria sand 	Oil
5.	Makum-25 (Loc. HRZ)	<ul style="list-style-type: none"> Barail formation in the western part of Makum-North Hapjan structure. 2667-m Barail Fourth+Fifth sand 	Oil
6.	Kathaloni-42 (Loc. HSB)	<ul style="list-style-type: none"> Paleocene-Lower Eocene formations towards the south-western extension of the Kathaloni structure. 3599-m Lakadong+Therria sand 	Oil
7.	Makum-28 (Loc. HRT)	<ul style="list-style-type: none"> Makum-North hapjan structure, within Barail formation. 2649-M Barail sand 	Oil
8.	Baghjan-7 (Loc. BGE)	<ul style="list-style-type: none"> Baghjan structure was drilled to probe hydrocarbon prospect within Paleocene / Lower Eocene formations. 3958-m Langpar sand 	Oil

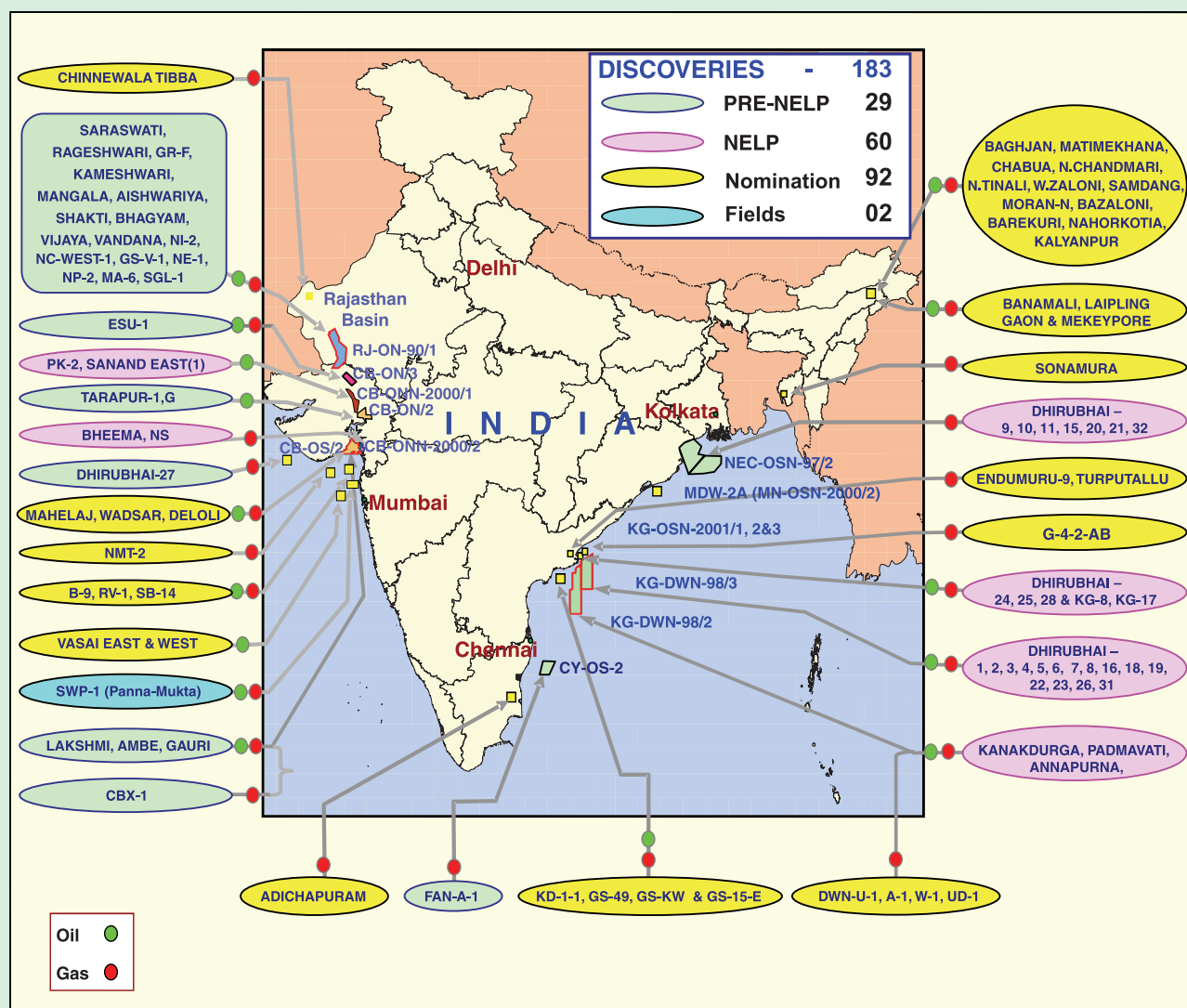
Pvt / JV

	Operator	Block / Field	Bidding Round	Name of Discovery	Type of discovery
1.	RIL	GS-OSN-2000/1	NELP-II	Dhirubhai -33	Gas
2.	RIL	KG-DWN-98/3	NELP-I	Dhirubhai -34	Gas
3.	RIL	CY-DWN-2001/2	NELP-III	Dhirubhai -35	Oil/Gas
4.	RIL	KG-DWN-98/1	NELP-I	Dhirubhai-36	Oil
5.	RIL	KG-OSN-2001/1	NELP-I	Dhirubhai-37	Gas
6.	RIL	KG-OSN-2001/1	NELP-I	Dhirubhai-38	Gas
7.	RIL	KG-DWN-2003/1	NELP-V	Dhirubhai-39	Gas
8.	RIL	NEC-OSN-97/2	NELP-I	Dhirubhai-40	Gas
9.	GSPC	KG-OSN-2001/3	NELP-III	KG-15	Gas
10.	GSPC	CB-ONN-2002/3	NELP-IV	Miroli-1	Oil
11.	GSPC	KG-OSN-2001/3	NELP-III	KG#16	Gas
12.	GSPC	CB-ONN-2002/3	NELP-IV	SE # 4	Oil
13.	GSPC	CB-ONN-2002/3	NELP-IV	SE # 2	Oil
14.	HOEC	CB-ON/7	Pre NELP	SPD-1	Oil
15.	HOEC	AAP-ON-94/1	Pre NELP	Dirok#1	Gas
16.	Essar	CB-ON/3	Pre NELP	EEU-1	Oil
17.	Essar	CB-ON/3	Pre NELP	ENM-1	Oil
18.	Jubilant	CB-ONN-2002/2	NELP-IV	CB-3A	Oil
19.	Jubilant	CY-ONN-2002/1	NELP-IV	CY-1	Gas
20.	FOCUS	RJ-ON/6	Pre-NELP	SSF#2	Gas
21.	Cairn	Ravva field	Field	RX 8 Z	Oil/Gas



DISCOVERIES by NOCs and Pvt/JV COMPANIES (2000-2008)

AS ON 31ST MARCH, 2008



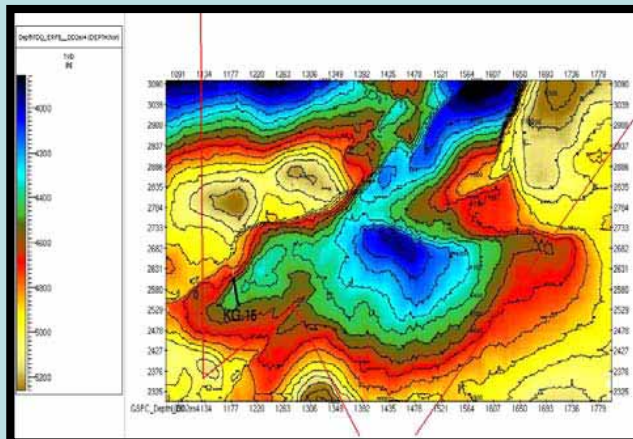
NOT TO SCALE

NEW DISCOVERIES-KG-OSN-2001/3

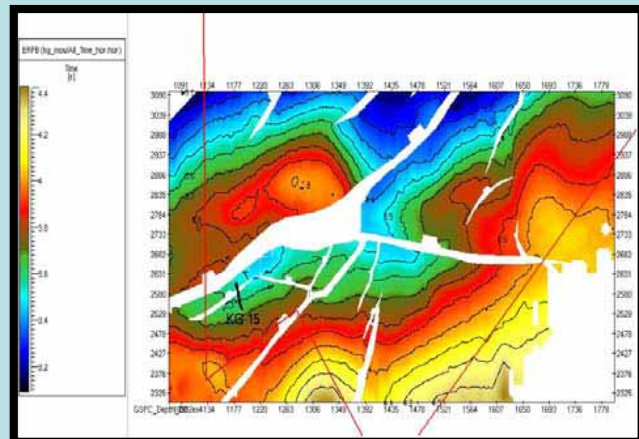
WELL:KG-15

OPERATOR:GSPC

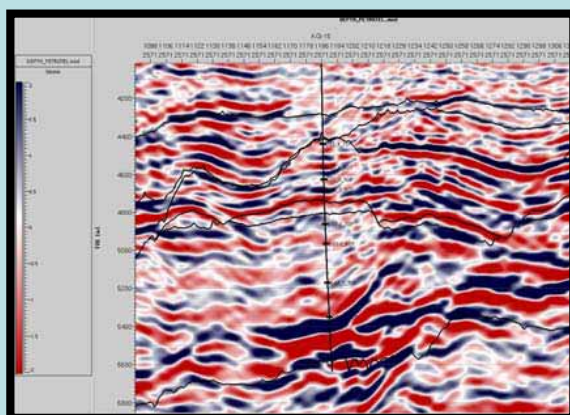
- ❖ The Well KG-15 is situated in PT-12 Fault Block of the basin
- ❖ Discovery well. Tested gas - @13.4 MMscfd (DST-3,4651-4705m) & Condensate @250bbl/day
- ❖ Tested Gas(DST-4,4463.5-4589m) @ 9.02 MMscfd & Condensate @100 bbl/day



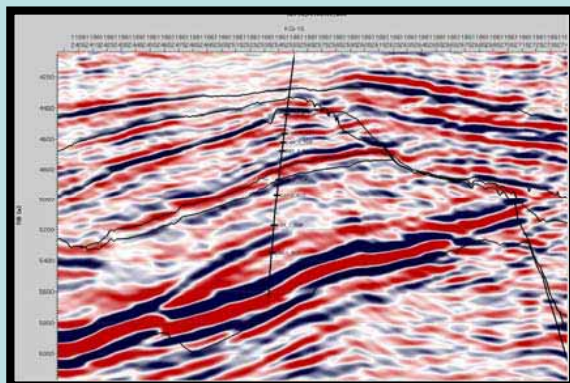
Depth Structure Map close to top of the discovered pays



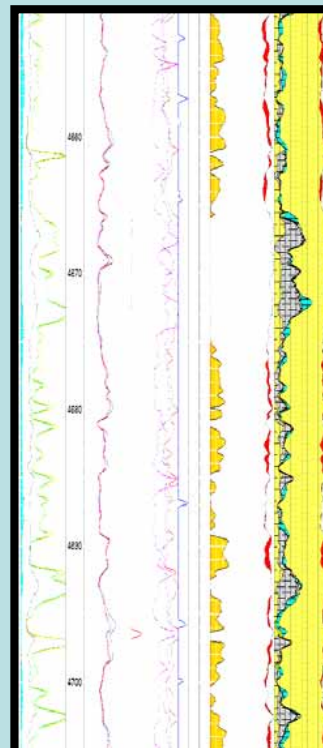
Time structure Map close to top of the discovered pays



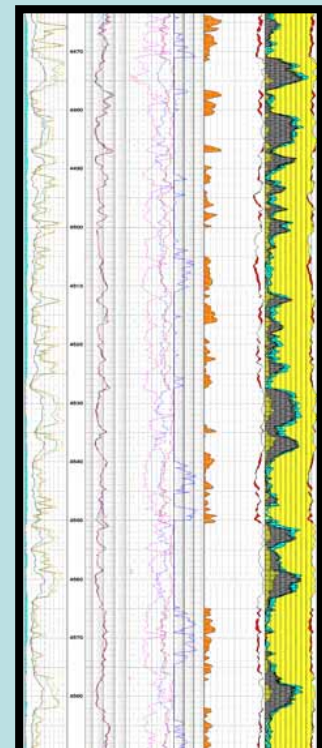
Seismic Cross-line passing through KG-15



Seismic Inline passing through KG-15



DST-4(4463.5-4589m MD)



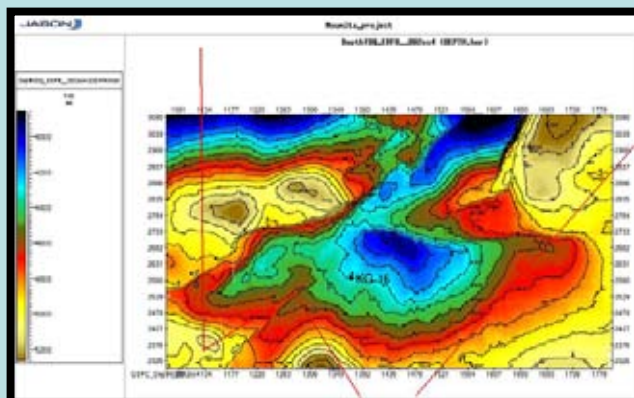
DST-3(4651-4705m MD)

NEW DISCOVERIES-KG-OSN-2001/3

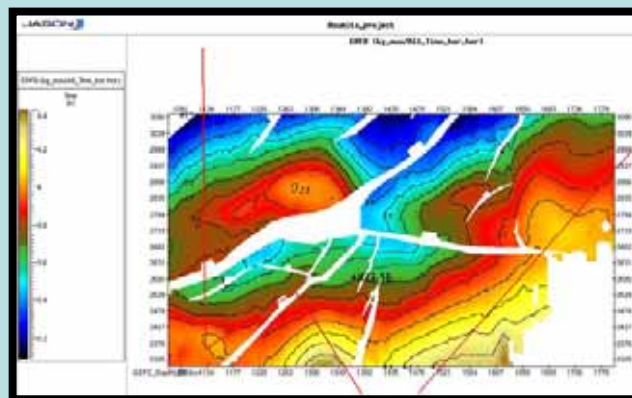
WELL:KG-16

OPERATOR:GSPC

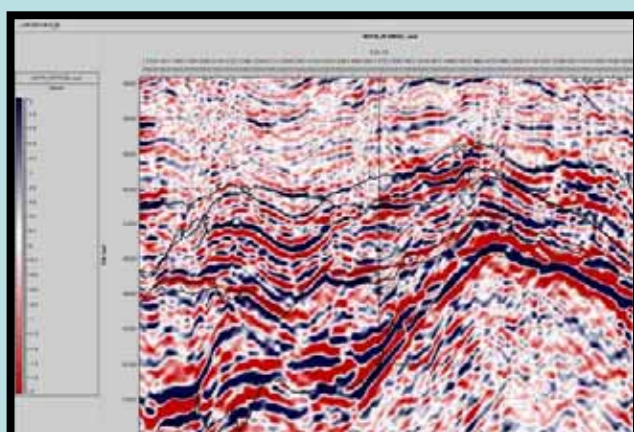
- ❖The well KG-16 is located in PT-14 Fault Block of the basin
- ❖Discovery well, Tested gas @2.21 MMscfd(DST-3,4483-4590m MD) & 25bbl/day
- ❖Tested gas@2.2 MMscfd(DST-4,4302-4435m MD) & 40bbl/day



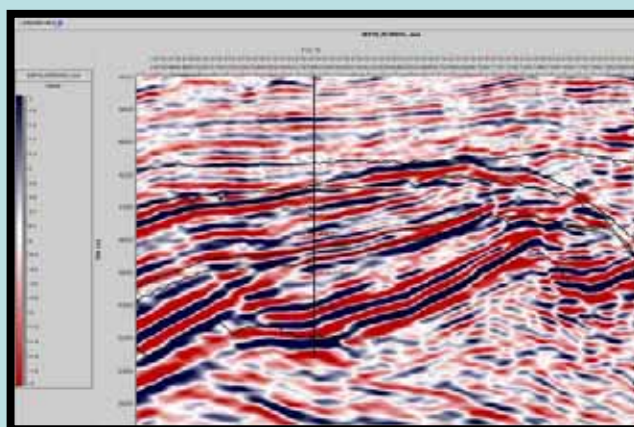
Depth Structure Map close to top of the discovered pays



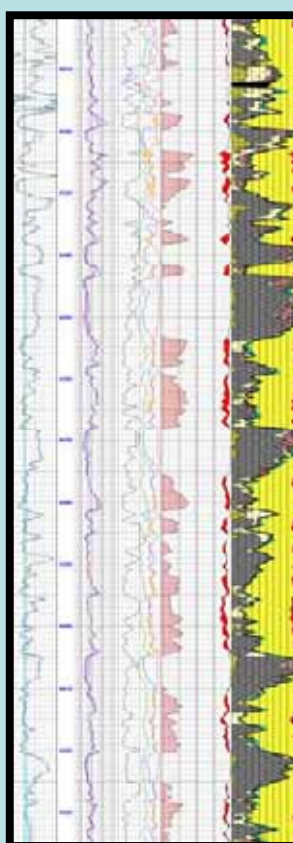
Time Structure Map close to top of the discovered pays



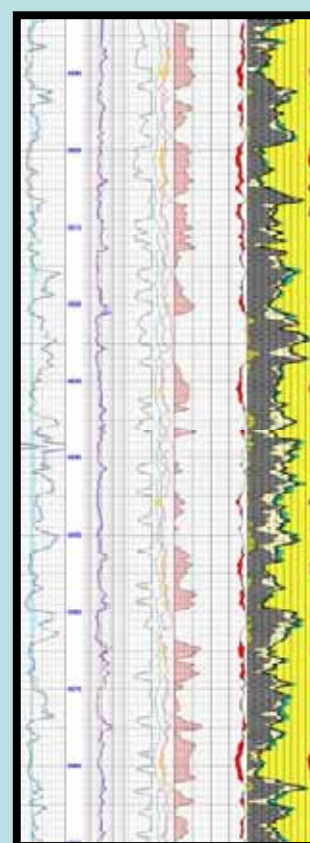
Seismic Xline passing through KG-16



Seismic Inline passing through KG-16



DST-4(4302-4435m MD)



DST-3(4483-4590m MD)

NEW DISCOVERIES : CAMBAY BASIN (TARAPUR BLOCK)

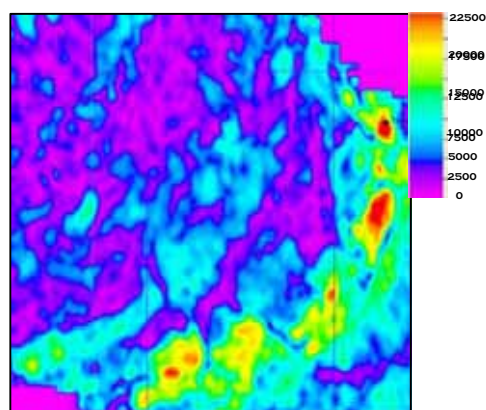
Block ; TARAPUR (CB-ON\02)

OPERATOR GSPC

- THE PROSPECT IS LOCATED IN THE WESTERN PART OF TARAPUR BLOCK
- DISCOVERY WELL TARAPUR-6 ENCOUNTERED A TOTAL OF AROUND 11M HC BEARING SILTSTONE IN THE KALOL FORMATION.
- TWO OBJECTS ARE TESTED AND FOUND TO BE OIL PRODUCER ALONG WITH SOME GAS.



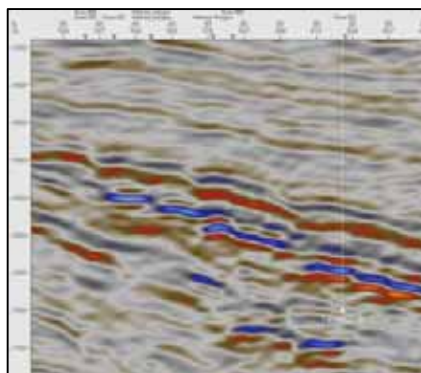
LOCATION MAP



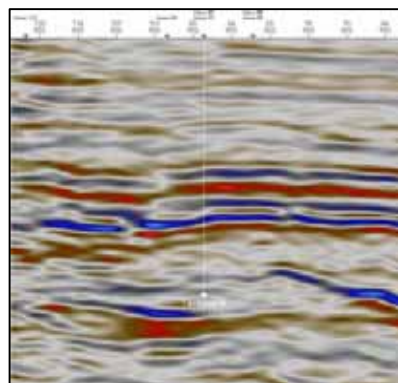
AMPLITUDE MAP

WELL INFORMATION

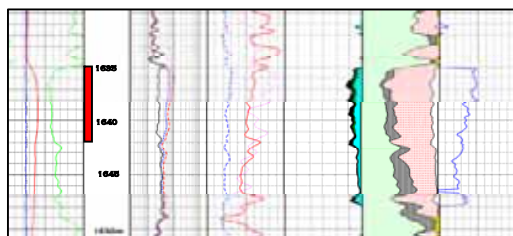
WELL NAME	FORMATION REACHED	PERFORATION INTERVAL	DRILLED DEPTH & WELL TYPE	STATUS
TARAPUR#6	CAMBAY SHALE	OBJECT-I- 1635-1642M (MD) OBJECT-II- 1624-1628M (MD)	1795M, VERTICAL	AFTER HF WELL WAS FLOWING 60M3/DAY OIL & 10000 M3/DAY GAS



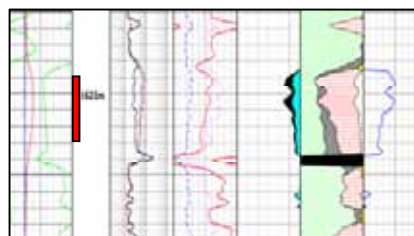
SEISMIC INLINE THROUGH THE PROSPECT



SEISMIC XLINE THROUGH THE PROSPECT



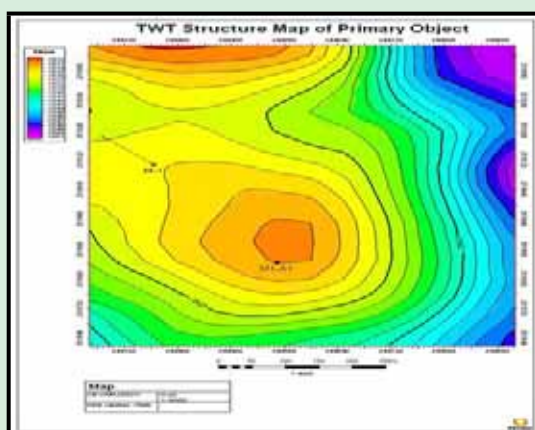
OBJECT-I- 1635-1642M (MD)



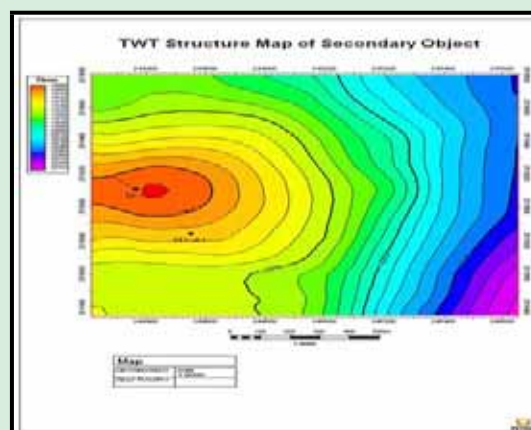
OBJECT-II- 1624-1628M (MD)

NEW DISCOVERIES: CAMBAY BASIN (SANAND-MIROLI BLOCK)
BLOCK: SANAND-MIROLI BLOCK (CB-ONN-2002/3) OPERATOR: GSPC

- THE PROSPECT IS LOCATED IN THE SOUTHERN PART OF MIROLI BLOCK.
- FOUR OBJECTS HAVE BEEN TESTED, OUT OF WHICH OBJECT-2 & 3 TESTED HYDROCARBON SHOWS AND OBJECT-IV IS OIL BEARING AND PRODUCING @ 24 BOPD.

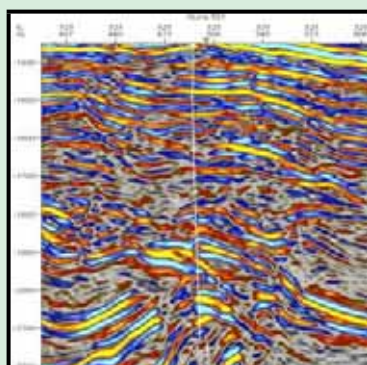


TWT Structure Map of Primary Object

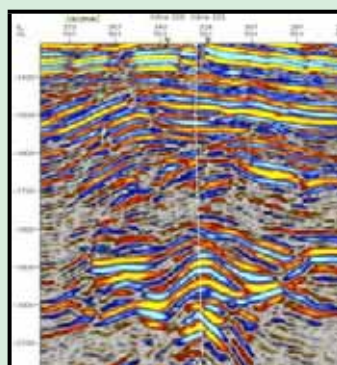


TWT Structure Map of Secondary Object

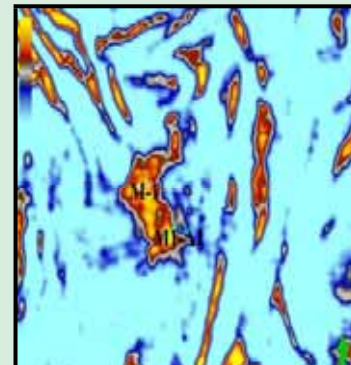
WELL NAME	FORMATION REACHED	PERFORATION INTERVAL	DRILLED DEPTH & WELL TYPE	STATUS
M#1	OLPAD	OBJECT-II: 2327-2345 OBJECT-III: 2012-2014, 1975-1978, 1951.5-1954.5m OBJECT-IV: 1666-1668.5, 1682-1684, 1694-1696.5m	2479.6m (MD)/2463m (TVD) DIRECTIONAL WELL	OIL BEARING @24 BOPD



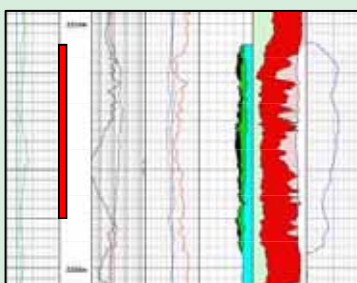
Seismic inline section



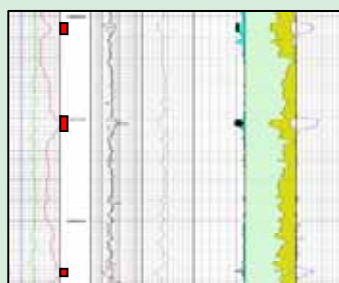
Seismic X line section



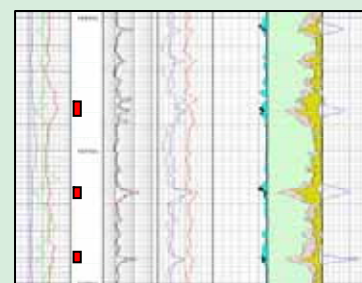
Time slice (primary object)



OBJECT-II



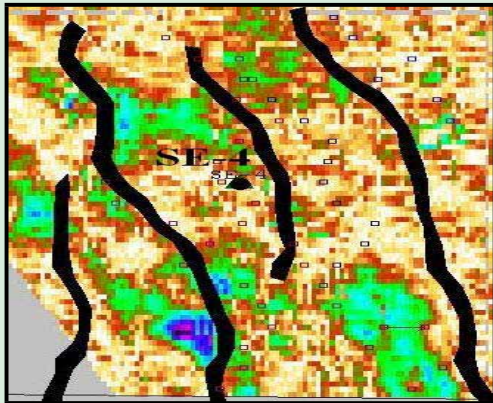
OBJECT-III



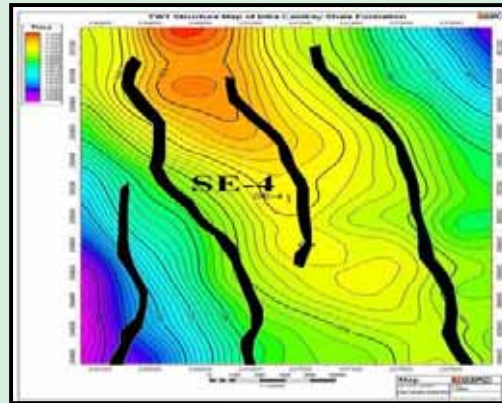
OBJECT-IV

NEW DISCOVERIES: CAMBAY BASIN (SANAND-MIROLI BLOCK)
BLOCK: SANAND-MIROLI BLOCK (CB-ONN-2002/3) OPERATOR: GSPC

- THE PROSPECT IS LOCATED IN THE SOUTHERN PART OF SANAND BLOCK.
- SIX OBJECTS HAVE BEEN TESTED, OUT OF WHICH OBJECT-VI IS OIL BEARING AND IS PRODUCING @ 25 BOPD.

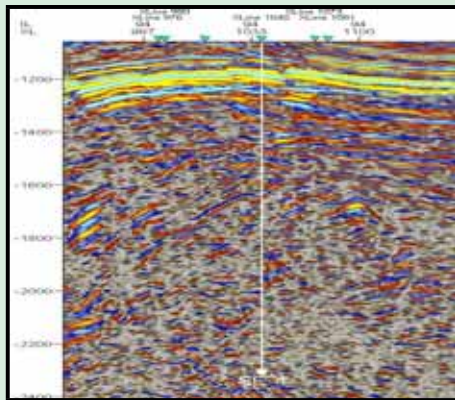


RMS AMPLITUDE MAP OF INTRA CAMBAY SHALE

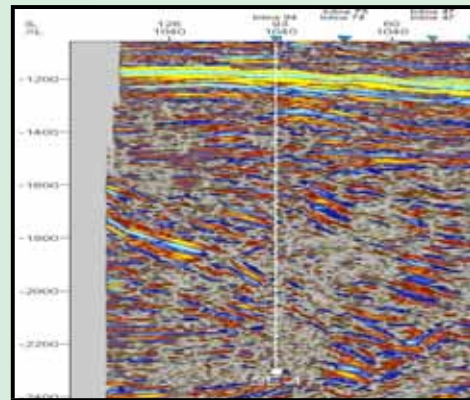


TWT STRUCTURE MAP OF INTRA CAMBAY SHALE

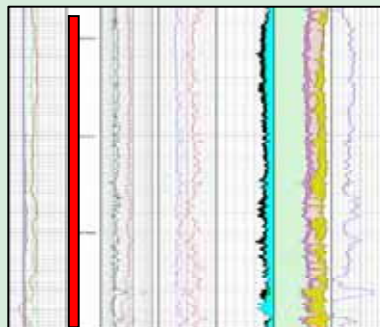
WELL NAME	FORMATION REACHED	PERFORATION INTERVAL	DRILLED DEPTH & WELL TYPE	STATUS
SE#4	OLPAD	Object-VI: 1620 – 1700m MD	2340m VERTICAL WEL	Oil bearing @ 25 bopd



Seismic inline through the Prospect



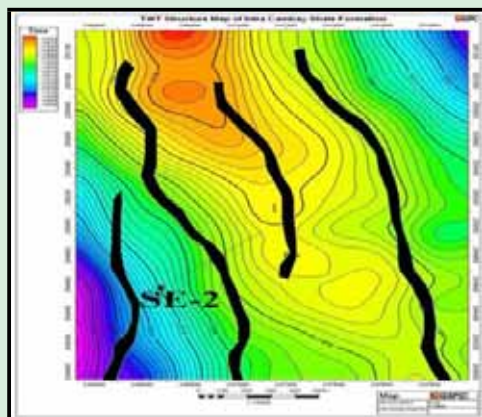
Seismic X line through the Prospect



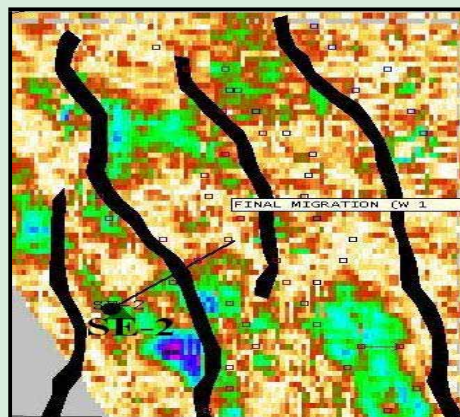
1620 -1670

NEW DISCOVERIES: CAMBAY BASIN (SANAND-MIROLI BLOCK)
BLOCK: SANAND-MIROLI BLOCK (CB-ONN-2002/3) OPERATOR: GSPC

- THE PROSPECT IS LOCATED IN THE SOUTHERN PART OF SANAND BLOCK.
- TWO OBJECTS HAVE BEEN TESTED, OUT OF WHICH OBJECT-II IS OIL BEARING.

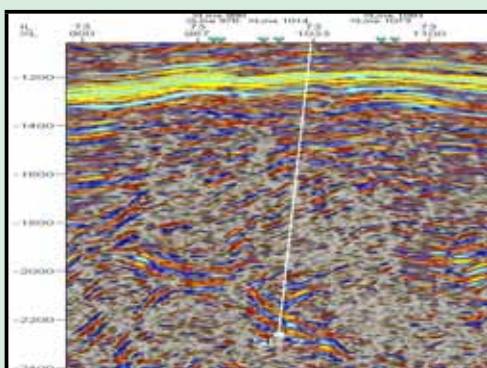


TWT Structure Map of INTRA CAMBAY SHALE FORMATION

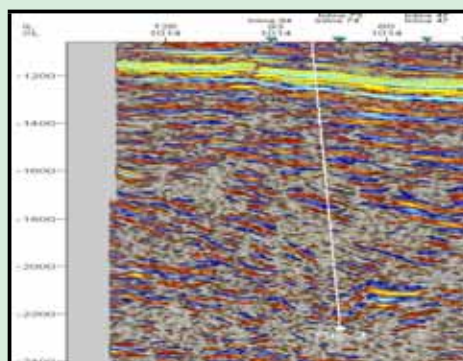


RMS AMPLITUDE MAP OF INTRA CAMBAY SHALE

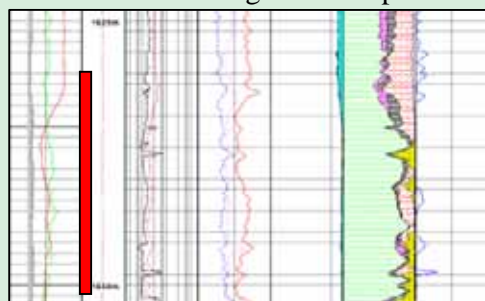
WELL NAME	FORMATION REACHED	PERFORATION INTERVAL	DRILLED DEPTH & WELL TYPE	STATUS
SE#2	OLPAD	OBJECT-II:1683-1695, 1630-1651	2470m (MD)/2390m (TVD) DIRECTIONAL WELL	POST HF TEST IN PROGRESS.



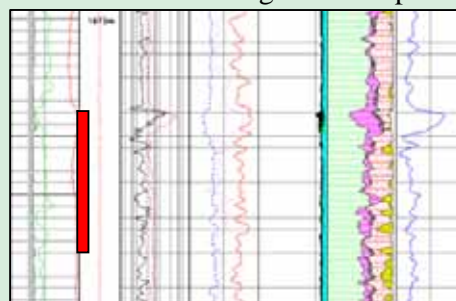
Seismic inline through the Prospect



Seismic X line through the Prospect



1630 – 1651

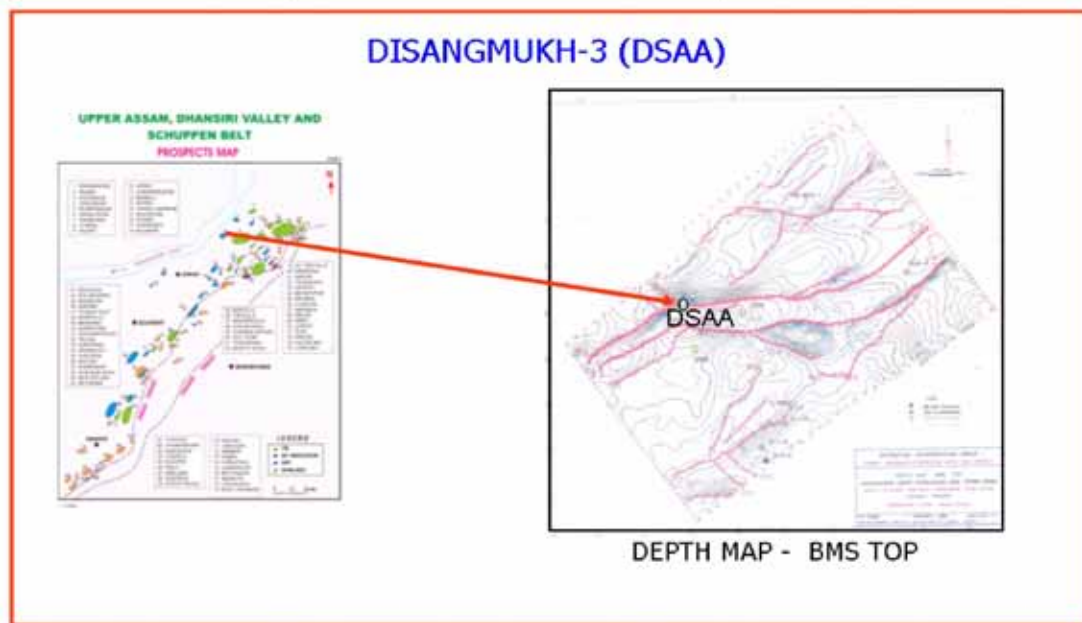


1683 - 1695

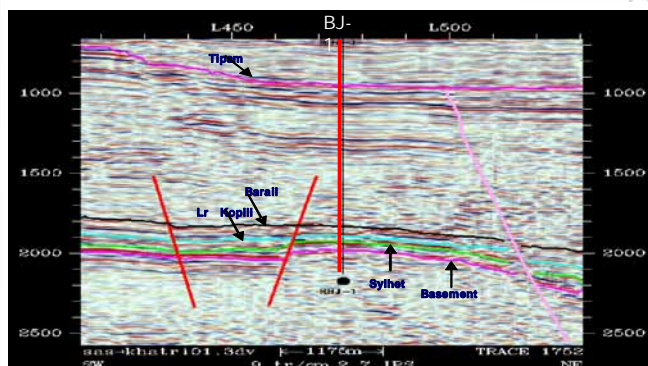
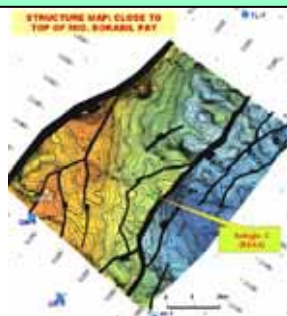
NEW DISCOVERIES: ASSAM-ARAKAN BASIN

OPERATOR: ONGC

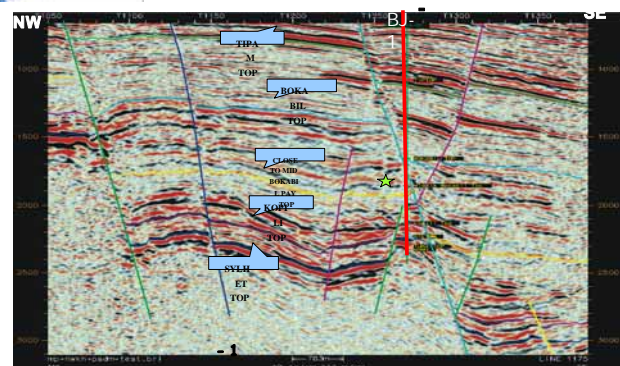
Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
A&AA	Disangmukh-3	Object-I (3688-3677 m, Tura Fm.): flowed oil @226 m ³ /d through 6 mm. Two other objects have also been identified; Obj-II (3638-3640, 3641-3646 & 3650-3652 m) and Obj-III (3620-3624) which will be tested later.	The success of this well has established the commercial viability of Tura play over North Assam Shelf and also reinforced confidence in active Tura-Sylhet play in that sector.



Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
A&AA (South Assam Shelf)	Babejia / BJ-1 (BJAA)	Obj-Va 2028-2025 m (Bokabil) flowed oil @ 21 m ³ /d through 6 mm bean	First oil discovery in the Golaghat Extension-IIA PEL block of SAS. Reinforces the prospectivity of Bokabil play after the earlier discovery in the same formation of Kalyanpur Structure towards north of Babejia Structure



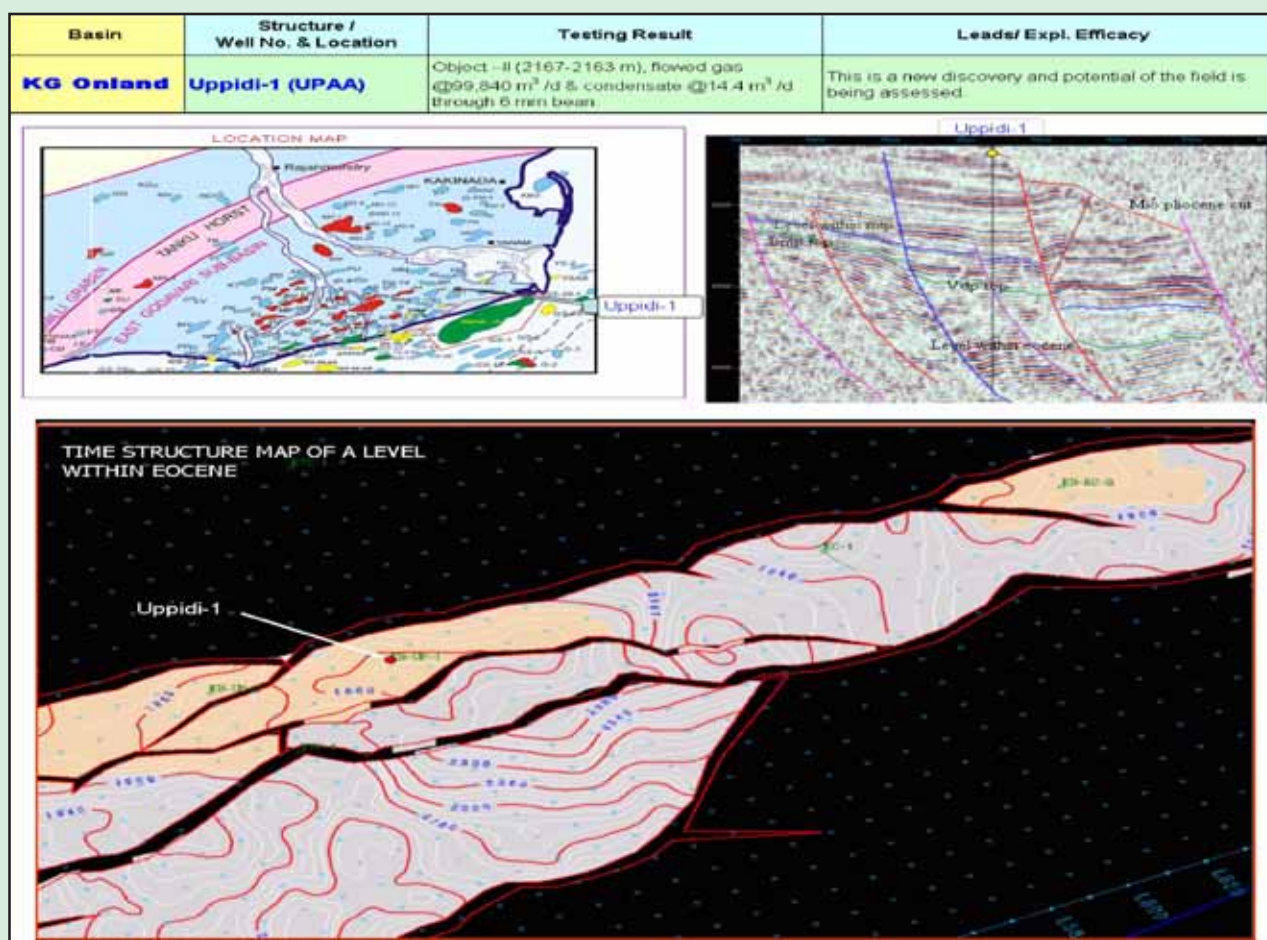
Crossline 1752 showing proposed location RBJ-1



INLINE 1175 SHOWING WELL BJ-1

NEW DISCOVERIES:KRISHNA-GODAVARI BASIN

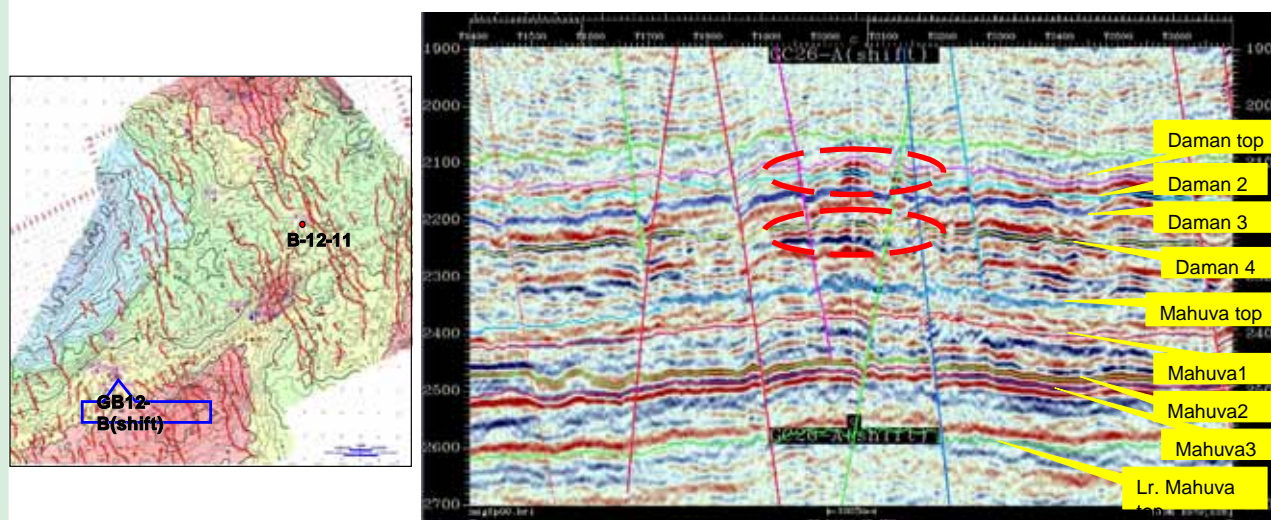
OPERATOR: ONGC



NEW DISCOVERIES:MUMBAI OFFSHORE

OPERATOR: ONGC

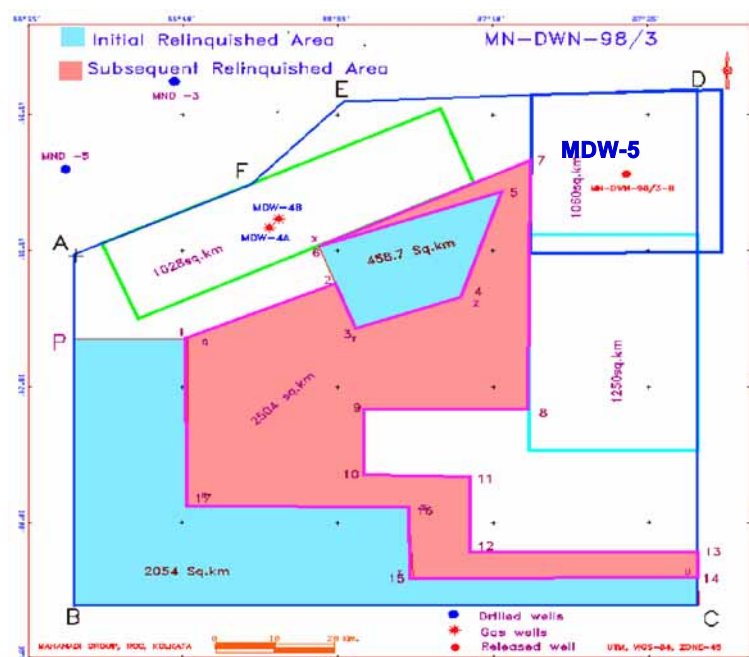
Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
Mumbai Offshore (SW)	B-12 / B-12-11 / (B-12-Q)	Obj-I 2473.5-67.5, 2482.5-74.5 m: Gas @ 223302 m ³ /d + 227 bbl/d Cond. (3/8") Obj-II 2231.5-23, 2236.5 - 32 m: Gas @ 366768 m ³ /d + 855 bbl/d Cond. (1/2") Obj-III : 2308-2290 m: (Daman Fm) Gas @ 383467 m ³ /d + 1056 bbl/d Cond. (1/2")	The well has proved hydrocarbons in the channel sands of Daman Formation in the area.



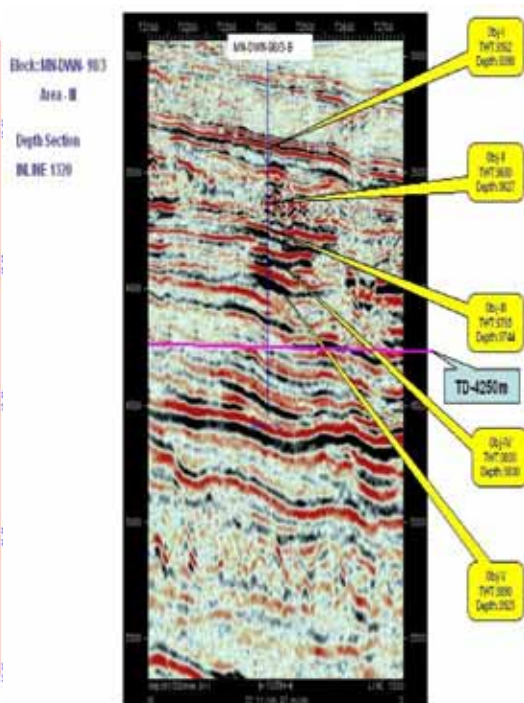
NEW DISCOVERIES: MAHANADI BASIN

OPERATOR: ONGC

Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
Mahanadi	MDW#5 (MN-DWN-98/3)	MDT (single probe) and mini DST using straddle packer at 3753.3m & 3754.4m	It is a new gas find on this structure and has proved the hydrocarbon potential of Mio-Pliocene Channel.



BLOCK MN-DWN-98/3 Showing the location



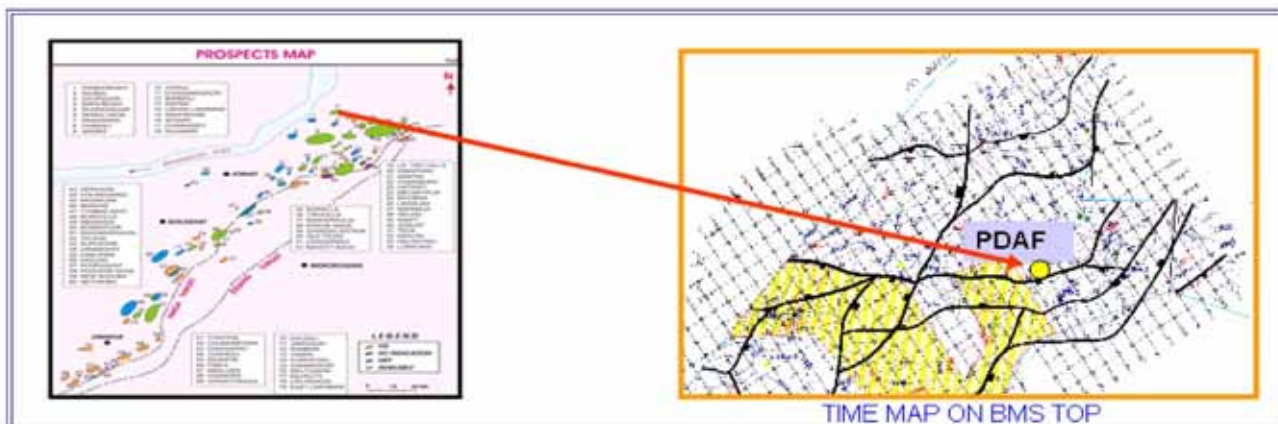
SECTION SHOWING ALL TARGETS AT WELL LOCATION

NEW DISCOVERIES: ASSAM-ARAKAN BASIN

OPERATOR: ONGC

Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
A&AA	Panidihing-6 (PDAF)	Object-III (4258-4256 m) Tura Formation, flowed oil @82 m ³ /d through 5 mm	This new pool discovery in Tura Formation has led to renewed thrust for exploration of Tura plays in Panidihing sector of North Assam Shelf.

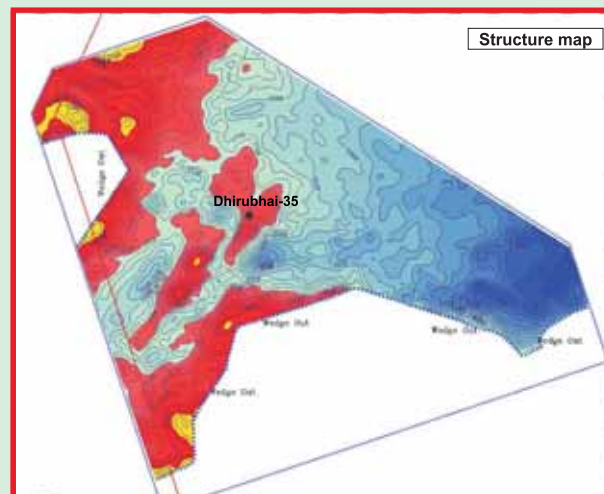
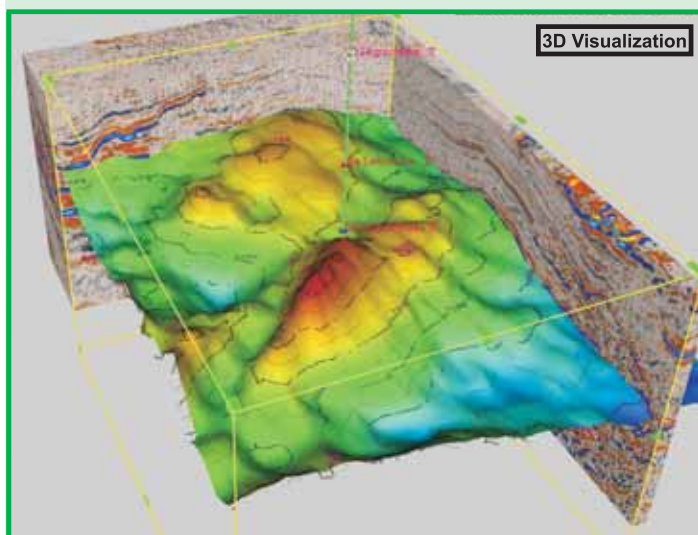
PANIDIHING-6



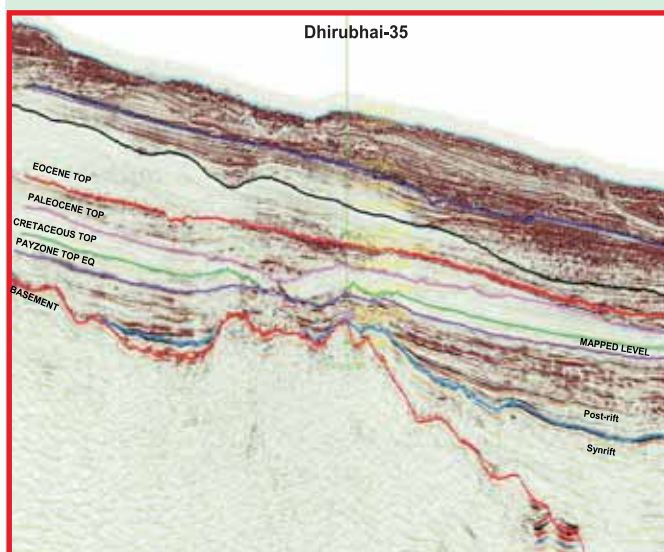
NEW DISCOVERIES: CY-DWN-2001/2

OPERATOR: RIL

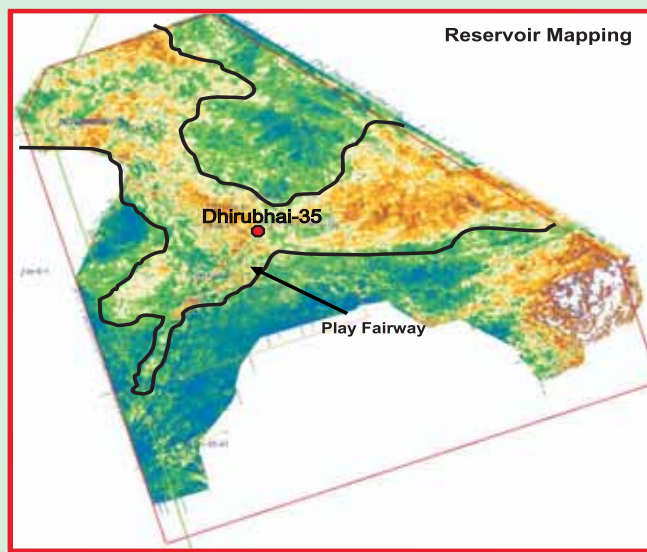
- Discovery : Dhirubhai - 35
- Water depth at well : 1185 m
- Target depth of well : 4081 m
- Gross hydrocarbon column : 150 m (cretaceous)
- Main Zone produced 31 MSCF of gas and 1200 Barrels of condensate per day.
- Zone below main Zone produced 1 MSCF of gas and 550 barrels of oil per day



Depth Structure Map On Top Of Late Cretaceous Reservoir



3D seismic Inline (PSTM) showing Location CYIID5-A1



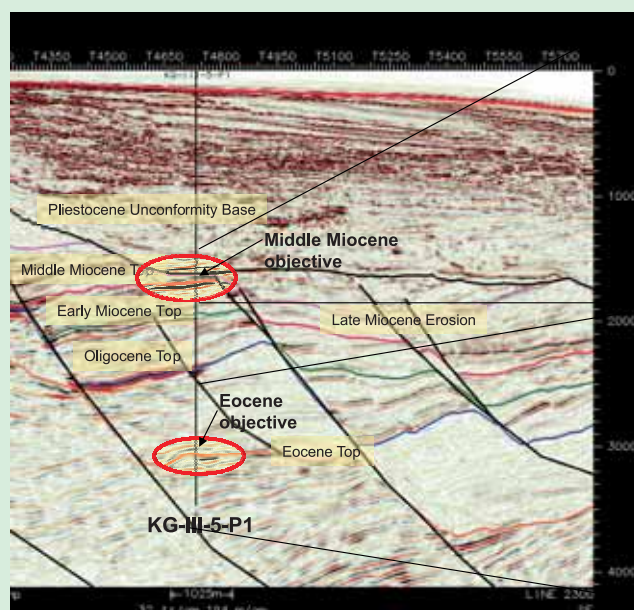
Strat-amp of Late Cretaceous Sequence Indicating Late Cretaceous sand Fairways

NEW DISCOVERIES: KG-OSN-2001/1

OPERATOR: RIL

- Discovery : Dhirubhai - 37
- Water depth at well : 151 m
- Target depth of well : 3500 m
- Gross hydrocarbon column : 32 m (Miocene)
: 4 m (Pliocene)

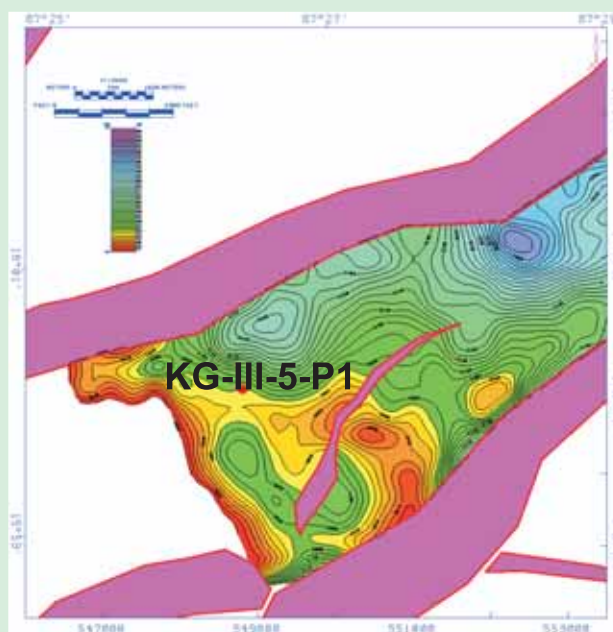
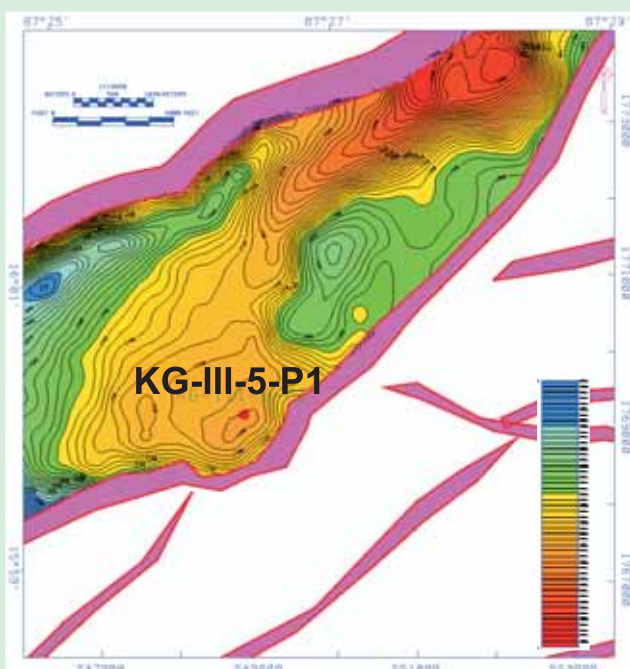
Seismic Section Passing through KGIII5-P1



Depth Structure Maps KGIII5-P1

Middle Miocene Level

Late Miocene Level

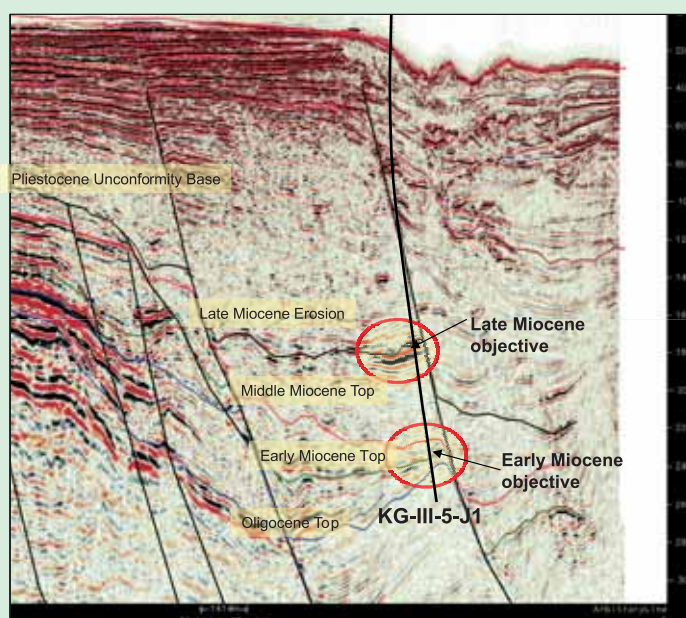


NEW DISCOVERIES: KG-OSN-2001/1

OPERATOR: RIL

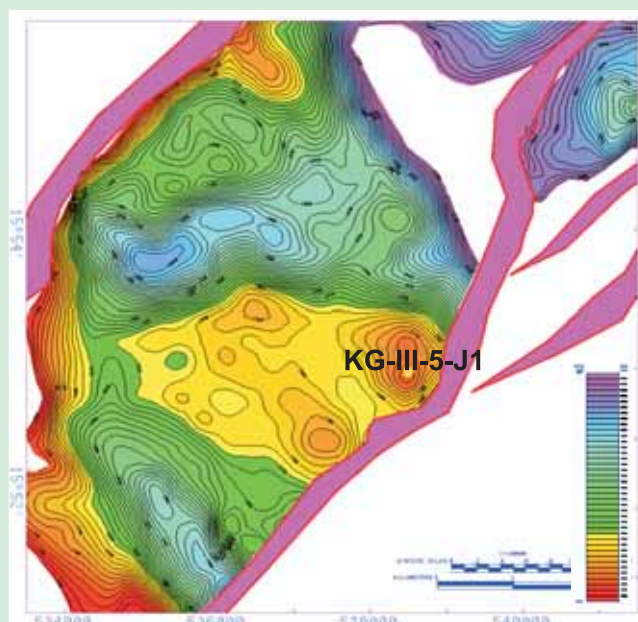
- Discovery : Dhirubhai - 38
- Water depth at well : 151 m
- Target depth of well : 2820 m
- Gross hydrocarbon column : 105 m (Miocene)

Seismic Section Passing through KGIII5-J1

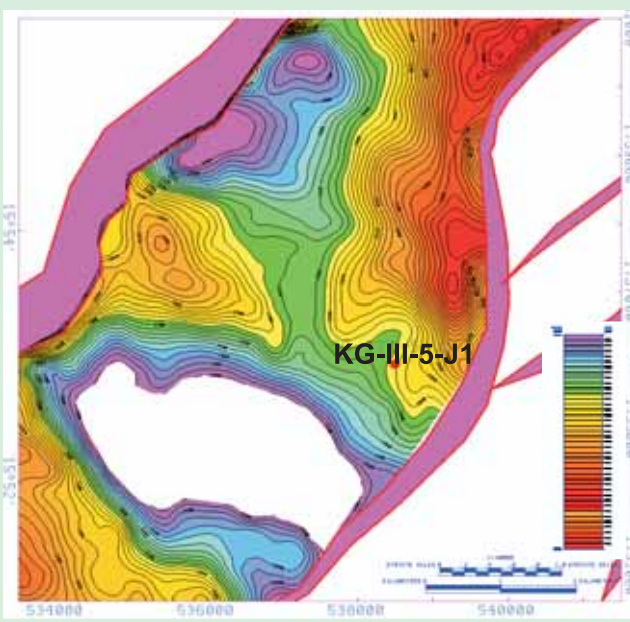


Depth Structure Maps KGIII5-J1

Late Miocene Level



Early Miocene Level

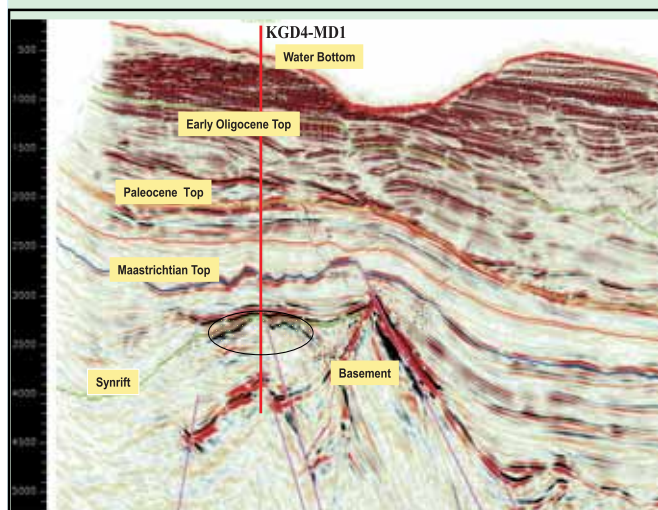


NEW DISCOVERIES: KG-DWN-98/1

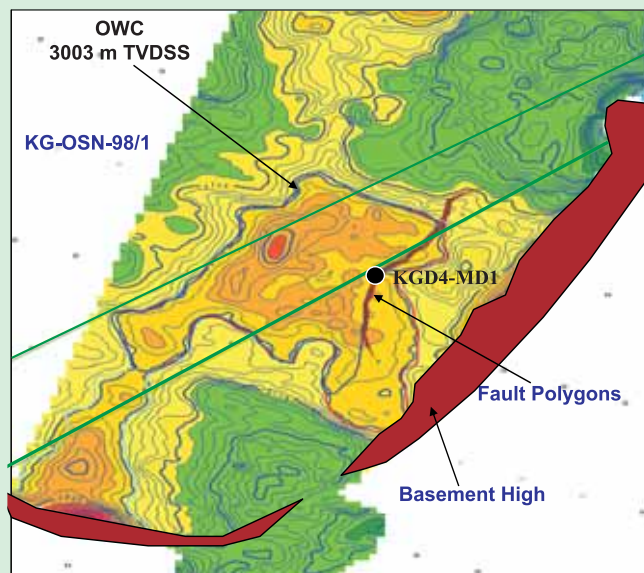
OPERATOR: RIL

- Discovery : Dhirubhai - 36
- Water depth at well : 565 m
- Target depth of well : 3595 m
- Gross hydrocarbon column : 21 m (Mesozoic)
- Well produced 570 barrels of oil per day

Seismic Section Passing through KGD4-MD1



Depth Structure Map KGD4-MD1

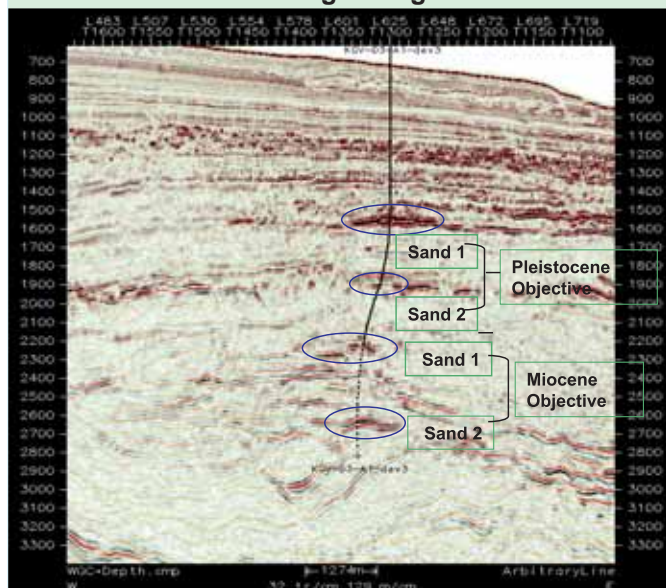


NEW DISCOVERIES: KG-DWN-2003/1

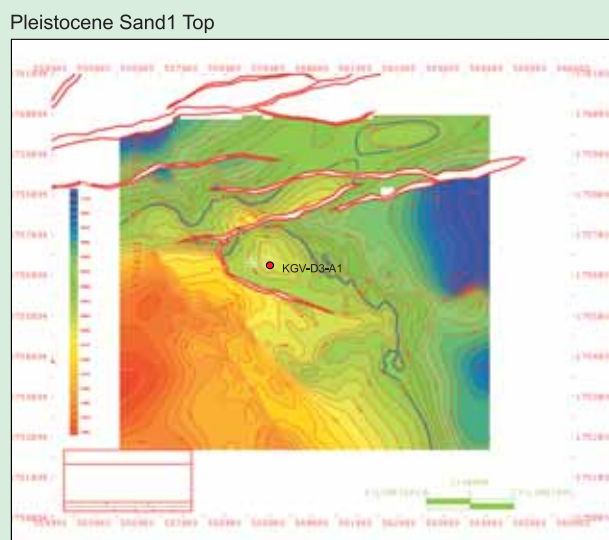
OPERATOR: RIL

- Discovery : Dhirubhai - 39
- Water depth at well : 716 m
- Target depth of well : 1937 m
- Gross hydrocarbon column : 84 m (Pleistocene)
- Well produced 38.1 MSCF of Gas per day

Seismic Section Passing through KGVD3-A1

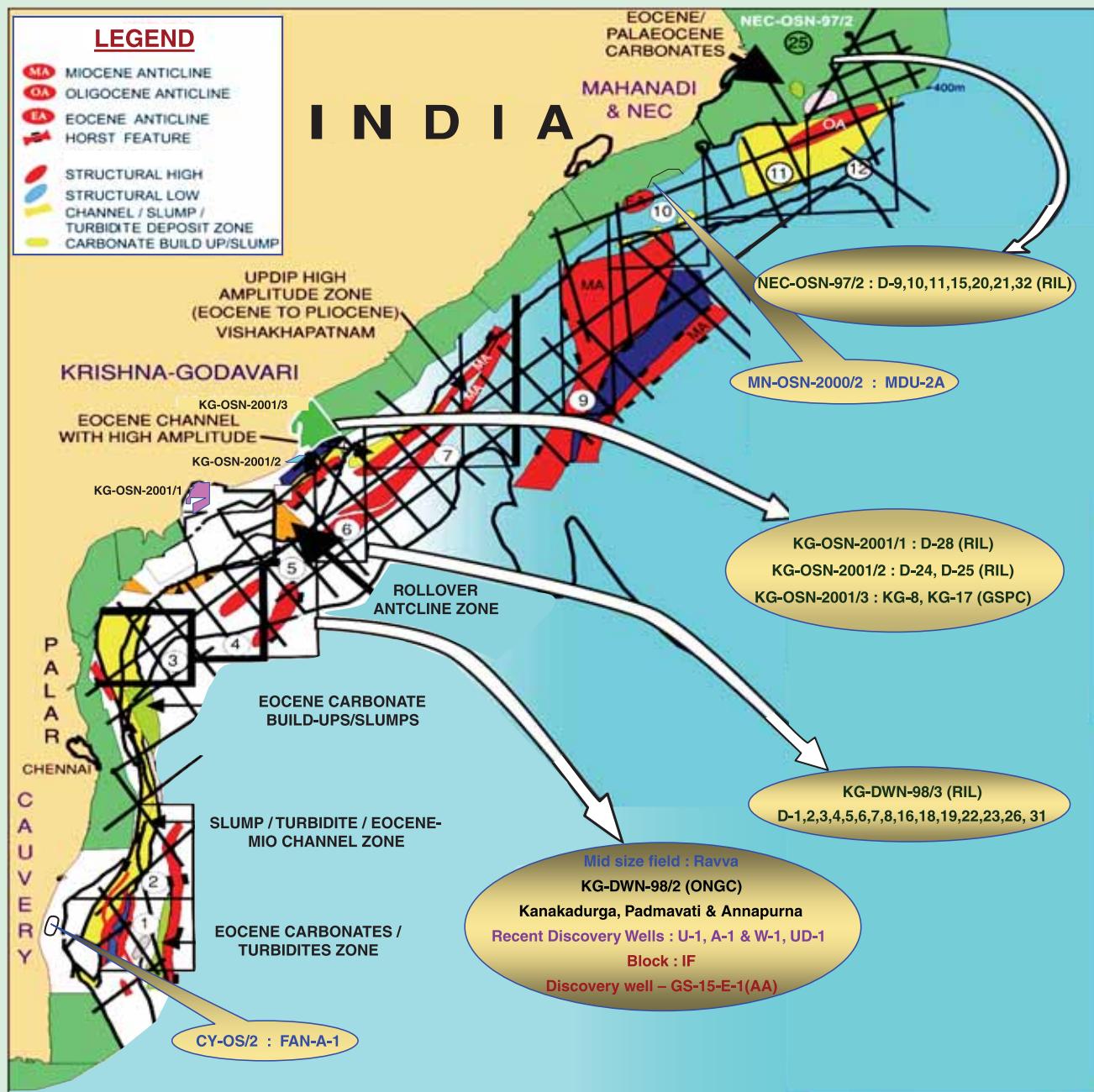


Depth Structure Map KGVD3-A1

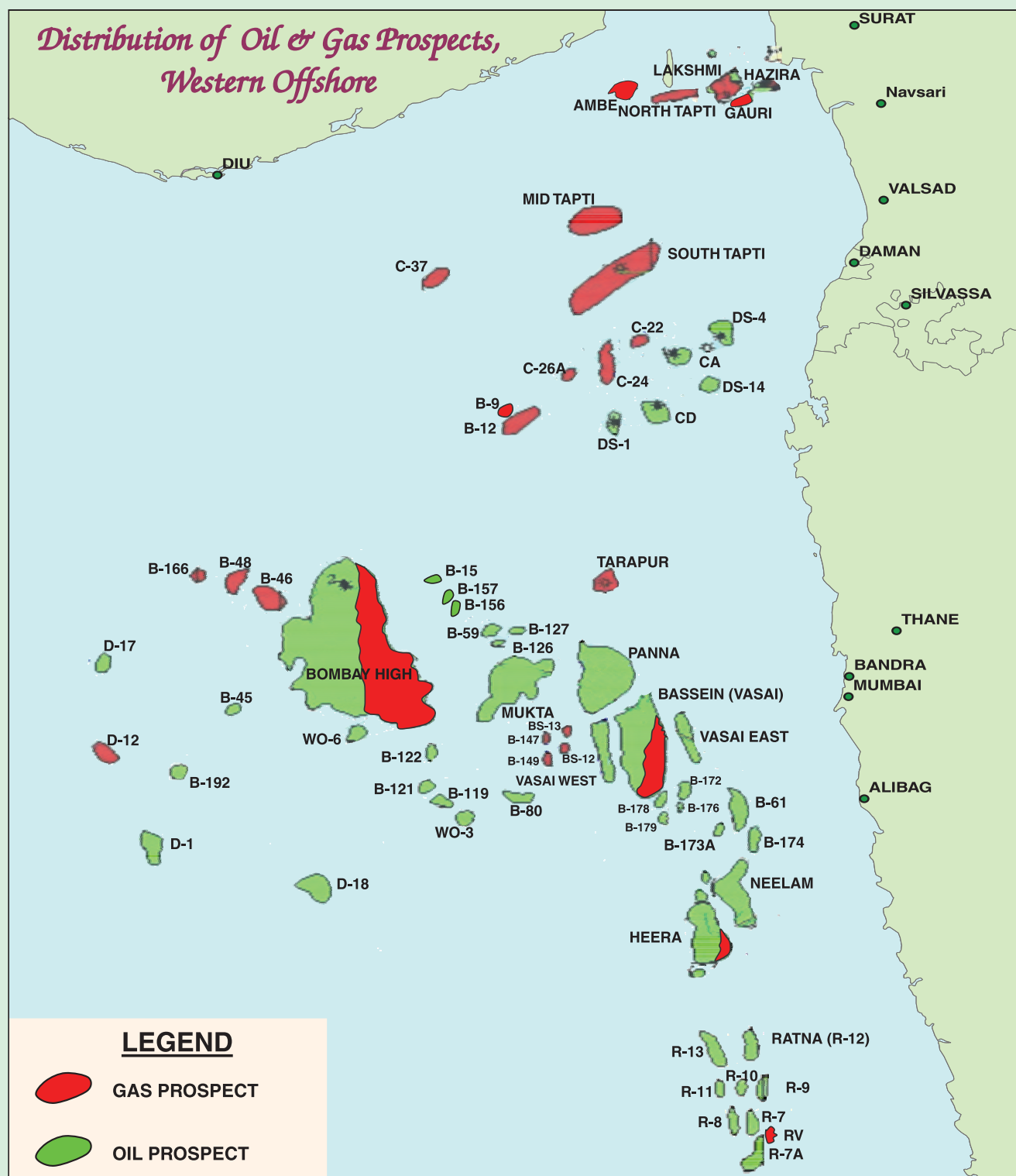


HYDROCARBON PROSPECTS/ GEOLOGICAL PLAYS

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

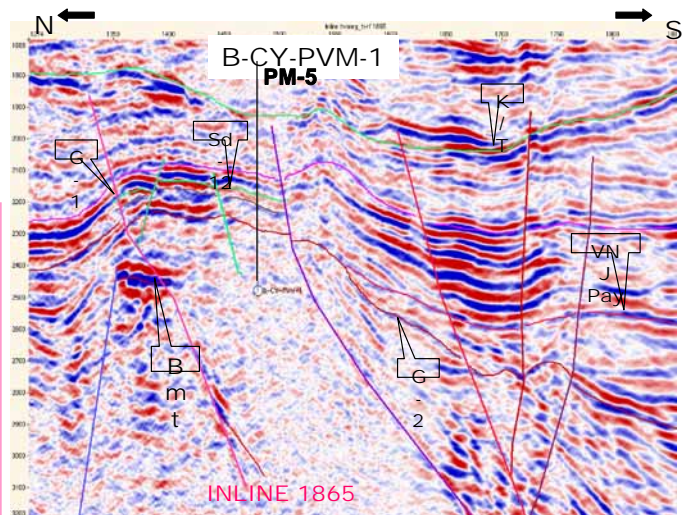
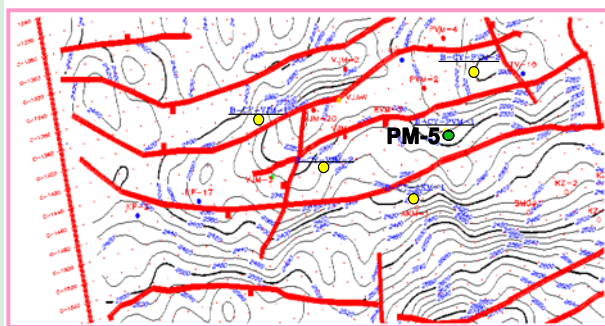
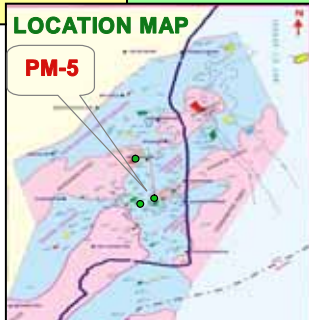


HYDROCARBON PROSPECT MAP – WEST COAST



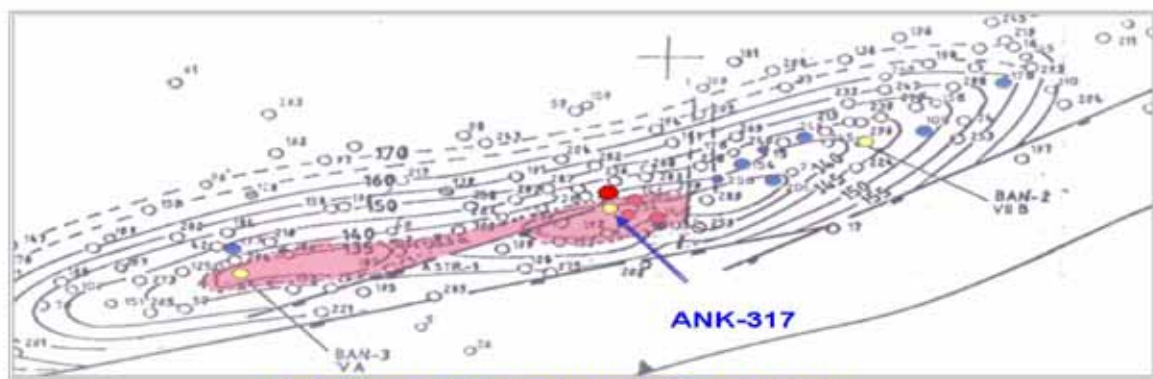
New Pool

Basin	Structure / Well No.	Testing Result	Leads/ Expl. Efficacy
Cauvery Onland	Pallivaramangalam-5 (PMAD)	Obj-II 3282-3278m flowed oil @12 m ³ /d and gas @10,000 m ³ /d (6 mm)	<i>This is one of the deepest pays established so far and would give impetus for further exploration of liquid hydrocarbons in the area.</i>



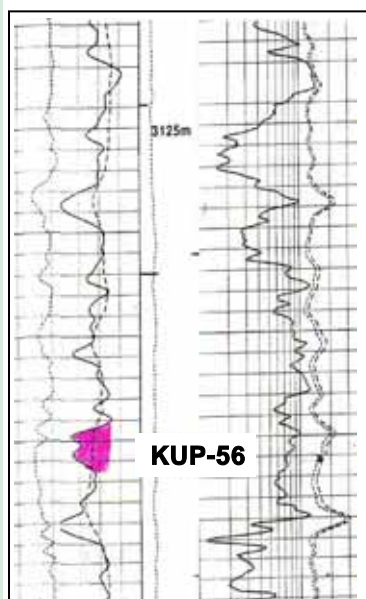
New Pool

Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
Cambay	Ankaleshwar-317 (ANAL)	Object-I (181.5-180 m), flowed gas @6308 m ³ /d through 8 mm bean, Object-II (149-147 m), flowed gas @2750 m ³ /d and Object-III (138-136 m), flowed gas @3962 m ³ /d (through 5 mm bean).	This has confirmed occurrence of shallow gas in Ankleshwar Field

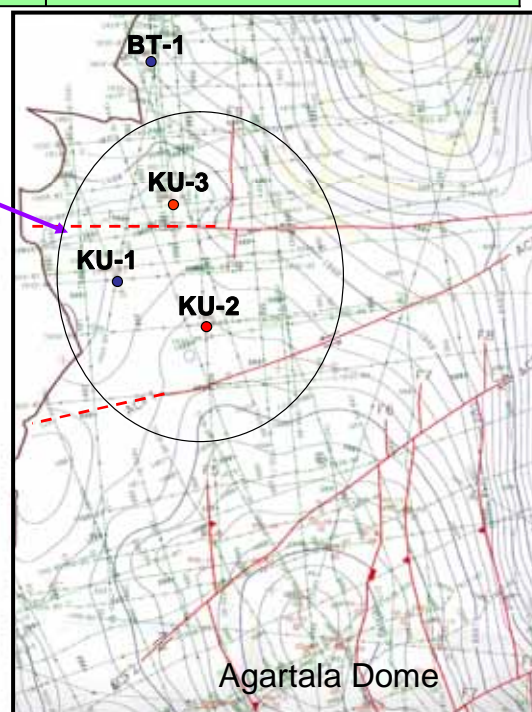
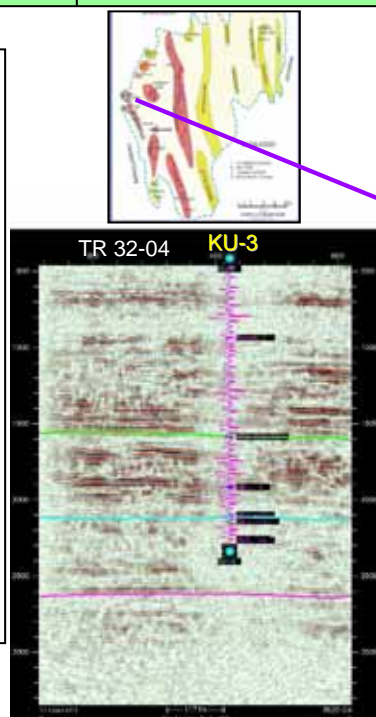


New Pool

Basin	Structure / Well No.	Testing Result	Leads/ Expl. Efficacy
Assam & Assam-Arakan	Kunjaban / KU-3 (KUAD)	Obj-I 3141-3139 m : Flowed gas @ 86,350 m ³ /d (8 mm).	Discovery of KU-3 along with earlier drilled well KU-2 heralded a new Strati-structural play breakthrough in the basin.

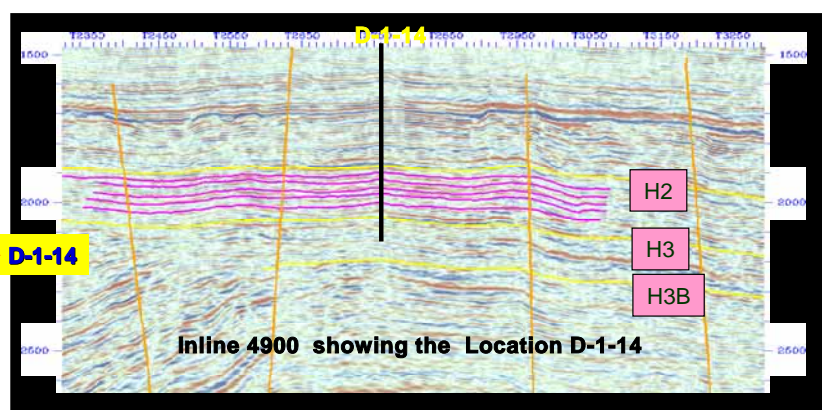
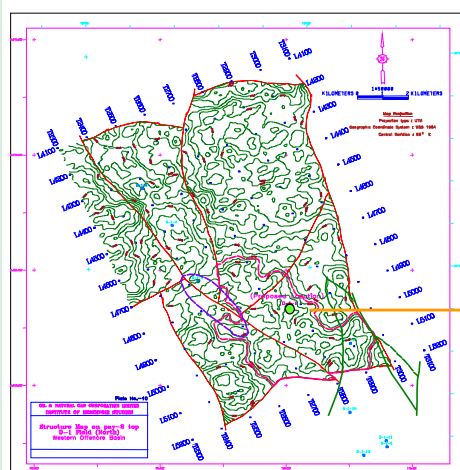


Obj-I: 3141-313 m



New Pool

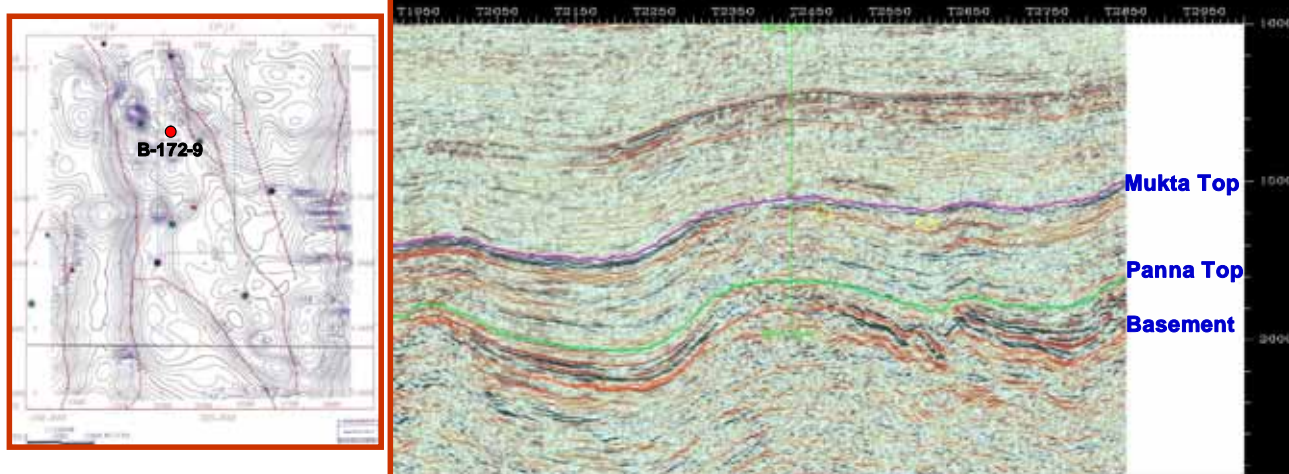
Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
Mumbai Offshore (SW)	D-1-14	Obj-I : 2535.5 -2529.5 m: Oil @ 136.8 (1/2") Obj-III: 2220 – 2214, 2205 – 2196.5, 2179 – 2176, 2169 – 2165.5 m: Oil @ 370.5 (1/2")	This discovery in the Lower Pay has opened up areas for exploration in and around D-1-5, D-1-12, D-1-6.



New Pool

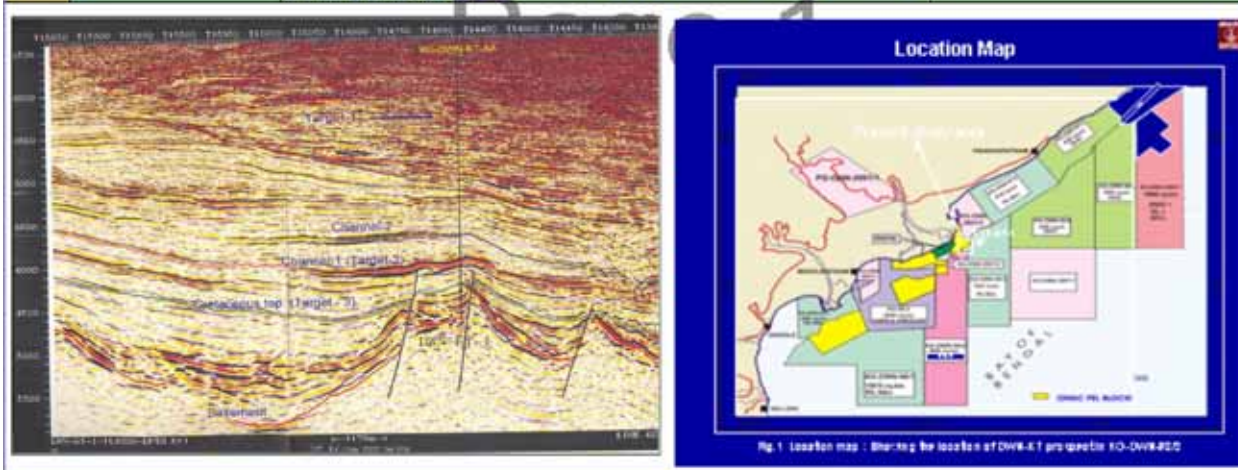
Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
Mumbai Offshore (SW)	B-172 / B-172-9 (B-172-G)	Obj-I 2245.5-2243.5 m (Panna Fm) : Gas @ 343555 m ³ /d + 944 bbl/d Cond. (5/8") Obj-II 1660–1636 m: Gas @ 269154 m ³ /d + 734 bbl/d Cond. (5/8")	The hydrocarbon discovery in Panna has opened up the area for further exploration and delineation of Panna Sands.

INLINE 3200 PASSING THROUGH B-172-G



New Pool

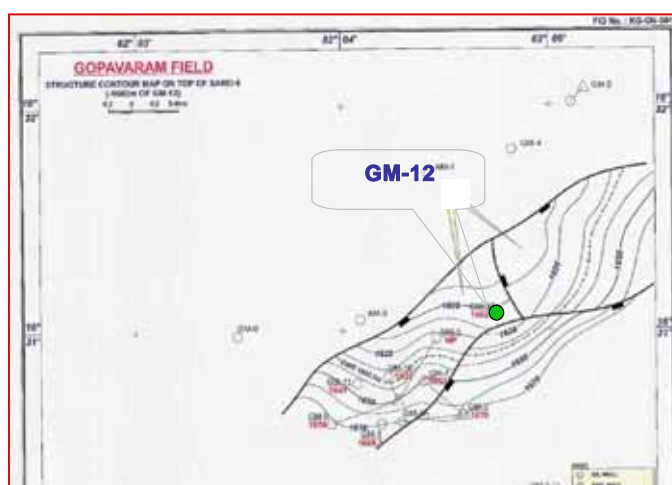
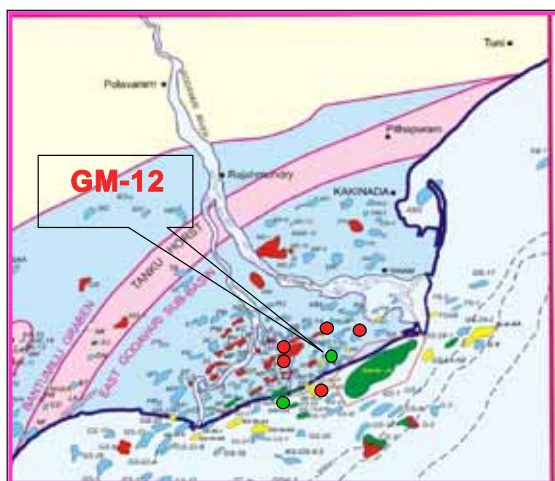
Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
KG Offshore (DW)	KG-DWN-98/2-KT#1 (KT-AA)	Mini-DST Results: Station-1 (2145.4 m): Thickness Tested: 1 m, Investigated Int.: 5.6 m, Skin factor: 6.82, Permeability-thickness product: 1520 md/m, Pressure: 3401.97 psia & AOF: 8.76 mmsecmd. Station-2 (2161.8 m): Thickness Tested: 1 m, Investigated Int.: 9.5 m, Skin factor: 14.6, Permeability-thickness product: 1110 md/m, Pressure: 3405.12 psia & AOF: 0.877 mmsecmd. Station-3 (2183.1 m): Thickness Tested: 1 m, Investigated Int.: 0.8 m, Skin factor: 0.739, Permeability-thickness product: 680 md/m, Pressure: 3405.51 psia & AOF: 6.69 mmsecmd. Station-4 (2191.5 m): Thickness Tested: 1 m, Investigated Int.: 2.0 m, Skin factor: 0.917, Permeability-thickness product: 555 md/m, Pressure: 3411.14 psia & AOF: 1.15 mmsecmd. Station-5 (2140.45 m): Thickness Tested: 1 m, Investigated Int.: 0.6 m, Skin factor: 0.0, Permeability-thickness product: 947 md/m, Pressure: 3400.97 psia & AOF: 8.82 mmsecmd. Two more pump-out samples were also attempted at 2199.1 m (gas on LFA) and at 2253.1 m (water on LFA). In addition to the above, single probe MDT at 2136.3m, 2173.8m, 2239.7m and 2196.8m were attempted which yielded gas.	The well has proved the extension of Pliocene gas sands as envisaged.



New Pool

Basin	Structure / Well No.	Testing Result	Leads/ Expl. Efficacy
Krishna-Godavari Onland	Gopavaram-12 (GMDF)*	Obj-II 2068-2065 m flowed oil @50 m ³ /d and gas @2400 m ³ /d (5 mm)	<i>This discovery has opened up the area to the north east for further exploration.</i>

LOCATION MAP

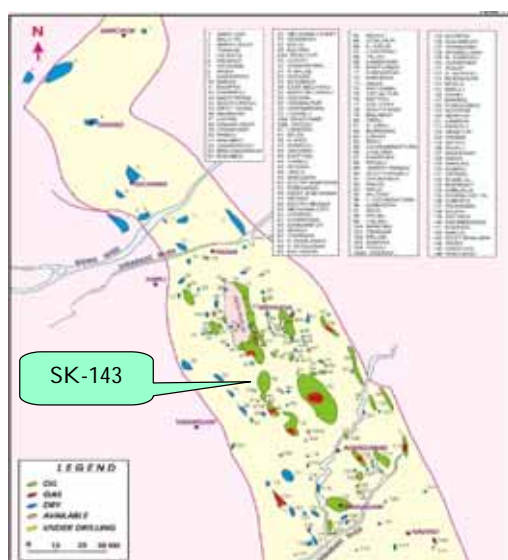


* Development well

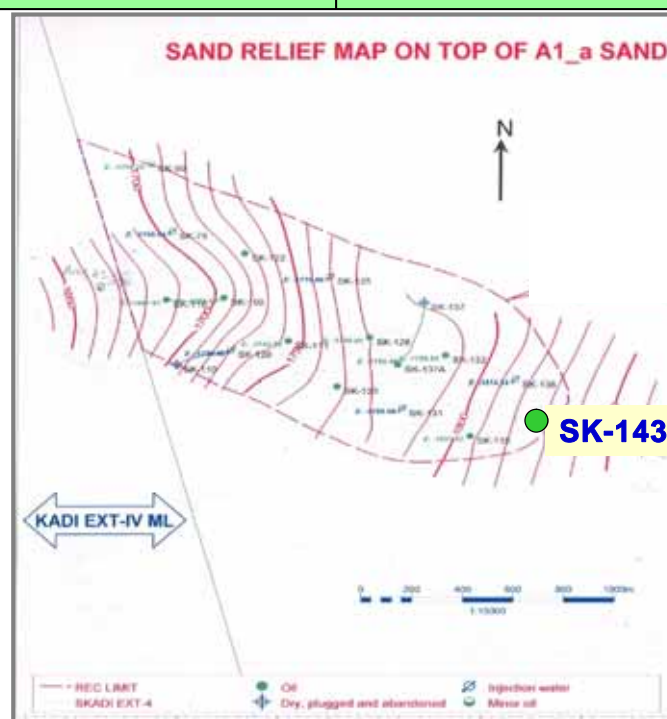
New Pool

Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
Cambay	South Kadi-143 (SKFP)*	Obj-I 1849-1847, 1843-1839.5 m ('A' Sand - new) : Oil @ 50 m ³ /d + 2450 m ³ /d (6 mm).	It is a new sand discovery in Lower Kadi pays within the Older Cambay Shale in South Kadi Field.

LOCATION MAP –SK-143



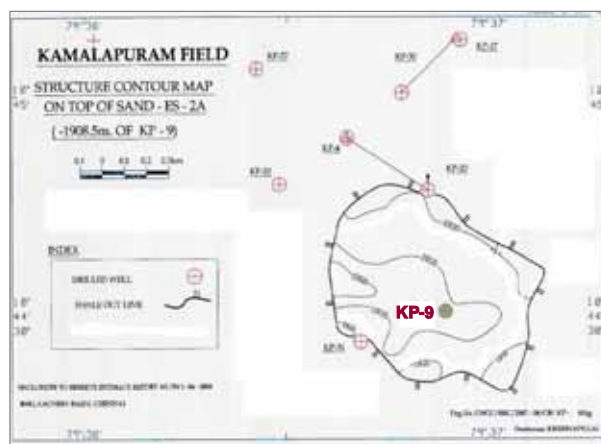
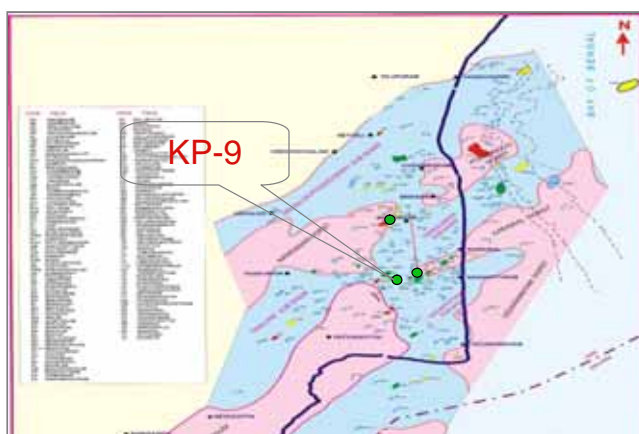
* Development well



New Pool

Basin	Structure / Well No.	Testing Result	Leads/ Expl. Efficacy
Cauvery Onland	Kamlapuram-9**	Obj-III 1925-1923 m flowed oil @24 m ³ /d	<i>This discovery confirms the multiplicity of pays in Kamalapuram Formation in the area and enhances the potential of KMP Fm for further exploration.</i>

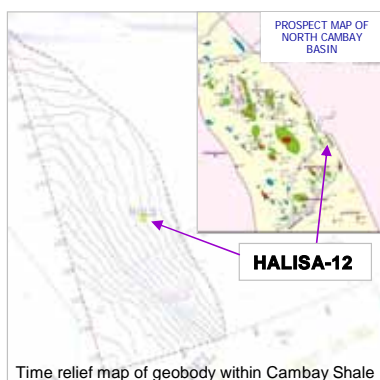
LOCATION MAP



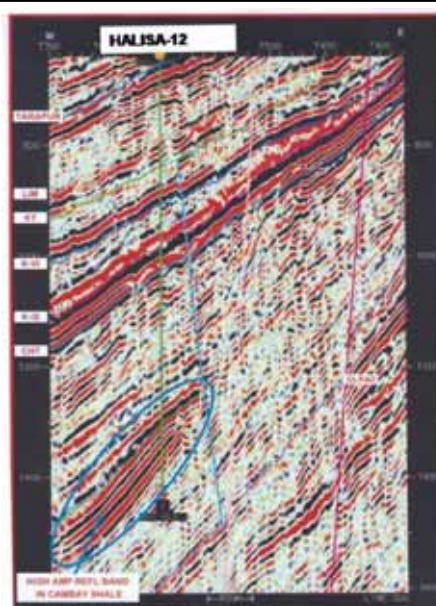
**Through zone transfer, tested by work-over rig

New Pool

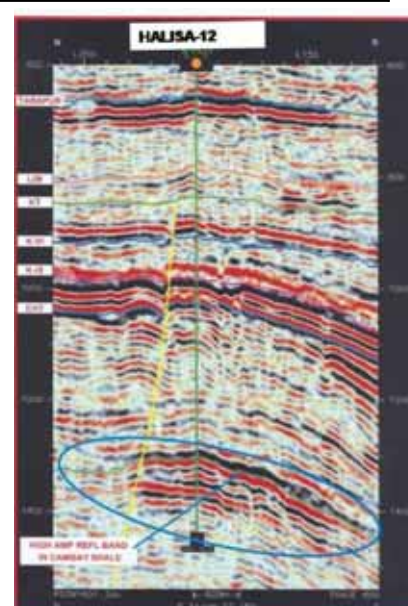
Basin	Structure / Well No. & Location	Testing Result	Leads/ Expl. Efficacy
Cambay	Halisa-12 / (HAAL)	Obj-I 1395-1385, 1378-1376, 1373.5-1365.0 & 1357-1347 m: Oil bearing	This new pool discovery has opened up the area for further exploration of OCS pays in the eastern margin.



LOCATION MAP



PART OF INLINE 200 SHOWING PROPOSED LOCATION BH13

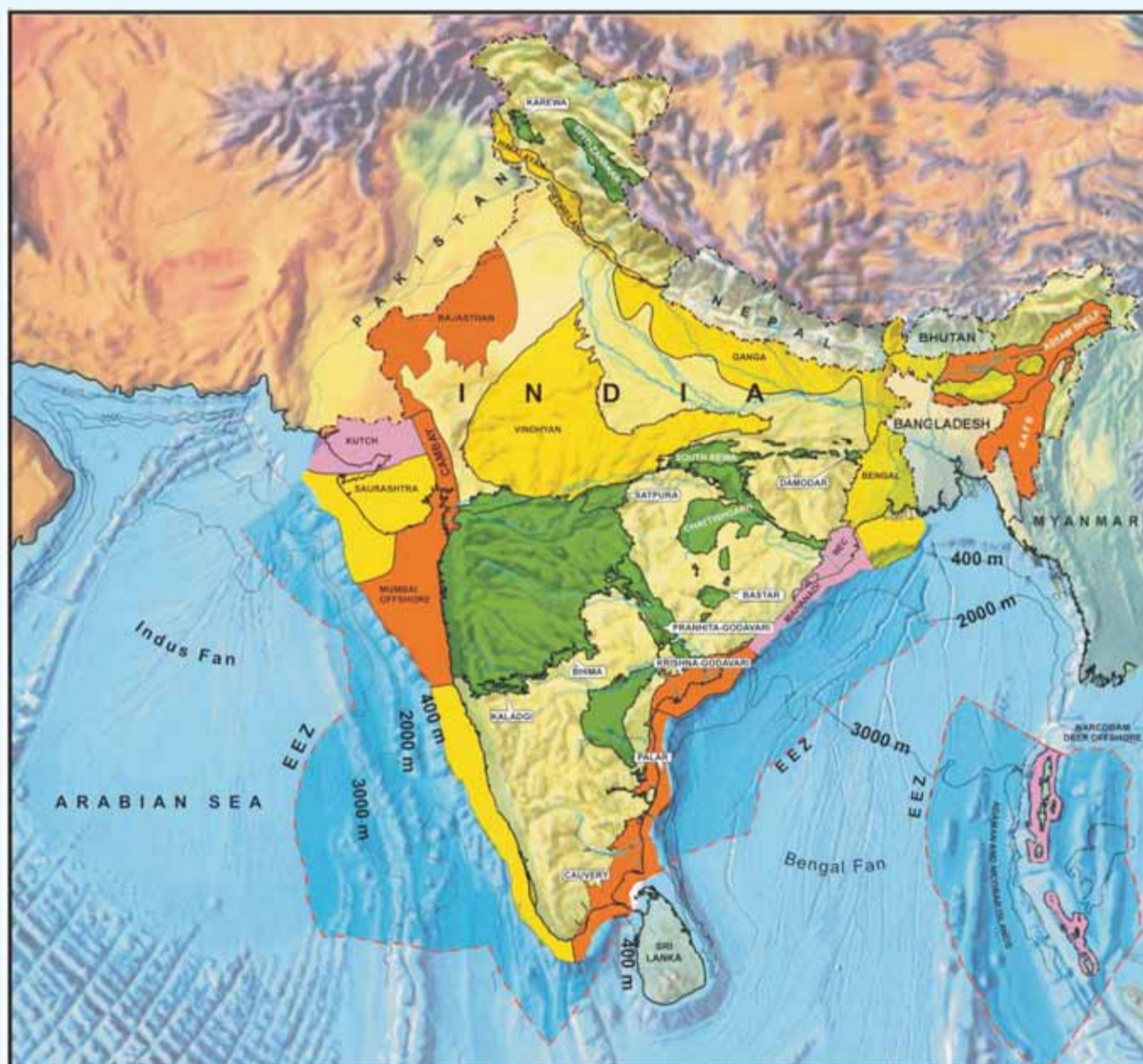


PART OF XLINE 600 SHOWING PROPOSED LOCATION BH3

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 15% 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

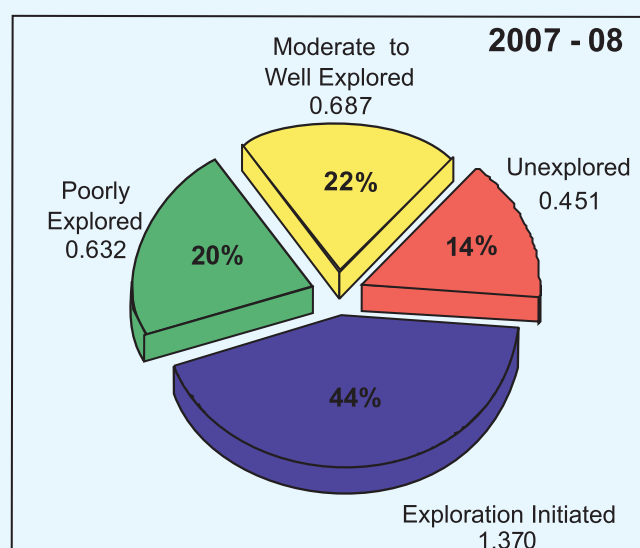
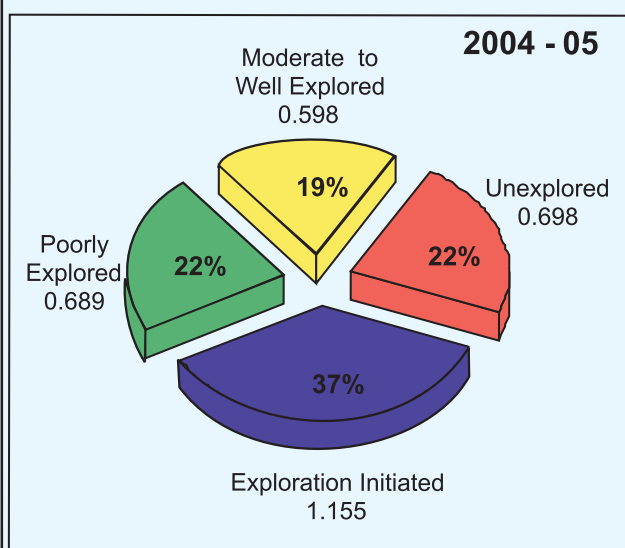
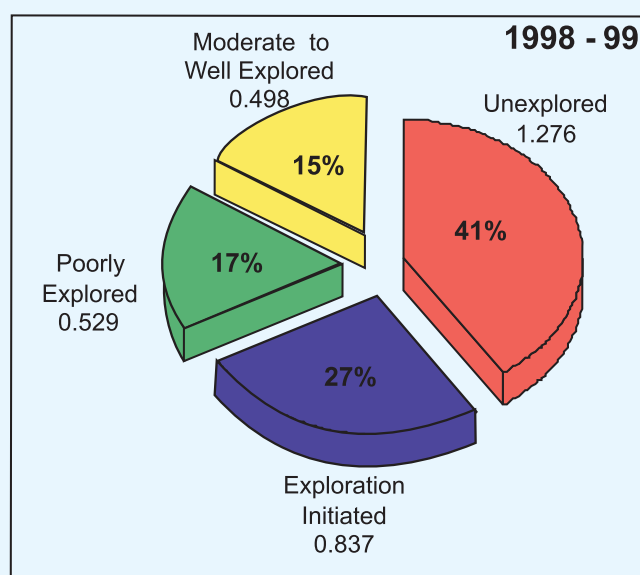
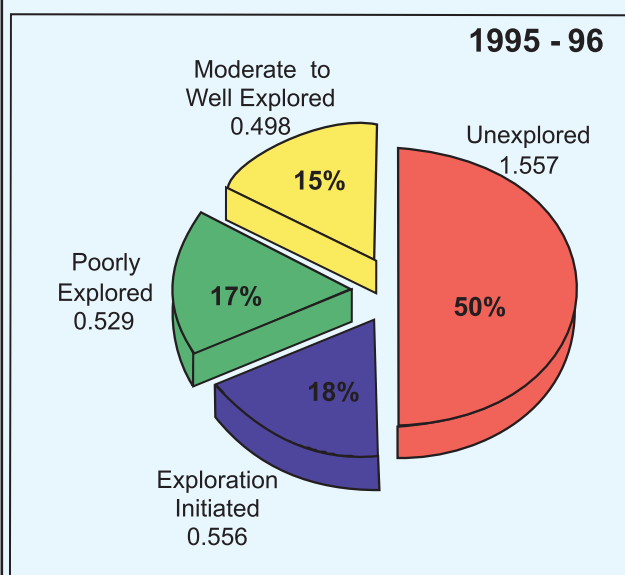


LEGEND

- | | |
|---|---|
| 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
<p>* Categorization based on the prospectivity of the basin as presently known. The four recognized categories are basins which have :</p> <p>I Established commercial production</p> <p>II Known accumulation of hydrocarbons but no commercial production as yet</p> <p>III Indicated hydrocarbon shows that are considered geologically prospective</p> <p>IV Uncertain potential which may be prospective by analogy with similar basins in the world.</p> <p>This categorization will necessarily change with the results of further exploration.</p>				

SEDIMENTARY BASINAL AREAS



Total Sedimentary Area : 3.14 Million Sq. Km.

LEVEL OF EXPLORATION	AREA (Million Sq.Km.)			
	1995-96	1998-99	2004-05	2007-08
UNEXPLORED	1.557	1.276	0.698	0.451
EXPLORATION INITIATED	0.556	0.837	1.155	1.370
POORLY EXPLORED	0.529	0.529	0.689	0.632
MODERATE TO WELL EXPLORED	0.498	0.498	0.598	0.687

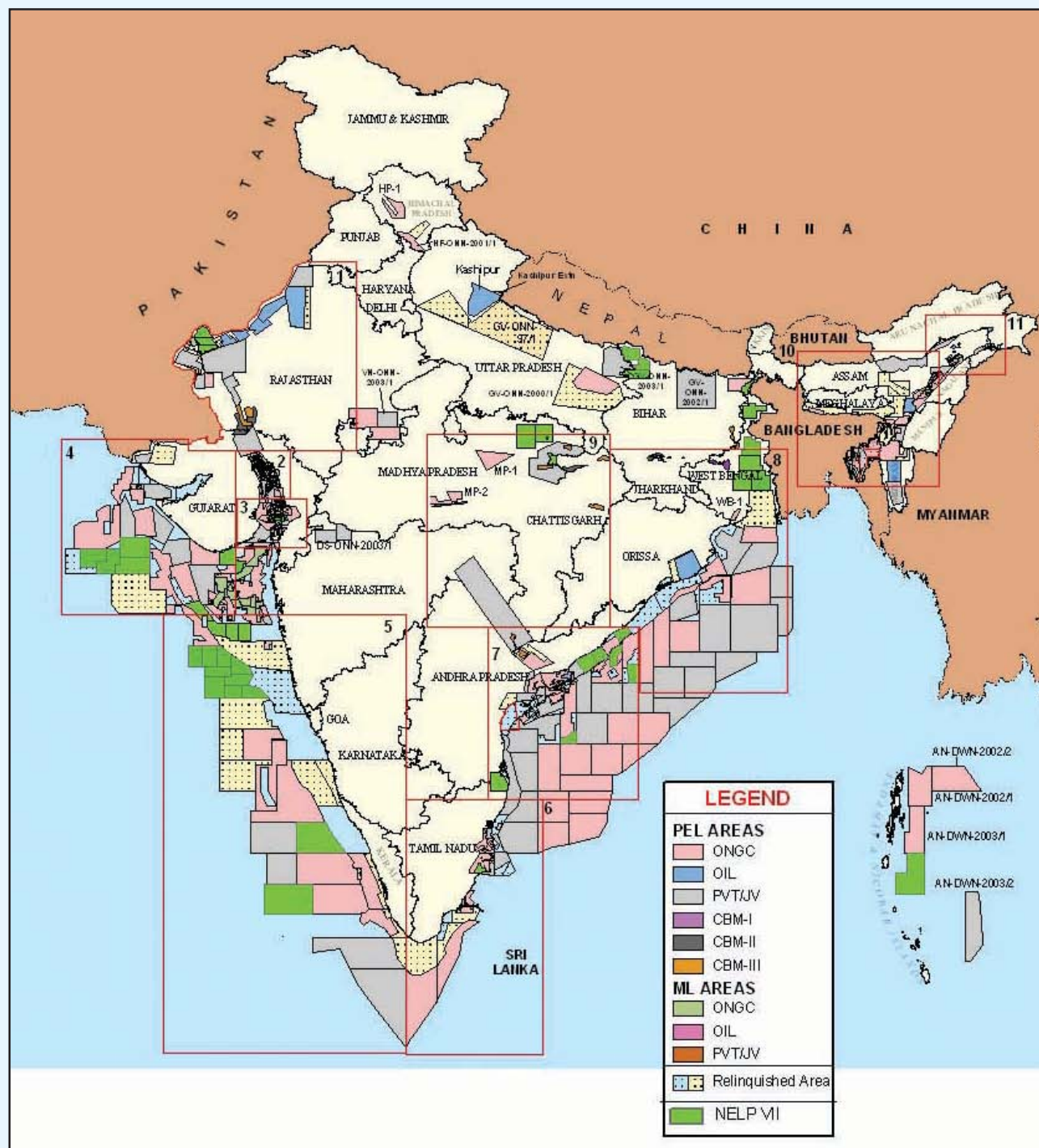
PEL & ML status

As on 1.4.2008, operations are being carried out by national and private oil companies in 597 concessions, of which 259 are under Petroleum Exploration Licence (PEL) and 338 under Mining Lease (ML). The distribution pattern is as follows:

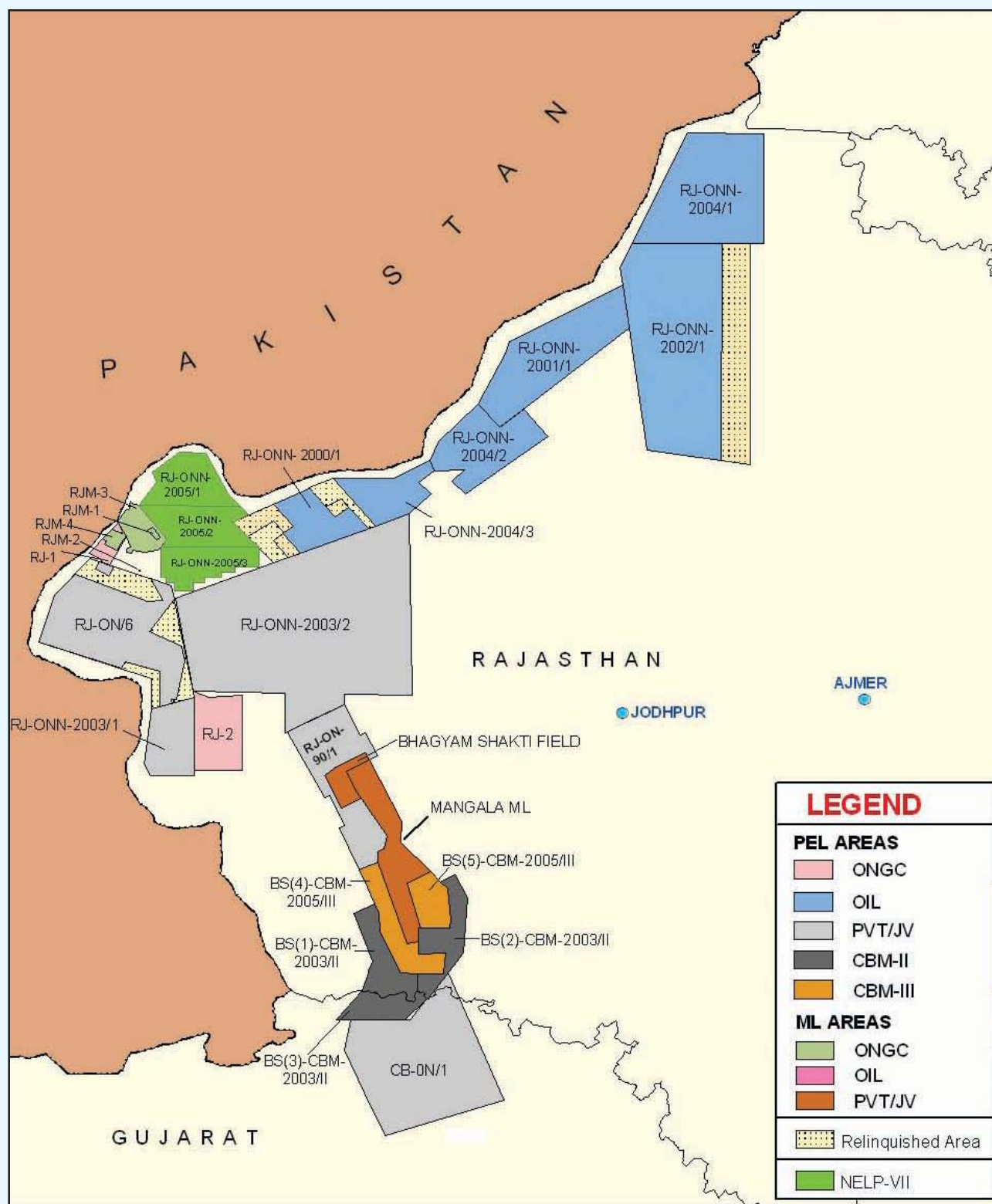
PEL	Company-wise	:	NOCs 52% and Pvt/JV 48%
	Basin-wise	:	Onland 22% and Offshore 78%
ML	Company-wise	:	NOCs 81% and Pvt/JV 19%
	Basin-wise	:	Onland 47% and Offshore 53%

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 259 PEL & 338 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.

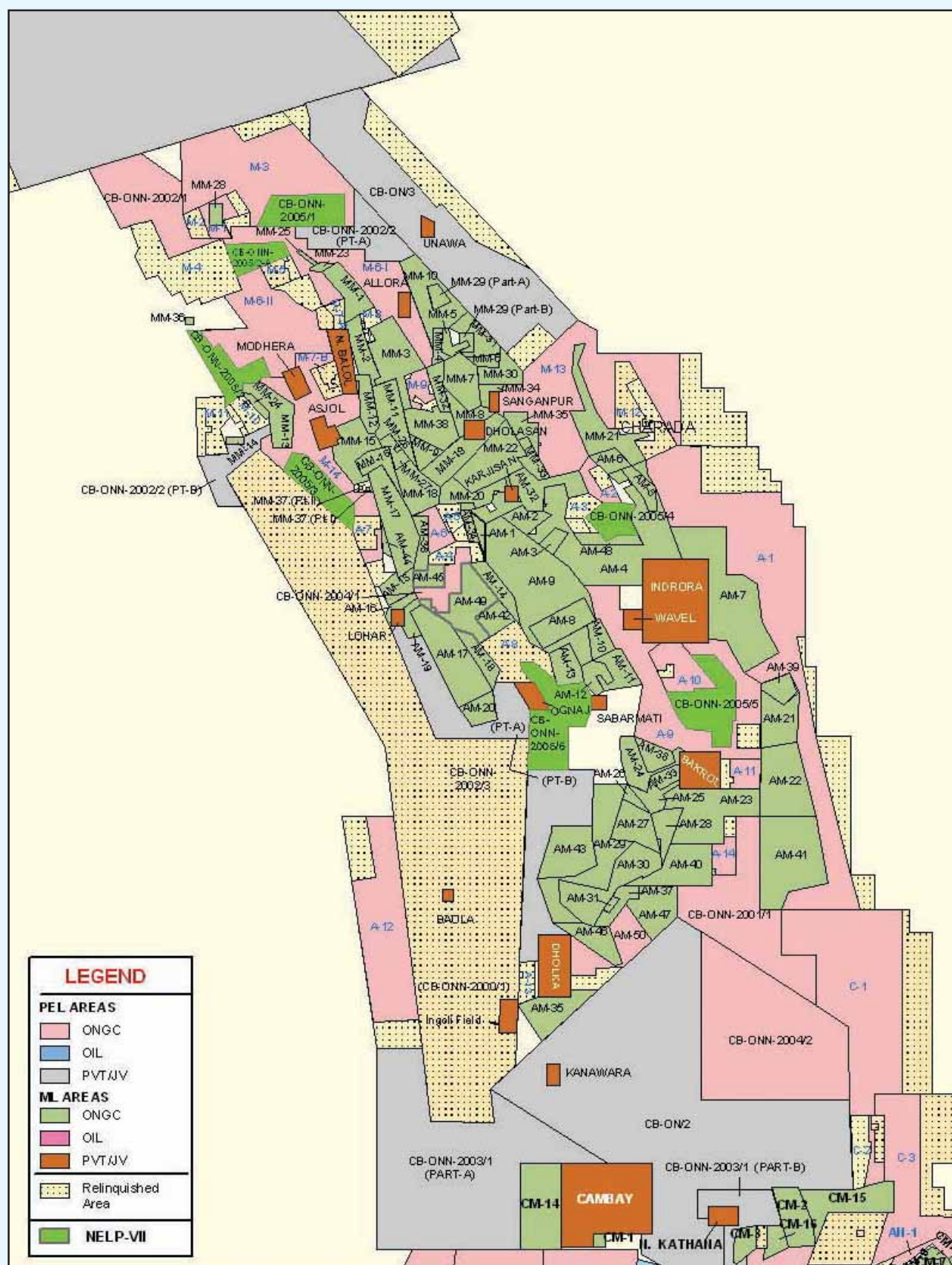
PEL AND ML AREAS UNDER OPERATION BY ONGC, OIL AND PVT/JV COMPANIES (AS ON 01.04.2008)



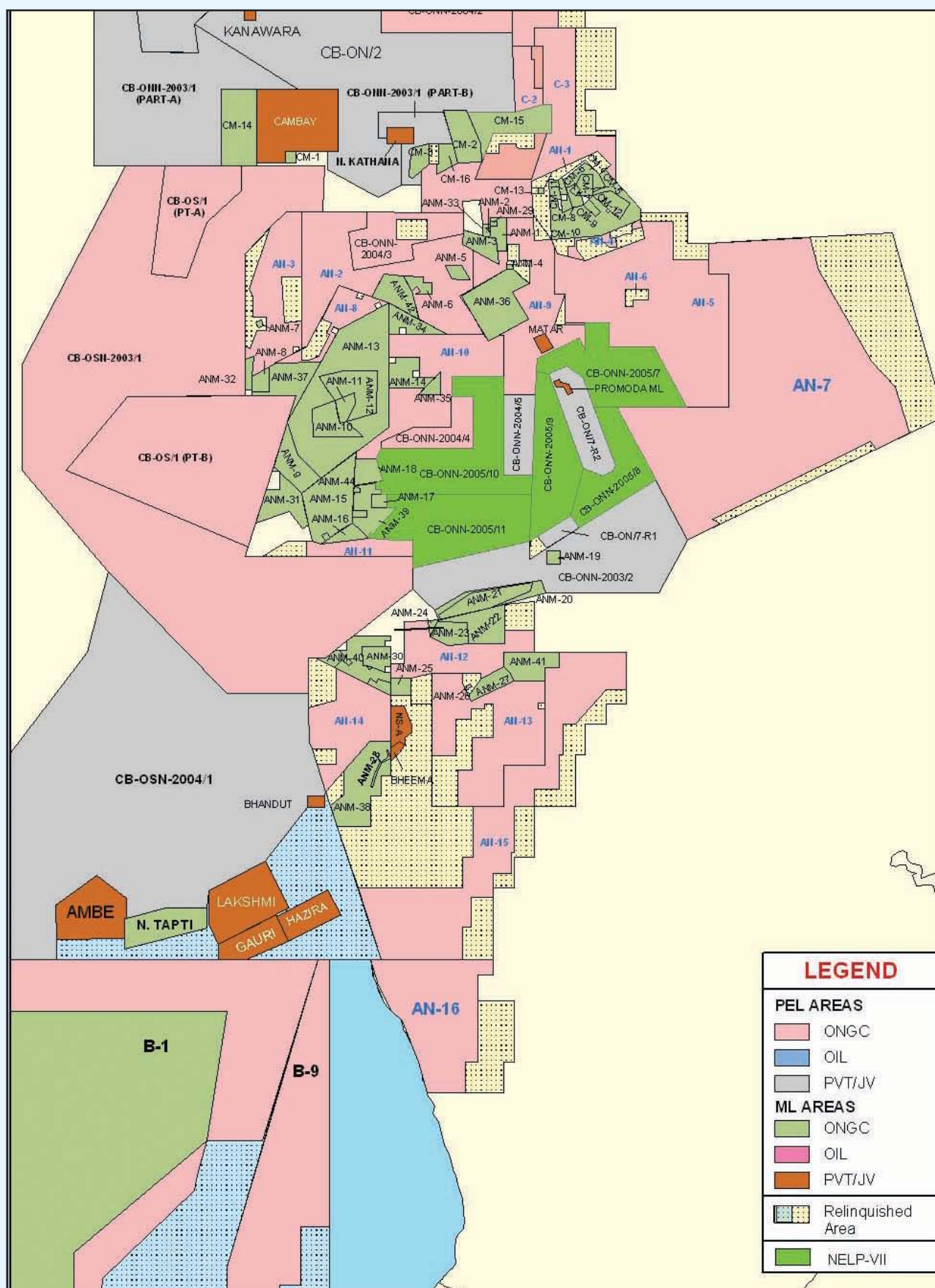
1. RAJASTHAN BASIN



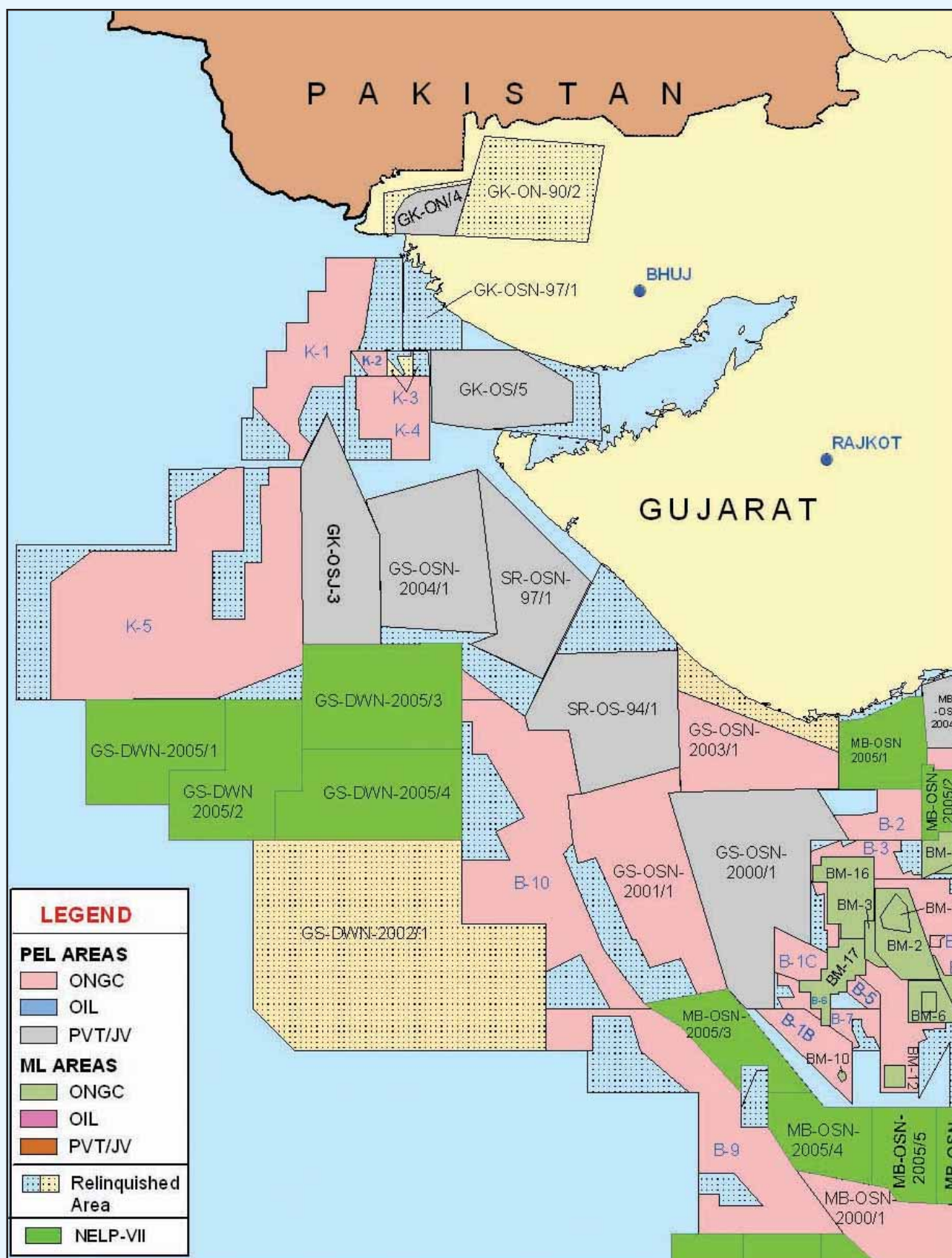
2. NORTH CAMBAY BASIN



3. SOUTH CAMBAY BASIN



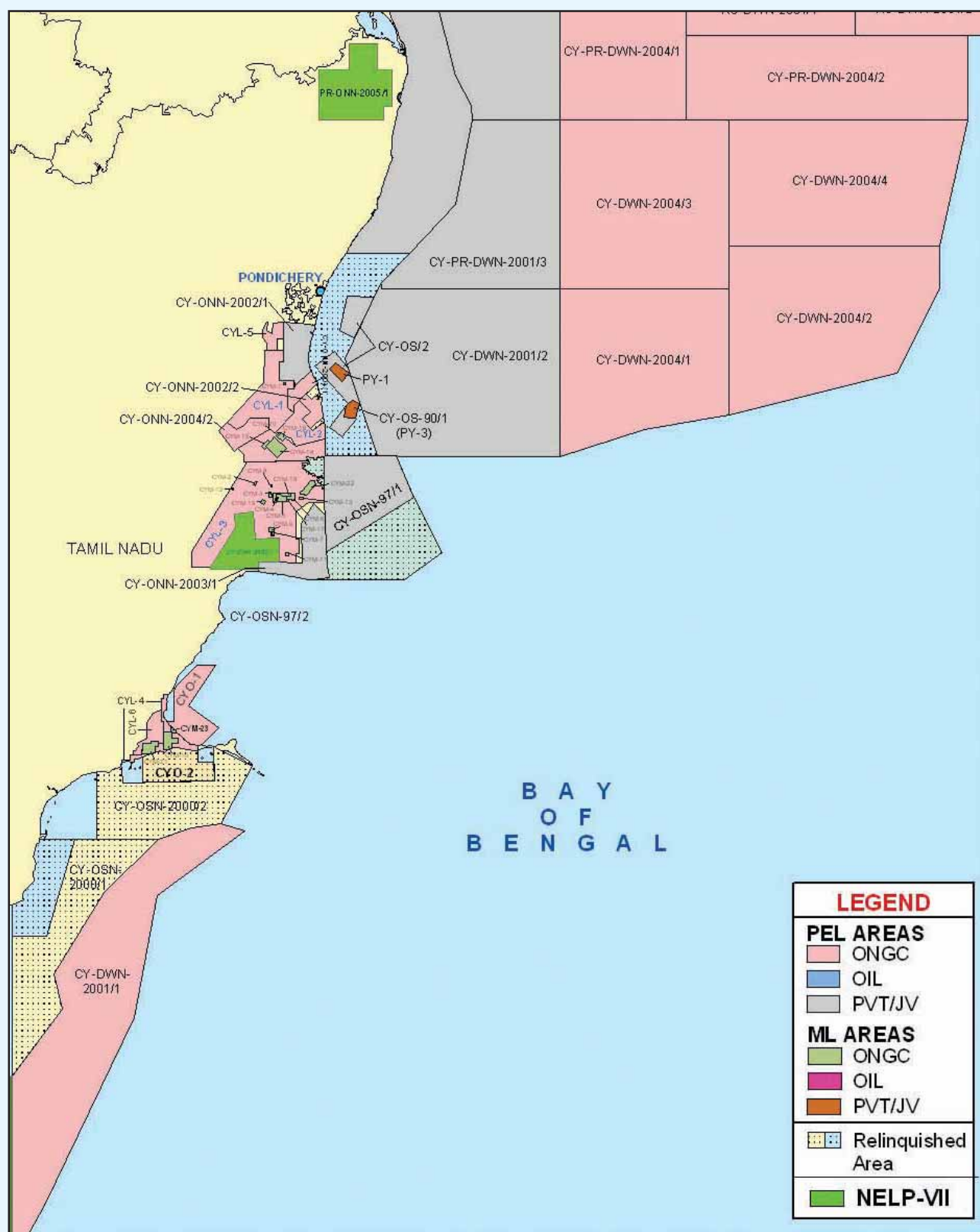
4. KUTCH-SAURASHTRA BASIN



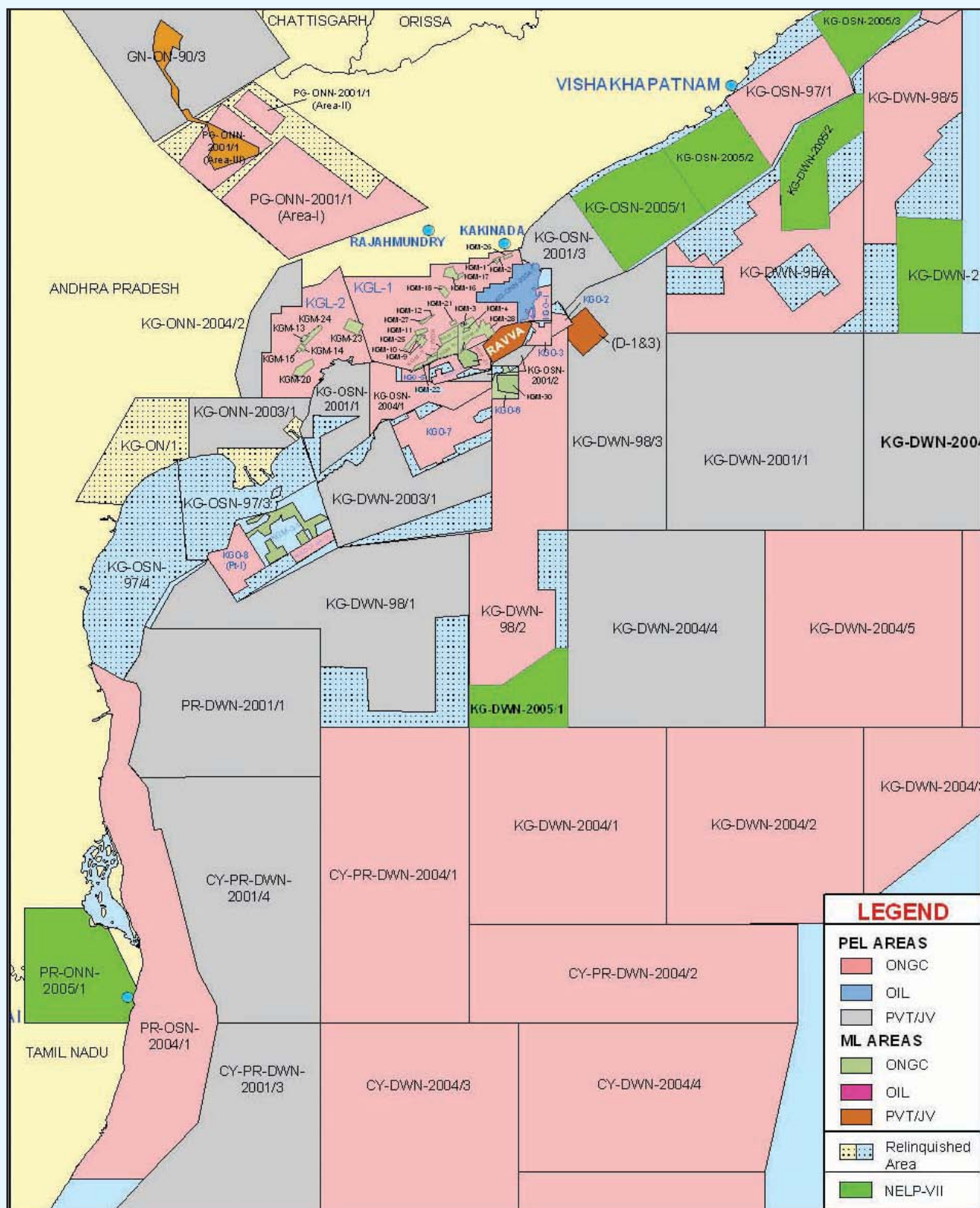
5. MUMBAI OFFSHORE & KERALA - KONKAN BASIN



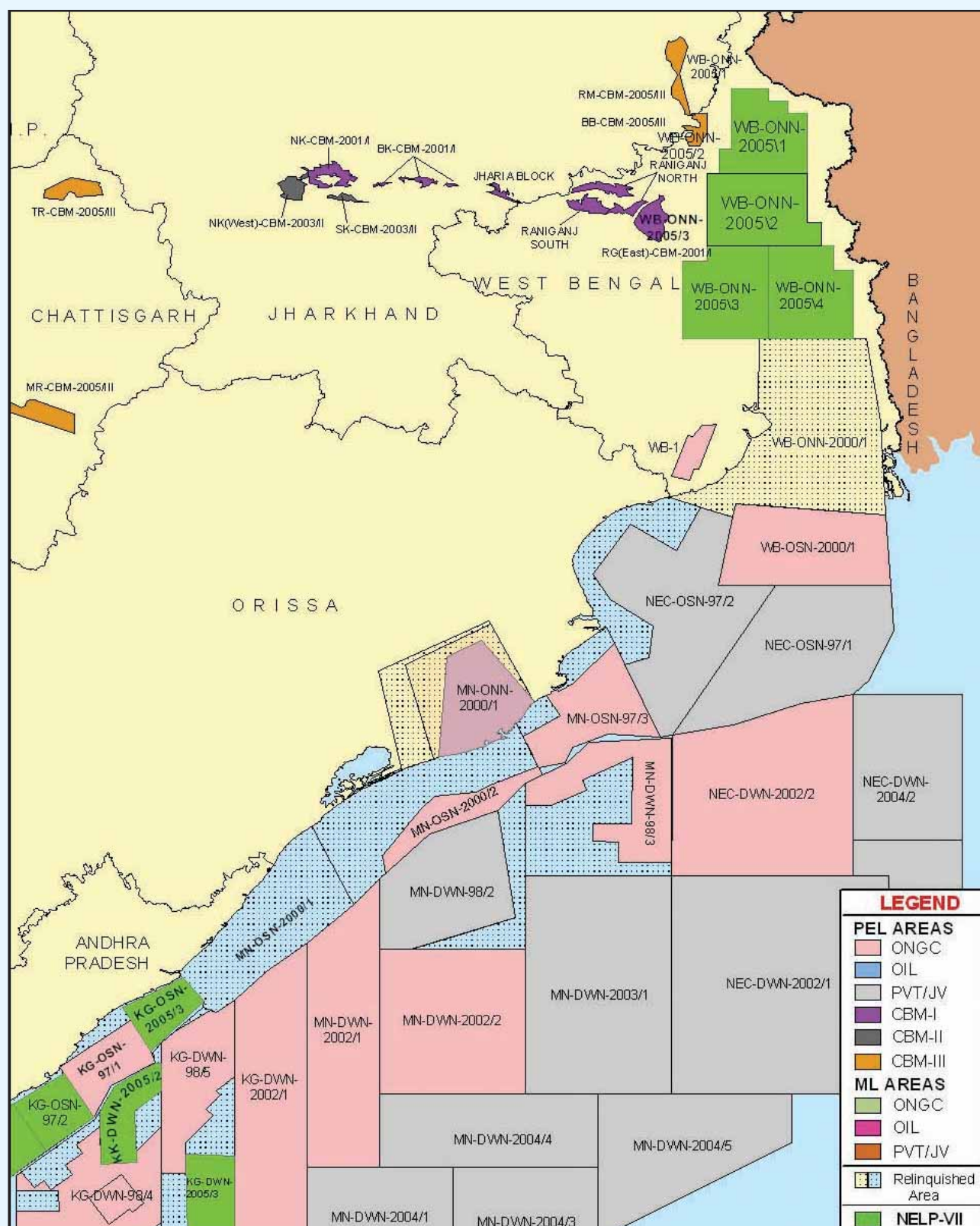
6. CAUVERY BASIN



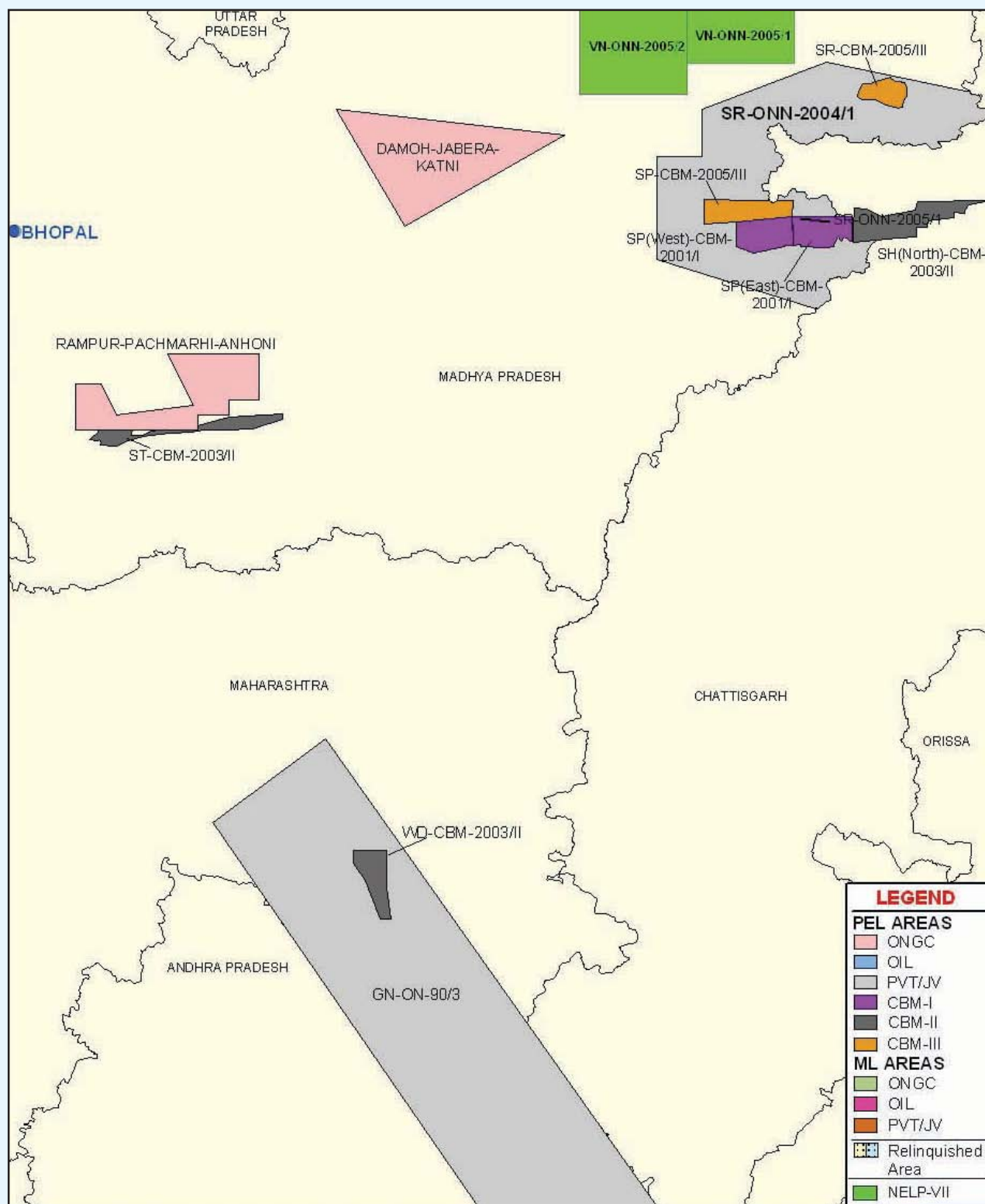
7. KRISHNA-GODAVARI BASIN



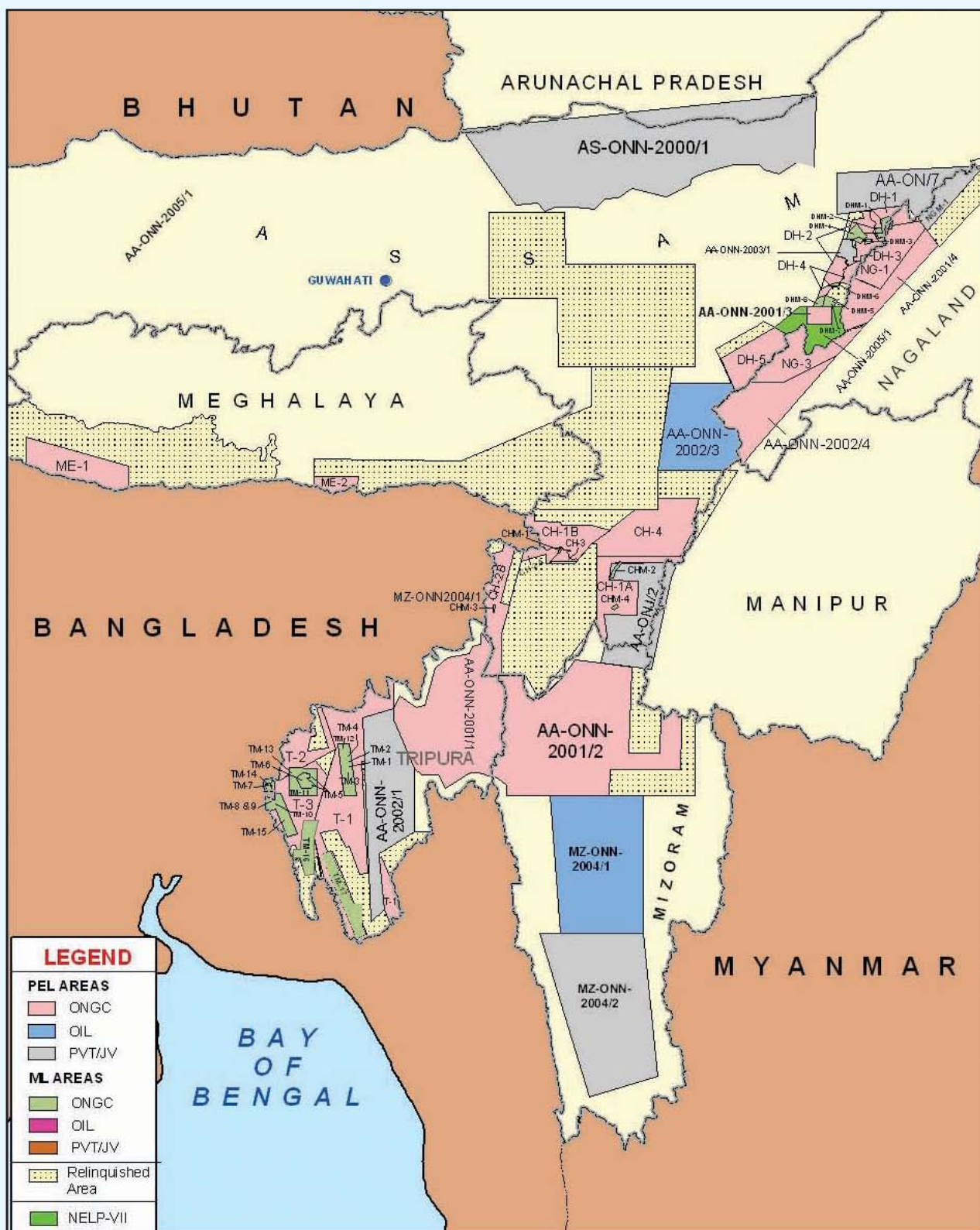
8. MAHANADI - NEC - BENGAL - DAMODAR BASINS



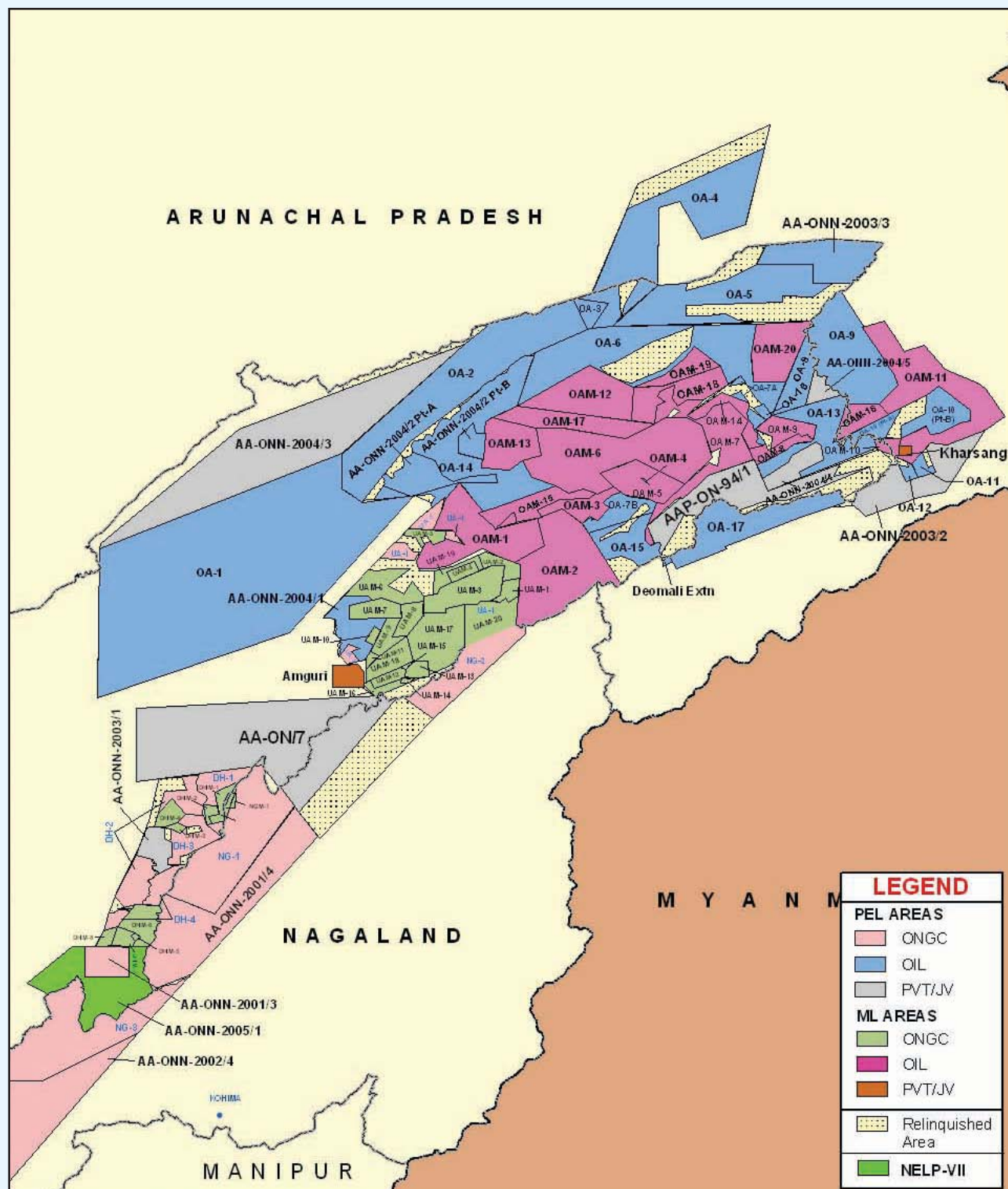
9. SATPURA-PRANHITA GODAVARI BASINS



10. ASSAM-ARAKAN BASIN



11. ASSAM-ARAKAN BASIN



PELs OPERATED BY OIL						
As on 01.04.2008						
SI. No.	BASIN	BLOCK NAME	REF. NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)
NOMINATION BLOCKS						
1	Ganga Valley	Kashipur	OGV-1	04.08.05	6570.00	6570.00
2	Assam-Arakan	Lakhimpur	OA-1	20.12.01	3150.00	
3		Murkongselek (NF)	OA-2	01.04.02	980.00	
4		Murkongselek (F)	OA-3	01.04.02	143.00	
5		Pasighat	OA-4	01.04.02	694.50	
6		Sadiya	OA-5	18.11.01	565.50	
7		Tinsukia	OA-6	01.04.02	703.00	
8		Dumduma Extn. (NF)	OA-7 A&B	01.08.03	133.00	
9		Dirak	OA-8	18.11.01	85.00	
10		Namsai	OA-9	25.11.04	370.00	
11		Namchik	OA-10	01.05.05	195.00	
12		Jairampur Extn.	OA-11	01.05.02	23.25	
13		Jairampur	OA-12	01.04.02	18.00	
14		Margherita	OA-13	01.04.02	184.00	
15		Dibrugarh	OA-14	01.04.02	641.00	
16		Borhat	OA-15	01.04.02	111.00	
17		Dumduma Extn. (F)	OA-16	01.04.02	19.00	
18		Deomali	OA-17	18.02.05	113.50	
TOTAL					14698.75	
PRE-NELP / NELP BLOCKS						
1	Rajasthan	RJ-ONN-2000/1	-	18.01.02	1267.50	14778.50
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	Mahanadi Onland	MN-ONN-2000/1	-	24.04.02	3900.00	3900.00
7	Assam-Arakan	AA-ONN-2002/3	-	05.02.05	1460.00	2097.00
8		AA-ONN-2003/3	-	30.11.06	275.00	
9		AA-ONN-2004/1	-	28.06.07	144.00	
10		AA-ONN-2004/2	-	28.06.07	218.00	
11	Mizoram	MZ-ONN-2004/1	-	22.05.07	3213.00	3213.00
12	Krishna - Godavari	KG-ONN-2004/1	-	16.02.08	549.00	549.00
TOTAL					24537.50	
GRAND TOTAL					39236.25	

PELs OPERATED BY ONGC

As on 01.04.2008

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	6860.07
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		Hansalpur	M-11	07.07.03	27.96	
9		Charada	M-12	07.10.02	35.50	
10		Charada - Mansa Extn.I	M-13	03.11.03	282.75	
11		Kadi-Asjol	M-14	28.08.03	133.00	
12		Varsoda-Halisa	A-1	25.11.03	478.50	
13		Limbodra Extn.III	A-2	06.05.02	11.45	
14		Kadi Extn. III	A-6	25.11.03	19.50	
15		Balasar	A-7	23.09.02	18.00	
16		Valod Extn.I	A-9	25.11.03	189.56	
17		Valod	A-10	10.12.05	45.41	
18		Ahmedabad East Extn.I	A-11	06.05.02	12.835	
19		West of Baola	A-12	04.05.04	195.00	
20		Sajali	A-14	23.12.04	18.00	
21		Chaklasi-Rasnol	C-1	24.11.03	279.30	
22		Anklav	C-2	12.03.03	26.90	
23		Vasod-Kathol	C-3	24.11.03	307.56	
24		Sarod-Jambusar	AN-2	27.11.03	253.22	
25		Malpur-Degam (CB-ON-6A)	AN-3	26.03.04	150.20	
26		Karjan Extn.I	AN-4	24.10.02	25.94	
27		Karjan Extn.II	AN-5	24.10.03	550.60	
28		Raj-Pardi	AN-7	26.03.04	1251.00	
29		Tankari	AN-8	23.12.05	53.45	
30		Dabka-Sarbhan	AN-9	01.12.03	211.73	
31		Gandhar Extn.IX	AN-10	24.10.03	216.00	
32		South Dahej	AN-11	01.12.03	48.75	
33		Sisodra-Kosamba	AN-12	27.11.03	133.49	
34		Sayan	AN-13	24.10.03	283.63	
35		Olpad-Dandi	AN-14	27.11.03	165.20	
36		Tadkeshwar-Sachin	AN-15	27.11.03	528.45	
37		Navasari (West)	AN-16	30.11.04	312.00	
38	Cauvery Onland	L-I	CYL-1	01.04.04	1346.50	4648.80
39		L-I (Extn.)	CYL-2	01.08.03	444.00	
40		L-II	CYL-3	01.04.04	2185.00	
41		L-X	CYL-4	01.01.04	261.00	
42		L-XI	CYL-5	20.11.03	172.80	
43		L-XII	CYL-6	19.11.03	239.50	
44	K-G Onland	1A	KGL-1	28.12.03	2158.00	4932.00
45		1B	KGL-2	13.01.04	2774.00	
46	Bengal Onland	Contai	WB-1	22.08.03	611.00	611.00
47	Assam - Arakan	Sibsagar District	UA-1	01.04.02	737.00	
48		Titabar	DH-1	01.01.02	101.00	
49		Golaghat Extn. IIA	DH-2	01.01.03	233.00	
50		Merapani	DH-3	01.10.01	80.00	
51		Golaghat District	DH-4	20.01.01	103.00	
52		Karbi - Anglong (Daldali)	DH-5	01.10.03	465.00	
53		Cachar District	CH-1 A&B	01.04.03	1100.00	
54		Karimganj District	CH-2	01.04.03	577.00	
55		Hailakandi District	CH-3	01.04.03	52.00	
56		Sector-V C (Assam)	CH-4	01.04.04	1116.00	

PELs OPERATED BY ONGC						
Sl. No.	BASIN	BLOCK NAME	REF. NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)
57	Assam - Arakan	Sector-IX (Angartoli)	ME-1	01.04.04	785.00	150.00
58		Sector-X (Meghalaya) - AA-ON-4	ME-2	01.04.04	01.04.04	
59		West Tripura	T-1	15.09.03	2360.00	
60		North Agartala	T-2	20.03.03	375.00	
61		Large Area	T-3	01.01.04	943.00	
62		Bhagty Bhandari	NG-1	28.04.06	620.00	
63		Singphan	NG-2	28.04.06	320.00	
64		Dimapur	NG-3	28.04.06	650.00	
65	Himalayan Foreland	Kangra-Mandi	HP-1	10.11.03	2848.00	2848.00
66	Vindhyan	Damoh-Jabera-Katni	MP-1	10.11.03	4208.00	4208.00
67	Satpura - South Rewa	Rampur-Pachmarhi-Anhon	MP-2	01.04.04	2457.00	2457.00
				TOTAL ONLAND		39103.26
68	Gujarat - Kutch - Saurashtra Offshore	KD-GKH	K-1	01.04.04	4486.00	23440.00
69		Kutch A&B	K-2	06.06.04	279.00	
70		Kutch Off Block-I Extn.	K-4	01.01.05	2118.00	
71		GK-DW-1	K-5	01.10.04	16557.00	
72	Mumbai Offshore	Bombay Off (BOFF 1 / 2 / 3)	B-1 A,B&C	14.11.03	18589.00	39500.00
73		Saurashtra-Dahanu	B-2	20.07.05	1880.00	
74		Bombay Off Ext.III(Box III)	B-3	19.11.01	523.00	
75		B-142	B-4	22.04.03	30.00	
76		WO-9	B-5	12.12.02	277.00	
77		SW of BH & DCS Area	B-6	01.01.04	846.00	
78		ED-A	B-7	18.11.02	506.00	
79		R-6 / R-28	B-8	01.11.02	362.00	
80		BB-OS-DW-I	B-9	28.12.04	7537.00	
81		BB-OS-DW-II	B-10	28.12.04	8950.00	
82	Kerala-Konkan Offshore	KKDW-17&12	KK-1	01.04.03	8500.00	8500.00
83	Cauvery Offshore	C-OS-IX	CYO-1	01.01.04	803.00	1669.00
84		C-OS-X	CYO-2	01.01.04	866.00	
85	K-G Offshore	Block - IE	KGO-1	16.12.04	201.00	2944.40
86		Block - IG	KGO-2	01.02.03	104.40	
87		Block - IB	KGO-3	16.12.04	123.00	
88		Block - IF	KGO-4	20.09.03	308.00	
89		Block - IA	KGO-5	22.10.04	110.00	
90		KG-OS-DW-IV	KGO-6	15.02.04	119.00	
91		KG-OS-DW-III	KGO-7	15.05.03	1193.00	
92		KG-OS-DW Extn.	KGO-8	01.02.03	786.00	
TOTAL OFFSHORE					76053.40	
TOTAL					115,156.66	
PRE-NELP / NELP BLOCKS						
1	Cambay	CB-OS/1	-	19.11.06	846.00	4171.15
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	Cauvery Onland	CY-ONN-2002/2	-	31.08.04	210.00	799.00
10		CY-ONN-2004/1	-	02.05.08	214.00	
11		CY-ONN-2004/2	-	30.05.08	375.00	
12	Pranhita-Godavari	PG-ONN-2001/1	-	04.07.03	5190.00	5190.00

PELs OPERATED BY ONGC						
Sl. No.	BASIN	BLOCK NAME	REF. NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)
13	Assam-Arakan	AA-ONN-2001/1	-	01.05.03	2257.00	
14		AA-ONN-2001/2	-	29.07.03	4005.00	
15		AA-ONN-2001/3	-	19.12.03	110.00	
16		AA-ONN-2001/4	-	28.04.06	645.00	
17		AA-ONN-2002/4	-	28.04.06	1060.00	
18	Purnea	PA-ONN-2004/1	-	12.09.07	2537.00	2537.00
19	Ganga Valley	GV-ONN-2004/1	-	11.12.07	8354.00	8354.00
20	Vindhyan	VN-ONN-2004/1	-	17.01.08	5801.00	10267.00
21		VN-ONN-2004/2	-	17.01.08	4466.00	
22	Him. Foreland	HF-ONN-2001/1	-	10.06.03	1513.88	1513.88
23	Gujarat - Kutch - Saurashtra Offshore	GS-OSN-2001/1	-	12.03.03	7101.00	18167.50
24		GS-OSN-2003/1	-	15.12.05	4477.50	
25		GS-OSN-2004/1	-	25.04.07	6589.00	
26	Kerala-Konkan Offhsore	KK-OSN-2001/2	-	12.03.03	10588.00	83921.00
27		KK-OSN-2001/3	-	12.03.03	6445.00	
28		KK-DWN-2001/3	-	12.03.03	21775.00	
29		KK-DWN-2002/2	-	17.03.04	17107.00	
30		KK-DWN-2002/3	-	17.03.04	15682.00	
31		KK-DWN-2004/1	-	09.05.07	12324.00	
32	Cauvery Offshore	CY-DWN-2001/1	-	12.03.03	12425.00	58828.00
33		CY-DWN-2004/1	-	28.05.07	10302.00	
34		CY-DWN-2004/2	-	23.05.07	12059.00	
35		CY-DWN-2004/3	-	21.05.07	12017.00	
36		CY-DWN-2004/4	-	21.05.07	12025.00	
37	Cauvery-Palar Offshore	CY-PR-DWN-2004/1	-	15.05.07	13451.00	23445.00
38		CY-PR-DWN-2004/2	-	23.05.07	9994.00	
39	K-G Offshore	KG-OSN-97/1	-	19.05.00	2236.00	83557.60
40		KG-DWN-98/2	-	12.04.00	7294.60	
41		KG-DWN-98/4	-	19.05.00	4970.00	
42		KG-DWN-98/5	-	19.05.00	4490.00	
43		KG-DWN-2002/1	-	17.03.04	10600.00	
44		KG-OSN-2004/1	-	25.05.07	1151.00	
45		KG-DWN-2004/1	-	15.05.07	11951.00	
46		KG-DWN-2004/2	-	07.05.07	11851.00	
47		KG-DWN-2004/3	-	08.05.07	6205.00	
48		KG-DWN-2004/5	-	23.05.07	11922.00	
49		KG-DWN-2004/6	-	23.05.07	10907.00	
50	Mahanadi - NEC Offshore	MN-DWN-98/3	-	19.05.00	4988.00	48594.00
51		MN-OSN-97/3	-	19.05.00	2710.00	
52		MN-OSN-2000/2	-	16.08.01	4061.00	
53		MN-DWN-2002/1	-	17.03.04	9980.00	
54		MN-DWN-2002/2	-	17.03.04	11390.00	
55		NEC-DWN-2002/2	-	17.03.04	15465.00	
56	Bengal Offshore	WB-OSN-2000/1	-	30.07.01	6700.00	6700.00
57	Andaman-Nicobar Off.	AN-DWN-2002/1	-	17.03.04	10990.00	33455.00
58		AN-DWN-2002/2	-	17.03.04	12495.00	
59		AN-DWN-2003/1	-	05.12.05	9970.00	
TOTAL						397,597.13
GRAND TOTAL						512,753.79

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

As on 01.04.2008

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	8100.00	
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	
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	
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	
26		Gujarat-Kutch-Saurashtra Offshore	GK-OSJ/3	-	05.10.01	5725.00	
27			GK-OS/5(Onland Part)	-	05.03.03	41.00	
			(Off. Part)	-	20.07.98	3709.00	
28			SR-OSN-97/1	-	07.06.00	5040.00	
29			SR-OS-94/1	-	12.04.00	6860.00	
30			GS-OSN-2000/1	-	16.08.01	8841.00	
31		Assam-Arakan	AS-ONN-2000/1	-	--	6215.00	6215.00
32		Cambay	CB-ON/1	-	05.09.03	4600.00	5235.00
33	CB-ONN-2003/1 (Pt.A&B)		-	05.06.06	635.00		
					TOTAL		341,359.00
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 K-G Onland Palar offshore	VN-ONN-2003/1	-	21.02.06	3585.00	
38			KG-ONN-2003/1	-	08.02.07	1697.00	
39			PR-OSN-2004/1	-	24.04.07	9417.00	
40	ESSAR	Cambay	CB-ON/3	-	11.02.03	430.50	
41		Assam-Arakan	AA-ONN-2004/3	-	02.05.08	1252.00	
42			AA-ONN-2004/5	-	02.05.08	46.00	
43	HOEC	Pranhita-Godavari	GN-ON-90/3	-	29.03.93	21850.00	
44		Cambay	CB-ON/7	-	23.11.00	369.00	
45		Cauvery Off.	CY-OSN-97/1	-	16.03.01	2470.00	
46		Assam - Arakan	AAP-ON-94/1	-	28.11.00	435.00	
47	HEPI	Cauvery Off.	CY-OS/2	-	19.11.96	859.00	859.00
48	FOCUS	Rajasthan	RJ-ON/6	-	21.08.99	4026.16	
49			RJ-ONN-2003/2	-	28.01.06	13195.00	
50		G-K Onland Cambay	GK-ON/4	-	19.04.03	1162.43	
51			CB-OSN-2004/1	-	28.05.07	2616.00	
52	OAO GAZPROM	Mahanadi-NEC Off	NEC-OSN-97/1	-	14.11.00	7779.00	7779.00
53	CANORO	Assam-Arakan	AA-ON/7 (Assam Part)	-	27.03.01	1126.00	1444.70
			(Nagaland Part)	-	09.08.06	318.70	

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

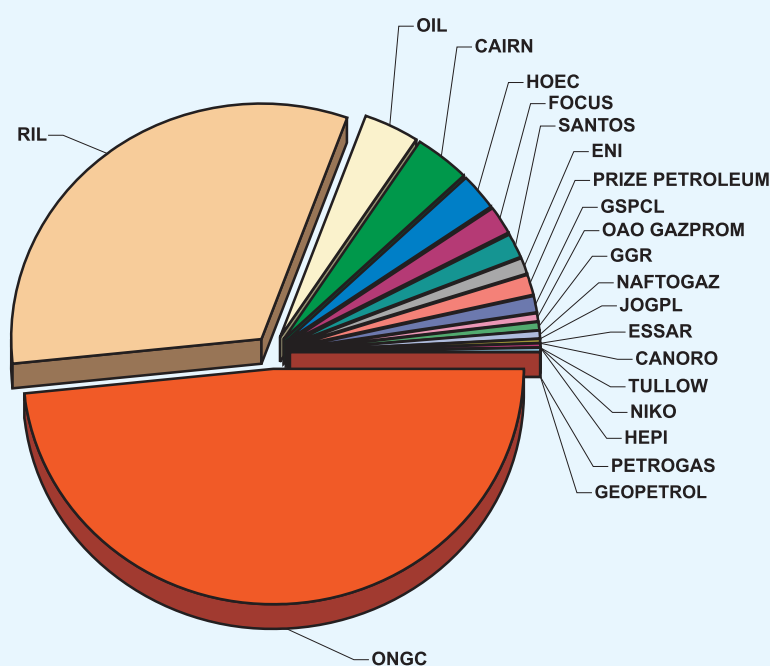
As on 01.04.2008

Sl. No.	COMPANY / OPERATOR	BASIN	BLOCK NAME	REF.NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)
54	GSPC	Cambay	CB-ON/2	-	23.11.00	1201.17	11057.17
55			CB-ONN-2002/3	-	29.07.04	285.00	
56			CB-ONN-2003/2	-	01-04-06	448.00	
57		Krishna Godavari	KG-OSN-2001/3	-	12.03.03	1850.00	
58			KG-ONN-2004/2	-	10.01.08	1140.00	
59		Mumbai Offshore	MB-OSN-2004/1	-	12.06.07	1520.00	
60		Rajasthan	RJ-ONN-2004/1	-	06.11.07	4613.00	
61	PETROGAS		MB-OSN-2004/2	-	21.05.07	741.00	741.00
62	JOGPL	Assam-Arakan	AA-ONN-2002/1	-	07.04.04	1680.00	2534.39
63			AA-ONN-2003/1	-	-	81.00	
64		Cauvery Onland	CY-ONN-2002/1	-	22.11.04	680.00	
65			CB-ONN-2002/2 (Part - A&B)	-	21.05.04	93.39	
66	TULLOW	Assam-Arakan	AA-ONJ/2	-	--	1277.00	1277.00
67	GEO-PETROL	Assam-Arakan	AA-ONN-2003/2	-	16.02.06	295.00	295.00
68	GEO-GLOBAL RESOURCES	Deccan Syncline	DS-ONN-2003/1	-	-	3155.00	5804.00
69			DS-ONN-2004/1	-	07.06.07	2649.00	
70	ENI	Andaman-Nicobar	AN-DWN-2003/2	-	05.12.05	13110.00	14445.00
71			RJ-ONN-2003/1	-	04.01.06	1335.00	
72	NIKO	Cauvery Onland	CY-ONN-2003/1	-	28.07.06	957.00	957.00
73	NAFTOGAZ	Assam-Arakan	AA-ONN-2004/4	-	07.09.07	95.00	3789.00
74			MZ-ONN-2004/2	-	25.05.07	3619.00	
75		Cambay	CB-ONN-2004/5	-	26.09.07	75.00	
76	SANTOS	Mahanadi - NEC	NEC-DWN-2004/1	-	08.05.07	7790.00	16496.00
77			NEC-DWN-2004/2	-	09.05.07	8706.00	
78	PRIZE	South-Rewa	SR-ONN-2004/1	-	12.07.07	13277.00	13277.00

TOTAL 166,945.85

GRAND TOTAL 508,304.85

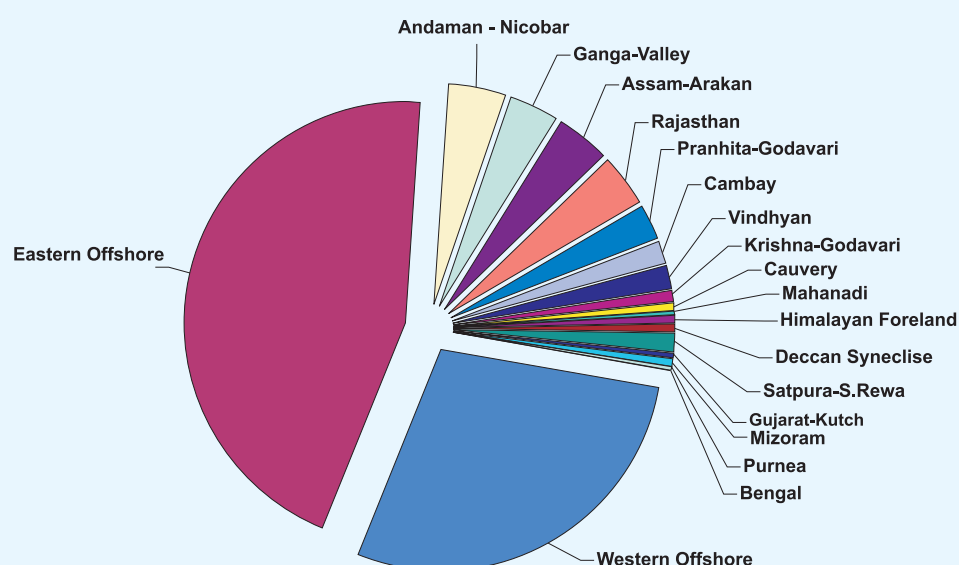
COMPANY WISE DISTRIBUTION OF PEL AREAS



COMPANY / OPERATOR	PEL AREA	
	(Sq. Km.)	(%)
ONGC	512,753.79	48.36
RIL	341,359.00	32.19
OIL	39,236.25	3.70
CAIRN	38,338.50	3.62
HOEC	25,124.00	2.37
FOCUS	20,999.59	1.98
SANTOS	16,496.00	1.56
ENI	14,445.00	1.36
PRIZE PETROLEUM	13,277.00	1.25
GSPCL	11,057.17	0.47
OAO GAZPROM	7,779.00	0.73
GGR	5,804.00	0.55
NAFTOGAZ	3,789.00	0.36
JOGPL	2,534.39	0.23
ESSAR	1,728.50	0.16
CANORO	1,444.70	0.14
TULLOW	1,277.00	0.12
NIKO	957.00	0.09
HEPI	859.00	0.08
PETROGAS	741.00	0.07
GEOPETROL	295.00	0.03
TOTAL	1,060,294.89	100.00

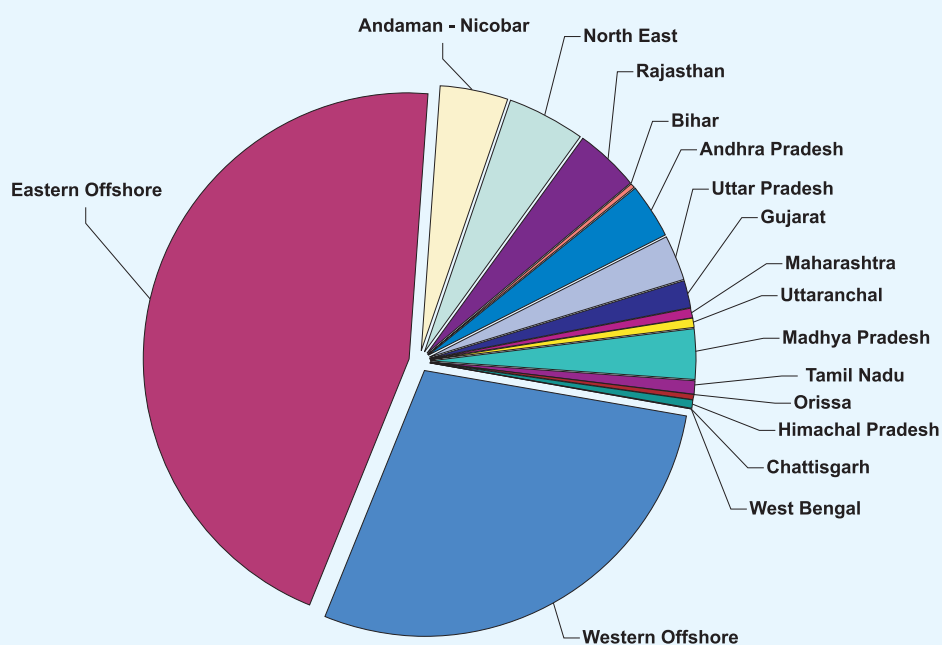
As on 01.04.08

BASIN WISE DISTRIBUTION OF PEL AREAS



OFFSHORE/BASIN	PEL AREA	
	(Sq. Km.)	(%)
OFFSHORE		
WESTERN	301,221.79	28.41
EASTERN	474,962.00	44.80
ANDAMAN - NICOBAR	46,565.00	4.39
TOTAL OFFSHORE	822,748.79	77.60
ONLAND		
GANGA VALLEY	37,684.00	3.55
ASSAM - ARAKAN	41,890.55	3.95
RAJASTHAN	40,598.55	3.83
PRANHITA - GODAVARI	27,040.00	2.55
CAMBAY	15,927.89	1.50
VINDHYAN	18,060.00	1.70
KRISHNA - GODAVARI	8,318.00	0.78
CAUVERY	7,084.80	0.67
MAHANADI	3,900.00	0.37
HIMALAYAN FORELAND	4,361.88	0.41
DECCAN SYNECLISE	5,804.00	0.55
SATPURA - S. REWA	15,734.00	1.48
GUJARAT - KUTCH	1,162.43	0.11
MIZORAM	6,832.00	0.64
PURNEA	2,537.00	0.24
BENGAL	611.00	0.06
TOTAL ONLAND	237,546.10	22.40
GRAND TOTAL	1,060,294.89	100.00

STATE WISE DISTRIBUTION OF PEL AREAS



OFFSHORE/STATE	PEL AREA	
	(Sq. Km.)	(%)
OFFSHORE		
WESTERN PART	301,221.79	28.41
EASTERN PART	474,962.00	44.80
ANDAMAN - NICOBAR	46,565.00	4.39
TOTAL OFFSHORE	822,748.79	77.60
STATE		
NORTH-EAST	48,722.55	4.60
RAJASTHAN	40,598.55	3.83
BIHAR	2,537.00	0.24
ANDHRA PRADESH	35,358.00	3.33
UTTAR PRADESH	31,114.00	2.93
GUJARAT	17,090.32	1.61
MAHARASTRA	5,804.00	0.55
UTTARANCHAL	6,570.00	0.41
MADHYA PRADESH (MP)	32,954.00	3.11
TAMIL NADU (TN)	7,084.80	0.67
ORISSA	3,900.00	0.37
HIMACHAL PRADESH	4,361.88	0.41
CHATTISGARH	840.00	0.08
WEST BENGAL(WB)	611.00	0.06
TOTAL ONLAND	237,546.10	22.40
GRAND TOTAL	1,060,294.89	100.00

ML AREAS UNDER OPERATION BY NOCs AND PVT/JV COMPANIES							
Sl. No.	COMPANY / OPERATOR	BASIN	BLOCK NAME	REF. NO. ON MAP	EFFECTIVE DATE OF ML	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	28.11.86	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			North Kadi	MM-17	22.06.89	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	13.02	
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			Rajpur	AM-1	26.06.95	6.76	
44			Wadu	AM-2	26.05.90	15.41	
45			Kalol North-East	AM-3	15.03.90	9.44	
46			Paliyad-Kalol-Limbodra	AM-4	26.06.95	161.48	
47			Limbodra	AM-5	21.12.05	15.75	
48			Limbodra Ext.-I	AM-6	25.03.98	14.96	
49			Halisa	AM-7	30.01.98	143.44	
50			Kalol (Main)	AM-8	13.05.04	35.84	
51			Kalol Ext.-I	AM-9	04.08.86	159.92	
52			Kalol Ext.-II	AM-10	11.04.89	15.50	
53			Motera Ext.-II	AM-11	25.03.98	26.02	
54			Motera	AM-12	14.08.96	15.69	
55			Motera Ext.-I	AM-13	25.03.97	23.65	
56			Wamaj	AM-14	30.09.95	19.44	
57			Viraj	AM-15	26.07.00	17.49	
58			Lohar	AM-16	16.11.04	8.29	
59			Sanand	AM-17	10.05.89	81.36	
60			Sanand Ext.-I	AM-18	30.04.93	18.51	
61			Sanand Ext.-II	AM-19	23.03.99	10.37	
62			Sanand Ext.-III	AM-20	30.04.89	19.30	
63			Gamij	AM-21	13.10.94	39.16	
64			Gamij Ext.-I	AM-22	25.03.97	81.22	
65			Hirapur	AM-23	24.10.97	87.92	
66			Ahmedabad-Bakrol	AM-24	05.08.89	30.16	

ML AREAS UNDER OPERATION BY NOCs 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.)
67	ONGC	Cambay	Ahmedabad Ext.-I	AM-25	22.02.01	17.29	
68			Ahmedabad Ext.-II	AM-26	29.07.88	5.98	
69			Ahmedabad Ext.-III	AM-27	11.11.91	34.75	
70			Nandej East	AM-28	26.06.95	20.92	
71			Nandej	AM-29	25.03.97	90.18	
72			Nawagam Main	AM-30	28.03.07	72.23	
73			Nawagam Ext.-I	AM-31	21.03.03	2.77	
74			Wadu Ext.-I	AM-32	19.05.97	55.17	
75			Ahmedabad Ext.-IV	AM-33	08.10.98	10.21	
76			Rajpur Ext.-I	AM-34	02.02.99	8.70	
77			Asmali ML	AM-35	15.06.98	43.26	
78			Kadi Ext.-III	AM-36	02.02.99	16.07	
79			Nawagam Ext.-II	AM-37	26.11.99	14.66	
80			Ahmedabad Ext.-V	AM-38	08.05.00	17.75	
81			Gamij Ext.-III ML	AM-39	08.02.02	15.41	
82			Nandej Ext.-I	AM-40	08.02.02	56.18	
83			Gamij Ext. - II	AM-41	04.04.01	116.22	
84			South Wamaj ML	AM-42	28.06.02	18.29	
85			Nawagam Ext. - III	AM-43	31.08.00	56.00	
86			Kalol West Extn.-I*	AM-44	04.10.05	54.25	
87			Kalol West ML	AM-45	21.11.03	14.53	
88			Nawagam South Ext.-I	AM-46	21.11.03	30.88	
89			Nawagam South Ext.-II	AM-47	21.11.03	43.94	
90			Rupal	AM-48	29.10.04	14.06	
91			Kadi Extn.-IV	AM-49	13.11.03	5.28	
92			Nawagam South Ext.-III	AM-50	13.12.05	53.71	
93			Cambay	CM-1	14.12.04	2.60	
94			Siswa	CM-2	12.02.00	37.78	
95			Kathana	CM-3	22.11.88	16.95	
96			Padra Ext.-II	CM-4	03.09.93	14.50	
97			Padra Ext.-I	CM-5	12.04.91	8.42	
98			Padra	CM-6	18.09.06	1.25	
99			Padra Ext.-III	CM-7	12.05.94	0.38	
100			Padra Ext.-IV	CM-8	14.03.96	6.37	
101			Padra Ext.-V	CM-9	03.02.97	3.58	
102			Padra Ext.-VI	CM-10	28.01.99	83.95	
103			Padra Ext.-VII	CM-11	26.04.00	7.11	
104			Padra Ext.-VIII	CM-12	08.11.00	15.68	
105			Padra Ext.-IX	CM-13	10.03.04	21.00	
106			Akholjuni	CM-14	27.07.00	81.25	
107			Anklav Ext.-I	CM-15	15.02.02	61.00	
108			Kathana Ext.-I	CM-16	15.03.04	16.99	
109			Dabka Ext.-I	ANM-1	23.08.88	12.85	
110			Dabka Ext.-II	ANM-2	30.06.89	0.56	
111			Dabka	ANM-3	01.05.93	21.67	
112			Dabka Ext.-III	ANM-4	21.07.89	1.15	
113			Umera	ANM-5	10.08.87	8.44	
114			Umera Ext.-I	ANM-6	19.10.94	9.93	
115			Malpur (ML)	ANM-7	03.06.87	1.00	
116			Nada	ANM-8	19.02.89	9.85	
117			Gandhar Ext.-IV	ANM-9	30.08.94	36.75	
118			Gandhar Ext.-I	ANM-10	08.10.06	32.75	
119			Gandhar	ANM-11	07.01.05	11.78	
120			Gandhar Ext.-II (Denwa)	ANM-12	08.07.06	54.30	
121			Gandhar Ext.-III	ANM-13	24.02.87	235.38	
122			Gandhar Ext.-V	ANM-14	22.03.96	29.43	
123			Dahej Ext.-I	ANM-15	17.04.94	90.90	
124			Dahej	ANM-16	06.02.05	18.52	
125			Pakhajan(ML)	ANM-17	21.08.87	6.25	
126			Pakhajan Ext.-I	ANM-18	10.01.95	18.00	
127			Kasiyabet	ANM-19	12.09.89	5.06	
128			Ankleshwar Ext.-I	ANM-20	26.05.05	17.43	
129			Ankleshwar (Main)	ANM-21	15.08.01	38.98	
130			Motwan	ANM-22	04.07.99	42.20	
131			Sanaokhurd	ANM-23	30.12.96	23.29	
132			Kudara	ANM-24	28.06.02	2.60	
133			Elav	ANM-25	30.03.90	10.37	
134			Kharach	ANM-26	23.03.95	0.72	

ML AREAS UNDER OPERATION BY NOCs 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.)
135	ONGC	Cambay	Kosamba	ANM-27	29.12.87	19.17	
136			Olpad (A)	ANM-28	24.11.02	2.75	
137			Dabka Ext.-IV (D#6)	ANM-29	20.02.97	1.00	
138			Kim(ML)	ANM-30	10.03.97	18.33	
139			Gandhar Ext.-VI (G#388)	ANM-31	22.01.97	44.47	
140			Nada Ext.-I	ANM-32	03.09.98	6.12	
141			Dabka Ext.-V (D#38)	ANM-33	29.06.99	2.00	
142			Gandhar Ext.-VII(G#155)	ANM-34	24.04.99	25.82	
143			Gandhar Ext.-VIII	ANM-35	16.08.00	7.23	
144			Kural (ML)	ANM-36	03.04.01	83.49	
145			Gandhar Ext. - IX	ANM-37	20.08.02	40.91	
146			Olpad - Dandi Ext. - I	ANM-38	01.01.04	94.40	
147			Pakhajan Extn. - II	ANM-39	16.09.02	38.50	
148			Kim Ext. - I	ANM-40	04.01.02	56.11	
149			Kosamba Extn.-I	ANM-41	01.03.03	39.00	
150			Umra Extn.-II	ANM-42	13.03.03	34.43	4468.08
151		Cauvery Onland	Bhuvanagiri-2	CYM-1	15.12.87	1.00	
152			Mattur	CYM-2	04.05.94	3.00	
153			Nannilam-I	CYM-3	26.04.93	4.70	
154			Kamalapuram-II	CYM-4	04.05.94	3.50	
155			Kamalapuram-I	CYM-5	27.05.99	23.50	
156			Adiyakka Mangalam	CYM-6	27.05.99	17.80	
157			Greater Kovilkalappal	15.05.07	33.61	
158			Nannilam-II	CYM-8	27.05.99	1.00	
159			Perungulam-Periyapattinam	CYM-10	15.07.97	75.00	
160			Tulsapatnam	CYM-11	27.05.99	3.70	
161			Pundi	CYM-12	27.05.99	1.00	
162			Kizhavalur	CYM-13	27.05.99	3.60	
163			Kuthalam	CYM-14	01.06.01	91.00	
164			Kuthalam-13	CYM-15	12.02.04	12.00	
165			Kali	CYM-16	01.06.01	19.00	
166			Vijayapuram #13	CYM-17	03.11.02	2.00	
167			Greater Kamalapuram	CYM-18	26.02.04	22.00	
168			Kuthanallur	CYM-19	26.02.04	6.25	
169			Kali-6	CYM-20	01.01.04	1.60	
170			Kanjirangudi	CYM-21	13.10.03	68.00	
171			Greater Narimanam	CYM-22	27.01.06	47.28	
172			PBS-1-1	CYM-23	01.10.03	9.00	
173			Adichapuram	--	--	164.70	614.24
174		K-G Onland	Endamuru-I	KGM-1	03.04.92	3.00	
175			Endamuru-4	KGM-2	30.04.03	6.00	
176			Pasarlappudi-9	KGM-3	27.06.92	6.60	
177			Pasarlappudi-8	KGM-4	27.06.92	5.50	
178			Tatipaka-Pasarlappudi	KGM-5	14.02.94	62.00	
179			Kesanapalli-I	KGM-6	08.07.92	3.70	
180			Mori-5	KGM-7	02.06.94	1.56	
181			Mori-1	KGM-8	08.04.91	6.50	
182			Razole-1 & 2	KGM-9	23.01.93	18.85	
183			Elamanchali	KGM-10	21.12.91	8.00	
184			Medapadu-1	KGM-11	08.07.92	16.60	
185			Penumadam-1	KGM-12	03.04.02	9.60	
186			Lingala	KGM-13	21.12.99	7.60	
187			Kaikalur-3	KGM-14	10.09.86	9.00	
188			Vadali	KGM-15	20.04.90	4.00	
189			Mandapeta	KGM-16	22.08.95	40.00	
190			Mandapeta-19	KGM-17	01.05.98	6.00	
191			Mandepeta West	KGM-18	01.06.04	20.00	
192			Addvipalem-Ponnamanda	KGM-19	30.07.96	95.00	
193			Nandigama	KGM-20	31.01.00	55.00	
194			Enugupalli	KGM-21	06.07.00	7.00	
195			Kesavadasupalem	KGM-22	30.07.02	26.50	
196			Suryaraopeta	KGM-23	30.07.02	56.00	
197			Lingala Ext. & Kaikalur-12	KGM-24	30.07.02	30.00	
198			Lakshmaneswaram	KGM-25	30.07.02	23.50	
199			Endamuru-7&9	KGM-26	19.05.03	7.30	
200			Penumadam-2	KGM-27	01.07.04	3.20	
201			Srikatpalli	KGM-28	30.07.02	163.00	701.01

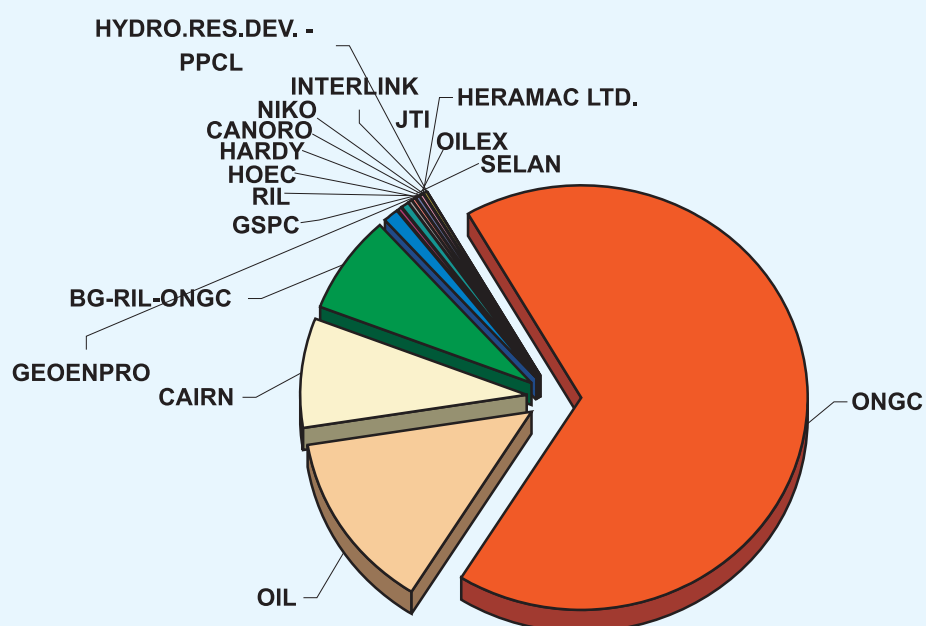
ML AREAS UNDER OPERATION BY NOCs AND PVT/JV COMPANIES							
Sl. No.	COMPANY / OPERATOR	BASIN	BLOCK NAME	REF.NO. ON MAP	EFFECTIVE DATE OF PEL	AREA (Sq. Km.)	TOTAL AREA (Sq. Km.)
202	ONGC	Assam-Arakan	Sonari	UAM-1	01.08.89	30.00	
203			Banamali	UAM-2	17.12.02	50.00	
204			Lakwa	UAM-3	29.09.88	172.49	
205			Laipling-Gaon	UAM-4	13.10.03	26.00	
206			Panidihing	UAM-5	19.05.04	34.00	
207			North Rudrasagar	UAM-6	30.01.06	122.00	
208			Rudrasagar	UAM-7	30.05.89	70.50	
209			Charali	UAM-8	20.03.99	51.64	
210			Charali Ext.-I	UAM-9	20.05.98	45.00	
211			West Charali	UAM-10	01.11.03	12.00	
212			Changmaigaon	UAM-11	07.02.04	10.00	
213			Namti	UAM-12	09.11.87	35.55	
214			Geleki	UAM-13	16.08.90	27.94	
215			Geleki Ext.-I	UAM-14	23.10.89	5.01	
216			Geleki Ext.- II	UAM-15	14.12.01	2.65	
217			SE Geleki	UAM-16	30.01.06	55.00	
218			Mekeypore-Santak-Nazira	UAM-17	01.08.01	225.00	
219			Changmaigaon East	UAM-18	30.01.06	80.00	
220			Laiplingaon Extn.	UAM-19	30.01.06	37.00	
221			Charaideo-Nahorhabi	UAM-20	01.11.03	100.00	
222			Changpang ML	NGM-1	14.03.07	12.00	
223			Borholla	DHM-1	17.06.98	32.12	
224			Mekrang	DHM-2	19.09.97	16.00	
225			East Lakhibari	DHM-3	23.07.03	8.50	
226			East Lakhibari Extn.	DHM-4	27.01.06	49.00	
227			Khoraghat	DHM-5	27.07.89	3.00	
228			Khoraghat Ext. - I	DHM-6	17.07.00	83.00	
229			Namber	DHM-7	05.09.99	26.00	
230			Namber Extn.	DHM-8	27.01.06	20.00	
231			Badarpur	CHM-1	01.08.89	2.30	
232			Banaskandi	CHM-2	21.07.97	15.00	
233			Adamtila	CHM-3	24.11.89	4.00	
234			Bhubandar	CHM-4	22.12.02	6.00	
235			Baramura(BRM-1)	TM-1	18.07.04	4.71	
236			Baramura(BRM-10)	TM-2	15.03.87	2.22	
237			Baramura(BRM-11)	TM-3	27.07.91	1.41	
238			Baramura(BRM-12)	TM-4	01.10.93	2.41	
239			Agartala Dome (AD-1)	TM-5	01.05.89	15.75	
240			Agartala Dome (AD-4)	TM-6	01.01.98	32.58	
241			Konaban (RO-4)	TM-7	01.01.98	11.10	
242			Manikya Nagar (RO-15)	TM-8	01.01.98	0.80	
243			Rokhia (RO-2)	TM-9	14.11.88	5.04	
244			Rokhia (RO-19)	TM-10	26.02.92	0.58	
245			Agartala Dome Extn.-II	TM-11	01.02.06	160.86	
246			Baramura Extn.-IV	TM-12	01.02.06	150.25	
247			Konaban Extn.-III	TM-13	01.02.06	16.89	
248			Manikyanagar-Sonamura	TM-15	01.02.06	138.55	
249			Konaban Field (Rokhia)	TM-14	01.08.04	0.81	
250			Tichna block	TM-16	07.02.06	195.41	
251			Gojalia block	TM-17	07.02.06	271.17	2479.25
252		Mumbai Off.	Bombay High	BM-1	20.05.96	303.69	
253			Bombay High-II	BM-2	14.10.00	1712.45	
254			Bombay High-West	BM-3	25.10.90	199.66	
255			B-55	BM-4	30.06.99	135.85	
256			South Bassein	BM-5	01.10.87	743.00	
257			B-119 / B-121	BM-6	15.05.97	113.40	
258			B-173A	BM-7	01.06.98	51.95	
259			Neelam	BM-8	14.11.89	213.00	
260			Heera	BM-9	20.11.04	448.05	
261			D-1 Field	BM-10	31.07.05	25.60	
262			Bassein Field Extn. (SB-II)	BM-11	15.06.05	22.55	
263			D-18	BM-12	01.01.05	194.00	
264			North Tapti Field	BM-13	01.03.06	68.14	

ML AREAS UNDER OPERATION BY NOCs 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.)	
265		Mumbai Off.	C-Series Fields	BM-14	01.04.07	2573.95		
266			B-12/C-26 Fields	BM-15	01.01.07	1815.90		
267			Mumbai High NW	BM-16	01.04.06	1567.67		
268			Mumbai High-SW	BM-17	01.04.06	1064.71		
269			Mumbai High-South	BM-18	01.04.06	696.60		
270			West of Bassein	BM-19	01.04.06	901.10		
271			Vasai East	BM-20	10.04.06	103.69		
272		S&E of Bassein	BM-21	01.04.06	1447.31	14402.27		
273		K-G Off.	GS-15 & 23	G-1 Field	KGM-29	04.09.98	80.00	
274					KGM-30	05.09.03	105.00	
275	KGM-31				02.03.07	400.00	585.00	
					ONGC	TOTAL	23954.31	
276	OIL	Rajasthan	Dandewala (Jaisalmer)	ORJM-1	01.01.86	250.00		
277			Baghewala	ORJM-2	30.05.03	210.00		460.00
278		Assam - Arakan	Moran	OAM-1	01.11.06	429.42		
279			Moran Extn.	OAM-2	10.01.91	560.00		
280			Dum-Duma BK-A	OAM-3	26.11.89	98.42		
281			Nahorkatiya	OAM-4	04.02.04	1.42		
282			Nahorkatiya Extn.	OAM-5	10.01.91	165.76		
283			Hugrijan	OAM-6	10.01.01	725.20		
284			Dum-Duma BK-B	OAM-7	26.11.89	311.96		
285			Digboi	OAM-8	14.10.01	49.33		
286			Dum-Duma BK-C	OAM-9	26.11.89	85.47		
287			Dum-Duma BK-D	OAM-10	26.11.89	10.36		
288			Ningru	OAM-11	27.11.03	540.67		
289			Tinsukia	OAM-12	02.08.01	250.00		
290			Dibrugarh	OAM-13	06.08.01	186.00		
291			Borhapanjan	OAM-14	07.08.01	87.00		
292			Dholiya	OAM-15	02.08.01	131.00		
293			Ningru Extension	OAM-16	04.06.03	75.00		
294			Chabua	OAM-17	12.06.02	189.00		
295			Tinsukia Extension	OAM-18	17.05.03	185.00		
296			Baghjan	OAM-19	14.05.03	75.00		
297			Mechaki	OAM-20	19.05.03	195.00		4351.01
								OIL
298	CAIRN	K-G Off. Gulf of Cambay	Ravva	--	28.10.94	331.26		
299			Lakshmi	--	07.07.98	121.06		
300			Gauri	--	--	52.70		
301			Ambe	--	--	107.47		
302		CBX	--	--	33.30			
303		Rajasthan	Mangala (RJ-ON-90/1)	--	21.06.05	1859.00		2934.96
304	Bhagyam-Shakti		--	15.11.06	430.17			
305	BG-RIL-ONGC	Mumbai Off.	Mid & South Tapti	--	22.12.94	1471.00		
306			Panna	--	22.12.94	430.00		
307			Mukta	--	22.12.94	777.00		2678.00
308	GEOENPRO	Assam-Arakan	Kharsang	--	21.10.97	11.00	11.00	
309	CANORO	Assam-Arakan	Amguri	--	01.11.03	52.75	52.75	
310	HOEC	Cambay	Asjol	--	09.04.96	15.00		
311			N. Balol	--	21.03.02	27.30		
312		Cauvery Off.	Promoda	--	21.09.05	3.54		120.84
313	PY-1		--	06.10.95	75.00			
314	INTERLINK	Cambay	Baola	--	12.12.96	4.00		
315			Modhera	--	19.05.07	12.70		16.70
316	JTI	Cambay	Wavel	--	20.02.95	9.00		
317			Dholka	--	20.02.95	48.00		57.00
318	NIKO	Cambay	Hazira	--	23.09.94	50.00		
319			NS-A	--	01.05.04	20.22		
320			Bheema	--	29.09.04	4.03		74.25

ML AREAS UNDER OPERATION BY NOCs 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.)
321	SELAN HERAMEC	Cambay	Lohar	--	13.03.95	5.00	189.65
322			Indrora	--	13.03.95	130.00	
323			Bakrol	--	13.03.95	36.00	
324			Karjisan	-	23.11.05	5.00	
325			Ognaj	-	05.08.08	13.65	
326			Kanawara	-	04.02.03	6.30	
327			Dholasan	-	27.02.03	8.80	
328			Allora	-	16.05.03	6.85	
329			N. Kathana	-	11.06.03	12.20	
330	HYDROCARBON RES. DEV.-PPCL	Cambay	Sanganpur	-	27.02.02	4.40	4.40
331	OILEX	Cambay	Cambay	--	23.09.94	161.00	172.80
332			Sabarmati	--	23.09.94	5.80	
333			Bhandut	--	23.09.94	6.00	
334	GSPCL	Cambay	Unawa	--	19.05.03	5.65	19.75
335			Ingoli Field (CB-ONN-2001/1)	--	--	14.10	
336	HARDY	Cauvery Off.	CY-OS-90/1 (PY-3)	-	20.07.98	81.00	81.00
337	RIL	KG Off.	KG-DWN-98/3(D-1&3)	-	02.03.05	339.70	389.41
338			KG-DWN-98/3 (D-26)	-	17.04.08	49.71	
Pvt./JV TOTAL						6836.66	
GRAND TOTAL						35601.98	

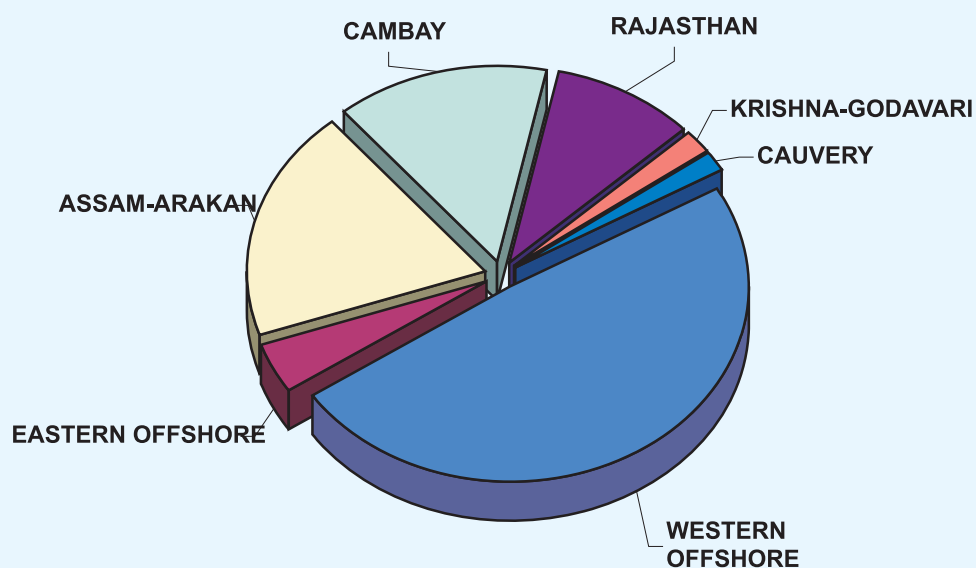
As on 01.04.08

COMPANY WISE DISTRIBUTION OF ML AREAS



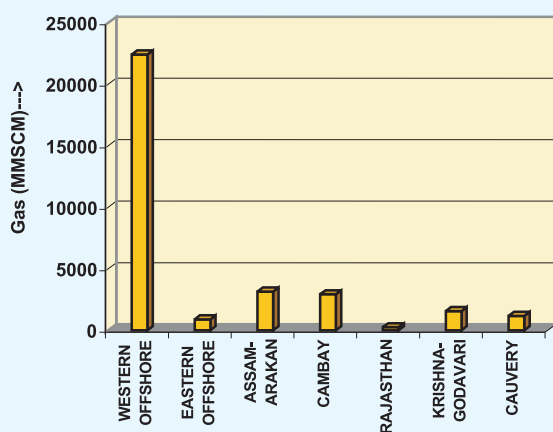
COMPANY / OPERATOR	ML AREA	
	(Sq. Km.)	(%)
ONGC	23,954.31	67.28
OIL	4,811.01	13.51
CAIRN	2,934.96	8.24
BG-RIL-ONGC	2,678.00	7.52
RIL	389.41	1.09
SELAN	189.65	0.53
OILEX	172.80	0.49
HOEC	120.84	0.34
HARDY	81.00	0.23
NIKO	74.25	0.21
JTI	57.00	0.16
CANORO	52.75	0.15
HERAMAC LTD.	34.15	0.10
GSPC	19.75	0.06
INTERLINK	16.70	0.05
GEOENPRO	11.00	0.03
HYDRO.RES.DEV. - PPCL	4.40	0.01
TOTAL	35,601.98	100.00

BASIN WISE DISTRIBUTION OF ML AREAS

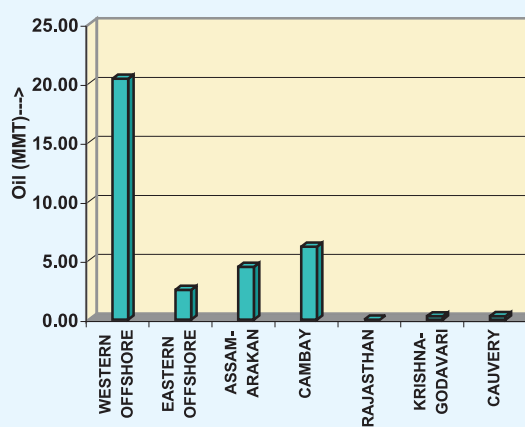


OFFSHORE/BASIN	ML AREA		PRODUCTION (2007-08)	
	(Sq.km)	(%)	Gas (MMSCM)	Oil (MMT)
OFFSHORE				
WESTERN PART	17,394.80	48.86	22426.212	20.391
EASTERN PART	1,461.67	4.11	891.617	2.524
TOTAL OFFSHORE	18,856.47	52.96	23,317.829	22.915
ONLAND				
ASSAM - ARAKAN	6,894.01	19.36	3161.510	4.461
CAMBAY	5,082.62	14.28	2930.814	6.177
RAJASTHAN	3,453.63	9.70	255.376	0.000
KRISHNA-GODAVARI	701.01	1.97	1566.927	0.279
CAUVERY	614.24	1.73	1169.405	0.299
TOTAL ONLAND	16,745.51	47.04	9084.032	11.216
GRAND TOTAL	35,601.98	100.00	32401.861	34.131

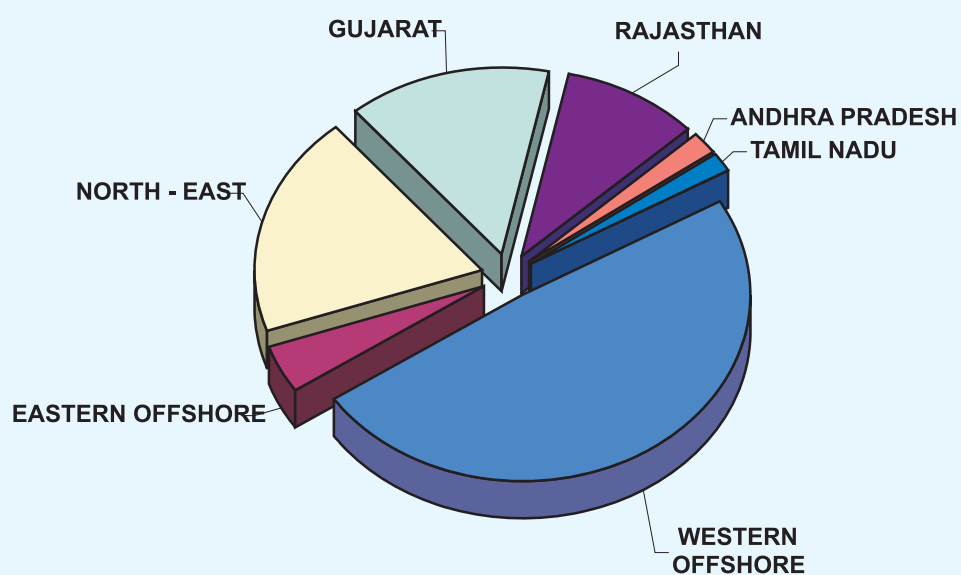
GAS PRODUCTION (2007-08)



OIL PRODUCTION (2007-08)

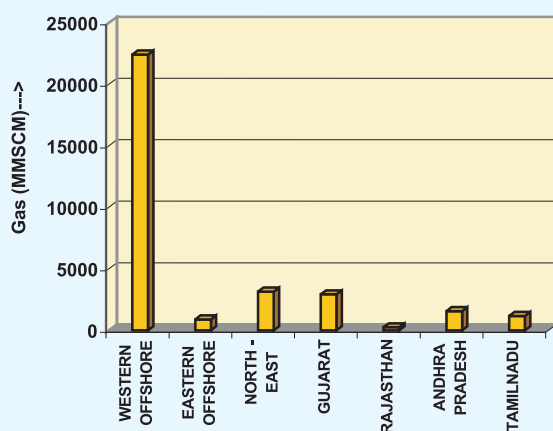


STATE WISE DISTRIBUTION OF ML AREAS

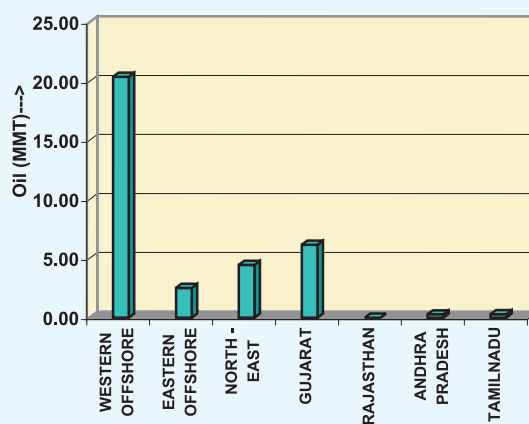


OFFSHORE/BASIN	ML AREA		PRODUCTION (2007-08)	
	(Sq.km)	(%)	Gas (MMSCM)	Oil (MMT)
OFFSHORE				
WESTERN PART	17,394.80	48.86	22426.212	20.391
EASTERN PART	1,461.67	4.11	891.617	2.524
TOTAL OFFSHORE	18,856.47	52.96	23,317.829	22.915
ONLAND				
NORTH - EAST	6,894.01	19.36	3161.510	4.461
GUJARAT	5,082.62	14.28	2930.814	6.177
RAJASTHAN	3,453.63	9.70	255.376	0.000
ANDHRA PRADESH	701.01	1.97	1566.927	0.279
TAMIL NADU	614.24	1.73	1169.405	0.299
TOTAL ONLAND	16,745.51	47.04	9084.032	11.216
GRAND TOTAL	35,601.98	100.00	32,401.861	34.131

GAS PRODUCTION (2007-08)

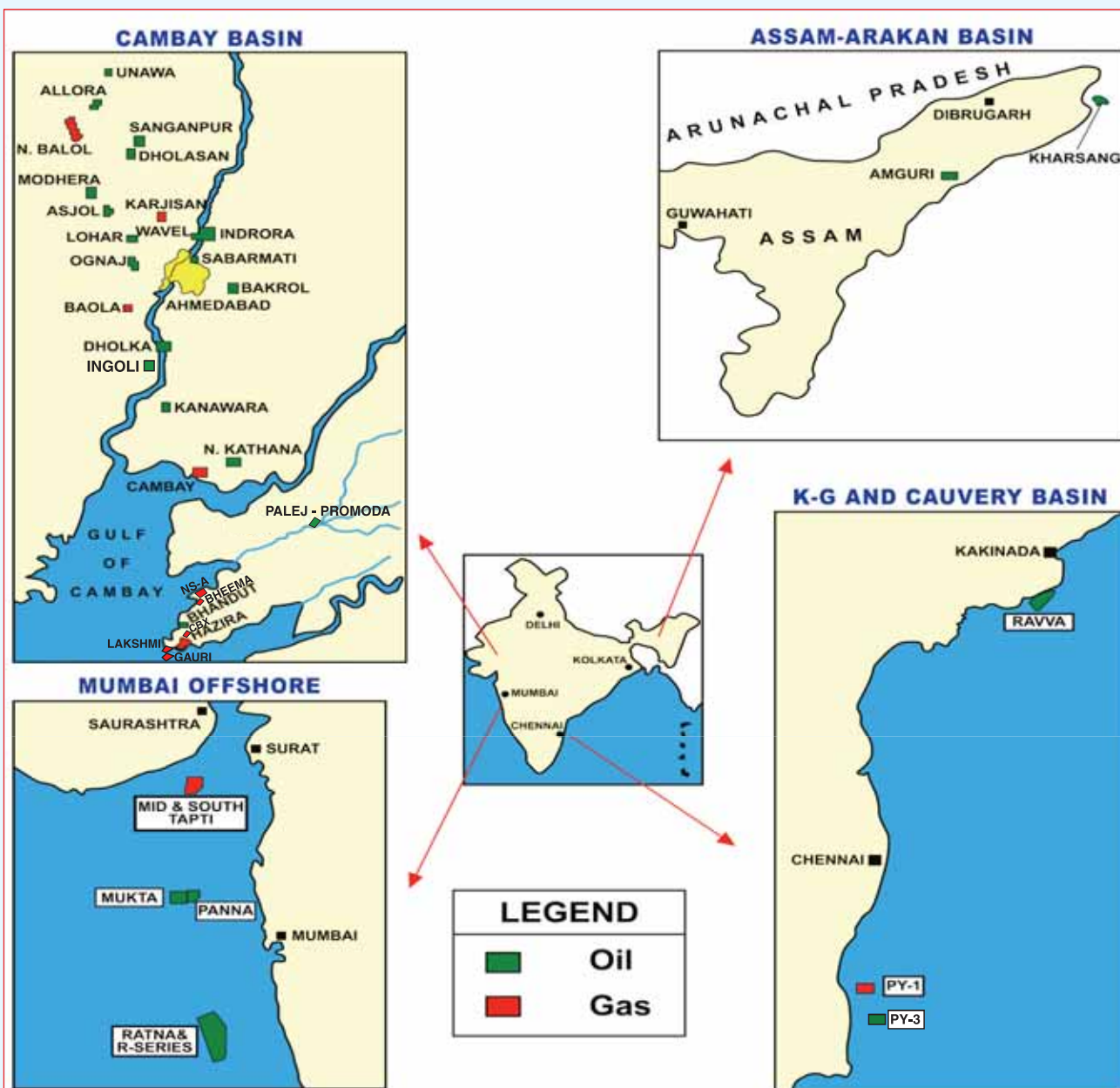


OIL PRODUCTION (2007-08)



SMALL AND MEDIUM SIZED FIELDS AWARDED TO PVT/JV COMPANIES					
SL. NO.	ROUND/ BASIN	FIELD	CONSORTIUM (PARTICIPATING INTEREST)	DATE OF SIGNING	AREA (Sq. Km.)
CONTRACT					
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), PETROCON (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(50) & GSPC(50)		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.	RAJASTHAN	MANGLA-AISHWARYA- RAAGESHWARI-SARAWATI BHAGYAM-SHAKTI	CEIL (35), CEHL (35) & ONGC (30)		1859 430.17

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





Hon'ble Minister & Secretary P&NG arriving at Gas Hydrates conference



Hon'ble Minister and Secretary P&NG with Dr Brenda Pierce of the USGS



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 sixth rounds were in the years 2000, 2002, 2003, 2005 and 2006 respectively. The government of India has so far completed six rounds of offer of acreages under NELP where in 199 exploration blocks have been offered and 162 blocks have been awarded. In the first six rounds of NELP, expected investment is of the order of US\$ 8 Billion. 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. 11 blocks have been relinquished / surrendered. 13 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. 23 blocks are presently 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 a total of 57 blocks, which are the highest number of exploration blocks ever offered under NELP, are on offer for exploration of oil & gas. The total area of these blocks is about 0.171 million sq km. The offered blocks comprise 19 deepwater blocks, 9 shallow water blocks and 29 onland blocks.

To propagate and promote NELP-VII, road shows were conducted. The first road show was held at Mumbai on 8th January 2008 and subsequent road shows were held at London (24th & 25th Jan'08), Houston (28th & 29th Jan'08), Calgary (31st Jan & 1st Feb'08), Singapore (28th March '08) and Perth (31st March & 1st April '08). Many companies participated in each of the venues with keen interest and the following figures show enthusiasm of investors in participation.

Road shows details :

Venue	Dates	Attendance
Mumbai	8 th January 2008	600+
London	24 th & 25 th January 2008	184
Houston	28 th & 29 th January 2008	136
Calgary	31 st January & 1 st February 2008	158
Singapore	28 th March 2008	95
Perth	31 st March & 1 st April 2008	47

Physical data viewing room details :

Venue	Dates	Companies
Noida	7 th January to 9 th May 2008	62
London	28 th January to 28 th February 2008	13
Houston	30 th January to 29 th February 2008	17
Calgary	4 th February to 27 th February 2008	7

Data Sales :

Packages sold	Number of companies	Revenue
488	52	Rs 41.2 cr / US\$10.84 MM

The following are bid evaluation criteria under NELP-VII:

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 of Type-A and Type- B, 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.

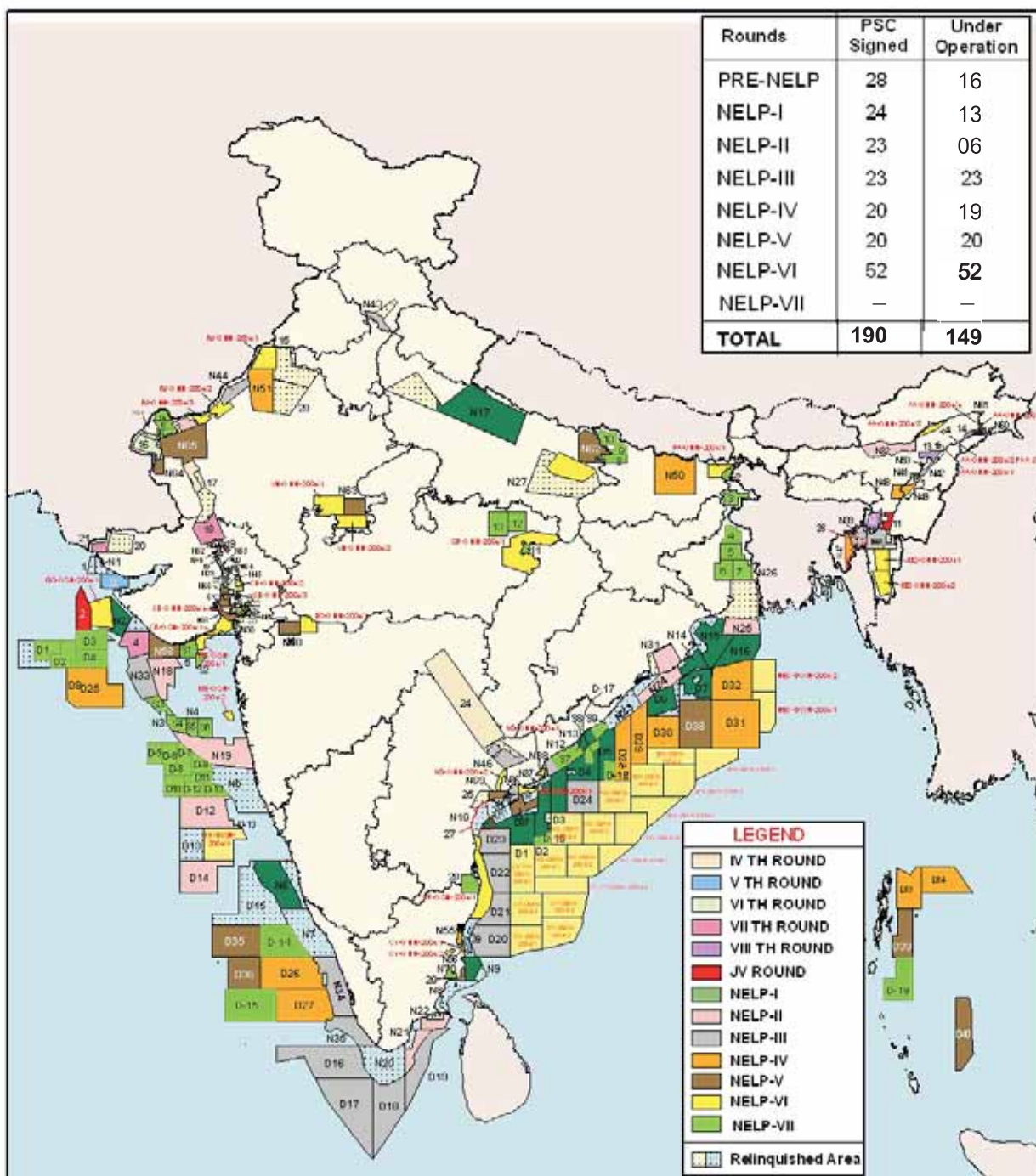
Companies required to bid for :

- 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:

- The possibility of seismic option alone in the first phase of the exploration period.
- Up to 100% participation by foreign companies.
- No minimum expenditure commitment during exploration period.
- No signature, discovery or production bonus.
- No mandatory state participation.
- No carried interest by National Oil Companies (NOCs).
- 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.
- Provisions for assignment.

PRE-NELP & NELP EXPLORATION BLOCKS UNDER OPERATION BY NOCs & Pvt/JV COMPANIES



* Effective dates of operation of NELP-VII Blocks fall in 2008-09

(AS ON 01-04-2008)

EXPLORATION BLOCKS AWARDED UNDER PRE-NELP

(As on 01.04.2008)

SL NO.	ROUND	BASIN	BLOCK NAME	REF. NO ON MAP	CONSORTIUM (PARTICIPATING INTEREST)	DATE OF SIGNING CONTRACT	APPROX AREA (SQ. KM.)
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	4600
7.			CB-ON/3	19	EOL (100)	16-07-1998	430.50
8.		GUJARAT-KUTCH	GK-ON/4	21	FEL (100)	30-06-1998	1162.43
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 : 37,675.46							

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	846
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 : 18,040.00							
GRAND TOTAL: 55,715.46							

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 01.04.2008)

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	8100
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 :	44,682.60
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.	KRISHNA-GODAVARI	KG-OSN-97/1	N-13	ONGC (100)	12-04-2000	2,236
11.	MAHANADI-NEC	MN-OSN-97/3	N-14	ONGC (85) & GAIL (15)	12-04-2000	2,710
12.		NEC-OSN-97/2	N-15	RIL (90) & NIKO (10)	12-04-2000	10,755
13.		NEC-OSN-97/1	N-16	OAo GAZPROM (50) & GAIL (50)	03.10.2000	7,779
					TOTAL AREA :	30,990
GRAND TOTAL : 75.672.60 SQ.KM.						

Blocks Relinquished : Eleven

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

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

(As on 01.04.2008)

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	8,841
2.	MAHANADI-NEC	MN-OSN-2000/2	N24	ONGC (40), IOC (20), GAIL (20) & OIL (20)	17-07-2001	4,061
3.	BENGAL	WB-OSN-2000/1	N25	ONGC (85) & IOC (15)	17-07-2001	6,700
						TOTAL AREA : 19,602
ONLAND						
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 : 11,382.50
						GRAND TOTAL : 30,984.50

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.	CB-ONN-2000/1	N20	GSPC
9.	WB-ONN-2000/1	N26	ONGC & IOC
10.	MN-OSN-2000/1	N23	ONGC
11.	MB-DWN-2000/1	D10	ONGC & IOC
12.	MB-DWN-2000/2	D11	ONGC, IOC, GAIL, OIL, GSPC
13.	KK-DWN-2000/1	D12	RIL
14.	KK-DWN-2000/3	D14	RIL
15.	MB-OSN-2000/1	N19	ONGC, IOC & GSPC
16.	CY-OSN-2000/1	N21	ONGC
17.	CY-OSN-2000/2	N22	ONGC

EXPLORATION BLOCKS AWARDED UNDER THIRD ROUND OF NELP (NELP-III)						
(As on 01.04.2008)						
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	10,588
12.		KK-OSN-2001/3	N35	ONGC (100)	04-02-2003	6,445
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	1,850
TOTAL AREA : 27,294						
ONLAND						
16.	ASSAM-ARAKAN	AA-ONN-2001/1	N39	ONGC (100)	04-02-2003	2,257
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
23.	PRANHITA-GODAVARI	PG-ONN-2001/1	N46	ONGC (100)	04-02-2003	5,190
TOTAL AREA : 16,439.03						
GRAND TOTAL : 190,138.03						

EXPLORATION BLOCKS AWARDED UNDER FOURTH ROUND OF NELP (NELP-IV)

(As on 01.04.2008)

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	17,107
2.		KK-DWN-2002/3	D-27	ONGC (80) & HPCL (20)	06-02-2004	15,682
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.		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.	ANDAMAN-NICOBAR	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 : 129,274

ONLAND						
10.	ASSAM-ARAKAN	AA-ONN-2002/1	N-47	JOGPL (20) & GAIL (80)	06-02-2004	1,680
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	285
18.	CAUVERY	CY-ONN-2002/1	N-55	JOGPL (30), GAIL (50) & GSPC (20)	06-02-2004	680
19.		CY-ONN-2002/2	N-56	ONGC (60) & BPCL (40)	06-02-2004	210

TOTAL AREA : 28,578

GRAND TOTAL :157,852

Block Relinquished : One

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	-	Hindustan 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 01.04.2008)						
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						
<div> <div>NR(V)L - Niko Resources (NELP-V) Ltd.</div> <div>ENI - ENI India Ltd.</div> <div>CE7L - Cairn Exploration (No.7) Ltd.</div> <div>JOGP - Jubilant Oil & Gas Pvt. Ltd.</div> <div>JSPL - Jubilant Securities Pvt. Ltd.</div> <div>NTPC - National Thermal Power Corporation Ltd.</div> <div>GPI - GeoPetrol International Inc.</div> <div>CRL - Canoro Resources Ltd.</div> <div>HPCL - Hindustan Petroleum Corporation Ltd.</div> </div> <div> <div>CEIL - Cairn Energy India Pty. Ltd.</div> <div>CE1L - Cairn Exploration (No.1) Ltd.</div> <div>CE6L - Cairn Exploration (No.6) Ltd.</div> <div>CE4L - Cairn Exploration (No.4) Ltd.</div> <div>CE2L - Cairn Exploration (No.2) Ltd.</div> <div>FEL - Focus Energy Ltd.</div> <div>BIL - Birkbeck Investment Ltd., Mauritius</div> <div>JCPL - Jubilant Capital Pvt. Ltd.</div> <div>GGR - Geo Global Resources Ltd.</div> </div>						

EXPLORATION BLOCKS AWARDED UNDER SIXTH ROUND OF NELP (NELP-VI)					
SL NO.	BASIN	BLOCK NAME	CONSORTIUM (PARTICIPATING INTEREST)	DATE OF SIGNING CONTRACT	APPROX AREA (SQ. KM.)
DEEP WATER					
1	KERALA-KONKAN	KK-DWN-2004/1	ONGC(45), CIL(40) & TATA(15)	02.03.07	12324
2	CAUVERY	CY-DWN-2004/1	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	10302
3		CY-DWN-2004/2	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	12059
4		CY-DWN-2004/3	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	12017
5		CY-DWN-2004/4	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	12025
6		CY-PR-DWN-2004/1	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	13451
7		CY-PR-DWN-2004/2	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	9994
8	KRISHNA-GODAVARI	KG-DWN-2004/1	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	11951
9		KG-DWN-2004/2	ONGC(60), GSPC(10) HPCL(10), GAIL(10) & BPCL(10)	02.03.07	11851
10		KG-DWN-2004/3	ONGC(70), GSPC(10), HPCL(10) & GAIL(10)	02.03.07	6205
11		KG-DWN-2004/4	RIL(100)	02.03.07	11904
12		KG-DWN-2004/5	ONGC(50), GSPC(10), HPCL(10), GAIL(10), OIL(10) & BPCL(10)	02.03.07	11922
13		KG-DWN-2004/6	ONGC(60), GSPC(10), HPCL(10), GAIL(10) & OIL(10)	02.03.07	10907
14		KG-DWN-2004/7	RIL(100)	02.03.07	11856
15	MAHANADI - NEC	MN-DWN-2004/1	RIL(100)	02.03.07	9885
16		MN-DWN-2004/2	RIL(100)	02.03.07	11813
17		MN-DWN-2004/3	RIL(100)	02.03.07	11316
18		MN-DWN-2004/4	RIL(100)	02.03.07	8822
19		MN-DWN-2004/5	RIL(100)	02.03.07	10454
20		NEC-DWN-2004/1	Santos (100)	02.03.07	7790
21		NEC-DWN-2004/2	Santos (100)	02.03.07	8706
				TOTAL	2,27,554
SHALLOW OFFSHORE BLOCKS (6)					
22	GUJARAT-SAURASHTRA	GS-OSN-2004/1	ONGC(100)	02.03.07	6589
23	GULF OF CAMBAY	CB-OSN-2004/1	FOCUS(10) & NEWBURY(90)	02.03.07	2616
24	MUMBAI	MB-OSN-2004/1	GSPC(20), IOC(20), GAIL(20), HPCL(20) & PETRO GAS(20)	02.03.07	1520
25		MB-OSN-2004/2	PETROGAS(20), GAIL(20), IOC(20), GSPC(20) & HPCL(20)	02.03.07	741
26	PALAR	PR-OSN-2004/1	CEIL(10), ONGC(35), CAIRN INDIA(25) & TATA(30)	02.03.07	9417
27	KRISHNA-GODAVARI	KG-OSN-2004/1	ONGC(55) & BGEPI(45)	02.03.07	1151
				TOTAL	22,034
ONLAND BLOCKS (25)					
28	MIZORAM	MZ-ONN-2004/1	OIL(75), SUNTERA(10) & SHIV-VANI(15)	02.03.07	3213
29		MZ-ONN-2004/2	NAFTOGAZ(10), RNRL(10), GEOPETROL (10) & REL(70)	02.03.07	3619
30	ASSAM	AA-ONN-2004/1	OIL(85) & SHIV-VANI(15)	02.03.07	144
31	ASSAM-ARAKAN	AA-ONN-2004/2 (Part-A&B)	OIL(90) & SUNTERA(10)	02.03.07	218
32		AA-ONN-2004/3	ESSAR ENERGY (90), ESSAR OIL(10)	02.03.07	1252
33		AA-ONN-2004/4	ADANI ENTERPRISES(35), ADANI PORT(20), NAFTOGAZ(10) & JAYCEE MUMBAI(35)	02.03.07	95
34		AA-ONN-2004/5	ESSAR ENERGY (90) & ESSAR OIL (10)	02.03.07	46
35	PURNEA	PA-ONN-2004/1	ONGC(100)	02.03.07	2537
36	GANGA	GV-ONN-2004/1	ONGC(100)	02.03.07	8354
37	SOUTH REWA	SR-ONN-2004/1	PRICE PETROLEUM(10), Jaiprakash Associates Ltd.(90)	02.03.07	13277
38	VINDHYAN	VN-ONN-2004/1	ONGC(100)	02.03.07	5801
39		VN-ONN-2004/2*	ONGC(100)	02.03.07	4466
40	RAJASTHAN	RJ-ONN-2004/1	GSPC(20), GAIL(20), HPCL(20), BPCL(10), NITINFIRE (10) HALLWORTHY (PANAMA(10) & SIVERWAVE(10)	02.03.07	4613
41		RJ-ONN-2004/2	OIL(75), GEOGLOBAL(25)	02.03.07	2196
42		RJ-ONN-2004/3	OIL(60), GEOGLOBAL(25) & HPCL(15)	02.03.07	1330
43	CAMBAY	CB-ONN-2004/1	ONGC(50), GSPC(40) & HERAMEC(10)	02.03.07	32
44		CB-ONN-2004/2	ONGC(50), GSPC(40) & SUNTERARES LTD.(10)	02.03.07	423
45		CB-ONN-2004/3	ONGC(40), GSPC(35) & ENSEARCH(25)	02.03.07	113
46		CB-ONN-2004/4	ONGC(50), GSPC(40) & HERAMEC(10)	02.03.07	70
47		CB-ONN-2004/5	ADANI ENTERPRISES(35), WELSPUN(35) ADANI PORT(20) & NAFTOGAZ(10)	02.03.07	75
48	DECCAN SYNECLISE	DS-ONN-2004/1	GEOGLOBAL RESOURCES BARBADOS(100)	02.03.07	2649
49	KRISHNA-GODAVARI	KG-ONN-2004/1	OIL(90) & GEOGLOBAL(10)	02.03.07	549
50		KG-ONN-2004/2	GSPC(40), GAIL(40) & PETROGAS(20)	02.03.07	1140
51	CAUVERY	CY-ONN-2004/1	ONGC(80) & BPCL(20)	02.03.07	214
52		CY-ONN-2004/2	ONGC(80) & BPCL(20)	02.03.07	375
				TOTAL	56,801
				GRAND TOTAL	3,06,389

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

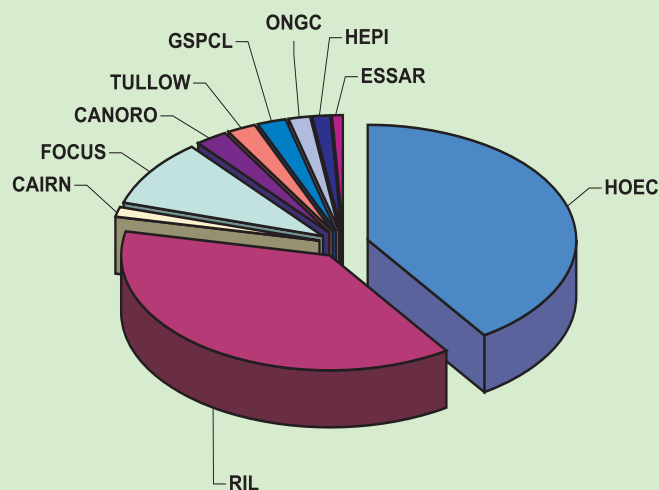
(As on 01.04.2008)

SL NO.	BASIN (No. of Blocks)	PRE-NELP	NELP-I	NELP-II	NELP-III	NELP-IV	NELP-V	NELP-VI	TOTAL
DEEP WATER (52)									
1.	GUJARAT-SAURASHTRA (0)	--	--	--	--	--	--	--	--
2.	KERALA-KONKAN (8)	--	--	--	80,605	32,789	30,530	12,324	156,248
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 (15)	--	32499.60	--	11,605	10,600	3,288	76,596	134,588.60
7.	MAHANADI-NEC (14)	--	12,183	--	--	62,400	17,050	68,786	160,419
8.	ANDAMAN-NICOBAR (4)	--	--	--	--	23,485	23,080	--	46,565
TOTAL AREA :		--	44,682.60	--	146,405	129,274	73,948	227,554	621,863.37
SHALLOW WATER (28)									
9.	GUJARAT-KUTCH (3)	9,475	--	--	--	--	--	--	9,475
10.	GUJARAT-SAURASHTRA (5)	6,860	5,040	8,841	7101	--	4477.50	6,589	38,908.50
11.	CAMBAY (3)	846	--	--	--	--	2,394	2,616	5,856
12.	MUMBAI (2)	--	--	--	--	--	--	2,261	2,261
13.	KERALA-KONKAN (2)	--	--	--	17,033	--	--	--	17,033
14.	CAUVERY (2)	859	2,470	--	--	--	--	--	3,329
15.	KRISHNA-GODAVARI (5)	--	2,236	--	3,160	--	--	1,151	6,547
16.	MAHANADI-NEC (4)	--	21,244	4,061	--	--	--	--	25,305
17.	BENGAL (1)	--	--	6,700	--	--	--	--	6,700
18.	PALAR (1)	--	--	--	--	--	--	9,417	9,417
TOTAL AREA :		18,040	30,990	19,602	27,294	--	6871.50	22,034	124,831.50
ONLAND (69)									
19.	VINDHYAN (3)	--	--	--	--	--	3,585	10,267	13,852
20.	GUJARAT-KUTCH (1)	1,162.43	--	--	--	--	--	--	1,162.43
21.	RAJASTHAN (10)	4,905.66	--	1,267.50	2560	7425	14,530	8,139	38,827.16
22.	CAMBAY (15)	6,600.67	--	--	158.15	513	1,083	713	9,067.82
23.	PRANHITA-GODAVARI (2)	21,850	--	--	5,190	--	--	--	27,040
24.	MAHANADI (1)	--	--	3,900	--	--	--	--	3,900
25.	CAUVERY (5)	--	--	--	--	890	957	589	2,436
26.	HIMALAYAN FORELAND (1)	--	--	--	1,513.88	--	--	--	1,513.88
27.	GANGA VALLEY (3)	--	--	--	--	15,550	7,210	8,354	31,114
28.	ASSAM-ARAKAN (19)	3156.7	--	6,215	7017	4,200	651	1,755	22,994.70
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 (1)	--	--	--	--	--	--	2,537	2,537
33.	SOUTH REWA (1)	--	--	--	--	--	--	13,277	13,277
TOTAL AREA :		37,675.46	--	11382.50	16,439.03	28,578	32,868	56,801	183,743.99
GRAND TOTAL :		55,715.46	75672.60	30,984.50	190,138.03	157,852	113,687.50	306,389	930,439

COMPANY-WISE DISTRIBUTION OF PEL AREAS UNDER OPERATION (PRE-NELP & NELP ROUNDS)										
(As on 01.04.2008)										
SL. NO.	COMPANY	No. of Blocks	PRE-NELP	NELP-I	NELP-II	NELP-III	NELP-IV	NELP-V	NELP-VI	TOTAL
1	ONGC	59	846	26,688.60	10,761	72,213.03	105,114	16841.50	165,133	397,597.13
2	RIL	33	20,935	38,735	15,056	113,515	25,565	51,503	76,050	341,359
3	OIL	12	—	—	5167.50	2,560	8,885	275	7,650	24537.50
4	CAIRN	6	879.50	—	—	—	15,550	12,492	9,417	38,338.50
5	GSPC	7	1,201.17	—	—	1,850	285	448	7,273	11,057.17
6	HOEC	4	22,654	2,470	—	—	—	—	—	25,124
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	3	430.50	—	—	—	—	—	1,298	1,728.50
11	JOGP	4	—	—	—	—	2453	81	—	2,534
12	FOCUS	4	5,188.59	—	—	—	—	13,195	2,616	20,999.59
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	—	—	—	—	—	—	16496	16,496
19	PETROGAS	1	—	—	—	—	—	—	741	741
20	NAFTOGAZ	3	—	—	—	—	—	—	3789	3,789
21	PRIZE PETROLEUM	1	—	—	—	—	—	—	13277	13,277
TOTAL		149	55715.46	75672.60	30984.50	190138.03	157852	113687.50	306389	930439.09

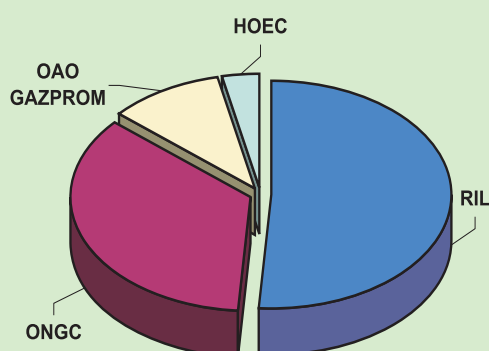
COMPANY - WISE DISTRIBUTION OF PEL AREAS UNDER OPERATION (PRE-NELP & NELP ROUNDS)

PRE - NELP



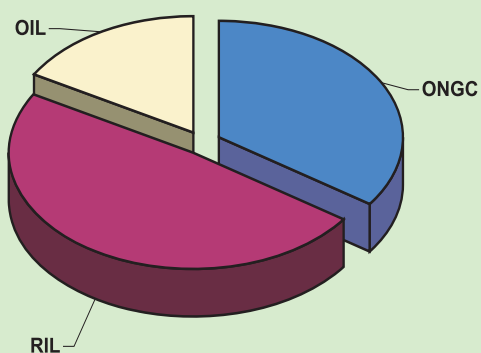
COMPANY / OPERATOR	AREA (Sq. Km.)	(%)
HOEC	22,654.00	40.66
RIL	20,935.00	37.57
CAIRN	879.50	1.58
FOCUS	5,188.59	9.31
CANORO	1,444.70	2.59
TULLOW	1,277.00	2.29
GSPCL	1,201.17	2.16
ONGC	846.00	1.52
HEPI	859.00	1.54
ESSAR	430.50	0.77
TOTAL	55,715.46	100.00

NELP - I



COMPANY / OPERATOR	AREA (Sq. Km.)	(%)
RIL	38,735.00	51.19
ONGC	26,688.60	35.27
OAO GAZPROM	7,779.00	10.28
HOEC	2,470.00	3.26
TOTAL	75,672.60	100

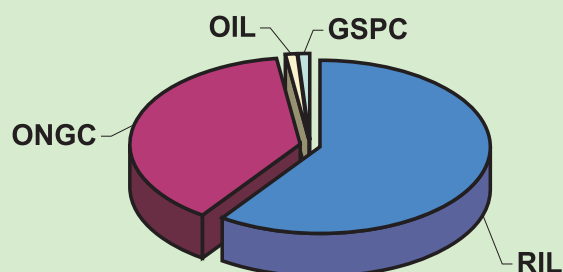
NELP - II



COMPANY / OPERATOR	AREA (Sq. Km.)	(%)
ONGC	10,761.00	34.73
RIL	15,056.00	48.59
OIL	5,167.50	16.68
TOTAL	30,984.50	100.00

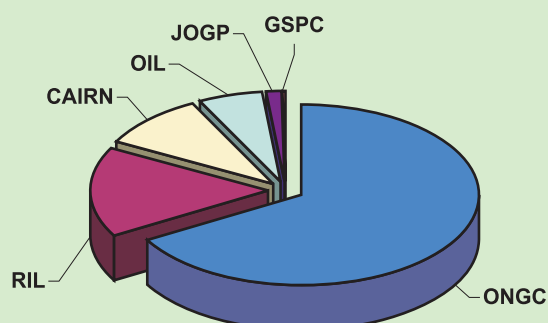
COMPANY - WISE DISTRIBUTION OF PEL AREAS UNDER OPERATION (PRE-NELP & NELP ROUNDS)

NELP - III



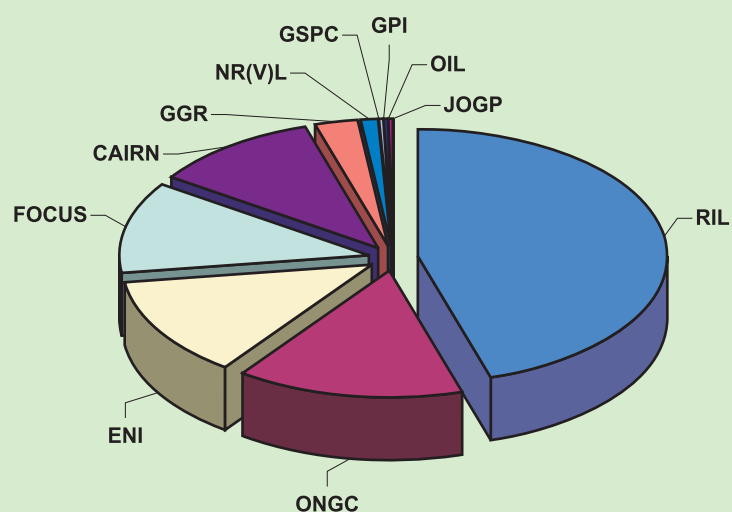
COMPANY / OPERATOR	AREA (Sq. Km.)	(%)
RIL	113,515.00	59.70
ONGC	72,213.03	37.98
OIL	2,560.00	1.35
GSPC	1,850.00	0.97
TOTAL	190,138.03	100.00

NELP - IV



COMPANY / OPERATOR	AREA (Sq. Km.)	(%)
ONGC	105,114.00	66.59
RIL	25,565.00	16.20
CAIRN	15,550.00	9.85
OIL	8,885.00	5.63
JOGP	2,453.00	1.55
GSPC	285.00	0.18
TOTAL	157,852.00	100.00

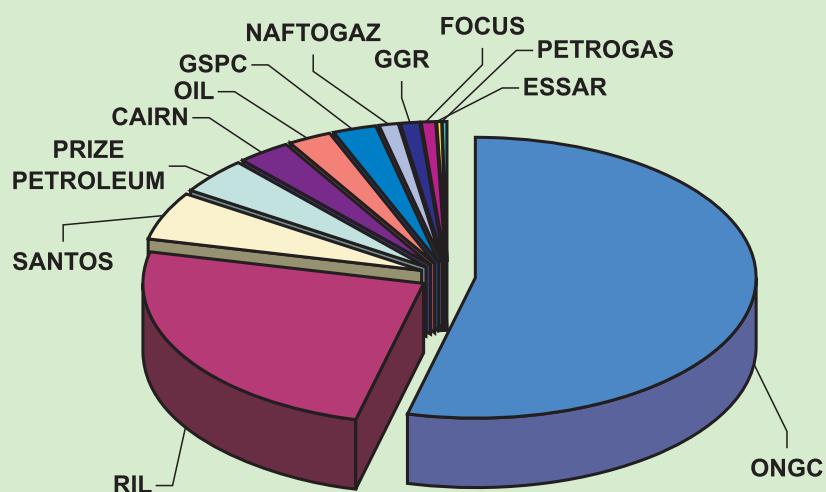
NELP - V



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)**

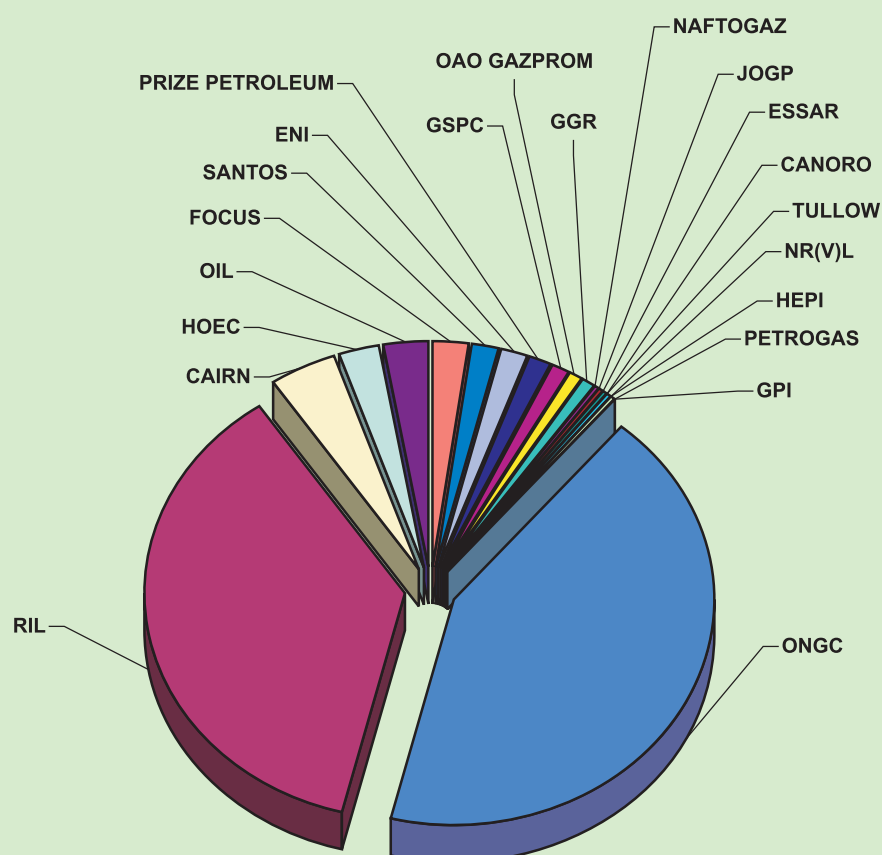
NELP - VI



COMPANY / OPERATOR	AREA (Sq. Km.)	(%)
ONGC	165,133.00	53.90
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	306,389.00	100.00

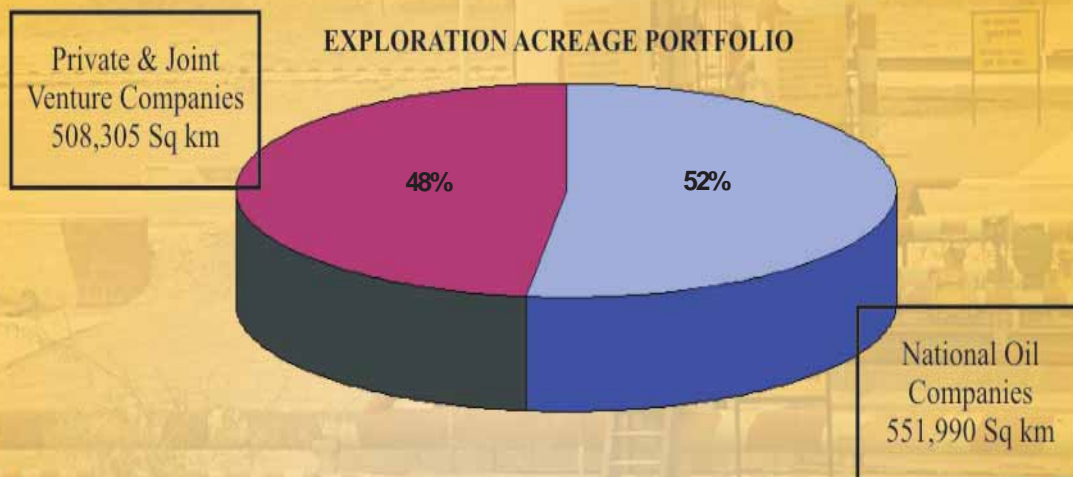
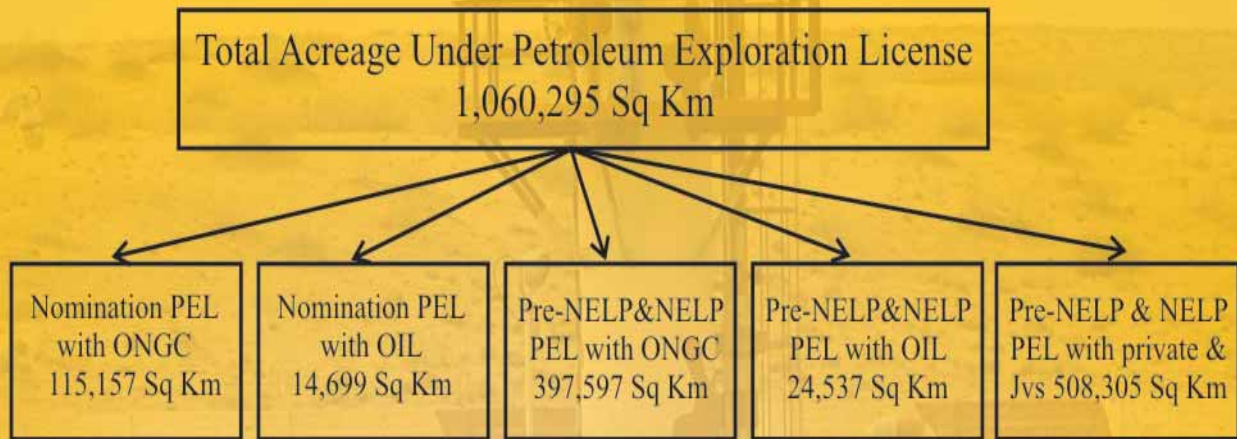
COMPANY-WISE DISTRIBUTION OF PEL AREAS UNDER OPERATION (PRE-NELP & NELP ROUNDS)

(As on 01.04.2008)

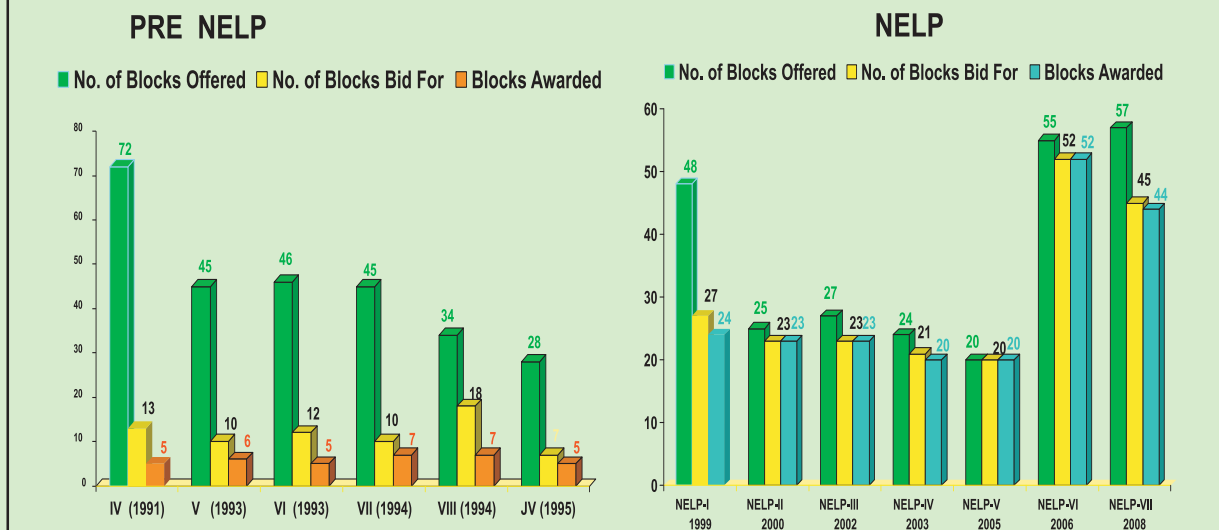


SL.NO.	COMPANY/ OPERATOR	TOTAL
1	ONGC	397,597.13
2	RIL	341,359.00
3	CAIRN	38,338.50
4	HOEC	25,124.00
5	OIL	24,537.50
6	FOCUS	20,999.59
7	SANTOS	16,496.00
8	ENI	14,445.00
9	PRIZE PETROLEUM	13,277.00
10	GSPC	11,057.17
11	OAO GAZPROM	7,779.00
12	GGR	5,804.00
13	NAFTOGAZ	3,789.00
14	JOGP	2,534.00
15	ESSAR	1,728.50
16	CANORO	1,444.70
17	TULLOW	1,277.00
18	NR(V)L	957.00
19	HEPI	859.00
20	PETROGAS	741.00
21	GPI	295.00
TOTAL		930,439.09

EXPLORATION ACREAGE PORTFOLIO



BLOCKS AWARDED



COAL BED METHANE

The exploration awareness for CBM in India shows a dramatic change of scenario from luke warm response in the first round of bidding (2001) to 'CBM rush' in the third round (2006) within a span of five years. 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.

CBM operation is now pursued in India with right earnest as the country is endowed with substantial reserves of coal and lignite and happens to be the third largest producer of coal in the world.

During the last one decade, when the task of CBM development was entrusted to MOP&NG, it has become necessary to address many critical issues in this un-chartered territory. These were mainly formulation of CBM exploitation policy, offering of attractive fiscal package to evince interest in the operator, delineating various CBM blocks in consultation with Ministry of Coal (MOC) in different coal & lignite basins spread over the length and breadth of the country and finally working out a strategy for offering the identified blocks to prospective operator through international bidding. This is the outcome of 'toil', sweat and enthusiasm' of scientists of DGH, CMPDI and GSI who were working in harmony to present a coherent picture of CBM potentiality of the country.

After the 3 rounds of CBM bidding, 26 blocks altogether have been offered to various entrepreneurs. Important strides have been taken in most of the offered blocks to generate data on reservoir parameters and road maps are made for Development Phase Work.

The exploration carried out by various operators in Raniganj, Jharia, Bokaro, North Karanpura and Sohagpur coal bearing provinces reveals that Barakar / Raniganj coal reserves are excellent CBM plays, which can be harnessed commercially with the induction of appropriate technology. In this direction, commercial exploitation of CBM has already commenced in Raniganj (South) CBM block. Efforts are also made in Sohagpur (East) and Sohagpur (West) CBM blocks to commence commercial production in a short period.

Commercial Production of methane in India is now a dream come true after a decade of expectation. CBM is expected to provide sizable amount of natural gas in the country in the coming future.



Dewatering Process of a CBM Well of GEECL

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



CBM Well Drill Rig



CBM Gas / Water Separation Facilities of RIL

☞ **1999 - 2000**

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

☞ **2001**

- First round 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

☞ **2006**

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

☞ **2007**

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

☞ **2008**

- DGH, in consultation with CMPDIL is in the process of carving out new blocks for 4th round of bidding

Highlights of CBM Policy

Some of the attractive terms offered by the Government are :

- 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 holiday

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	11
		ii. Exploration Phase - II	5
		iii. Development Phase-III	3
		DGH approved Development Plan for 3 Blocks	
		◆ Raniganj(S), ◆ Sohagpur(E) & ◆ Sohagpur (W)	
		iv. Relinquished after Phase-I	2
		v. Awaiting grant of PEL	5
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)		210 (130/80)
6	CBM reserve established (Gas Initial In Place), TCF/BCM for 4 blocks		6.4/181.0
7	Expected Production Potential, MMSCMD		38
8	Commercial Production commenced from		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		0.14
11	Expected CBM gas production from 3 blocks by 2013 [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

Future Rounds

The Directorate General of Hydrocarbons in close interaction with CMPDIL, has carved out 8 additional blocks for next round of bidding. Data compilation from different Institutes, corehole drilling to generate CBM related information for inclusion/preparation of the Information Dockets (ID) and Data Packages (DP) of these blocks are in progress.

With the award of 26 CBM blocks so far, and ongoing technological innovation in production technology, CBM is expected to provide sizable amount of natural gas in the country in the coming future.

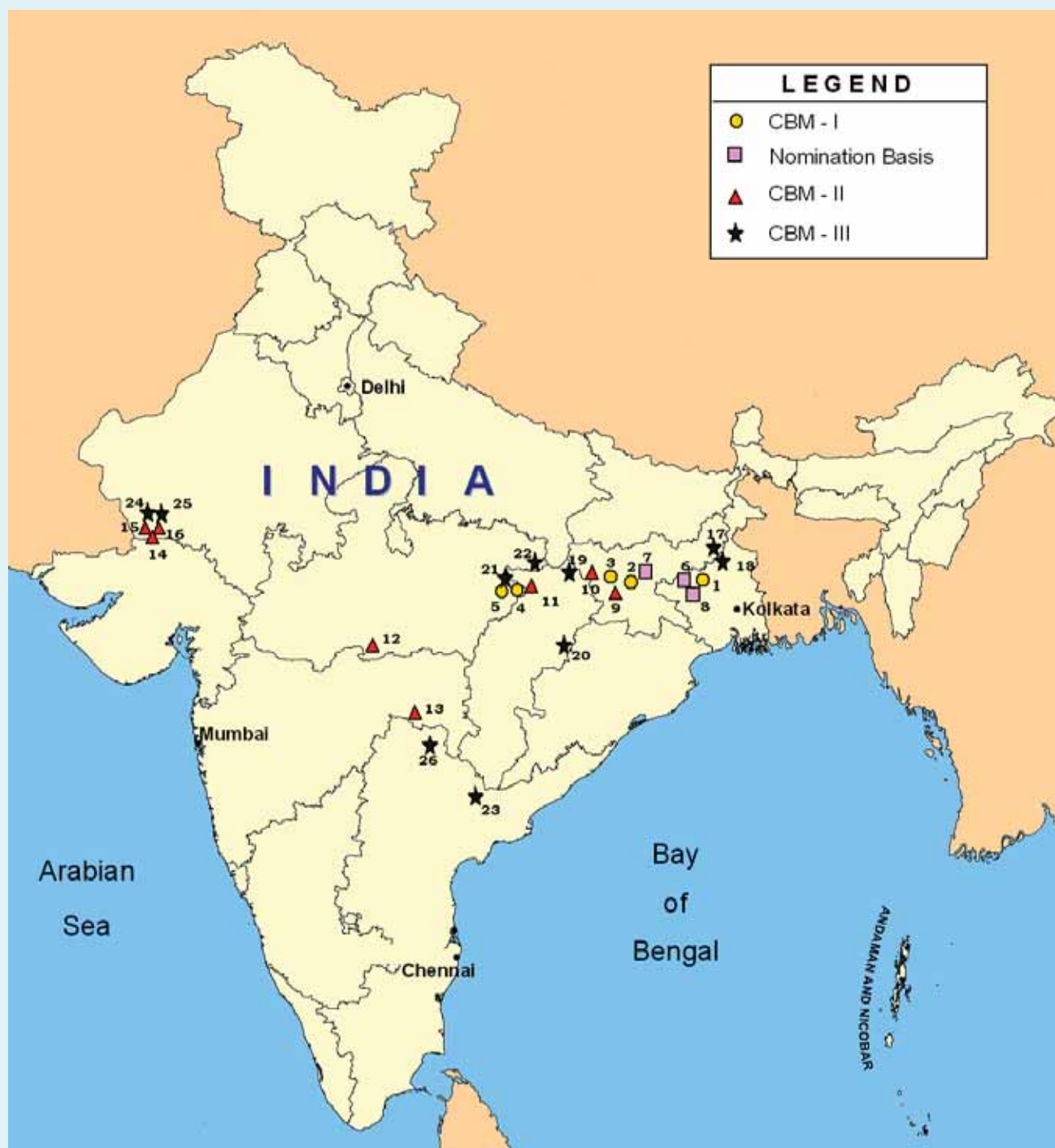


HRSS SURVEY BY NGRI FOR ESSAR IN PROGRESS

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
<div> <div> 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. </div> <div> 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. </div> </div>						

CBM BLOCKS AWARDED SO FAR



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

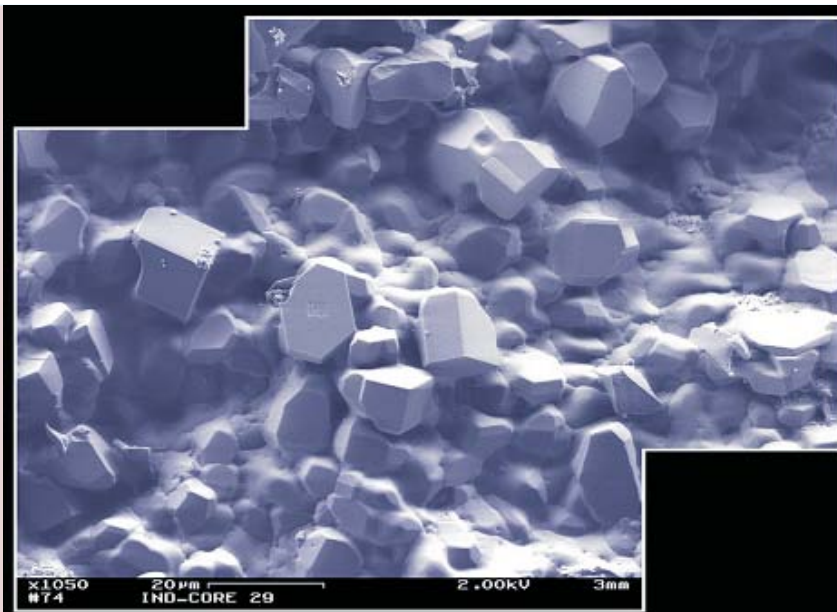


FIGURE - 2

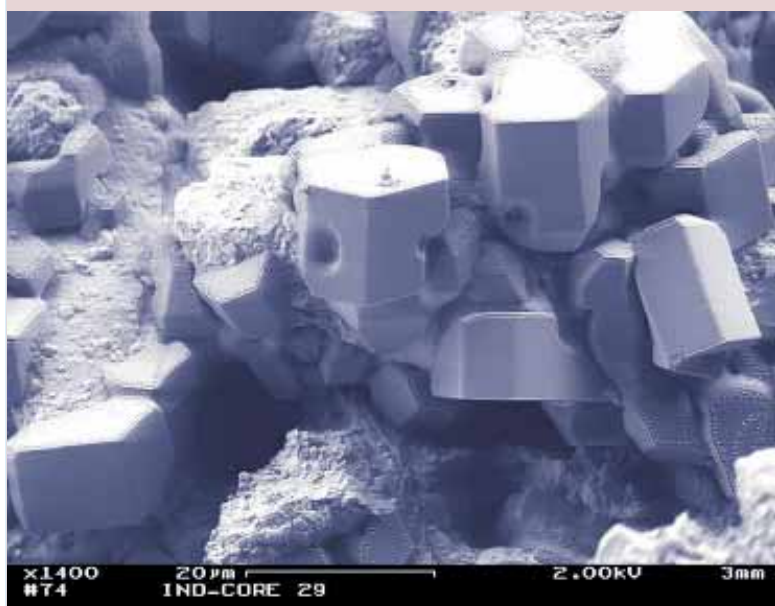


FIGURE - 3

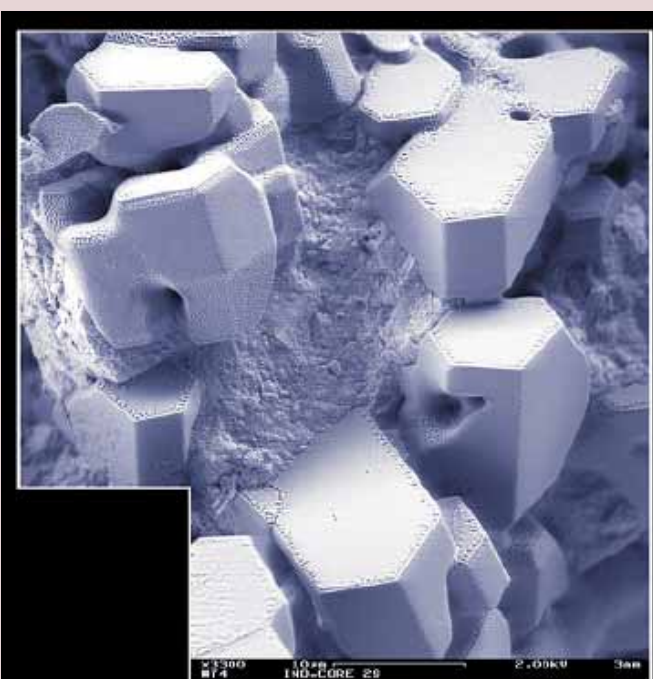


FIGURE - 1, 2 & 3 : CRYSTALS OF GAS HYDRATES

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	4X	1	26	Dark fine sediments	Platy
K-G Basin	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	1H	35	29	Dark fine sediments	Vein-like
K-G Basin	1H	39	31	Dark fine sediments	Thin film-like
NGHP-01-10D	5X	40	35	Dark fine sediments	Thin film-like
K-G Basin	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	16X	95	105	Dark fine sediments	Pore-filling
K-G Basin	16X	97	106	Dark fine sediments	Pore-filling
NGHP-01-15A	9X	100	79	Grey medium sands	Pore-filling
K-G Basin					
NGHP-01-17A	39X	105	336	Green fine sediments	Pore-filling
Offshore	47X	111	408	White fine volcanic ash	Pore-filling
Andaman	55X	112	467	Green fine sediments	Pore-filling
Islands	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	12X	128	84.67	Dark fine sediments	Pore-filling
K-G Basin	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.

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 Berklay 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.