

Significant Discoveries in 2004*

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Introduction

Although 2004 may not have been a year for elephant discoveries, a number of important wildcats were added to the world's reserve inventory potentials.

Below is a notation, with commentary, of some of those significant finds, as reported by the IHS Global E&P Reporting Service (www.ihsenergy.com), whose editors cover E&P activity in more than 200 countries. The accompanying map (Figure 1) shows the countries with the discoveries summarized herein. A more complete list, provided in Tables 1-9, is also on the EXPLORER website at www.aapg.org.

Central and Southern Africa (Table 1)

Angola (Table 1)

Four deepwater discoveries in the Congo Fan included Total's Canela 1, testing 6800 barrels of oil a day, and ChevronTexaco's KX2 flowing at 5000 bod.

Offshore Gabon (Table 1)

Vaalco's Avouma 1 on the shelf of the Lower Congo Basin flowed 6600 bod.

Nigeria (Table 1)

Total's Preowei 1B in the deepwater Niger Delta area is potentially significant, as Total has already indicated a desire to develop the find even though the first appraisal well has yet to be drilled.

Saharan Africa (Table 2)

Algeria (Table 2)

First Calgary's Ledjmet South 1 wildcat weighed in with a 13,515 bod and 30.9 mmcfd winner in the onshore Berkine Basin. Sonatrach hit big with its find in the Hassi Messaoud Basin, there testing 4445 bod with 4.3 mmcfd, and with the BKP2 in the Oued Mya Basin, at 3072 bod and 21 mmcfd.

Egypt (Table 2)

Twenty-seven discoveries were reported, including Suco's 3000 bod find in the Gulf of Suez, Sipetrol's 3250 bod wildcat and Shell's Shieba 18-3 testing at 1600 bod with gas -- both in the onshore Abu Gharadig Basin.

Libya (Table 2)

Six discoveries were reported, including Repsol's find in the Murzuk Basin testing 1350 bod.

Mauritania (Table 2)

The offshore again has hosted a number of exploratory wells, and Dana's Pelican 1 is arguably the best. The operator confirmed in-place reserves of 1.03 tcf, with technically recoverable reserves in the range 600-800 bcf together with 10-13 mmb of associated liquids. However, as the base of the hydrocarbon-bearing interval was not encountered, these figures could be revised upwards.

Tunisia (Table 2)

ENI tested two discoveries in the Ghadames Basin, one testing 6200 bod, with 14.3 mmcfd, and the other at 3600 bod.

Australasia (Table 3)

Australia (Table 3)

ChevronTexaco's Wheatstone 1 exploration well in the North Carnarvon Basin is viewed as a multi tcf gas find that is likely to be tied into Gorgon, or maybe even the Northwest Shelf. The well encountered 53.34m of net gas sands in the objective: Jurassic Tithonian and Triassic Mungaroo sands, in which a production test flowed 54 mmcfd of gas.

Also worthy of note is that BHP-Billiton made a number of oil discoveries (Eskdale, Harrison, and Stickle) that have opened a medium-sized oil province in the offshore Carnarvon Basin.

New Zealand (Table 3)

The Amokura 1 and Pateke 2 discoveries, drilled by NZOP, were found to be in the same field. They represent the first oil discovery in New Zealand in a number of years.

Europe (Table 4)

France (Table 4)

At a country level, Les Mimosa 1GD is considered as outstanding, as it is one of several prospects to have been identified and most of the Lege permit, in which it lies, is now open for bidding.

An Aquitaine Basin discovery by ExxonMobil flowed 1600 bod.

Poland (Table 4)

PGNG's Zaniemysl 3 in the Fore-Sudetic Monocline flowed 2.5 mmcfd, and Cierpisz2 in the Outer Carpathian Foredeep tested at 26.9 mmcfd.

Far East (Table 5)

Bangladesh (Table 5)

Bangora 1, operated by Tullow, is a potentially huge, significant discovery that encountered a number of gas-bearing intervals between 2580-3285 meters. Three lowermost intervals were tested flowing a combined 120 mmcfd, with the shallower units to be tested at a later date. The company has now tested gas at either end of a 400-kilometer-long anticlinal trend, and an accelerated appraisal program is planned.

China (Table 5)

Although no reserves have been assigned, Laopunan 1 has been proclaimed by PetroChina as its largest and most significant discovery in 2004, testing at 4400 bod and 5.6 mmcfd. It is located in around three meters of water and was drilled on the Nanpu 2 structure in the southern part of the Nanpu Sag, Bohai Gulf Basin.

PetroChina also struck with five discoveries in the Tarim Basin, including the Yugi 4, testing at 944 bod and 1.8 mmcfd, and the Lungu 39, flowing at 355 bod and 41.3 mmcfd.

India (Table 5)

For the second year, India's offshore has been a key exploration area. In 2004 it is the Reliance wells on the Dhirubhai structure in the NEC-OSN-97/2 block that are regarded as most significant, as these have shown the shallow water area of the Mahanadi Basin to hold significant amounts of gas. Reliance reported a total of seven discoveries in three offshore basins.

Indonesia (Table 5)

The Jeruk 1, a big oil discovery made by Santos with likely minimum reserves of 170 mmboe contained in the Kujung Formation in the offshore East Java Basin, has been successfully appraised. Eni completed Aster-1 as an important new field discovery. Although untested, this well opens the potential for a new deepwater play in the Tarakan Basin and has high-graded an area where the median line is disputed.

Vietnam (Table 5)

The 09-R 23X well is understood to have flowed about 1100 bod of 35-degree API crude and is claimed by the operator to be the first basement oil discovery in the southern part of Block 09 in the offshore Cuu Long offshore basin.

Latin America (Table 6)

Colombia (Table 6)

Perenco's Jordon Este 1 flowed 1877 bod in the Llanos-Barinas Basin.

Cuba (Table 6)

Although considered non-commercial, Repsol YPF's Yamagua 1 is an important well in that it is the first to be drilled in Cuba's deep water, and also because light oil was found. The structure is subject to further seismic evaluation, and at least two more wells are being considered.

Mexico (Table 6)

Among the 21 discoveries reported by Pemex, seven are offshore, including the Itla 1 in the Gulf Coast Basin, testing at 1350 bod with gas, and the Kosni 1 in the Tampico-Misantla Basin, flowing 29.4 mmcfgd.

Venezuela (Table 6)

Oil-in-place for the Travi Este structure, successfully drilled by the Travi Este 2X wildcat, was estimated by PDVSA at the time of logging at 670 mmbo and 2.6 tcf of gas from a 220-meter net pay section in the Naricual and San Juan formations; this ranks among the country's most important wells in 2004.

Also, ChevronTexaco's Loran 2X in the Plataforma Deltana is believed to have found reserves of 4-6 tcf and is being touted as the catalyst to launch the country's LNG project.

Middle East (Table 7)

Saudi Arabia (Table 7)

Shaybah 700 is significant, as it established a new non-associated gas/condensate play, and work continues to evaluate a deeper gas objective. It has the potential to be a very large find with reserves estimated at 3 tcf of gas and 100 mmb condensate.

Kuwait (Table 7)

Mutriba 12 was reported to have discovered sweet gas and 50-degree API condensate in the Lower Triassic Sudair Formation; a second test suffered a technical failure. The well, drilled to a total depth of 6736 meters, is considered the first non-associated gas producer in Kuwait.

KOC also found 4850 bod in the Dibdibah Sub-Basin with the Bahrah 28.

North America (Table 8)

Gulf of Mexico (Table 8)

Although no reserves have been published, the Jack (ChevronTexaco) and St. Malo (Unocal) discoveries are considered significant, as they both are located in the newly established Paleogene trend.

Utah (Table 8)

Wolverine Gas & Oil Company's Navajo discovery in south-central Utah (on the "Utah Hingeline") opens a new hydrocarbon province along the Western Overthrust belt. The associated play is characterized as "a leading-edge thrust belt structure." Depth to target is less than 7000 ft (~2150 meters).

Russia, Turkmenistan, and Uzbekistan (Table 9)

Significant discoveries known from Russia and two countries that were part of the Soviet Union (Turkmenistan and Uzbekistan) are given in Table 9.

Reference

St. John, Bill, A.W. Bally, and H.D. Klemme, 1984, Sedimentary provinces of the world – hydrocarbon productive and nonproductive (map with booklet): AAPG.

Country Operator	Well Name	Basin	Location	Status	Completion	Test Data
Angola						
BP	Venus 1	Congo Fan	Deepwater	Oil	February	N/A
Chevrontexaco	KX 2	Congo Fan	Deepwater	Oil	September	5,000 Bo/D
Sonangol	4-41 1	Congo Fan	Deepwater	Oil	September	N/A
Total	Canela 1	Congo Fan	Deepwater	Oil	February	6,800 Bo/D
Cameroon						
Total	Bakingili Marine 1	Niger Delta	Shelf	Oil	August	N/A
Congo						
Total	Oegase Nord Marine 1	Congo Fan	Deepwater	Oil	April	N/A
Equatorial Guinea						
Amerada Hess	G-19	Rio Muni	Deepwater	Oil	November	N/A
Marathon	Alba 18ST1	Niger Delta	Shelf	Gas, Cond	May	18.1 Mmcf/D, 1,000 Bc/D
Marathon	Corona 1	Niger Delta	Shelf	Gas, Cond	August	N/A
Gabon						
Shell	Damier 1	S. Gabon Sub-Basin	Onshore	Oil	November	N/A
Shell	Koula 1	S. Gabon Sub-Basin	Onshore	Oil	September	N/A
Vaalco	Avouma 1	Lower Congo	Shelf	Oil	July	6,600 Bo/D
Nigeria						
Addax	Abaji Okolo 1	Niger Delta	Shelf	Gas	June	N/A
Agip	Osiama Creek South 1	Niger Delta	Swamp	Oil	June	N/A
Shell	Bonga North 1	Niger Delta	Deepwater	Oil	January	N/A
Shell	Chobie 2	Niger Delta	Swamp	Oil, Gas	June	N/A
Shell	JK-3	Niger Delta	Shelf	Oil, Gas	September	N/A
Total	Preowei 1B	Niger Delta	Deepwater	Oil	March	N/A
South Africa						
Forest	A-X 2	Orange Sub-Basin	Deepwater	Gas	January	N/A

Table 1. Significant discoveries during 2004 in Central and Southern Africa.

Country Operator	Name	Basin	Location	Status	Completion	Test Data
Algeria						
First Calgary	Ledjmet Central 1	Berkine	Onshore	Hydrocarbons	June	N/A
First Calgary	Ledjmet South 1	Berkine	Onshore	Oil, Gas	November	13,515 Bo/D, 30.9 Mmcf/D
First Calgary	Zemlet Cherguia 1	Berkine	Onshore	Oil	May	60m Net Oil Pay
Rosneft	Takouazet West 1	Illizi	Onshore	Oil	March	N/A
Sonatrach	Behiret Aissa 1	Hassi Messaoud (El Biod) High	Onshore	Oil, Gas	February	4,445 Bo/D, 4.3 Mmcf/D
Sonatach	BKP 2	Oued Mya	Onshore	Oil, Gas	November	3,072 Bo/D, 21 Mmcf/D
Sonatrach	Brides Ouest 1	Berkine	Onshore	Oil, Cond	March	1,472 Bc/D
Sonatrach	Hassi Tidjerane 1	Meharez-Oued-Namous Uplift	Onshore	Gas	May	6 Mmcf/D
Chad						
Encana	Mimosa 1	Bongor Trough	Onshore	Oil	January	N/A
Egypt						
Agiba	Bostan 1ST	Northern Egypt	Onshore	Oil	April	N/A
Apache	Hamra 1	Abu Gharadiq	Onshore	Oil	August	N/A
Apache	Rahma 1	Abu Gharadiq	Onshore	Oil	August	N/A
Ashpetco	Ashrafi K-1	Gulf Of Suez	Offshore	Oil	May	N/A
BP	Polaris 1	Nile Delta	Offshore	Gas	July	26.5 Mmcf/D
BP	Raven 1ST	Nile Delta	Offshore	Gas, Cond	March	37.4 Mmcf/D, 741 Bc/D
Genpetco	Bakr East 1	Gulf Of Suez	Offshore	Oil	August	2,000 Bo/D
Gupco	GS 373-4	Gulf Of Suez	Offshore	Oil	June	
Gupco	NG 365-3	Gulf Of Suez	Offshore	Oil	August	
Khalda	Imhotep 1	Northern Egypt	Onshore	Gas, Cond	April	N/A
Khalda	Mihos 1	Northern Egypt	Onshore	Gas, Cond	August	41.8 Mmcf/D, 1,419 Bc/D
Medgas	Taurt 1	Nile Delta	Offshore	Gas	April	22 Mmcf/D
Merlon	Aga 1	Northern Egypt	Onshore	Gas, Cond	June	9.3 Mmcf/D, 19 Bc/D
Merlon	Batra South 4	Nile Delta	Onshore	Gas, Cond	September	N/A
Merlon	Batra South 14	Nile Delta	Onshore	Gas, Cond	August	9.7 Mmcf/D, 150 Bc/D
Merlon	Batra South 15	Nile Delta	Onshore	Gas	September	N/A
Petrobel	BL 113-A-24	Gulf Of Suez	Offshore	Oil	August	252 Bo/D
Petrobel	BM 85	Gulf Of Suez	Onshore	Oil	March	945 Bo/D
Petrobel	BM W 1	Gulf Of Suez	Offshore	Oil	April	441 Bo/D
Petrobel	Denise NW 1	Nile Delta	Offshore	Gas	June	N/A
Qarun	Karama East 1	Abu Gharadiq	Onshore	Oil	July	N/A
Shell	JD-1ST	Abu Gharadiq	Onshore	Oil	May	N/A
Shell	La-52-1	Nile Delta	Offshore	Gas	February	N/A
Shell	Sheiba 18-3	Abu Gharadiq	Onshore	Oil, Gas	May	1,600 Bo/D, 0.9 Mmcf/D
Sipetrol	Ferdaus 1	Abu Gharadiq	Onshore	Oil	March	3,250 Bo/D
Sipetrol	Rawda 1	Abu Gharadiq	Onshore	Oil	July	N/A
Suco	Ras Fanar B10	Gulf Of Suez	Offshore	Oil	August	3,000 Bo/D
Guinea Bissau						
Premier	Sinapa 2	Senegal (MSGBC)	Offshore	Oil	March	N/A
Libya						
Repsol	G-001-NC186	Murzuq	Onshore	Oil	January	N/A
Repsol	H-001-NC186	Murzuq	Onshore	Oil	May	1,350 Bo/D
Sirte	RRRR-001-006	Sirte	Onshore	Gas, Cond	Active	N/A
Wintershall	P-001-097	Sirte	Onshore	Oil	January	N/A
Wintershall	Q-001-097	Sirte	Onshore	Oil	May	N/A
Wintershall	R-001-097	Sirte	Onshore	Oil	August	N/A
Mauritania						
Dana	Pelican 1	Senegal (MSGBC)	Offshore	Gas	January	N/A
Woodside	Tevet 1	Senegal (MSGBC)	Offshore	Oil, Gas	October	N/A
Sudan						
WNPOC	Mala 1	Muglad	Onshore	Oil	January	N/A
Tunisia						
ENI	Dalia 1	Ghadames	Onshore	Oil	July	3,600 Bo/D
ENI	Hawa 1	Ghadames	Onshore	Oil, Gas, Cond	January	6,200 Bo/D, 14.3 Mmcf/D, 1,000 Bc/D

Table 2. Significant discoveries during 2004 in Saharan Africa.

Country OPERATOR	Well Name	Basin	Location	Status	Completed	Test Data
Austria						
Rag	Burgstall	Molasse Basin	Onshore	Gas	April	N/A
Rag	Zagling	Molasse Basin	Onshore	Gas	May	N/A
Croatia						
Edina	Izabela 1	Adriatic Homocline	Onshore	Gas	July	N/A
Denmark						
Amerada Hess	Katherine 1	Viking Graben	Offshore	Hydrocarbons	June	N/A
France						
Exxonmobil	Les Mimosas 1GD	Aquitaine Basin	Onshore	Oil	July	1,600 Bo/D
Greece						
Kavala Oil	Kalirahi 1	Nestos-Prinos Sub-Basin	Offshore	Oil	January	Non-Commercial
Italy						
Edison	Santa Maddalena 1dir	Ferrara-Romagna Arc	Onshore	Gas	June	N/A
Eni	Civita 1dir	Southern Apennines	Onshore	Gas	March	2.6 Mmcf/D
Eni	Monte Dell'aquila 1dir	Sud-Tellian Atlas- Sicilian Apennine	Onshore	Gas/Cond	September	3.5 Mmcf/D
Somicem	Treasures 1	Ferrara-Romagna Arc	Onshore	Oil	March	20-25o API
Spi	Monte Guzzo 1dir	Tuscany-Marche Apennine	Onshore	Gas	February	N/A
Netherlands Offshore						
Gaz De France	G/14-3	North-West German Basin	Offshore	Gas	February	N/A
Gaz De France	G/17-3	North-West German Basin	Offshore	Gas	March	N/A
Wintershall	L/8-16	Anglo-Dutch	Offshore	Gas	January	N/A
Norway						
Exxonmobil	16/1-7	Viking Graben	Offshore	Oil	May	N/A
Marathon	24/9-7	Viking Graben	Offshore	Oil/Gas	March	N/A
Statoil	6608/11-4	Nordland Ridge	Offshore	Oil	May	N/A
Statoil	6507/3-4	Voring Basin	Offshore	Gas/Cond	April	N/A
Poland						
Pgng	Cierpisz 2	Outer Carpathian Foredeep	Onshore	Gas	September	26.9 Mmcf/D
Pgng	Sierakow 1	Fore-Sudetic Monocline	Onshore	Gas, Oil Shows	March	N/A
Pgng	Sowia Gora 1	Fore-Sudetic Monocline	Onshore	Oil, Gas	May	936 Bo/D
Pgng	Zaniemysl 3	Fore-Sudetic Monocline	Onshore	Gas	February	12.5 Mmcf/D
Romania						
Falcon	Bilca 1	Outer Carpathian Foredeep	Onshore	Gas	July	6.4 Mmcf/D
Romgas	Chirpar Sud 1	Transylvanian Basin	Onshore	Gas	March	2.6 Mmcf/D
Romgas	Greci 1	South Carpathian Basin	Onshore	Gas	March	N/A
Spain						
Petroleum Oil & Gas	Marismas C-5	Guadalquivir Basin	Onshore	Gas	March	N/A
United Kingdom						
Egdon Resources	Waddocks Cross 2	Dorset Basin	Onshore	Oil	June	N/A
Gaz De France	44/17b-7	Anglo-Dutch Basin	Offshore	Gas	April	N/A
Oilexco	15/25b-6	Witch Ground Graben	Offshore	Oil	January	N/A
Paladin	22/23a-7	Central Graben	Offshore	Oil	June	N/A

Table 4. Significant discoveries during 2004 in Europe

Country Operator	Well Name	Basin	Location	Status	Completion	Test Data
BANGLADESH						
Tullow	Bangora 1	Bengal Delta	Onshore	Gas	November	120 MMcfg/d
Tullow	Lalmai 3	Bengal Delta	Onshore	Gas	June	8.6 MMcfg/d
BRUNEI						
BSP	Seria North Flank 1	Baram Delta	Offshore	Oil & gas	October	n/a
CHINA						
CNOOC - Shenzhen	Huizhou 26-3 1	PRM	Offshore	Oil & gas	May	1,400 bo/d, 2 MMcfg/d
CNOOC - Tainjin	Jinzhou 21-1S 1	Bohai Gulf	Offshore	Oil & gas	July	700 + 500 bo/d
Devon	Panyu 11-6 1	PRM	Offshore	Oil	November	n/a
Kerr-McGee	Caofeidian 14-5 1D	Bohai Gulf	Offshore	Oil	October	n/a
Petrochina - Jidong	Laopunan 1	Bohai Gulf	Offshore	Oil & gas	October	4,402 bo/d, 5.6 MMcfg/d
Petrochina - Jidong	Nanpu 1	Bohai Gulf	Offshore	Oil	November	n/a
Petrochina - Liaoning	Magu 1	Bohai Gulf	Onshore	Oil & gas	January	131 bo/d, 2 MMcfg/d
Petrochina - Qinghai	Mabei 3	Qaidam	Onshore	Oil & gas	February	64 bo/d
Petrochina - Qinghai	Maxi 1	Qaidam	Onshore	Gas	May	5.7 MMcfg/d
Petrochina - Qinghai	Dongde 1	Qaidam	Onshore	Oil	April	272 bo/d
Petrochina - Sichuan	Banan 1	Sichuan	Onshore	Gas	April	12.3 MMcfg/d
Petrochina - Sichuan	Qilibei 1	Sichuan	Onshore	Gas	September	28.2 MMcfg/d
Petrochina - Sichuan	Kuang 1	Sichuan	Onshore	Gas	June	0.9 Mmcfg/d
Petrochina - Sichuan	Zhangjia	Sichuan	Onshore	Gas	November	0.9 Mmcfg/d
Petrochina - Xinjiang	Mo 10	Junggar	Onshore	Oil & gas	March	138 bo/d, 3.5 MMcfg/d
Petrochina - Xinjiang	Mo 12	Junggar	Onshore	Oil & gas	July	205 bo/d
Petrochina - Xinjiang	Dixi 10	Junggar	Onshore	Oil & gas	March	20 bo/d, 6.8 MMcfg/d
Petrochina - Xinjiang	Shinan 31	Junggar	Onshore	Oil & gas	June	288 bo/d
Petrochina - Tarim	Tazhong 58	Tarim	Onshore	Oil & gas	February	874 bo/d, 1.6 MMcfg/d
Petrochina - Tarim	Lungu 38	Tarim	Onshore	Oil & gas	January	1,053 bo/d, 15.9 MMcfg/d
Petrochina - Tarim	Lungu 39	Tarim	Onshore	Oil & gas	September	355 bo/d, 41.3 MMcfg/d
Petrochina - Tarim	Lunnan 63	Tarim	Onshore	Oil & gas	June	11 bo/d, 8.8 MMcfg/d
Sinopec - DQG	Shuang 1	Nanpanjiang	Onshore	Gas	May	n/a
Sinopec - DQG	Feng 1	Qujiang	Onshore	Gas	March	3.6 MMcfg/d
Sinopec - Huanan	Shuangmiao 1	Sichuan	Onshore	Gas	July	3.5 MMcfg/d
Sinopec — Shengli	Gubeigu 1	Bohai Gulf	Onshore	Gas	February	1.9 MMcfg/d
Sinopec — Jiangnan	Ban 1	Jiangnan	Onshore	Oil	August	29 bo/d
Sinopec — Jiangnan	Wan 5X	Jiangnan	Onshore	Oil	February	99 bo/d
Sinopec — Star	Yugi 4	Tarim	Onshore	Oil & gas	August	944 bo/d, 1.8 MMcfg/d
Sinopec — W. Frontier	Cheng 1	Junggar	Onshore	Oil	April	N/A
Sinopec — W. Frontier	Yong 1	Junggar	Onshore	Oil & Gas	August	453 Bo/D, 0.3 Mmcfg/D
Sinopec — W. Frontier	Pai 1	Junggar	Onshore	Oil	January	N/A
Sinopec — Zhongyuan	Mao 3	Inggen	Onshore	Oil	September	12 Bo/D
Country Operator	Well Name	Basin	Location	Status	Completion	Test Data
India						
Caim	CB-X-1	Cambay	Onshore	Gas	February	N/A
Caim	N-A-1	Rajasthan	Onshore	Oil	February	2,000 Bo/D
Caim	N-B-1 (Mangala)	Rajasthan	Onshore	Oil	February	2,837 Bo/D
Caim	N-C-1	Rajasthan	Onshore	Oil	April	N/A
Caim	N-R-1	Rajasthan	Onshore	Oil	August	N/A
Caim	N-V-1	Rajasthan	Onshore	Oil	August	N/A
Gspcl	Pk-2	Cambay	Onshore	Oil	August	1,200 Bo/D
Oil	Chandmari North 1	Upper Assam	Onshore	Gas	February	N/A
Ongc	G-4-2	Krishna-Godavari	Offshore	Gas	March	14.42 Mmcfg/D
Ongc	Sonamura A	Tripura	Onshore	Gas	January	N/A
Reliance	B-1	Mahanadi	Offshore	Gas	October	N/A
Reliance	D6-K-1	Krishna-Godavari	Offshore	Gas	January	N/A
Reliance	D6-K-2	Krishna-Godavari	Offshore	Gas	March	30 Mmcfg/D
Reliance	D6-M-1	Krishna-Godavari	Offshore	Gas	July	23.7 Mmcfg/D
Reliance	Dhirubhai 10	Mahanadi	Offshore	Gas	February	N/A
Reliance	Dhirubhai 11	Mahanadi	Offshore	Gas	April	N/A
Reliance	Dhirubhai 15 (A2)	Mahanadi	Offshore	Gas	July	15.8 Mmcfg/D
Indonesia						
Caltex	Arca 1	Central Sumatra	Onshore	Oil	March	691 Bo/D
Eni	Aster 1	Tarakan	Offshore	Oil, Gas	November	N/A
Kondur	MS EA-1	Central Sumatra	Onshore	Oil	July	550 Bo/D
Petrochina	Betara West 1	South Sumatra	Onshore	Oil, Gas, Cond	August	312 Bo/D, 10.4 Mmcfg/D, 468 Bc/D
Petrochina	Piano West 1	South Sumatra	Onshore	Oil, Gas	May	1,060 Bo/D, 5.2 Mmcfg/D
Petrochina	Wakamuk 1	Salawati	Onshore	Oil	August	237 Bo/D
Pt Medco	Fariz 1	South Sumatra	Onshore	Gas/Cond	May	6.8 Mmcfg/D, 61 Bc/D
Pt Medco	Sarinah 1	South Sumatra	Onshore	Gas	September	8.26 Mmcfg/D
Pt Pertamina	Karang Baru 1	West Java	Onshore	Oil, Gas	January	1,050 Bo/D, 2.5 Mmcfg/D
Pt Pertamina	Kenawang P-1	South Sumatra	Onshore	Oil, Gas	February	N/A
Pt Pertamina	Maleo Raja 1	Banggai	Onshore	Gas/Cond	July	11.69 Mmcfg/D, 122 Bc/D
Pt Pertamina	Suban Barat 1	South Sumatra	Onshore	Gas/Cond	April	36.6 Mmcfg/D, 278 Bc/D
Pt Pertamina	Sukamaja 1 st	Banggai	Onshore	Oil, Gas, Cond	April	16.2 Mmcfg/D, 195 Bc/D
Pt Pertamina	Tegal Taman 1	West Java	Onshore	Oil, Gas	May	377 Bo/D, 3.81 Mmcfg/D
Pt Pertamina	Terang Jaya 1	South Sumatra	Onshore	Oil, Gas	January	N/A
Pt Pertamina	Northeast 1	Salawati	Onshore	Gas/Cond	March	4.11 Mmcfg/D, 480 Bc/D
Santos	Jeruk 1 ST	East Java	Offshore	Oil, Gas	March	4,700 Bo/D, 0.3 Mmcfg/D
Country Operator	Well Name	Basin	Location	Status	Completion	Test Data
Pakistan						
Bp	Ali Zaur 1	Indus	Onshore	Oil	April	220 Bo/D
Bp	Fateh Shah 1	Indus	Onshore	Gas	March	12 Mmcfg/D
Bp	Fateh Shah North 1	Indus	Onshore	Gas	September	6.58 Mmcfg/D
Ogdc	Dars West 1	Indus	Onshore	Gas, Cond	August	7.4 Mmcfg/D, 540 Bc/D
Ogdc	Lala Jamalai	Indus	Onshore	Gas, Cond	March	11.2 Mmcfg/D 560 Bc/D
Opi	Ali 1	Indus	Onshore	Gas, Cond	July	16.89 Mmcfg/D, 208 Bc/D
Opi	Sidiq 1	Indus	Onshore	Gas	June	Non-Commercial
Opi	Umar 1	Indus	Onshore	Oil, Gas	February	1,700 Bo/D, 0.9 Mmcfg/D
Opi	Usman 1	Indus	Onshore	Gas	January	48 Mmcfg/D
Malaysia						
Carigali	Angsi C-03	Malay	Offshore	Oil	March	N/A
Carigali	Banang 1	Malay	Offshore	Oil & Gas	September	N/A
Carigali	Suriya Seletan 1	Malay	Offshore	Gas/Cond	July	N/A
Cs Mutiara	Bunga Zetung 1	Malay	Offshore	Gas	July	N/A
Murphy	Kenarong 1ST	Malay	Offshore	Oil, Gas	May	N/A
Murphy	Kakap 1	Beram Delta	Offshore	Oil	June	N/A
Murphy	Kikeh 7ST1	Beram Delta	Offshore	Oil	April	N/A
Murphy	Pertang 1	Malay	Offshore	Gas	July	N/A
Murphy	Senangin 1	Baram Delta	Offshore	Oil	September	N/A
Murphy	Serampang 1	Balingian	Offshore	Gas	October	N/A
Petronas	Inas Deep 1	Malay	Offshore	Oil, Gas	March	N/A
Myanmar						
Daewoo	Shwe 1ST	Rakhine	Offshore	Gas	January	32 Mmcfg/D
Thailand						
ChevronTexaco	Chaba 3	Pattani Trough	Offshore	Oil & Gas	June	N/A
ChevronTexaco	Lanta 1	Pattani Trough	Offshore	Oil, Gas	June	N/A
Pttep	Arthit 14-8x	Gulf Of Thailand	Offshore	Gas	April	N/A
Pttep	Arthit 15-11	Gulf Of Thailand	Offshore	Gas	February	N/A
Pttep	Arthit 15-13	Malay	Offshore	Gas	March	N/A
Pttep	Arthit 15-14x	Gulf Of Thailand	Offshore	Gas	April	N/A
Pttep	Arthit 15-15	Malay	Offshore	Gas	May	N/A
Svs Energy	Pk 1	Surat-Khiensa	Onshore	Gas	March	N/A
Unocal	Kung North 1	Pattani Trough	Offshore	Oil & Gas	August	N/A
Unocal	Ranong East 1	Pattani Trough	Offshore	Gas	August	N/A
Vietnam						
Lsjoc	02/97-Amsw 1x	Cuu Long	Offshore	Oil, Gas	July	N/A
Petronas	Azurite 1X	Cuu Long	Offshore	Oil	February	500 Bo/D
Tsjoc	46/02-Rt 1x	Malay	Offshore	Oil & Gas	October	N/A
Tsjoc	46/02-Tg 1x	Malay	Offshore	Oil	August	N/A
Unocal	52/97-TH 2X	Malay	Offshore	Gas	June	N/A
Unocal	52/97-VD 1X	Malay	Offshore	Gas	May	N/A
Vietsovpetro	09-R-23X	Cuu Long	Offshore	Oil	July	N/A
Vrj	09-3-Dm 1x	Cuu Long	Offshore	Oil	June	250 Bo/D

Table 5. Significant discoveries during 2004 in the Far East.

Country Operator	Well Name	Basin	Location	Status	Completion	Test Data
Argentina						
Astra	Grimbeek Este 1	San Jorge	Onshore	Gas	January	N/A
Chevron	Cerro Convento Sur 1	Austral	Onshore	Gas, Cond	February	10 Mmcfg/D, 122 Bc/D
Pepsa	Puesto Oliverio 1001	Austral	Onshore	Gas, Cond	August	2.9 Mmcfg/D, 189 Bc/D
Pioneer	Anticlinal Campamento E1	Neuquen	Onshore	Gas	March	2.9 Mmcfg/D
Pioneer	Anticlinal Campamento S1	Neuquen	Onshore	Gas	March	5.7 Mmcfg/D
Pioneer	Ranquil-Co Norte (Pi) 1	Neuquen	Onshore	Gas	January	3.5 Mmcfg/D
Tecpetrol	Los Bastos Sur 1001	Neuquen	Onshore	Gas	March	9.5 Mmcfg/D
Techpetrol	Paso De Indio 1001	Neuquen	Onshore	Gas, Cond	March	15 Mmcfg/D, 245 Bc/D
Ypf	Las Tolderias 1	Neuquen	Onshore	Gas, Cond	January	3.7 Mmcfg/D, 38 Bc/D
Ypf	Pampa Verde 1	Neuquen	Onshore	Oil	April	109 Bo/D
Bolivia						
Chaco	Percheles X-1001	Chaco	Onshore	Gas, Cond	July	N/A
Brazil						
Devon	1-DEV-004-RJS	Campos	Offshore	Oil	July	N/A
Petrobras	1-CPS-003-ES	Espirito Santo	Offshore	Oil	March	N/A
Petrobras	1-FJU-001D-AL	Sergipe-Alagoas	Onshore	Gas	May	N/A
Petrobras	1-LOG-002-RN	Potiguar	Onshore	Oil	February	N/A
Petrobras	1-MPE-005DP-BA	Reconcavo	Onshore	Oil	May	N/A
Petrobras	4-ABL-030A-RJS	Campos	Offshore	Oil	August	N/A
Petrobras	4-ESS-132	Espirito-Santo	Offshore	Oil	January	N/A
Petrobras	4-ESS-134	Espirito-Santo	Offshore	Oil	January	N/A
Colombia						
Braspetro	Espino 1	Upper Magdalena	Onshore	Oil	April	N/A
Emerald	Campo Rico 1	Llanos-Barinas	Onshore	Oil	February	250 Bo/D
Hupecol	Bengala 2	Llanos Sub-Basin	Onshore	Oil	June	N/A
Mercantile	Ambrosia 1	Middle Magalena	Onshore	Oil	April	N/A
Mercantile	Rio Opia 1	Middle Magdalena	Onshore	Oil	March	370 Bo/D
Perenco	Jordan Este 1	Llanos-Barinas	Onshore	Oil	March	1,877 Bo/D
Cuba						
Repsol YPF	Yamagua 1	Flor./Bah. Platform	Offshore	Oil	July	Non-Commercial
Ecuador						
Oepc	Paka Sur 1	Napo	Onshore	Oil	August	100 Bo/D
Oepc	Yanaquincha Sur 1	Napo	Onshore	Oil	February	100 Bo/D
Guatemala						
Perenco	Yalcanix 1	Contract Area 1-97	Onshore	Oil	March	N/A
Mexico						
Pemex	Akita 1	Burgos	Onshore	Gas	June	N/A
Pemex	Azabache 1	Burgos	Onshore	Gas, Cond	February	N/A
Pemex	Bayo 1	Burgos	Onshore	Gas, Cond	June	N/A
Pemex	Casta 1	Burgos	Onshore	Gas, Cond	April	5 Mmcfg/D, 56 Bc/D
Pemex	Forastero 1	Sabinas	Onshore	Gas, Cond	January	15.4 Mmcfg/D, 5 Bc/D
Pemex	Garante 1	Gulf Coast	Onshore	Gas	May	N/A
Pemex	Itla 1	Sureste	Offshore	Oil, Gas	November	1,350 Bo/D, 0.9 Mmcfg/D
Pemex	Kosni 1	Tampico-Misantlq	Offshore	Gas	April	29.4 MMCFG/D
Pemex	Kosni 101	Mex.Ridges	Offshore	Gas	July	N/A
Pemex	Lankahuasa DL-2	Tampico-Misantla	Offshore	Gas	March	N/A
Pemex	Lerma 201	Burgos	Onshore	Gas, Cond	June	15 Mmcfg/D, 55 Bc/D
Pemex	Men 1	Campecehe	Offshore	Gas	November	20 Mmcfg/D
Pemex	Nejo 101	Burgos	Onshore	Gas, Cond	March	Non-Commercial
Pemex	Nu 1	Gulf Coast	Offshore	Gas	February	N/A
Pemex	Numan 1	Sureste	Offshore	Oil	May	N/A
Pemex	Pame 1	Burgos	Onshore	Gas	January	20 Mmcfg/D
Pemex	Pergamino 1	Burgos	Onshore	Gas, Cond	March	N/A
Pemex	Reloj 1	Burgos	Onshore	Gas	March	1 Mmcfg/D
Pemex	Santander 1	Burgos	Onshore	Gas	May	3.4 Mmcfg/D
Pemex	Talud 1	Burgos	Onshore	Gas	January	1.2 Mmcfg/D
Pemex	Utan 1	Sureste	Onshore	Gas	February	4.1 Mmcfg/D
Venezuela						
ChevronTexaco	Loran 2X	Trinidad	Offshore	Gas	October	30 Mmcfg/D
ConocoPhillips	Tiburón 1X	Posa Sub-Basin	Offshore	Oil	April	N/A
PDVSA	Travi Este 2X	Maturin	Offshore	Oil	November	4,694 Bo/D

Table 6. Significant discoveries during 2004 in Latin America.

Country Operator	Name	Basin	Location	Status	Completion	Test Data
Iran						
Edison	Sehqanat Deep 1	Zagros Fold Belt	Onshore	Oil	June	N/A
Nioc	Marun 288	Zagros Fold Belt	Onshore	Gas	January	N/A
Shengli	Aran 1	Qom	Onshore	Oil	February	4,000 Bo/D
Kuwait						
Koc	Bahrah 28	Dibdibah Sub-Basin	Onshore	Oil	August	4,850 Bo/D
Koc	Dharif 12	Dibdibah Sub-Basin	Onshore	Oil	September	N/A
Koc	Kahloolah 1st1	Dibdibah Sub-Basin	Onshore	Oil	August	1,850 Bo/D
Koc	Mutriba 12	Dibdibah Sub-Basin	Onshore	Gas, Cond	July	
Koc	Ruhaya 2	Dibdibah Sub-Basin	Onshore	Oil, Cond	January	5,400 Bc/D
Oman						
Pdo	Mamour 1	Oman	Onshore	Oil	January	N/A
Pdo	Malaan 2st1	Oman	Onshore	Oil	January	N/A
Oxy	Jalal North 1	Oman	Onshore	Oil	May	N/A
Saudi Arabia						
Aramco	Abu Sidr 1	Central Arabian Province	Onshore	Oil	November	3,000 Bo/D
Aramco	Shaybah 700	Rub Al Khali Prvince	Onshore	Gas, Cond	June	20 Mmcf/D, 650 Bc/D
Syria						
Spc	Harbaja 1	Western Arabia Province	Onshore	Oil, Gas	September	44 Bo/D
Spc	Madar 101	Palmyra Zone	Onshore	Oil, Gas	June	N/A
Spc	Turkmaniah South 1	Palmyra Zone	Onshore	Oil	September	7 Bo/D
Turkey						
Madison	Ayazli 1	Pontids	Onshore	Gas	September	15 Mmcf/D
Thrace	Mavu Marmara 1	Thrace-Gallipoli	Onshore	Gas	June	N/A
Yemen						
Calvalley	Al Roidhat 2	Mukalla High	Onshore	Oil	April	N/A
Dno	Nabrajah 1	Sir-Sayun	Onshore	Oil, Gas	March	1,973 Bo/D, 2.4 Mmcf/D
Dno	Nabrajah 2	Sir-Sayun	Onshore	Oil, Gas	October	1,427 Bo/D
Mol	Balharak South 1	Marib-Al Jawf-Shabwah	Onshore	Oil	March	54 Bo/D
Nexen	Bashir Al Khair 1	Sir-Sayun	Onshore	Oil	August	N/A
Nexen	Jabal Alaod 1	Sir-Sayun	Onshore	Oil	October	N/A
Nexen	Ressib 2	Sir-Sayun	Onshore	Oil	June	N/A

Table 7. Significant discoveries during 2004 in the Middle East.

Country Operator	Well Name	Basin	Location	Status	Completion	Test Data
Canada						
TexacoChevron	Langley K-30	Mackenzie Delta	Onshore	Gas	P&A	18 MMcfg/d
USA						
Anadarko	AT 349 1 (Jubilee)	Gulf of Mexico	Offshore	Gas	P&A	n/a
Anadarko	DC 621 1 (Spiderman)	Gulf of Mexico	Offshore	Oil, gas	P&A	n/a
Anadarko	LL 50 1 (Atlas)	Gulf of Mexico	Offshore	Gas	P&A	n/a
BP	MC 725 1BP01 (Tubular Bells)	Gulf of Mexico	Offshore	Oil	P&A	n/a
BHP	GC 195 1 (Tiger)	Gulf of Mexico	Offshore	Oil	P&A	n/a
BHP	WR 469 1 (Chinook)	Gulf of Mexico	Offshore	Oil	P&A	n/a
ChevronTexaco	AT 183 1 (Sturgis)	Gulf of Mexico	Offshore	Gas, oil	P&A	n/a
ChevronTexaco	WR 759 1 (Jack)	Gulf of Mexico	Offshore	Oil	Susp	n/a
ChevronTexaco	VK 830 1 (Persus)	Gulf of Mexico	Offshore	Oil	Susp	n/a
ConocoPhillips	GC 199 1BP02 (Lorien)	Gulf of Mexico	Offshore	Oil	P&A	n/a
Devon	GB 700 1BP1 (Shiner Deep)	Gulf of Mexico	Offshore	Oil	Susp	n/a
Dominion	DC 618 1 (San Jacinto)	Gulf of Mexico	Offshore	Gas	P&A	n/a
Dominion	MC 296 1 BP01 (Rigel)	Gulf of Mexico	Offshore	Gas	P&A	n/a
Dominion	MC 734 1 (Thunder Hawk)	Gulf of Mexico	Offshore	Oil	Susp	n/a
Dominion	MC 771 5 STO1 (Goldfinger)	Gulf of Mexico	Offshore	Oil	P&A	n/a
Kerr-McGee	GC379 2STO1 (Hornet)	Gulf of Mexico	Offshore	Oil	P&A	n/a
Kerr-McGee	GC 768 1 (Ticonderoga)	Gulf of Mexico	Offshore	Oil	P&A	n/a
Pioneer	EB 623 SS3 (Tomahawk)	Gulf of Mexico	Offshore	Gas	P&A	n/a
Pioneer	EB 668 SS1 (Raptor)	Gulf of Mexico	Offshore	Gas	P&A	n/a
Pioneer	EB 759 SS1 (Hunter)	Gulf of Mexico	Offshore	Gas	P&A	n/a
Spinnaker	MC751 ST01 (Goose)	Gulf of Mexico	Offshore	Gas	P&A	n/a
Unocal	AC 859 1 (Togabo)	Gulf of Mexico	Offshore	Oil	Susp	n/a
Unocal	WR 678 2 (St Malo)	Gulf of Mexico	Offshore	Oil	P&A	n/a
Westport	MC 707 1 (Valley Forge)	Gulf of Mexico	Offshore	Gas	P&A	n/a
W & T	GC 178 1 (Baccarat)	Gulf of Mexico	Offshore	Gas	P&A	n/a
W & T	GC 646 1 (Daniel Boone)	Gulf of Mexico	Offshore	Oil	P&A	n/a
Wolverine	17-1 Kings Meadow Ranches	Western Overthrust	Onshore	Oil	April	700b/d

Table 8. Significant discoveries during 2004 in North America.

Country Operator	Well Name	Basin	Location	Status	Completion	Test Data
Russia						
Aganeftegaz	Tukanskaya 64	Western Siberia	Onshore	Oil	June	460 bo/d
Aganeftegaz	Amputinskaya Zap 33	Western Siberia	Onshore	Oil	August	600 bo/d
BP/Rosneft	Pela Lache 1	Sakhalin Island	Offshore	Oil, gas	November	not tested
Lukoil	Oktyabrskaya Yuzh 2	Baltic Depression	Onshore	Oil	January	812 bo/d from Cambrian
Lukoil	Ozerskaya Sev 1	Baltic Depression	Onshore	Oil	Mid year	n/a
Turkmenistan						
Turkmengeologiya	Bossan 1	Murgab Sub-basin	Onshore	Oil	July	140 bo/d from Callovian/Offordian
Uzbekistan						
Uzbekneftgaz	Ispanly Sharkiy 1	Amu-Darya	Onshore	Oil/gas	April	1 Mmcf/d, 95 bo/d from Callovian/Oxfordian

Table 9. Significant discoveries during 2004 in Russia, Turkmenistan, and Uzbekistan.