NOBLE ENERGY INC
Form 10-K
February 19, 2009

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
FORM 10-K

(Mark One)
x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2008
or
o TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to
Commission file number: 001-07964
NOBLE ENERGY, INC.
(Exact name of registrant as specified in its charter)

Delaware	73-0785597
(State of incorporation)	(I.R.S. employer identification number)
100 Glenborough Drive, Suite 100 Houston, Texas	77067
(Address of principal executive offices)	(Zip Code)

(281) 872-3100
(Registrant's telephone number, including area code)

Securities registered pursuant to section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, $3.33-1/3 par value	New York Stock Exchange
Preferred Stock Purchase Rights	New York Stock Exchange

Securities registered pursuant to section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. x Yes o No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. o Yes x No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. x Yes o No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. x

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See definitions of "accelerated filer", "large accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer x	Accelerated filer o	Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company o

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act).o Yes x No

Aggregate market value of Common Stock held by nonaffiliates as of June 30, 2008: $17.2 billion.
Number of shares of Common Stock outstanding as of February 6, 2009: 172,913,730.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive proxy statement for the 2009 Annual Meeting of Stockholders to be held on April 28, 2009, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2008, are incorporated by reference into Part III.

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PART I

Items 1 and 2. Business and Properties

This Annual Report on Form 10-K and the documents incorporated herein by reference contain forward-looking statements based on expectations, estimates and projections as of the date of this filing. These statements by their nature are subject to risks, uncertainties and assumptions and are influenced by various factors. As a consequence, actual results may differ materially from those expressed in the forward-looking statements. For more information, see Item 1A. Risk Factors—Disclosure Regarding Forward-Looking Statements of this Form 10-K.

General

Noble Energy, Inc. (Noble Energy, we or us) is a Delaware corporation, formed in 1969, that has been publicly traded on the New York Stock Exchange (NYSE) since 1980. We are an independent energy company that has been engaged in the acquisition, exploration, development, production and marketing of crude oil, natural gas, and natural gas liquids (NGLs) since 1932. In this report, unless otherwise indicated or where the context otherwise requires, information includes that of Noble Energy and its subsidiaries. We operate primarily in the Rocky Mountains, Mid-continent, and deepwater Gulf of Mexico areas in the US, with key international operations offshore Israel, the North Sea and West Africa.

Strategy

Our strategy is to achieve growth in earnings and cash flow through the development of a high quality portfolio of producing assets that is balanced between US and international projects. Strategic acquisitions of Patina Oil & Gas Corporation (Patina) in 2005 and U.S. Exploration Holdings, Inc. (U.S. Exploration) in 2006, along with additional capital investment in US and international locations, have resulted in substantial growth in the last several years. Acquisitions and capital investment, combined with the sale of non-core assets, have allowed us to achieve a strategic objective of enhancing our US asset portfolio, resulting in a company with assets and capabilities that include growing US basins coupled with a significant portfolio of international properties. See Item 6. Selected Financial Data for additional financial and operating information for fiscal years 2004-2008.

Proved Reserves

Proved reserves estimates at December 31, 2008 were as follows:

	December 31, 2008		
	Proved Developed Reserves	Proved Undeveloped Reserves	Total Proved Reserves
United States			
Crude oil, condensate and NGLs (MMBbls)	121	77	198
Natural gas (Bcf)	1,268	591	1,859
Total US (MMBoe) (1)	332	176	508
International			
Crude oil, condensate and NGLs (MMBbls)	78	35	113
Natural gas (Bcf)	1,117	339	1,456
Total International (MMBoe) (1)	264	92	356
Worldwide			
Crude oil, condensate and NGLs (MMBbls)	199	112	311
Natural gas (Bcf)	2,385	930	3,315

Total Worldwide (MMBoe) (1) (2)	596	268	864

(1) Natural gas is converted on the basis of six Mcf of gas per one barrel of oil equivalent.
(2) Approximately 69% are proved developed reserves.

Estimates of Proved Reserves – Proved oil and gas reserves are the estimated quantities of crude oil, natural gas and natural gas liquids which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions (i.e., prices and costs as of the date the estimate is made). Prices include consideration of changes in existing prices provided only by contractual arrangements, but not on escalations based upon future conditions. For additional information regarding estimates of crude oil and natural gas reserves, including estimates of proved and proved developed reserves, the standardized measure of discounted future net cash flows, and the changes in discounted future net cash flows, see Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Estimates—Reserves and Item 8. Financial Statements and Supplementary Data—Supplemental Oil and Gas Information.

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Reserve Audit – Engineers in our Houston, Denver and London offices prepare all reserve estimates for our different geographical regions. These reserve estimates are reviewed and approved by senior engineering staff and division management with final approval by the vice president in charge of corporate reserves and certain members of senior management. In each of the years 2008, 2007 and 2006, we retained Netherland, Sewell & Associates, Inc. (NSAI), independent third-party reserve engineers, to perform reserve audits of proved reserves. A "reserve audit", as we use the term, is a process involving an independent third-party engineering firm's visits, collection of any and all required geologic, geophysical, engineering and economic data, and such firm's complete external preparation of reserve estimates. Our use of the term "reserve audit" is intended only to refer to the collective application of the procedures which NSAI was engaged to perform. The term "reserve audit" may be defined and used differently by other companies.

The reserve audit for 2008 included a detailed review of 18 of our major international, deepwater Gulf of Mexico and onshore US fields, which covered approximately 79% of US proved reserves and 97% of international proved reserves (86% of total proved reserves). The reserve audit for 2007 included a detailed review of 16 of our major international, deepwater Gulf of Mexico and onshore US fields, which covered approximately 71% of US proved reserves and 96% of international proved reserves (81% of total proved reserves). The reserve audit for 2006 included a detailed review of 14 of our major international, deepwater Gulf of Mexico and onshore US fields, which covered approximately 80% of our total proved reserves.

In connection with the 2008 reserve audit, NSAI prepared its own estimates of our proved reserves. In order to prepare its estimates of proved reserves, NSAI examined our estimates with respect to reserve quantities, future producing rates, future net revenue, and the present value of such future net revenue. NSAI also examined our estimates with respect to reserve categorization, using the definitions for proved reserves set forth in Regulation S-X Rule 4-10(a) and subsequent Securities and Exchange Commission (SEC) staff interpretations and guidance. In the conduct of the reserve audit, NSAI did not independently verify the accuracy and completeness of information and data furnished by us with respect to ownership interests, oil and gas production, well test data, historical costs of operation and development, product prices, or any agreements relating to current and future operations of the fields and sales of production. However, if in the course of the examination something came to the attention of NSAI which brought into question the validity or sufficiency of any such information or data, NSAI did not rely on such information or data until it had satisfactorily resolved its questions relating thereto or had independently verified such information or data. NSAI determined that our estimates of reserves conform to the guidelines of the SEC, including the criteria of "reasonable certainty," as it pertains to expectations about the recoverability of reserves in future years, under existing economic and operating conditions, consistent with the definition in Rule 4-10(a)(2) of Regulation S-X. NSAI issued an unqualified audit opinion on our proved reserves at December 31, 2008, based upon its evaluation. The NSAI opinion concluded that our estimates of proved reserves were, in the aggregate, reasonable and have been prepared in accordance with generally accepted petroleum engineering and evaluation principles.

The fields audited by NSAI are chosen in accordance with company guidelines and result in the audit of a minimum of 80% of our total proved reserves. The fields are chosen by senior engineering staff and division management with approval by the vice president in charge of corporate reserves and certain members of senior management, and are reviewed by the Board of Directors.

When compared on a field-by-field basis, some of our estimates are greater and some are less than the estimates of NSAI. Given the inherent uncertainties and judgments that go into estimating proved reserves, differences between internal and external estimates are to be expected. On a quantity basis, the NSAI field estimates ranged from two MMBoe above to 14 MMBoe below as compared with our estimates. On a percentage basis, the NSAI field estimates ranged from 10% above our estimates to 14% below our estimates. Differences between our estimates and those of NSAI are reviewed for accuracy but are not further analyzed unless the aggregate variance is greater than 10%. At December 31, 2008, reserves differences, in the aggregate, were less than 29 MMBoe, or 4%.

Since January 1, 2008, no crude oil or natural gas reserve information has been filed with, or included in any report to, any federal authority or agency other than the SEC and the Energy Information Administration (EIA) of the US Department of Energy. We file Form 23, including reserve and other information, with the EIA.

Recent SEC Rule-Making Activity – In December 2008, the SEC announced that it had approved revisions to modernize its oil and gas company reporting requirements. See Item 8. Financial Statements and Supplementary Data – Supplemental Oil and Gas Information.

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Acquisition and Divestiture Activities

We maintain an ongoing portfolio optimization program. Accordingly, we may engage in acquisitions of additional crude oil or natural gas properties and related assets through either direct acquisitions of the assets or acquisitions of entities owning the assets. We may also divest non-core assets in order to optimize our property portfolio.

Mid-continent Acquisition – In July 2008, we acquired producing properties in western Oklahoma for $292 million in cash. Properties acquired cover approximately 15,500 net acres and are currently producing a net 20 MMcfepd. The total purchase price has been preliminarily allocated to the proved and unproved properties acquired based on fair values at the acquisition date. Approximately $254 million was allocated to proved properties and $38 million to unproved properties.

Sale of Argentina Assets – In February 2008, we closed on the sale of our interest in Argentina for a sales price of $117.5 million, effective July 1, 2007. The gain on sale has been deferred as the sale is contingent upon approval of the Argentine government. Our crude oil reserves for Argentina totaled 7 MMBbls at December 31, 2007.

Sale of Gulf of Mexico Shelf Properties – In 2006, we sold all of our significant Gulf of Mexico shelf properties except for the Main Pass area, which required repairs related to hurricane damage at the time. As of the effective date of the sale, proved reserves for the Gulf of Mexico properties sold totaled approximately 7 MMBbls of crude oil and 110 Bcf of natural gas. Deepwater Gulf of Mexico and Gulf Coast onshore areas remain core areas and are more aligned with our long-term business strategies. See Item 8. Financial Statements and Supplementary Data—Note 4—Acquisitions and Divestitures.

U.S. Exploration Acquisition – In 2006, we acquired U.S. Exploration, a privately held corporation, for $412 million in cash plus liabilities assumed. U.S. Exploration's reserves and production are located primarily in Colorado's Wattenberg field. This acquisition significantly expanded our operations in one of our core areas. Proved reserves of U.S. Exploration at the time of acquisition were approximately 234 Bcfe, of which 38% were proved developed and 55% natural gas. Proved crude oil and natural gas properties were valued at $413 million and unproved properties were valued at $131 million. In addition, we recorded $34 million of goodwill. See Item 8. Financial Statements and Supplementary Data—Note 4—Acquisitions and Divestitures.

Patina Merger – In 2005, we acquired Patina through merger (Patina Merger) for a total purchase price of $4.9 billion. Patina's long-lived crude oil and natural gas reserves provide a significant inventory of low-risk opportunities that balanced our portfolio. Patina's proved reserves at the time of acquisition were estimated to be approximately 1.6 Tcfe, of which 72% were proved developed and 67% natural gas. Proved crude oil and natural gas properties were valued at $2.6 billion and unproved properties were valued at $1.1 billion. In addition, we recorded $875 million of goodwill.

Crude Oil and Natural Gas Properties and Activities

We search for crude oil and natural gas properties, seek to acquire exploration rights in areas of interest and conduct exploratory activities. These activities include geophysical and geological evaluation and exploratory drilling, where appropriate, on properties for which we have acquired exploration rights. Our properties consist primarily of interests in developed and undeveloped crude oil and natural gas leases and concessions. We also own natural gas processing plants and natural gas gathering and other crude oil and natural gas related pipeline systems which are primarily used in the processing and transportation of our crude oil, natural gas and NGL production.

2009 Budget

Due to the uncertain economic and commodity price environment, we have designed a flexible capital spending program that will be responsive to conditions that develop during 2009. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – 2009 Outlook – 2009 Budget.

United States

We have been engaged in crude oil and natural gas exploration, exploitation and development activities throughout onshore US since 1932 and in the Gulf of Mexico since 1968. The Patina Merger and the acquisition of U.S. Exploration significantly increased the breadth of our onshore operations, especially in the Rocky Mountains and Mid-continent areas. These two acquisitions, along with other acquisitions of producing and non-producing properties, have provided us with a multi-year inventory of exploitation and development opportunities. In 2008, we continued to expand our undeveloped acreage position with the leasing of approximately 502,000 net acres in Colorado, Kansas, Montana, Wyoming, East Texas and Oklahoma, along with 15 new leases in the deepwater Gulf of Mexico.

US operations accounted for 56% of our 2008 consolidated sales volumes and 59% of total proved reserves at December 31, 2008. Approximately 61% of the proved reserves are natural gas and 39% are crude oil, condensate and NGLs. Our onshore US portfolio at December 31, 2008 included 996,000 net developed acres and 1.3 million net undeveloped acres. We currently hold interests in 93 offshore blocks in the Gulf of Mexico.

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Sales of production and estimates of proved reserves for our significant US operating areas were as follows:

	Year Ended December 31, 2008 Sales Volumes				December 31, 2008 Proved Reserves		
	Crude Oil (MBopd)	Natural Gas (MMcfpd)	NGLs (MBpd)	Total (MBoepd)	Crude Oil (1) (MMBbls)	Natural Gas (Bcf)	Total (MMBoe)
Northern Region							
Wattenberg field	15	146	5	45	118	842	259
Piceance basin	-	39	-	7	-	263	44
Niobrara field (Tri-state area)	-	26	-	4	-	109	18
Mid-continent area	7	72	1	20	37	336	93
Other	-	25	-	4	1	122	21
Total	22	308	6	80	156	1,672	435
Southern Region							
Deepwater Gulf of Mexico	13	49	3	24	19	64	29
Gulf Coast onshore and other	5	38	-	12	23	123	44
Total	18	87	3	36	42	187	73
Total United States	40	395	9	116	198	1,859	508

(1) Includes NGLs.

Wells drilled in 2008 and productive wells at December 31, 2008 for our significant US operating areas were as follows:

	Year Ended December 31, 2008	December 31, 2008
	Gross Wells Drilled/ Participated in	Gross Productive Wells
Northern Region		
Wattenberg field	558	5,731
Piceance basin	125	238
Niobrara field (Tri-State area)	243	982
Mid-continent area	93	4,178
Other	31	1,273
Total	1,050	12,402
Southern Region		
Deepwater Gulf of Mexico	3	12
Gulf Coast onshore and other	70	1,073
Total	73	1,085
Total United States	1,123	13,487

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Northern Region—The Northern region consists of our operations in the Rocky Mountains area, which includes the Denver-Julesburg (D-J) (Wattenberg field), Piceance, San Juan, and Wind River basins, as well as the Niobrara (Tri-State), Bowdoin and Siberia Ridge fields. The Northern region also includes the Mid-continent area, consisting of properties in the Texas Panhandle, Oklahoma and Kansas. The Rocky Mountains area is one of our core operating assets. During 2008, we acquired a total of approximately 490,000 net acres in southern Montana, the Mid-continent area and the Niobrara and Wattenberg fields.

Wattenberg Field—The Wattenberg field (approximately 96% operated working interest), located in the D-J basin of north central Colorado, is our largest onshore US field and continues to grow. We acquired working interests in the Wattenberg field through the Patina Merger in 2005 and acquisition of U.S. Exploration in 2006. The Wattenberg field held 51% of our US proved reserves on December 31, 2008.

One of the most attractive features of the field is the presence of multiple productive formations, which include the Codell, Niobrara, and J-Sand formations, as well as the D-Sand, Dakota and the shallower Shannon, Sussex and Parkman formations. Drilling in the Wattenberg field is considered lower risk from the perspective of finding crude oil and natural gas reserves.

Our current field activities are focused primarily on the improved recovery of reserves through drilling new wells or deepening within existing wellbores, recompleting the Codell formation within existing J-Sand wells, refracturing or trifracturing existing Codell wells and refracturing or recompleting the Niobrara formation within existing Codell wells. A refracture consists of the restimulation of a producing formation within an existing wellbore to enhance production and add incremental reserves. A trifracture is effectively a refracture of a refracture. These projects and continued success with our production enhancement program, which includes well workovers, reactivations, and commingling of zones, allow us to increase production and add proved reserves to what is considered a mature field.

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We continue to improve efficiencies in Wattenberg field drilling and completion operations and have significantly reduced drilling time by utilizing the latest available technology, including automatic drilling rigs (ADRs). An ADR uses an automated system to regulate the drill string of a drilling rig in response to current drilling conditions, including drilling fluid pressure, bit weight, drill string torque, and drill string revolutions per minute to achieve an optimal rate of bit penetration.

In 2008, we drilled or participated in 558 Wattenberg field development wells, with a 99.8% success rate and added approximately 186 Bcfe of proved reserves approximately 59% of which were natural gas. At year-end, we were running six drilling rigs and 15 completion units in the field.

We have experienced significant growth in production from the Wattenberg field, from an average of 199 MMcfepd at year-end 2005 to approximately 268 MMcfepd at year-end 2008. Approximately 54% of 2008 production was natural gas. However, expansion of field boundaries has resulted in a 110% increase in our crude oil and NGL stream since year-end 2005. In 2008, sales of Wattenberg field production accounted for 39% of total US sales volumes.

The infrastructure in this area is improving and expanding. Oil transport alternatives should improve in 2009 with the expected start up of a new interstate crude oil transportation pipeline system which will run from Weld County, Colorado, where the Wattenberg field is located, to Cushing, Oklahoma. The pipeline, in which we own a small equity interest, will provide another option for the marketing of our crude oil. We have entered into a five-year throughput agreement with the pipeline.

We continue to acquire acreage in the area and held interests in approximately 332,000 net acres at year-end 2008. We are planning an active capital program in 2009; however, our program may decrease from 2008 levels. We will have the flexibility with short-term drilling rig contracts to decrease activity if economic conditions continue to decline. We will continue to have a strong focus on Codell/Niobrara new drills. Additionally, we have a substantial project inventory remaining and plan to continue steady refracture, trifracture, and recompletion programs in 2009.

Piceance Basin—The Piceance basin in western Colorado (approximately 93% operated working interest) is another core area for us. It is a major North American natural gas basin, characterized by low-porosity rock. The primary productive formation is the Mesaverde Williams Fork formation. Multiple wells are drilled from individual drilling pads to reduce rig mobilization costs in mountainous terrain and to minimize environmental impact on the surface area. Well spacing is approximately ten acres per well.

As in the Wattenberg field, Piceance basin drilling time per well has been reduced significantly due to our increased use of improved drilling technology. In the Piceance basin, we are using new fit-for-purpose rigs which include design innovations and technology improvements that capture incremental time savings during all phases of the well drilling process, including moving between wells. Fit-for-purpose rigs can drill multiple wells from one location and are particularly useful in developing hydrocarbon resources in tight-gas areas such as the Piceance basin.

In 2008, we increased our drilling activities and drilled or participated in 124 development wells and one exploratory well, 100% of which were successful. Our 2008 drilling activity resulted in the addition of 135 Bcfe of proved reserves. Successful drilling activity in recent years has led to significant volume growth; production has grown from 2 MMcfepd in 2005 to 53 MMcfepd at year-end 2008.

We have assembled a significant acreage position in the area and currently hold interests in approximately 19,000 net acres providing a large inventory of future projects. At this time, we plan to operate a two-rig drilling program in 2009.

Tri-State Area (Niobrara)—Our operations in the Tri-State area (eastern Colorado, extending into Kansas and Nebraska) center primarily around the development of the Niobrara Trend (approximately 88% operated working interest). The Niobrara formation is an important shallow gas producer. Since 2006, we have expanded our acreage position to over 580,000 net acres. We have a substantial future project inventory, including Niobrara infill and exploitation drilling along with gathering system and compressor station additions to develop reserves and deliver new production in 2009. We are planning an active capital program in 2009; however, our program may decrease from 2008 levels. We will have the flexibility with short-term drilling rig contracts to decrease activity if economic conditions continue to decline.

In 2008, we doubled our drilling activity and drilled or participated in 243 development wells. Increased use of 3-D seismic to optimize well locations helped increase our success rate to over 80% in 2008. Our 2008 drilling activity resulted in the addition of 35 Bcfe of proved reserves, and we were producing approximately 28 MMcfepd, net at year-end. Short-term drilling rig contracts allow flexibility for our drilling plans if economic conditions continue to decline.

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Mid-continent Area—The Mid-continent area includes properties in the Texas Panhandle, Oklahoma and Kansas. Significant areas of activity have been the Granite Wash development in the Texas Panhandle, infill drilling in several of our Oklahoma waterfloods, and deeper completions to the Skinner formation in western Oklahoma. We drilled or participated in 92 development wells in 2008, 96% of which were successful and one successful exploratory well. The potential for Granite Wash horizontal drilling is currently being evaluated, which, if successful, could increase the recovery of reserves in place and daily production rates.

In July 2008, we expanded into a new area with a 15,500 net acre acquisition in western Oklahoma, which included approximately 16 MMboe of proved reserves. The target area is the Cleveland Sandstone, a tight gas play characterized by low-permeability rock. Since acquiring the property we have drilled seven development wells (included in the well count above). There are currently 56 operated wells on the property producing in aggregate a net 20 MMcfepd. We have the flexibility of operating one to three rigs in 2009 with two rigs currently operating.

Other—We are also active in the Bowdoin field (approximately 63% operated working interest), located in north central Montana; the San Juan basin (approximately 82% operated working interest), located in northwestern New Mexico and southwestern Colorado; and the Wind River basin (approximately 74% operated working interest), located in central Wyoming. In 2008, we drilled or participated in a total of 31 development wells in these areas, 100% of which were successful. We plan to have reduced activity in these areas in 2009 as we focus most of our capital spending on the core development fields of Wattenberg, Piceance and Tri-State.

During 2008, we acquired approximately 205,000 net exploratory acres in southern Montana and plan to test the area in 2009.

Southern Region—The Southern region includes the deepwater Gulf of Mexico and onshore areas primarily in Texas, Louisiana, Illinois and Indiana. In 2006, we sold all of our significant Gulf of Mexico shelf properties except for the Main Pass area, which is currently held for sale. The sale of our shelf properties allowed us to migrate future investments and growth from the Gulf of Mexico shelf to the deepwater Gulf of Mexico which we believe is an area of higher potential.

Deepwater Gulf of Mexico—The deepwater Gulf of Mexico is one of our core areas and accounted for 21% of 2008 US sales volumes and 6% of US proved reserves at December 31, 2008. We currently hold interests in 93 deepwater Gulf of Mexico leases, representing approximately 315,000 net acres. We operate approximately 70% of the leases.

The expansion of our deepwater Gulf of Mexico program began in 2004 with the Ticonderoga discovery and the acquisition of additional ownership interests in Swordfish and Lorien. Since then we have continued to expand our operations primarily through an active exploration program, expansion of our 3-D seismic database, and lease acquisition. Our exploration activities have led to significant discoveries at Isabela and Redrock/Raton, and, most recently, Gunflint, a 2008 discovery which is our largest deepwater Gulf of Mexico discovery to date. Participation in the 2008 central Gulf of Mexico outer continental shelf sale resulted in our being awarded 15 new deepwater Gulf of Mexico leases for approximately $167 million, net to our interest, and allows us to expand our inventory with the addition of several new deepwater Gulf of Mexico prospects in the Atwater Valley, Mississippi Canyon, Green Canyon, Walker Ridge, and Garden Banks areas.

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In addition to Gunflint, 2008 exploration drilling activities included a well at the Noble-operated Tortuga prospect (Mississippi Canyon Blocks 561 and 605; 57% working interest). Although the well was successful in locating hydrocarbons, we decided not to develop the prospect due to near-term lease expiration as well as other considerations. Accordingly, we impaired the well in the fourth quarter of 2008. We also announced that an exploration well at the Stones River prospect (Mississippi Canyon Block 285; 100% working interest) did not encounter hydrocarbons in commercial quantities.

We plan to continue exploration activities in 2009 by conducting a seismic program and drilling two to three exploratory wells.

Our most significant deepwater Gulf of Mexico properties and current development plans are discussed in more detail below:

Gunflint (Mississippi Canyon Block 948; 37.5% working interest) – We originally acquired the block in the 2006 central Gulf of Mexico outer continental shelf sale and announced the Gunflint crude oil discovery, our largest deepwater Gulf of Mexico discovery to date, in October 2008. We are currently acquiring additional seismic information and preparing to drill an appraisal well in 2009 or early 2010. We are the operator of the block.

Isabela (Mississippi Canyon Block 562, 33% working interest) – Isabela was a 2007 discovery and is non-operated. Development planning is underway, Phase 1 of which is anticipated to include a producing well with a subsea tieback to an existing production facility. Initial production is currently anticipated in 2011. We also have an interest in adjacent acreage with additional exploration potential on Mississippi Canyon Blocks 519 and 563 (23.25% working interest). We are currently drilling an exploratory well on Block 519 (Santa Cruz prospect).

Redrock/Raton (Mississippi Canyon Blocks 204, 248 and 292; 66.67 % working interest) – Redrock was a 2006 natural gas/condensate discovery and Raton was a 2006 natural gas discovery. The Raton South appraisal well was also drilled during 2006. In 2007, we successfully sidetracked and completed the Raton discovery well and it was tied back and came on production in late 2008. In 2008, we drilled a successful sidetrack-appraisal well at Raton South, and tie back to a host facility is anticipated in late 2009. Redrock is currently considered a co-development candidate to the completed sidetrack well at Raton South. We are the operator of Redrock/Raton.

Swordfish (Viosca Knoll Blocks 917, 961 and 962; 85% working interest) – Swordfish was a 2001 discovery and began producing in 2005. In 2007, we drilled and completed a sidetrack to Viosca Knoll Block 917 #1 well, which began production at the end of 2007. The Swordfish project currently includes three producing wells connected to a third-party production facility through subea tiebacks. We are the operator of Swordfish.

Ticonderoga (Green Canyon block 768; 50% working interest) – Ticonderoga is a non-operated 2004 crude oil discovery and began producing in 2006. In 2007, we drilled and completed the #3 and #1 ST4 wells to extend and enhance production from the field. The wells came on line first quarter 2008. The project currently includes three producing wells connected to existing infrastructure through subea tiebacks.

Lorien (Green Canyon Block 199; 60% working interest) – Lorien was a 2003 crude oil discovery and began producing in 2006. The project currently includes two producing wells connected to existing infrastructure through subea tiebacks. We are the operator of Lorien.

In September 2008, Hurricanes Gustav and Ike moved through the Gulf of Mexico. Inspection of our facilities and equipment indicated there was no major damage from the hurricanes, although damage to third party processing and pipeline facilities has slowed reinstatement of production from our Gulf of Mexico assets, including Lorien and Ticonderoga. Approximately 8.5 MBoepd of production remained shut-in at year-end. We expect production to resume during the first half of 2009, depending on the successful resumption of pipeline and other non-operated facilities.

New Albany Shale—We continue to selectively increase our acreage position in resource plays, including shale plays. We have accumulated over 179,000 net acres in the New Albany Shale in the Illinois Basin (approximately 92% working interest), located in Indiana and Illinois. During 2008, we drilled 11 development wells, 100% of which were successful. We also drilled 12 development wells in the Paxton area, 92% of which were successful, and seven successful exploration wells on our Round Rock acreage in the Illinois Basin.

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East Texas and North Louisiana—This is an emerging area for us. Recent acquisitions have increased our leasehold acreage to approximately 17,700 net acres. In 2008, we drilled seven horizontal James Lime wells and 24 Hosston, Travis Peak and Cotton Valley wells, all of which were successful. We also participated in the drilling of one successful horizontal Haynesville shale well in North Louisiana. Our drilling program for 2009 will focus on the Haynesville shale.

Other— In addition to the East Texas and North Louisiana programs, we drilled six successful development wells within the South Central Robertson Unit in west Texas and two Gulf Coast exploratory wells.

International

International operations are significant to our business, accounting for 44% of consolidated sales volumes in 2008 and 41% of total proved reserves at December 31, 2008. International proved reserves are approximately 68% natural gas and 32% crude oil. Operations in Equatorial Guinea, Cameroon, Ecuador, China and Suriname are conducted in accordance with the terms of production sharing contracts. Operations in other foreign locations are conducted in accordance with concession agreements or licenses.

Sales of production and estimates of proved reserves for our significant international operating areas are as follows:

	Year Ended December 31, 2008 Sales Volumes				December 31, 2008 Proved Reserves		
	Crude Oil (MBopd)	Natural Gas (MMcfpd)	NGL's (MBpd)	Total (MBoepd)	Crude Oil (MMBbls)	Natural Gas (Bcf)	Total (MMBoe)
International							
West Africa	15	206	-	49	75	978	238
North Sea	10	5	-	11	23	19	27
Israel	-	139	-	23	-	273	46
Ecuador	-	22	-	4	-	180	30
China	4	-	-	4	15	6	15
Total consolidated	29	372	-	91	113	1,456	356
Equity investee	2	-	6	8			
Total	31	372	6	99	113	1,456	356
Equity investee share of methanol sales (MMgal)				119			

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Wells drilled in 2008 and productive wells at December 31, 2008 in our international operating areas were as follows:

	Year Ended December 31, 2008 Gross Wells Drilled/Participated in	December 31, 2008 Gross Productive Wells
International		
West Africa	3	23
North Sea	4	26
Israel	-	6
Ecuador	-	5
China	-	15
Suriname	1	-
Total International	8	75

West Africa (Equatorial Guinea and Cameroon)—Operations in West Africa accounted for 54% of 2008 consolidated international sales volumes and 67% of international proved reserves at December 31, 2008. At December 31, 2008, we held approximately 15,000 net developed acres and 250,000 net undeveloped acres in Equatorial Guinea and 563,000 net undeveloped acres in Cameroon. In 2008, approximately 190,000 gross undeveloped acres were relinquished in Equatorial Guinea pursuant to contract terms.

We began investing in West Africa in the early 1990's. Activities center around our 34% non-operated working interest in the Alba field, offshore Equatorial Guinea, which is one of our most significant assets. Operations include the Alba field and related production and condensate facilities, a methanol plant, and an onshore LPG processing plant (both located on Bioko Island) where additional condensate is produced. The methanol plant is capable of producing up to 3,000 MTpd gross.

We sell our share of natural gas production from the Alba field to the LPG plant, the methanol plant and an unaffiliated LNG plant. The LPG plant is owned by Alba Plant LLC (Alba Plant) in which we have a 28% interest accounted for by the equity method. The methanol plant is owned by Atlantic Methanol Production Company, LLC (AMPCO) in which we have a 45% interest accounted for by the equity method. The methanol plant purchases natural gas from the Alba field under a contract that runs through 2026. AMPCO subsequently markets the produced methanol to customers in the US and Europe. We sell our share of condensate produced in the Alba field and from the LPG plant under short-term contracts at market-based prices.

West Africa Exploration Activities — We have conducted a successful exploration and appraisal drilling program in West Africa, which centers around Blocks O and I, offshore Equatorial Guinea, and the PH-77 license, offshore Cameroon. We are the technical operator on Block O (45% working interest) and Block I (40% working interest) and the operator on the PH-77 license (50% working interest).

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Our first discovery occurred in October 2005, when we announced successful test results from the O-1 (Belinda) exploration well offshore Equatorial Guinea. In 2007, we drilled seven wells, resulting in three new discoveries and three successful appraisal wells. In 2008, we announced successful results from the I-5 Benita oil appraisal well on Block I; the Felicita, a condensate and natural gas discovery on Block O; and the Diega, a gas condensate and oil discovery on Block I. In February 2009, we announced a successful oil discovery on Block O at the Carmen prospect.

We are in the process of assessing our options to commercialize our discoveries in the region. Engineering studies are underway, and we expect to utilize a phased-in approach for development. A development plan for the Benita discovery on Block I was submitted to the Equatorial Guinean government in December 2008, and we await their approval. We anticipate sanction of the Benita project to occur in 2009, with first oil production planned for 2012. The Benita development is expected to include subsea tie-backs to a floating production, storage and offloading vessel (FPSO). We are also evaluating options for natural gas production and marketing.

North Sea—Operations in the North Sea (the Netherlands and the UK) comprise another core international asset. We have been conducting business in the North Sea since 1996 and currently have working interests in 18 licenses with working interests ranging from 7% to 40%. We are the operator of one block. The North Sea accounted for 13% of 2008 consolidated international sales volumes and 8% of international proved reserves at December 31, 2008. During 2008, we relinquished approximately 159,000 gross undeveloped acres. At December 31, 2008, we held approximately 6,000 net developed acres and 54,000 net undeveloped acres.

We produce from the Dumbarton, MacCulloch, Hanze, Cook and other fields. Most of our production is from the non-operated Dumbarton Phase I development (30% working interest) in blocks 15/20a and 15/20b in the UK sector of the North Sea. The Dumbarton development, which was completed and began production in 2007, includes a subsea tie-back to the GP III, an FPSO in which we own a 30% interest.

In 2008, we continued the development of Dumbarton (30% working interest) with Phase 2. Phase 2 involves drilling up to six new horizontal production wells and up to two water disposal wells. The first two wells in Phase 2 were brought online in 2008, increasing the total field production to approximately 40,000 Bopd, gross. With the additional two wells, Dumbarton now has seven horizontal producers and two water injection wells. Phase 2 drilling will continue into 2009. As part of the project we plan to participate in the development of the Lochranza discovery in block 15/20a (30% working interest) which includes drilling two horizontal production wells which will be tied back to the Dumbarton subsea facilities.

During 2008, we also participated in drilling the Morgan exploratory well, in the UK Central North Sea (40% working interest). The well did not contain hydrocarbons in commercial quantities.

Israel—Operations in Israel accounted for 25% of 2008 consolidated international sales volumes and 13% of international proved reserves at December 31, 2008. At December 31, 2008, we held approximately 29,000 net developed acres and 807,000 net undeveloped acres located between 10 and 60 miles offshore Israel in water depths ranging from 700 feet to 5,500 feet. Our leasehold position in Israel includes one preliminary permit, two leases and three licenses. We are the operator of our Israel properties.

We have been operating in the Mediterranean Sea, offshore Israel, since 1998, and the Mari-B field (47% working interest) is one of our core international assets. The Mari-B field is the first offshore natural gas production facility in Israel and has peak field deliverability of approximately 600 MMcfpd from six wells. In 2008, we commissioned a permanent onshore receiving terminal in Ashdod for distribution of natural gas from the Mari-B field to purchasers.

Natural gas sales began in 2004 and have increased steadily as Israel's natural gas infrastructure has developed. Average sales volumes have risen from 48 MMcfpd in 2004 to 139 MMcfpd in 2008. The Israel Electric Corporation

Limited (IEC) is our largest purchaser. The IEC has continued to convert power plants to use natural gas as fuel and, in 2008, the IEC power plant at Gezer began purchasing natural gas from us. We also sell to the Bazan Oil Refinery, Delek Independent Power Production and associated desalinization plant, and a paper mill. In 2008, we entered a new five-year natural gas sales contract with Israel Chemicals Ltd, with sales expected to begin in 2009. In addition, the IEC power plant at Hagit is expected to begin purchasing natural gas from us in 2009. Imports of natural gas from Egypt to Israel began in 2008. However, there is still potential for significant new sales in the future as the Israeli infrastructure and markets continue to expand.

We are continuing exploration activities in Israel. In fourth quarter 2008, we began drilling an exploration well to test the Tamar prospect (36% working interest), offshore northern Israel, and in January 2009, we announced a very significant natural gas discovery at Tamar. In February 2009, we announced a successful test of production flow rates at Tamar as well as our plans to drill an appraisal well later in the year. We have conducted additional seismic activities in the area and are conducting a compression study at the Mari-B field.

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Other International—Other international at December 31, 2008 includes the following:

Ecuador—Operations in Ecuador accounted for 4% of 2008 consolidated international sales volumes and 8% of international proved reserves at December 31, 2008. The concession covers approximately 12,000 net developed acres and 852,000 net undeveloped acres.

We have been operating in Ecuador since 1996. We utilize natural gas from the Amistad field (offshore Ecuador) to generate electricity through a 100%-owned natural gas-fired power plant, located near the city of Machala. The Machala power plant, which began operating in 2002, is a single cycle generator with a capacity of 130 MW from twin turbines. It is the only natural gas-fired commercial power generator in Ecuador and currently one of the lowest cost producers of thermal power in the country. The Machala power plant connects to the Amistad field via a 40-mile pipeline. In 2008, power generation totaled 749 GW hours.

China — We have been engaged in exploration and development activities in China since 1996 with production beginning in 2003. We are operator for the joint operating group of the Cheng Dao Xi field (57% working interest), which is located in the shallow water of the southern Bohai Bay. In 2008, activities consisted primarily of workover operations, including installations of electric submersible pumps. China accounted for 4% of 2008 consolidated international sales volumes and 4% of international proved reserves at December 31, 2008. At December 31, 2008, we held approximately 4,000 net developed acres and no undeveloped acres. The Supplemental Development Plan, which is designed to further develop the Cheng Dao Xi field through additional drilling and facilities construction, has received all necessary governmental approvals.

Suriname — Suriname, a country located on the northern coast of South America, represents a new exploration area for us. We have entered into participation agreements on non-operated Block 30 (45% working interest) and on Block 32 (100% working interest), which combined cover approximately 6.4 million net acres offshore. During 2008, we participated in the drilling of an exploratory well on the West Tapir prospect on Block 30. The well, which did not contain hydrocarbons in commercial quantities, was the first well to be drilled offshore Suriname in over 20 years and the drilling results will allow us to evaluate and improve our understanding of the basin. We will incorporate the findings into our geological and geophysical interpretations, which will influence our risk assessment of the remaining prospects.

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Sales Volumes, Price and Cost Data—Sales volumes, price and cost data are as follows:

	Sales Volumes			Average Sales Price			Average Production Cost
	Crude Oil MBopd (1)	Natural Gas MMcfpd	NGLs MBpd	Crude Oil Per Bbl (2)	Natural Gas Per Mcf (2)	NGLs Per Bbl	Per BOE (3)
Year Ended December 31, 2008							
United States	40	395	9	$ 75.53	$ 8.12	$ 50.15	$ 10.43
West Africa (4) (5)	15	206	-	88.95	0.27	-	2.17
North Sea	10	5	-	100.56	10.54	-	14.30
Israel	-	139	-	-	3.10	-	1.07
Ecuador	-	22	-	-	-	-	-
Other International (6)	4	-	-	82.66	-	-	15.94
Total Consolidated Operations	69	767	9	82.60	5.04	50.15	$ 7.84
Equity Investee (7)	2	-	6	96.77	-	58.81	
Total	71	767	15	$ 82.96	$ 5.04	$ 53.45	
Year Ended December 31, 2007							
United States	42	412	-	$ 53.22	$ 7.51	-	$ 8.49
West Africa (4) (5)	15	132	-	71.27	0.29	-	2.89
North Sea	13	6	-	76.47	6.54	-	9.81
Israel	-	111	-	-	2.79	-	1.14
Ecuador	-	26	-	-	-	-	-
Other International (6)	7	-	-	53.69	-	-	12.06
Total Consolidated Operations	77	687	-	60.61	5.26	-	$ 6.99
Equity Investee (7)	2	-	6	74.87	-	48.87	
Total	79	687	6	$ 60.94	$ 5.26	$ 48.87	
Year Ended December 31, 2006							
United States	46	452	-	$ 50.68	$ 6.61	-	$ 8.12
West Africa (4) (5)	18	45	-	62.51	0.37	-	2.86
North Sea	4	8	-	67.43	8.00	-	10.08
Israel	-	93	-	-	2.72	-	1.60
Ecuador	-	25	-	-	-	-	-
Other International (6)	7	-	-	52.05	-	-	9.74
Total Consolidated Operations	75	623	-	54.47	5.55	-	$ 6.97
Equity Investee (7)	2	-	6	66.60	-	40.10	
Total	77	623	6	$ 54.75	$ 5.55	$ 40.10	

(1) In 2008, volumes include the effect of crude oil sales in excess of volumes produced of 1 MBopd in West Africa. During 2007, crude oil sales volumes equaled volumes produced. In 2006, volumes include the effect of crude oil sales in excess of volumes produced of 1 MBopd in West Africa and crude oil sales less than volumes produced of 1 MBopd in other international.

(2) Average crude oil sales prices for the US reflect reductions of $22.06 per Bbl (2008), $13.68 per Bbl (2007), and $11.41 per Bbl (2006) from hedging activities. Average crude oil sales prices for West Africa reflect reductions of

$7.59 per Bbl (2008) and $2.19 per Bbl (2007) from hedging activities. We did not hedge West Africa crude oil sales in 2006. Average natural gas sales prices in the US reflect an increase of $0.23 per Mcf (2008), an increase of $1.12 per Mcf (2007), and a reduction of $0.25 per Mcf (2006) from hedging activities.

(3) Average production costs include oil and gas operating costs, workover and repair expense, production and ad valorem taxes, and transportation expense.

(4) Natural gas from the Alba field in Equatorial Guinea is under contract for $0.25 per MMBtu to a methanol plant, an LPG plant and an LNG plant. Sales to these plants are based on a BTU equivalent and then converted to a dry gas equivalent volume. The methanol and LPG plants are owned by affiliated entities accounted for under the equity method of accounting. The volumes produced by the LPG plant are included in the crude oil information. The price on an Mcf basis has been adjusted to reflect the Btu content of gas sales.

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(5) Equatorial Guinea natural gas volumes include sales to the LNG plant of 163 MMcfpd for 2008 and 78 MMcfpd for 2007. There were no natural gas sales to the LNG plant before 2007.
(6) Other International crude oil volumes include China and Argentina (through February 2008). Other International natural gas volumes include Argentina (through February 2008).
(7) Volumes represent sales of condensate and LPG from the LPG plant in Equatorial Guinea.

Revenues from sales of crude oil and natural gas have accounted for 90% or more of consolidated revenues for each of the last three fiscal years.

At December 31, 2008, our operated properties accounted for approximately 61% of our total production. Being the operator of a property improves our ability to directly influence production levels and the timing of projects, while also enhancing our control over operating expenses and capital expenditures.

Productive Wells—The number of productive crude oil and natural gas wells in which we held an interest as of December 31, 2008 was as follows:

	Crude Oil Wells		Natural Gas Wells		Total	
	Gross	Net	Gross	Net	Gross	Net
United States						
Northern Region	7,567	5,853.8	4,835	3,384.6	12,402	9,238.4
Southern Region	833	796.0	252	105.7	1,085	901.7
West Africa	3	1.2	20	7.7	23	8.9
North Sea	17	3.5	9	1.2	26	4.7
Israel	-	-	6	2.8	6	2.8
Ecuador	-	-	5	5.0	5	5.0
China	14	8.0	1	0.6	15	8.6
Total	8,434	6,662.5	5,128	3,507.6	13,562	10,170.1
Multiple Completions	-	-	16	3.3	16	3.3

Productive wells are producing wells and wells capable of production. A gross well is a well in which a working interest is owned. The number of gross wells is the total number of wells in which a working interest is owned. A net well is deemed to exist when the sum of fractional ownership working interests in gross wells equals one. The number of net wells is the sum of the fractional working interests owned in gross wells expressed as whole numbers and fractions thereof. Wells with multiple completions are counted as one well in the table above.

Developed and Undeveloped Acreage—Developed and undeveloped acreage (including both leases and concessions) held at December 31, 2008 was as follows:

	Developed Acreage		Undeveloped Acreage	
	Gross	Net	Gross	Net
United States	(in thousands)			
Onshore	1,352	893	1,361	1,014
Offshore	164	103	556	300
Total United States	1,516	996	1,917	1,314
International				
Equatorial Guinea	45	15	618	250
Cameroon	-	-	1,125	563

North Sea (1)	48	6	266	54
Israel	62	29	1,823	807
Ecuador	12	12	852	852
China	7	4	-	-
Suriname	-	-	7,740	6,363
Other International (2)	-	-	1,830	1,142
Total International	174	66	14,254	10,031
Total Worldwide (3)	1,690	1,062	16,171	11,345

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(1) The North Sea includes acreage in the UK and the Netherlands. In 2008, we sold our interest in Norway acreage consisting of approximately 411,000 gross (127,000 net) undeveloped acres.
(2) Other International includes India and Cyprus.
(3) Approximately 258,000 gross acres (176,000 net acres) will expire in 2009, 662,000 gross acres (385,000 net acres) will expire in 2010, and 1,370,000 gross acres (1,285,000 net acres) will expire in 2011 if production is not established or we take no other action to extend the terms.

Developed acreage is comprised of leased acres that are within an area spaced by or assignable to a productive well. Undeveloped acreage is comprised of leased acres with defined remaining terms and not within an area spaced by or assignable to a productive well.

A gross acre is any leased acre in which a working interest is owned. A net acre is comprised of the total of the owned working interest(s) in a gross acre expressed in a fractional format.

Drilling Activity—The results of crude oil and natural gas wells drilled and completed for each of the last three years were as follows:

	Net Exploratory Wells			Net Development Wells		
	Productive	Dry	Total	Productive (1)	Dry	Total
Year Ended December 31, 2008						
United States						
Northern Region	1.0	-	1.0	837.2	42.0	879.2
Southern Region	14.6	2.0	16.6	30.9	2.0	32.9
West Africa	1.3		1.3	-	-	-
North Sea	-	0.4	0.4	0.6	0.3	0.9
Israel	-	-	-	-	-	-
Suriname	-	0.5	0.5	-	-	-
Total	16.9	2.9	19.8	868.7	44.3	913.0
Year Ended December 31, 2007						
United States						
Northern Region	13.9	1.9	15.8	738.0	24.5	762.5
Southern Region	0.3	2.6	2.9	19.6	3.1	22.7
West Africa	2.6	0.5	3.1	-	-	-
North Sea	0.5	-	0.5	-	-	-
Israel	-	-	-	0.4	-	0.4
Argentina (2)	-	0.1	0.1	6.7	-	6.7
Total	17.3	5.1	22.4	764.7	27.6	792.3
Year Ended December 31, 2006						
United States						
Northern Region	5.5	4.6	10.1	521.4	4.6	526.0
Southern Region	0.8	4.4	5.2	145.2	0.9	146.1
West Africa	-	0.4	0.4	1.8	-	1.8
North Sea	-	-	-	1.1	-	1.1
Argentina (2)	-	-	-	7.6	-	7.6
Total	6.3	9.4	15.7	677.1	5.5	682.6

(1) Excludes wells drilled but not yet completed.