

# Cairn India highlights

10,123 MILLION

\$ **245** 

Consolidated revenue from the operations of Cairn India Limited and its subsidiaries for the year ended 31 December 2007

2 1,259

\$31

Consolidated profit before tax for the year ended 31 December 2007

175,000
BARRELS OF OIL
PER DAY (BOPD)

Sustainable plateau production now estimated from the proven Rajasthan fields

Mangala 125,000 bopd Bhagyam 40,000 bopd Aishwariya 10,000 bopd

# **H2 2009**

Expected date for first commercial oil production from Rajasthan. All activities proceeding on schedule. All major civil construction contracts have been awarded and all long lead time items ordered

H2 2009

The pipeline project is scheduled for completion by H2 2009, aligned to the first oil production from Mangala

\$ 1.8
BILLION

Gross cost of the Rajasthan upstream development from 2008 to end 2009. Of this Cairn India's share is 70%

#### **Overview**

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#### **Business Review**

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# Corporate Social Responsibility

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# EOR ENHANCED OIL RECOVERY

Potential resource of >300 million barrels of additional oil from Mangala, Bhagyam and Aishwariya % **74.50**PER BARREL

Average crude oil price realisation for 2007

90.20 per BARREI

Average crude oil price realisation for Q4 2007

# **800**

Gross cost of the Rajasthan-Gujarat pipeline

# **STOIIP**

**UPGRADE** 

Stock Tank Oil Initially In Place (STOIIP) for Mangala has been upgraded by 21% compared to original Field Development Plan (FDP) and by 8% over what was announced at the time of the IPO. Cairn has submitted an upgrade of Aishwariya 2P STOIIP by 37% vis-à-vis the FDP, or 17% over the IPO estimate

# **14**

Where Cairn India has exploration, development and production interests in India. These include Rajasthan, Cambay Basin, Gujarat-Saurashtra Basin, Konkan Basin, Palar Basin, Krishna-Godavari Basin, Ganga Basin and the Vindhyan Block. Exploration and appraisal activity in 2007 involved drilling 13 wells and acquiring 1,345 km² of 3-D as well as 588 km of 2-D seismic data

#### **Governance**

Report on Corporate Governance Director's Report Annexure to the Directors' Report

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# Consolidated Financial Statements

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Cairn India leverages best-in-class talent, technology, knowledge and systems to supply oil and gas for the nation. We are an Indian listed company incorporating the highest standards of fiduciary responsibility. We are committed to growth and to deliver superior performance for all our stakeholders





#### **Chairman and Non-Executive Director**

Sir Bill Gammell holds a BA in Economics and Accountancy from Stirling University. He founded Cairn Energy PLC and was appointed Chief Executive on its initial listing in 1988. Bill has over 25 years' experience in the international oil and gas industry. He is Chairman of the Scottish Institute of Sport Foundation, a director of the Scottish Institute of Sport and a director of Artemis AiM VCT plc. In the 2006 New Year Honours List, he was awarded a knighthood for services to industry in Scotland.



### Managing Director and Chief Executive Officer

Rahul Dhir holds a BTech from the Indian Institute of Technology, Delhi; a Masters Degree from the University of Texas at Austin; and an MBA from Wharton Business School in Pennsylvania. He started his career as an oil and gas reservoir engineer before moving into investment banking. Rahul has worked at SBC Warburg, Morgan Stanley and Merrill Lynch, where he managed a team advising several oil majors and a number of independent Exploration and Production (E&P) companies on mergers, acquisitions and capital market related issues. Before joining the Company, he was managing director and cohead of Energy and Power Investment Banking at Merrill Lynch.

#### INDRAJIT BANERJEE

## **Executive Director and Chief Financial Officer**

Indrajit Banerjee graduated from the University of Calcutta with a Bachelor's degree in Commerce. An associate member of the Institute of Chartered Accountants of India, Indrajit started his career at PricewaterhouseCoopers in Kolkata in 1979 and has held several senior posts throughout his career, including 17 years at the Indian Aluminium Company which was part of the Alcan Group, and two years in Lucent Technologies (India). Before joining the Company he was President – Finance and Planning at Lupin Limited.



## Executive Director & Chief Operating Officer (w.e.f. June 15, 2008)

Mr. Rick Bott, who is 48, has a master of science in geology and a bachelor of science in marine sciences from Texas A&M University.

He has extensive global exploration and production experience with more than 20 years in the industry leading integrated organisations, developing new business and focusing on cross-cultural leadership development. Throughout his career he has worked and travelled extensively and has been involved in evaluations and operations in more than 50 countries.

Mr. Rick Bott was previously with Devon Energy's International division where he was vice president responsible for developing and implementing business growth and exploration strategy for assets in 12 countries. He also served as President of Ocean Egypt Companies and as President of Ocean Yemen Corporation and held a number of international management and technical positions with British Gas and Tenneco.



## **Deputy Chairman and Non-Executive Director**

Norman Murray was a co-founder and former chairman of Morgan Grenfell Private Equity Limited and was also a director of Morgan Grenfell Asset Management Limited and a non-executive director of Bristow Helicopter Group Limited. He is a past Chairman of the British Venture Capital Association and a past President of the Institute of Chartered Accountants of Scotland. He is also a non-executive director of Greene King plc, Robert Wiseman Dairies plc and Chairman of Cairn Energy PLC.



#### **Non-Executive Director**

Naresh Chandra has been the Chairman of the Indian Committee on Corporate Governance, Indian Ambassador to the US, advisor to the Indian Prime Minister, Cabinet Secretary to the Government of India and Chief Secretary of the State of Rajasthan. He is currently a non-executive director on a number of boards, including Tata Consultancy Services Limited, Hindustan Motors Limited, Bajaj Auto Limited and Electrosteel Castings Limited.



#### **Non-Executive Director**

Dr. Omkar Goswami was the Chief Economist for the Confederation of Indian Industry and the Editor of Business India. He has since founded his own consultancy giving advice to companies on corporate governance, investor relations, business restructuring and economics.

Dr. Goswami is currently a non-executive direc-

Dr. Reddy's Laboratories, Crompton Greaves, IDFC and Ambuja Cements.



#### **Non-Executive Director**

Aman Mehta was the Chief Executive Officer of HSBC Asia Pacific until 2003. Aman is currently a non-executive director of several companies, including Jet Airways (India) Limited, Tata Consulting Services Limited, Vedanta Resources PLC and Godrej Consumer Products Limited.



#### **Non Executive Director**

Malcolm Thoms holds a BSc Hons in Physics from Edinburgh University and an MBA from Heriot-Watt University. He started his career as a field engineer with Schlumberger and subsequently became manager of their businesses in Qatar and Brunei. He joined Cairn Energy PLC in 1989 where he held a number of senior management positions prior to his appointment as an executive director in 2000. Malcolm is also a non-executive director of Revus Energy AS.

tor on a number of boards including Infosys,

## letter from the CEO

Cairn India has the potential to account for 20% of India's oil production in the next decade. It makes my colleagues and me proud to have been given the privilege to work for an Indian listed company that will serve the nation's energy needs and, in doing so, maximise shareholder value



#### **Dear Shareholder**

This is Cairn India's second annual report after listing on 9 January 2007, and the first which covers a full year of operations.

2007 has been a rewarding year for your Company. As I write this letter in the second half of April 2008, allow me the opportunity to share with you some headline events of 2007 and the first quarter of 2008. Further details are given in the chapter called Management Discussion and Analysis, which I invite you to read.

- The most important news is the commitment by the Cairn India team to deliver first oil from Rajasthan by the second half of calendar year 2009. We have carefully reviewed the progress of the upstream project and are confident of delivering first oil from the Mangala field by that date, followed by oil from Bhagyam and Aishwariya in 2010.
- We are equally confident of commissioning the Rajasthan-Gujarat (also referred to as the Barmer- Salaya) oil pipeline, in time for first commercial oil production from Rajasthan.
- On 30 April 2008, the Ministry of Petroleum and Natural Gas, Government of India, has conveyed its agreement to shift the delivery point of Rajasthan Crude under the RJ-ON-90/1 Production Sharing Contract from Barmer to Salaya at the Gujarat coast.





■ Though subject to final regulatory approvals, the estimated sustainable plateau rate of production from the three proven Rajasthan fields — Mangala, Bhagyam and Aishwariya — has increased from 150,000 barrels of oil per day (bopd) to 175,000 bopd. If the use of Enhanced Oil Recovery (EOR) techniques by your Company prove successful, there is a further resource potential of over 300 million barrels of oil.

The period January 2007 to April 2008 has seen many improvements in your Company, of which the most heartening is the united and determined resolve of management to ensure that every activity of Cairn India occurs on time or ahead of schedule

- ▲ Cairn India's estimated hydrocarbon reserves have also increased. Your Company's proved plus probable gross hydrocarbons initially in place (2P GHIIP) under development across India is now estimated at 3.05 billion barrels of oil equivalent (boe). If one adds contingent resources, Cairn India's GHIIP is estimated at 5.1 billion boe.
- ▶ We have an attractive portfolio of oil and gas exploration, development and production assets in India. At the time of writing, Cairn India has an exploration interest in 14 blocks; and it is bidding for additional assets as well. Your Company, therefore, is actively involved in securing the long term future not only from its producing assets but also through judicious investments in exploration.

The period January 2007 to April 2008 has seen many improvements in your Company, of which the most heartening is the united and

determined resolve of management to ensure that every activity of Cairn India occurs on time or ahead of schedule.

I see the power of team work everywhere. Let me share with you two examples. Since mid-2007, the teams involved in the Rajasthan upstream project and the pipeline have been working in a fully integrated manner to ensure that first oil is produced and evacuated by H2 2009. The second example relates to funding. Increases in the scope of the Rajasthan upstream and pipeline projects as well as significant hikes in global equipment and contracting costs required your Company to seek additional operational and financial flexibility. I am proud to tell you that, despite turbulent global capital conditions, Cairn India's team succeeded in raising US\$ 625 million in a preferential allotment, and in making available the existing financial facilities of US\$ 850 million for the Rajasthan project.

These are instances of the "We can do it!" attitude of your Company. And it is this attitude that makes me confident of our being able to deliver on our promises.

India is deficient in oil and gas and will continue to have significant excess demand for hydrocarbons in the years to come. Cairn India has the potential to account for 20% of India's oil production in the next decade. It makes my colleagues and me proud to have been given the privilege of working for an Indian listed company that will serve the nation's energy needs and, in doing so, maximise shareholder value.

Thank you for your confidence in Cairn India. Yours sincerely,

Rahul Dhir

Managing Director and CEO
On Behalf of the entire Cairn India team

rajasthan upstream

Cairn first came into Rajasthan in 1997, with the belief that the key ingredients for commercial success were present

But it took perseverance and more than a dozen wells to discover the Mangala field, followed by Aishwariya, Bhagyam and a further 21 discoveries.

There are four separate reservoirs containing hydrocarbons in the Rajasthan Block. These are:

FATEHGARH; the primary reservoir rock of the Northern Rajasthan fields of Mangala, Aishwariya and Bhagyam.

BARMER HILL; a lower permeability reservoir that overlays the Fatehgarh.

DHARVI DUNGAR; forms the secondary reservoirs in the Guda field and is the reservoir rock encountered in the recent Kaameshwari West discoveries.

THUMBLI; the youngest reservoir encountered in the basin, and the primary reservoir for the Raageshwari field.

The Mangala, Bhagyam and Aishwariya fields in the northern area of the Block are the focus of the current development activity. Development activities in Rajasthan are considered to be relatively low risk and the wells are also relatively shallow. The oil can be extracted using standard oil field technology and recovery can be further increased through proven EOR methods.

The Mangala Field alone has the potential to produce 125,000 bopd. In addition, Bhagyam has the potential to produce 40,000 bopd and Aishwariya another 10,000 bopd. Thus, Mangala, Bhagyam and Aishwariya together underpin a development scenario that has the potential to generate peak plateau production of 175,000 bopd.

Bhagyam is the second largest discovered field in the Rajasthan Block and is contained within a second Development Area of 430 km². The Field Development Plan (FDP) for Bhagyam based on a planned plateau production rate of 40,000 bopd has been approved by the Gol.

The Aishwariya FDP, which has already received GoI approval, has a planned plateau production rate of 10,000 bopd. An upgrade of the Aishwariya STOIIP to 293 million barrels (mmbbls) was submitted to the Joint Venture (JV) and the GoI in January 2008, which represents an increase of 37% and 17% over the figures provided at the time of the FDP and IPO respectively.





To date, 24 discoveries holding an estimated 3.7 billion barrels of oil in place have been made in the Rajasthan Block



enhanced oil recovery (EOR)

Cairn India is studying the staged and early application of aqueous-based chemical flooding EOR techniques

for the Mangala, Bhagyam and Aishwariya fields. Early application of chemical flooding in these fields would be designed to extend their crude oil production plateau periods, reduce water production, mitigate future decline rates and potentially accelerate crude oil production.

Through the use of alkali and surfactant chemicals, injected water acts almost as soap, helping to wash more oil off the reservoir rock surface resulting in increased displacement efficiency.

start the EOR pilot following first commercial oil production in 2009.

The first phase of laboratory work for the Bhagyam field has also been successfully completed. The second phase of laboratory work for the Mangala field has commenced and which is designed to confirm and refine chemical selection for the pilot project.

The current assessment of the gross EOR resource base is 308 million barrels of incremental recoverable oil from Mangala, Bhagyam and Aishwariya.





The current assessment of the gross EOR resource base from Mangala, Bhagyam and Aishwariya is

The first phase of laboratory studies for the Mangala field was successfully concluded in January 2007. The core-flood data was successfully matched in a reservoir simulator allowing full field simulation of polymer and alkaline-surfactant-polymer (ASP) flooding. A pilot for polymer and ASP flooding for the Mangala field has also been conceptualised. Approvals will be sought in 2008 from the Rajasthan Block Joint Venture (JV) and the Gol to

If the Mangala field pilot is successful, it is envisaged that EOR will be introduced on a field by field basis in Rajasthan, commencing with Mangala.

