OCS Report
BOEMRE 2011-045

Outer Continental Shelf

Estimated Oil and Gas Reserves Gulf of Mexico OCS Region December 31, 2007

BOEMRE
U.S. Department of the Interior
Bureau of Ocean Energy Management,
Regulation and Enforcement
Gulf of Mexico OCS Region

ON COVER- Independence Hub located in Mississippi Canyon Block 920 in 7,920 feet of water (from http://www.drillingcontractor.org).

OCS Report
BOEMRE 2011-045

Outer Continental Shelf

Estimated Oil and Gas Reserves
Gulf of Mexico OCS Region
December 31, 2007

Authors

T. Gerald Crawford
Grant L. Burgess
Steven M. Haley
Peter F. Harrison
Clark J. Kinler
Gregory D. Klocek
Nancy K. Shepard

Resource Evaluation Office
Reserves Section

Published by

U.S. Department of the Interior
Bureau of Ocean Energy Management,
Regulation and Enforcement
Gulf of Mexico OCS Region

New Orleans
September 2011

TABLE OF CONTENTS

FIGURES

Page

TABLES

ABBREVIATIONS AND ACRONYMS

AAPG	American Association of Petroleum Geologists
AL	Alabama
Bbbl	Billion barrels
Bbl	barrels
BBO	billion barrels of oil
BBOE	billion barrels of oil equivalent
Bcf	billion cubic feet
BOE	barrels of oil equivalent
BOEMRE	Bureau of Ocean Energy Management, Regulation and Enforcement
CFR	Code of Federal Regulations
CPA	Central Planning Area
DOCD	Development Operations Coordination Document
DOI	U.S. Department of the Interior
^{0}F	degrees Fahrenheit
FL	Florida
ft	feet
GOM	Gulf of Mexico
GOMR	Gulf of Mexico Region
GOR	gas oil ratio
LA	Louisiana
m	meters
Mcf	thousand cubic feet
mi	miles
MMbbl	million barrels
MMBOE	million barrels of oil equivalent
MMcf	million cubic feet
MMS	Minerals Management Service
MS	Mississippi
N	north
NM	nautical mile
OAP	Offshore Atlas Project
OCS	Outer Continental Shelf
OCSLA	Outer Continental Shelf Lands Act
PDN	proved developed non-producing
PDP	proved developed producing
psia	pounds per square inch
PU	proved undeveloped P/Z pressure/gas compressibility factor
RE	Resource Evaluation
SCF/STB	standard cubic feet per stock tank barrel
SE	southeast
SPE	Society of Petroleum Engineers
SPEE	Society of Petroleum Evaluation Engineers
Tcf	trillion cubic feet
TVDSS	true vertical depth subsea
TVT	true vertical thickness
TX	Texas
U.S.	United States
USGS	United States Geological Survey
WPA	Western Planning Area
WPC	World Petroleum Congress

ABSTRACT

This is the annual publication that presents the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) estimates of proved reserves in the Gulf of Mexico Outer Continental Shelf. As of December 31, 2007, it is estimated that there are 20.43 billion barrels of oil and 184.6 trillion cubic feet of gas from 1,251 proved fields. Proved reserves are the total of the cumulative production plus remaining proved reserves. This number includes 22 proved fields that were added during 2007. It also includes the 298 proved fields that have produced and expired. It does not include the 53 unproved active fields. Estimates are derived for individual reservoirs from geologic interpretation and reserve evaluation. Cumulative production from the proved fields accounts for 15.55 billion barrels of oil and 169.5 trillion cubic feet of gas. Remaining proved reserves are estimated to be 4.88 billion barrels of oil and 15.1 trillion cubic feet of gas. These reserves are recoverable from 953 proved active fields.

Unproved reserves are estimated to be 4.12 billion barrels of oil and 7.3 trillion cubic feet of gas. These reserves are associated with the 53 unproved active fields and the unproved reserves in proved fields. In total, there are 1,006 proved and unproved active fields located in Federal waters. The unproved reserves associated with the proved and unproved active fields are not added to proved reserves because of decreasing levels of economic certainty and hydrocarbon assurance. For any field spanning State and Federal waters, reserves are estimated for the Federal portion only.

In addition to the proved and unproved reserves discussed above, there are an estimated 1.69 billion barrels of oil and 9.5 trillion cubic feet of gas that are not presented in the tables and figures of this report. This oil and gas occurs on leases that have not yet qualified (and therefore have not been placed in a field) or they occur as known resources in proved fields and in unproved fields. As additional drilling and development occur, additional hydrocarbon volumes will become reportable, and BOEMRE anticipates future proved and unproved reserves to increase.

The estimates of reserves for this report were completed in January 2010 and represent the combined efforts of engineers, geologists, geophysicists, paleontologists, and other personnel of the BOEMRE Gulf of Mexico Region, Office of Resource Evaluation, in New Orleans, Louisiana.

INTRODUCTION

Title VI Section 606 of the Outer Continental Shelf Lands Act September 18, 1978, requires the Secretary of the Interior to conduct a continuing investigation for the purpose of determining the availability of all oil and natural gas produced or located on the Outer Continental Shelf (OCS). The Department of the Interior's (DOI), Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE), is the federal agency responsible for overseeing the safe and environmentally responsible development of energy and mineral resources on the OCS. This responsibility includes the Federal portion of Gulf of Mexico (GOM) waters. The acronym GOM used throughout this report refers only to Federal waters. BOEMRE Reserves inventory, a major component of the Resource Evaluation (RE) Program, is the basic foundation for energy supply forecasting, public policy decisions, independent assessment/verification, and the assuring of fair value in public/private transactions. For an overview of the Reserves Inventory Program visit BOEMRE's Web site at http://www.boemre.gov/revaldiv/ReserveInventory.htm.

This report supersedes the MMS OCS Report, *Estimated Oil and Gas Reserves, Gulf of Mexico, December 31, 2006 (Crawford et al., 2009)***.** It presents estimated proved reserves, cumulative production, remaining proved reserves, and unproved reserves as of December 31, 2007, for the GOM. **Figure 1** represents the percentages of cumulative production, remaining proved reserves, unproved reserves and resources in the GOM presented in this report. Estimates of reserves growth (an observed phenomenon that occurs when there is an incremental increase through time in the estimates of proved reserves) as well as undiscovered and known resources are not presented in detail in this report.

As of December 31, 2007, the 1,251 proved oil and gas fields in the federally regulated part of the GOM OCS contained proved reserves estimated to be 20.43 billion barrels of oil (BBO) and 184.6 trillion cubic feet (Tcf) of gas. Cumulative production from the proved fields accounts for 15.55 BBO and 169.5 Tcf of gas. Remaining proved reserves are estimated to be 4.88 BBO and 15.1 Tcf of gas for the 953 proved active fields. Remaining proved oil reserves have decreased 7 percent and the remaining proved gas reserves have decreased 11 percent from the 2006 report. Unproved reserves in the federally regulated part of the GOM OCS are estimated to be 4.12 BBO and 7.3 Tcf of gas. Unproved reserves in water depths greater than 1,000 feet (ft) represent 95 percent of the total unproved oil and 53 percent of the total unproved gas. Estimated unproved reserves for oil are 8.3 times the 2007 annual oil production. For gas, the estimates are 1.4 times greater than the 2007 annual gas production.

In addition to the proved and unproved reserves discussed above, there are an estimated 1.69 BBO and 9.5 Tcf of gas that are not presented in the subsequent tables and figures of this report. This oil and gas occurs on leases that have not yet qualified (and therefore have not been placed in a field) or they occur as known resources in proved fields, or as known resources in unproved fields. As further drilling and development occur, additional hydrocarbon volumes will become reportable, and BOEMRE anticipates future proved and unproved reserves to increase.

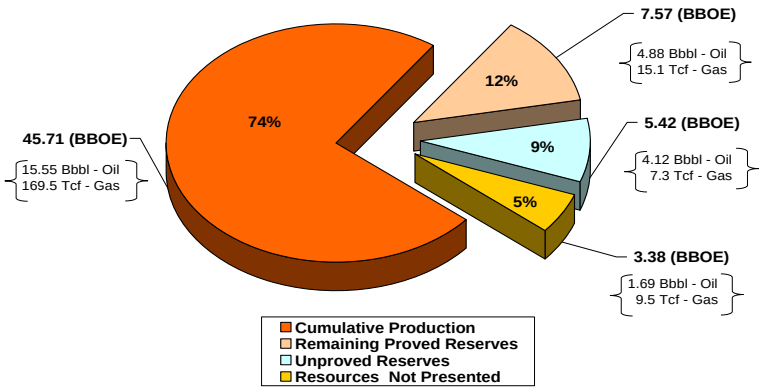


Figure 1. BOEMRE GOM production and reserves.

BACKGROUND

Definition of Resource and Reserve Terms

The BOEMRE definitions and classification schema concerning reserves reflect those approved by the Board of Directors, Society of Petroleum Engineers (SPE), Inc., and the Executive Board, World Petroleum Congresses (WPC), March 1997. The BOEMRE definitions and classification schema concerning resources are modified as referenced by the DOI (USGS-MMS, 1989). The BOEMRE petroleum resource and reserve classifications are presented in **Figures 2** and **3.**

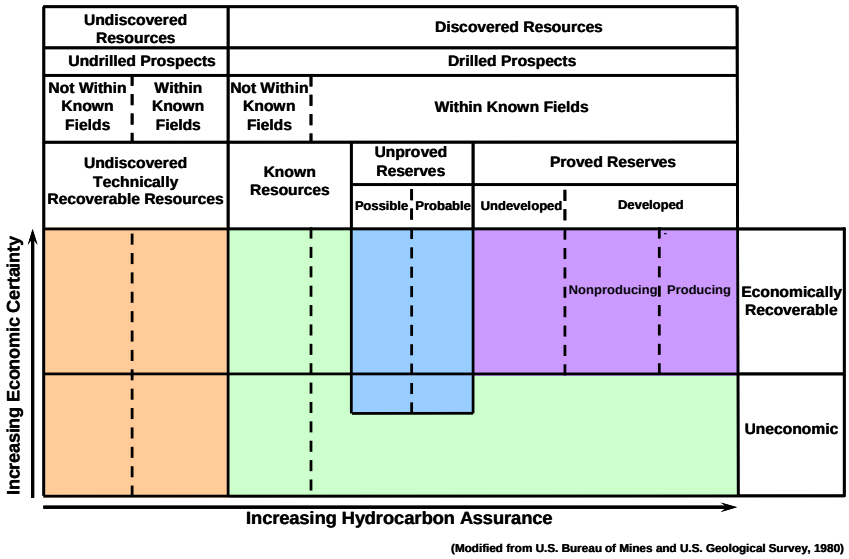


Figure 2. BOEMRE conventionally recoverable petroleum resource classifications.

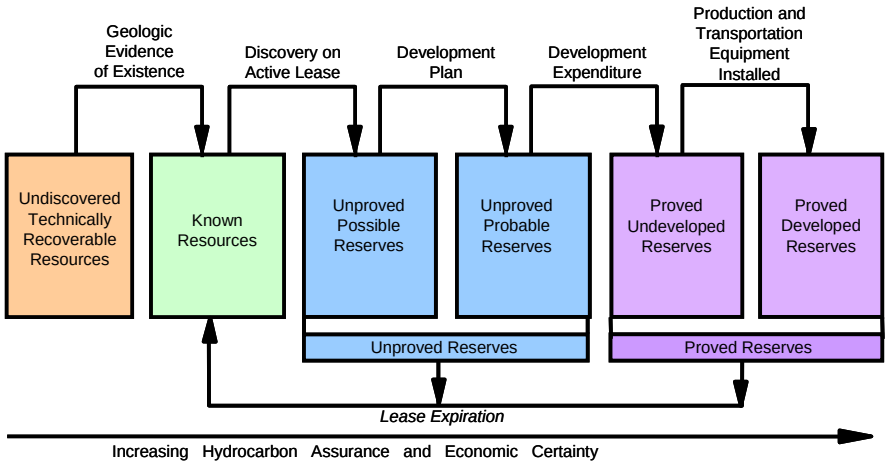


Figure 3. BOEMRE reserve classifications.

Field

A field is an area consisting of a single reservoir or multiple reservoirs all grouped on, or related to, the same general geologic structural feature and/or stratigraphic trapping condition. There may be two or more reservoirs in a field that are separated vertically by impervious strata, laterally by local geologic barriers, or by both. The area may include one OCS lease, a portion of an OCS lease, or a group of OCS leases with one or more wells that have been approved as producible by the BOEMRE pursuant to the requirements of Title 30 Code of Federal Regulations (CFR) 250.115/116, Determination of Well Producibility (*Federal Register, 2007*). A field is usually named after the area and block on which the discovery well is located. Field names and/or field boundaries may be changed when additional geologic and/or production data initiate such a change. Using geological criteria, BOEMRE designates a new producible lease as a new field or assigns it to an existing field. A further explanation of field naming convention can be found in the "Reserves and Related Data Reported by Area" section on page 9 and in the Field Naming Handbook available from BOEMRE's GOMR Web site:
http://www.gomr.boemre.gov/homepg/offshore/fldresv/fldnmhbk/fldnmhbk.html.

Resources

Concentrations of naturally occurring liquid or gaseous hydrocarbons that can conceivably be discovered and recovered are called resources. Normal use encompasses both undiscovered and discovered resources.

Undiscovered Resources

Hydrocarbons estimated on the basis of geologic knowledge and theory to exist outside of known accumulations are *undiscovered resources*. Undiscovered resources analogous to those in existing fields producible with current recovery technology and efficiency, but without any consideration of economic viability, are *undiscovered technically recoverable resources.*

Discovered Resources

Hydrocarbons whose location and quantity are known or estimated from specific geologic evidence are *discovered resources*. Discovered resources include known resources, unproved reserves, and proved reserves, depending upon economic, technical, contractual, or regulatory criteria.

Known Resources

Hydrocarbons associated with reservoirs penetrated by one or more wells that are on leases that are active, expired, relinquished, or terminated are identified as *known resources*.

Reserves

Those quantities of hydrocarbons which are anticipated to be recovered from known accumulations from a given date forward are reserves. All reserve estimates involve some degree of uncertainty. The uncertainty depends chiefly on the amount of reliable geologic and engineering data available at the time of the estimate and the interpretation of these data. The relative degree of uncertainty may be conveyed by placing reserves into one of two principal classifications, either unproved or proved.

Unproved Reserves

Those quantities of hydrocarbons that can be estimated with some certainty to be potentially recoverable from known reservoirs, assuming future economic conditions and technological developments, are *unproved reserves*. The BOEMRE GOMR Field Names Committee designates a new producible lease as a new field or assigns it to an existing field. The reserves associated with new producible leases qualified pursuant to 30 CFR 250.115/116

are initially considered unproved reserves. Unproved reserves are less certain to be recovered than proved reserves and are further subclassified as possible and probable reserves to denote progressively increasing certainty in their recoverability. This report does not present individual estimates for possible and probable reserves.

Unproved possible reserves are those unproved reserves which analysis of geological and engineering data suggests are less likely to be commercially recoverable than probable reserves. After a well on a lease qualifies, the reserves associated with the lease are initially classified as unproved possible because the only direct evidence of economic accumulations is a production test or electric log analysis.

Unproved probable reserves are those unproved reserves which analysis of geological and engineering data suggests are more likely than not to be commercially recoverable. Fields that have a Development Operations Coordination Document (DOCD) on file with the BOEMRE would be classified as unproved probable.

Proved Reserves

Those quantities of hydrocarbons which can be estimated with reasonable certainty to be commercially recoverable from known reservoirs under current economic conditions, operating methods, and government regulations are *proved reserves*. Establishment of current economic conditions includes consideration of relevant historical petroleum prices and associated costs and may involve an averaging period that is consistent with the purpose of the reserve estimate. Proved reserves must have facilities operational at the time of the estimate to process and transport those reserves to market, or a commitment or reasonable expectation to install such facilities in the future. The application for a permit to install a platform is considered such a commitment. Proved reserves can be subdivided into undeveloped or developed.

Proved undeveloped reserves exist where there is a relatively large expenditure required to install production and/or transportation facilities and a commitment has been made by the operator to develop the field. Proved undeveloped reserves are reserves expected to be recovered from planned development wells or from existing wells where a relatively large expenditure is required for field development.

Proved developed reserves are expected to be recovered from existing wells (including reserves behind pipe). Reserves are considered developed only after the necessary production and transportation equipment has been installed, or when the costs to do so are relatively minor. Proved developed reserves are subcategorized as producing or nonproducing. This distinction is made at the reservoir level.

Proved Developed Producing Reserves are in reservoirs that have produced any time during the 12 months before the reporting date. Once the first reservoir in a field begins production, the reservoir and the field are considered proved developed producing.

Proved Developed Nonproducing Reserves are in reservoirs that have not produced during the 12 months prior to the reporting date. This category includes off-production reservoirs behind pipe and reservoirs awaiting workovers or transportation facilities. If all reservoirs in a field are off production, the field is considered proved developed nonproducing.

Remaining proved reserves are the quantities of proved reserves currently estimated to be recoverable. Estimates of remaining proved reserves equal proved reserves minus cumulative production.

Note: The BOEMRE definitions and classification schema concerning reserves for future Estimated Oil and Gas Reserves reports will be based upon the 2007 update of reserves definitions currently being adopted world-wide under the Petroleum Resource Management System.

Reference Standard Conditions for Production and Reserves

Production data are the metered volumes of raw liquids and gas reported to the BOEMRE by Federal unit and lease operators. Oil and gas volume measurements and reserves are corrected to reference standard conditions of 60°F and one atmosphere (14.73 pounds per square inch absolute [psia]). Prior to September 1998, gas was reported at 15.025 psia. Beginning with the production month of September 1998, gas production was reported at a pressure base of 14.73 psia. BOEMRE is in the process of converting all historical gas production to the 14.73 pressure base. Continuously measured volumes from production platforms and/or leases are allocated to individual wells and reservoirs on the basis of periodic well test gauges. These procedures introduce approximations in both production and remaining reserves data.

METHODOLOGY

Methods Used for Estimating Reserves

The Reserves inventory component of the RE Program assigns new producible leases to fields and establishes field limits**.** The RE Program also develops independent estimates of original amounts of natural gas and oil in discovered fields by conducting field reserve studies and reviews of fields, sands, and reservoirs on the OCS. The Program periodically revises the estimates of remaining natural gas and oil to reflect new discoveries, development information and annual production.

This report, *Estimated Oil and Gas Reserves, Gulf of Mexico, December 31, 2007*, is based on aggregation of BOEMRE internal field studies completed at the reservoir and sand levels. All of the reservoir level data have been linked to the sand, pool, play, chronozone, and series level to support the Offshore Atlas Project (OAP).

Two additional reports address GOM reserves. The MMS OCS Report, *Atlas of Gulf of Mexico Gas and Oil Sands as of January 1, 1999(Bascle et al., 2001*) provides a detailed geologic reporting of oil and gas proved and unproved reserves. The MMS OCS Report, *2000 Assessment of Conventionally Recoverable Hydrocarbon Resources of the Gulf of Mexico and Atlantic Outer Continental Shelf as of January 1, 1999 (Lore et al., 2001)* also known as the National Assessment, and its update, *Assessment of Undiscovered Technically Recoverable Oil and Gas Resources of the Nation's Outer Continental Shelf, 2006 (Lore, 2006)* address proved and unproved reserves, reserves appreciation, and undiscovered resources. For information on these reports, contact the BOEMRE's GOMR Public Information Office at 1-800-200-GULF or visit BOEMRE's GOMR Web site at http://www.gomr.boemre.gov.

Reserve estimates from geological and engineering analyses have been completed for the 1,251 proved fields. Reserves accountability is dependent on the drilling and development phases of fields. When a field is in the unproved category, geophysical mapping and limited well data are the basis for defining reservoir limits. Once a field is moved into the proved category and more data become available, the reserve estimate is re-evaluated. Well logs, well file data, seismic data, and production data are continually analyzed to improve the accuracy of the reserve estimate. As a field is depleted and/or abandoned, the proved reserves of productive reservoirs are assigned a value equal to the amount produced and the reserve estimate of non-producing reservoirs is converted to known resources. Currently, there are 298 proved expired, depleted fields.

Estimation of reserves is done under conditions of uncertainty. Deterministic estimates provide a single "best estimate" based on known geological, engineering, and economic data. Probabilistic estimates generate a continuous range of estimates and their associated probabilities when the known geoscience, engineering, and economic data are used (SPE/WPC/AAPG/SPEE, 2007). Reserve estimates in this report are deterministic.

Methods used for estimating reserves can be categorized into three groups: analog, volumetric, and performance. The accuracy of the proved reserve estimate improves as more reservoir data become available to geoscientists and engineers. Reserve estimates in this report are based primarily on volumetric and performance methods.

Analog

In the estimation of resources/reserves by analogy, geoscientists use seismic data to generate maps of the extent of subsurface formations. Estimates of undiscovered resources are based on analogy with similar fields, reservoirs, or wells in the same area before any wells have been drilled on a prospect. The seismic data help geoscientists identify prospects and resources, but do not provide enough direct data alone to estimate reserves.

The effective pore space, water saturation, net hydrocarbon thickness, pressure, volume, and temperature data, all necessary to complete resource estimates for prospects, come from nearby field and reservoir well data. After one or more wells are drilled and found producible, a volumetric estimate is done. These estimates, while incorporating existing data, still rely on some information obtained from analogs.

Volumetric

In a volumetric reserve estimate, data from drilled wells and seismic surveys are used to develop geologic models. The effective pore space (porosity), water saturation, and net hydrocarbon thickness of the subsurface formations are calculated through evaluation of well logs, core analysis, and formation test data. Subsurface formations are mapped to determine area and net hydrocarbon thickness for each reservoir. Reservoir pressure, fluid volume, and temperature data from formation fluid samples are used to determine the change in volume of oil and gas that flow from higher pressure and temperature conditions deep underground to lower pressure and temperature conditions at the surface. All of these data are compiled, analyzed, and applied to standard equations for the calculation of hydrocarbons in place within the reservoirs. Standard recovery factor equations are then applied to the in-place estimates to calculate proved and unproved reserves.

Performance Methods

In performance-technique methods, reserves are estimated by using mathematical or graphical techniques of production decline curve analysis and material balance. These techniques are used throughout the oil industry in assessing individual well, reservoir, or field performance, and in forecasting future reserves. In decline analysis, a plot of daily production rate against time is most frequently used. Once a well or reservoir can no longer produce at its maximum capacity, the production rate declines. This production rate plotted against time can be extrapolated into the future to predict the remaining reserves. Another type of decline analysis is daily production rate plotted against cumulative production, which can also be used to predict remaining reserves. The declining daily rate is extrapolated to predict remaining reserves.

Material balance, another performance method, is used to estimate the amount of hydrocarbons in place. Given the premise that the pressure-volume relationship of a reservoir remains constant as hydrocarbons are produced, it is possible to equate expansion of reservoir fluids with reservoir voidage caused by fluid withdrawal minus any water influx. For depletion-drive gas reservoirs, a plot of the pressure/gas compressibility factor (P/Z) versus cumulative gas production provides an estimate of gas-in-place. Recoverable gas reserves are extrapolated to an abandonment reservoir pressure.

RESERVES AND RELATED DATA BY PLANNING AREA

The GOM OCS is divided into three planning areas for administrative purposes (**Figure 4**). This figure displays the reconfigured administrative planning area boundaries designated by BOEMRE (*Federal Register, 2006*). **Appendix A** provides further detail about planning area boundary changes. Each planning area is subdivided into protractions, which in turn are divided into numbered blocks. Fields in the GOM are identified by the protraction area name and block number of discovery – for example, East Cameron Block 271 (EC 271) Field.

As the field is developed, the limits may expand into adjacent blocks and areas. These adjacent blocks are then identified as part of the original field and are given that field name. Statistics in this report are presented as area totals compiled under each field name. All of the data associated with EC 271 Field are therefore included in the East Cameron (EC) totals, although part of the field extends into the adjacent area of Vermilion (VR). There are four exceptions to the above field-naming techniques: Tiger Shoal and Lighthouse Point, included in South Marsh Island (SM); Coon Point, included in Ship Shoal (SS); and Bay Marchand, included in South Timbalier (ST).

Through December 31, 2007, there were 1,006 proved and unproved active fields in the federally regulated part of the GOM. A list, updated quarterly, of the active and expired fields can be found in the *OCS Operations Field Directory* is available from BOEMRE's GOMR Web site (USDOI, 2007). There were 953 proved, active (producing and non-producing) fields and 53 unproved active fields studied. Included are the 298 proved expired, depleted fields, abandoned after producing 3.1 percent barrels oil equivalent (BOE) of the total cumulative oil and gas production. Not studied were 87 fields expired, relinquished, or terminated without production. These fields may also be included in the *Indicated Hydrocarbon List (Hasseltine, 2008)* that can be found by visiting the BOEMRE's GOMR Web site at http://www.gomr.boemre.gov/homepg/offshore/gulfocs/hclist/hclist.html. In 2007, 42 proved fields expired including 28 proved fields that had no production during the year.

Reserves data and various classifications of fields, leases, boreholes, and completions are presented as area totals in **Tables 1, 2**, and **3**. (**Table 3** will be discussed in the section "Reserves by Geologic Age," beginning on page 15.)

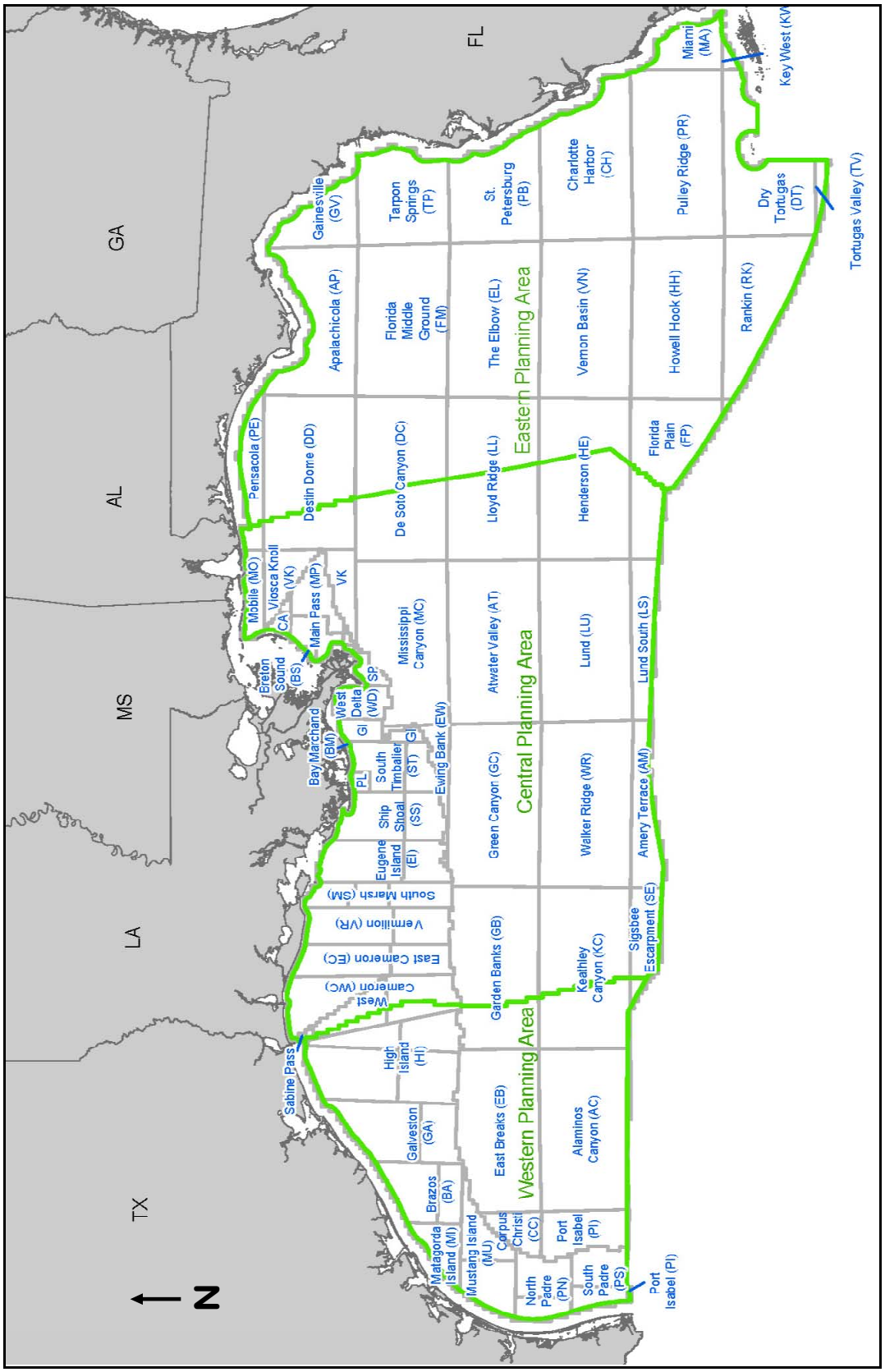


Figure 4. BOEMRE GOM OCS Planning Areas.

Table 1. Estimated oil and gas reserves for 1,251 proved fields and 53 unproved fields by area, December 31, 2007.

Area(s) (Fig. 4)	Number of fields					Proved reserves			Cumulative production through 2007			Remaining proved reserves			Unproved reserves		
	Proved active prod	Proved active nonprod	Proved expired depleted	Unproved active	Expired nonprod	Oil	Gas	BOE	Oil	Gas	BOE	Oil	Gas	BOE	Oil	Gas	BOE
Western Planning Area																	
Alaminos Canyon	3	1	0	3	2	225	399	296	65	106	84	160	293	212	226	268	273
Brazos	21	2	15	0	3	10	3,604	651	10	3,463	626	0	141	25	0	28	5
East Breaks	17	2	0	2	3	252	2,123	629	191	1,698	493	61	425	136	16	89	32
Galveston	21	7	20	1	3	69	2,219	464	56	2,005	412	13	214	52	0	46	9
Garden Banks	6	0	2	0	2	42	359	106	21	262	68	21	97	38	0	1	0
High Island and Sabine Pass	74	5	48	2	9	402	15,529	3,165	387	15,079	3,070	15	450	95	0	91	16
Matagorda Island	22	0	7	0	2	25	5,180	946	23	5,031	918	2	149	28	1	295	54
Mustang Island	11	2	16	0	5	9	1,805	330	7	1,700	309	2	105	21	13	138	38
N.& S.Padre Island	11	0	7	1	0	0	619	111	0	568	101	0	51	9	0	1	0
West Cameron and Sabine Pass	14	3	6	0	0	30	2,403	458	28	2,316	441	2	87	18	2	81	16
Western Planning Area (Other)*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Western Planning Area Subtotal	***200***	***22***	***121***	***9***	***30***	***1,064***	***34,240***	***7,156***	***788***	***32,228***	***6,522***	***276***	***2,012***	***634***	***258***	***1,038***	***443***
Central Planning Area																	
Atwater Valley	4	1	0	4	3	60	517	152	0	27	5	60	490	147	108	291	160
Chandeleur	6	3	4	0	0	0	372	67	0	356	64	0	16	3	0	4	1
East Cameron	41	6	19	0	0	355	10,881	2,291	330	10,502	2,198	25	379	93	4	137	28
Eugene Island	72	6	10	0	3	1,651	19,579	5,135	1,600	18,974	4,976	51	605	159	35	214	73
Ewing Bank	17	0	0	0	2	359	709	486	279	564	380	80	145	106	53	108	72
Garden Banks	20	3	5	1	2	615	3,638	1,263	508	3,052	1,051	107	586	211	68	151	95
Grand Isle	14	1	6	1	1	993	4,904	1,865	956	4,670	1,787	37	234	78	19	116	40
Green Canyon	31	3	4	12	16	2,669	3,724	3,332	941	2,354	1,360	1,728	1,370	1,972	760	595	866
Main Pass and Breton Sound	57	11	22	0	5	1,124	6,757	2,326	1,046	6,283	2,164	78	474	162	6	18	9
Mississippi Canyon	39	3	4	9	7	3,600	9,613	5,310	1,644	6,428	2,788	1,956	3,185	2,522	535	2,078	905
Mobile	22	3	8	0	2	0	2,205	393	0	1,913	341	0	292	52	0	47	8
Ship Shoal	54	2	12	1	2	1,400	12,212	3,573	1,354	11,802	3,454	46	410	119	21	183	53
South Marsh Island	38	7	6	0	0	945	14,424	3,512	880	13,794	3,334	65	630	178	14	298	67
South Pass	9	1	3	0	0	1,089	4,384	1,869	1,058	4,247	1,813	31	137	56	1	6	2
South Pelto	9	0	0	0	0	163	1,219	380	150	1,080	342	13	139	38	4	14	6
South Timbalier	45	5	11	3	1	1,646	10,855	3,577	1,503	9,520	3,197	143	1,335	380	1	28	6
Vermilion	56	8	20	0	2	570	16,394	3,487	535	15,895	3,363	35	499	124	17	343	78
Viosca Knoll	33	1	17	3	5	552	3,393	1,156	445	2,949	970	107	444	186	80	210	117
West Cameron and Sabine Pass	62	8	24	0	0	195	18,392	3,467	178	17,308	3,258	17	1,084	210	10	403	82
West Delta	19	3	2	0	3	1,382	5,587	2,376	1,352	5,395	2,312	30	192	64	12	78	26
Central Planning Area (Other)**	8	0	0	9	2	1	642	115	0	137	25	1	505	90	2,113	486	2,200
Central Planning Area Subtotal	***656***	***75***	***177***	***43***	***56***	***19,369***	***150,401***	***46,132***	***14,759***	***137,250***	***39,182***	***4,610***	***13,151***	***6,950***	***3,861***	***5,808***	***4,894***
Eastern Planning Area Subtotal***	***0***	***0***	***0***	***1***	***1***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***491***	***87***
GOM Total:	***856***	***97***	***298***	***53***	***87***	***20,433***	***184,641***	***53,288***	***15,547***	***169,478***	***45,704***	***4,886***	***15,163***	***7,584***	***4,119***	***7,337***	***5,424***
	1,251																

*Western Planning Area (Other) includes Corpus Christi, Keathley Canyon, and Port Isabel.
**Central Planning Area (Other) includes Lund, Keathley Canyon, Walker Ridge, and others.
***Eastern Planning Area includes DeSoto Canyon, Destin Dome, Lloyd Ridge, and others.

Figure 5 provides a geographical representation of locations for the proved fields discovered in the GOM beginning in 1975 (year of the first *Estimated Oil and Gas Reserves Report*). The bar heights in the figure are relative to the total proved reserves BOE for each proved field by decade.

Figure 6 provides a geographical representation of the unproved active fields discovered in the GOM. Estimates of unproved reserves are presented as planning area subtotals**.** The bar heights in the figure are relative to the total unproved reserves BOE for each unproved field by decade.

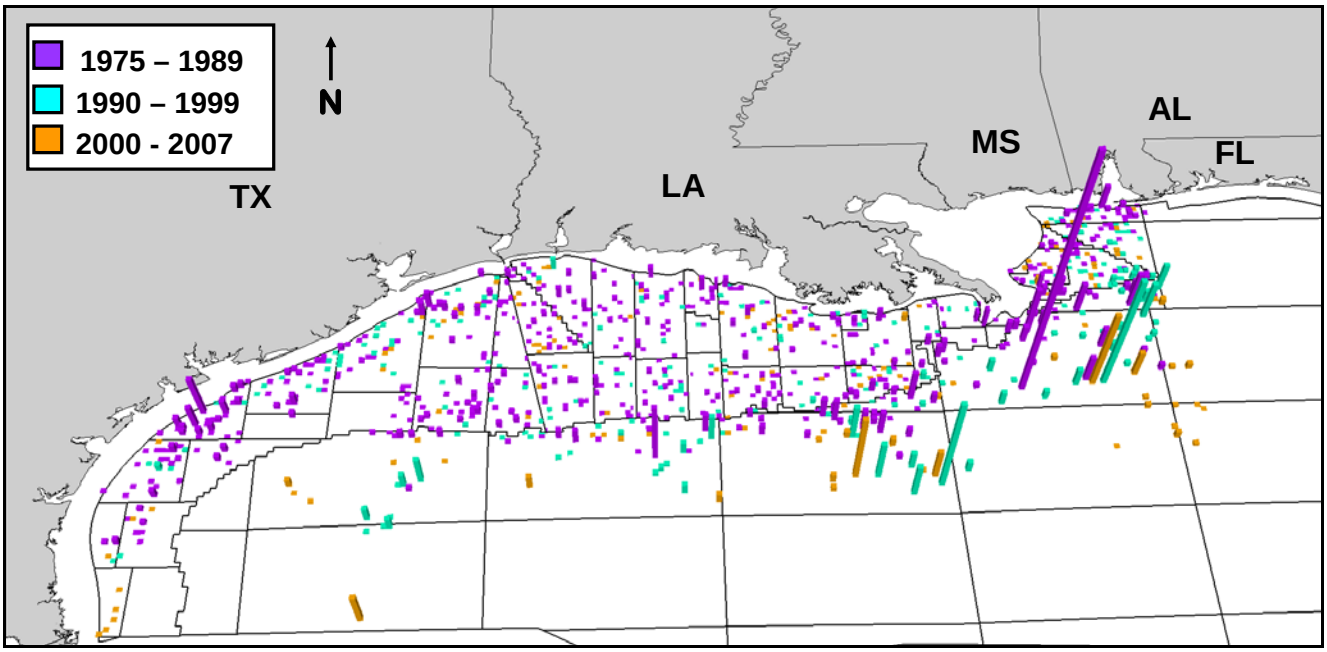


Figure 5. Proved fields discovered.

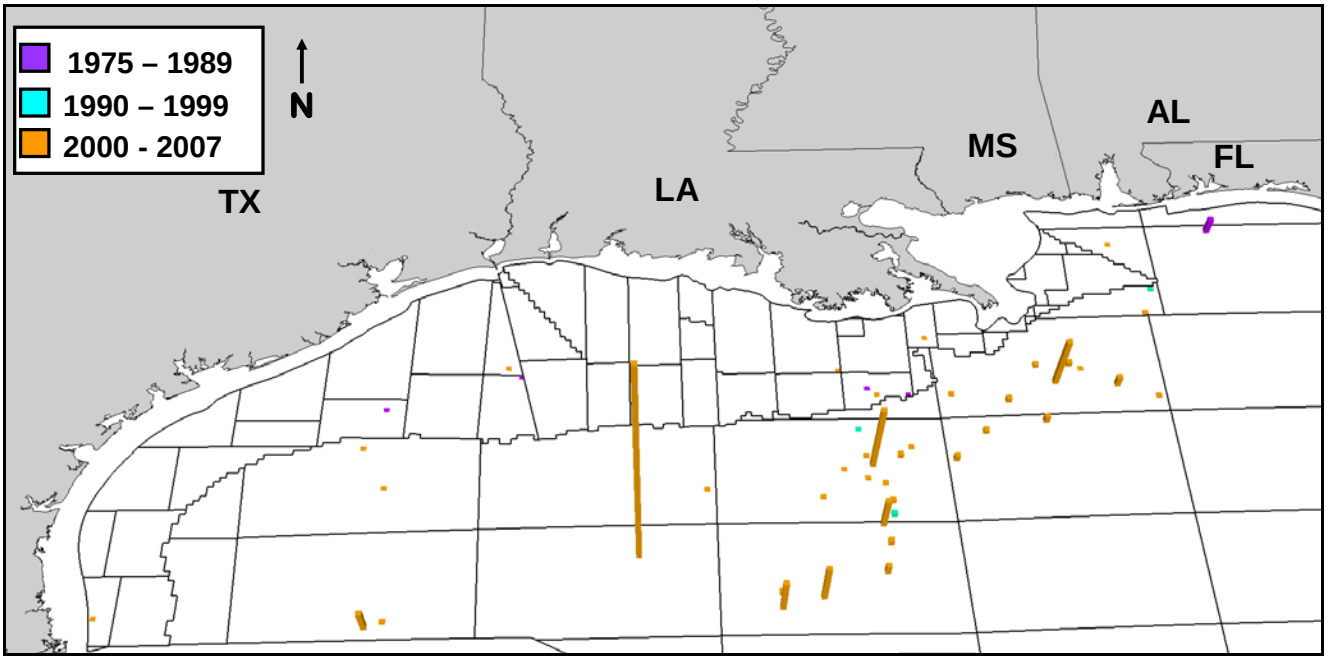


Figure 6. Unproved fields discovered.

Table 2. Status of oil and gas leases, boreholes, and completions by area
December 31, 2007.

(All statistics associated with fields are presented within area totals compiled under each field name.)

Area(s) (Fig. 4)	Number of leases					Number of boreholes		Number of active completions
	Proved active	Proved depleted	Unproved qualified	Unqualified active	Expired	Drilled	Abandoned	
Western Planning Area								
Alaminos Canyon	12	1	8	417	345	55	34	8
Brazos	33	56	0	68	370	593	454	136
East Breaks	35	6	2	338	486	383	257	119
Galveston	33	72	1	111	620	661	576	106
Garden Banks	7	4	0	142	218	102	82	20
High Island and Sabine Pass	153	197	2	246	1,063	3,597	2,722	974
Matagorda Island	42	44	0	44	172	650	459	239
Mustang Island	25	30	0	44	441	480	371	127
N.& S.Padre Island	15	16	1	53	343	197	153	59
West Cameron and Sabine Pass	33	45	0	45	225	532	421	159
Western Planning Area (Other)*	0	0	0	270	247	12	12	0
Western Planning Area Subtotal	***388***	***471***	***14***	***1,778***	***4,530***	***7,262***	***5,541***	***1,947***
Central Planning Area								
Atwater Valley	9	0	5	277	471	100	79	11
Chandeleur	6	16	0	17	36	90	69	25
East Cameron	103	157	0	103	660	2,373	1,832	746
Eugene Island	200	143	0	112	519	5,605	4,126	1,721
Ewing Bank	33	8	0	64	249	374	272	115
Garden Banks	41	25	1	358	786	585	444	136
Grand Isle	47	34	1	38	159	1,581	1,197	515
Green Canyon	85	17	16	619	813	1,103	794	263
Main Pass and Breton Sound	144	113	0	86	432	2,923	1,809	1,334
Mississippi Canyon	132	22	16	445	817	1,506	1,012	441
Mobile	41	13	0	16	101	183	119	65
Ship Shoal	162	99	1	122	526	3,943	2,643	1,419
South Marsh Island	121	87	0	84	359	3,056	2,063	1,089
South Pass	40	20	0	16	110	2,242	1,507	944
South Pelto	22	4	0	4	32	424	303	153
South Timbalier	132	73	4	113	507	3,493	2,403	1,306
Vermilion	137	169	0	139	634	3,320	2,545	1,017
Viosca Knoll	59	29	3	83	394	617	397	189
West Cameron and Sabine Pass	168	229	0	189	813	3,302	2,502	916
West Delta	87	50	0	35	198	3,040	2,182	887
Central Planning Area (Other)**	50	0	14	1,036	448	99	74	15
Central Planning Area Subtotal	***1,819***	***1,308***	***61***	***3,956***	***9,064***	***39,959***	***28,372***	***13,307***
Eastern Planning Area Subtotal*	***0***	***0***	***2***	***90***	***328***	***44***	***41***	***0***
GOM Total:	***2,207***	***1,779***	***77***	***5,824***	***13,922***	***47,265***	***33,954***	***15,254***

*Western Planning Area (Other) includes Corpus Christi, Keathley Canyon, and Port Isabel.
**Central Planning Area (Other) includes Lund, Keathley Canyon, Walker Ridge, and others.
***Eastern Planning Area includes DeSoto Canyon, Destin Dome, Lloyd Ridge, and others.

The status of GOM OCS Federal oil and gas leases as of December 31, 2007, is presented in **Table 2**. There are 8,108 active leases (2,207 proved active, 77 unproved qualified, and 5,824 unqualified active) and 15,701 expired leases (1,779 proved depleted and 13,992 expired).

Definitions for the lease subgroups of **Table 2** are:

Proved Active — Leases within the designated 953 proved active fields presented in **Table 1**.

Proved Depleted — Leases relinquished after oil and gas production. The leases associated with the 298 depleted fields are represented here along with other produced, relinquished leases that are part of currently active fields.

Unproved Qualified — Leases associated with the 53 unproved active fields. The leases have qualified as producible under 30 Code of Federal Regulations (CFR) 250.115/116, but the operators have not established a commitment to produce. These fields may be classified as unproved possible or unproved probable.

Unqualified Active — Active exploratory leases not yet qualified as producible or associated with any field.

Expired — Leases expired, terminated, or relinquished by the operator without having produced any oil or gas, although some were once qualified as producible under 30 CFR 250.115/116. There are 87 expired fields with no production.

The total number of boreholes drilled and the number of boreholes plugged and abandoned are also shown in **Table 2**. There were 596 boreholes spudded during 2007, compared with 760 boreholes spudded during 2006, and 816 during 2005. The last column of **Table 2** presents the total number of active completions per area. Active completions are defined as those with perforations open to the formation and not isolated by permanent plugs; service wells (injection, disposal, or water source) are included. The presence or absence of production or injection is not considered. The number of boreholes and the number of active completions listed in this report are based on reports received by the BOEMRE at the time the count was made in 2010. These numbers may change as data are received, processed, and edited.

RESERVES BY GEOLOGIC AGE

In this report, the 1,251 proved and 53 unproved fields have been classified at the geologic series level. The different geologic age classifications currently in use by BOEMRE are shown in **Figure 7**. Paleontological examinations of borehole cuttings, along with regional analysis of geological and geophysical data, were used in determining the age classifications. In 2003 hundreds of additional foraminiferal and nannofossil bioevents were incorporated into an update of the BOEMRE Biostratigraphic Chart to aid in geologic mapping, stratigraphic correlation, and paleobathymetric zonation. (Go to: http://www.gomr.boemre.gov/homepg/whatsnew/papers/biostratchart.pdf) Using standardized global stratigraphic concepts, this updated version of the chart incorporates the latest information currently used as biostratigraphic datum markers by industry paleontologists for the Mesozoic and Cenozoic geologic provinces. This biostratigraphic chart update reduces the disjoint between the industry/academia biostratigraphic naming convention and the BOEMRE-standard chronozone naming convention, hence BOEMRE reserves allocations. Figures displaying trend information in this report are color-coded to match the series in the biostratigraphic chart.

Table 3 shows the distribution of reserves and production data by geologic age and planning area. Please note that this report contains the term "Span Ages," which is used to denote a geologic age classification that spans more than one series.

Table 3. Estimated oil and gas reserves for 1,251 proved and 53 unproved fields by geologic age December 31, 2007.

Area	Number of proved reservoirs	Proved reserves			Cumulative production through 2007			Remaining proved reserves			Number of unproved reservoirs	Unproved reserves		
		Oil	Gas	BOE	Oil	Gas	BOE	Oil	Gas	BOE		Oil	Gas	BOE
Western Planning Area														
Pleistocene	1,190	179	7,999	1,602	163	7,727	1,538	16	272	64	33	1	62	12
Pliocene	977	570	7,072	1,828	480	6,489	1,635	90	583	193	47	17	123	39
Miocene	2,546	163	18,857	3,518	144	17,990	3,344	19	867	174	154	15	585	119
Pre-Miocene	8	1	37	8	1	22	5	0	15	3	0	0	0	0
Span Ages	3	151	275	200	0	0	0	151	275	200	15	225	268	273
Western Planning Area Subtotal	***4,724***	***1,064***	***34,240***	***7,156***	***788***	***32,228***	***6,522***	***276***	***2,012***	***634***	***249***	***258***	***1,038***	***443***
Central Planning Area														
Pleistocene	3,549	1,204	20,347	4,825	1,099	19,438	4,558	105	909	267	276	72	429	148
Pliocene	9,628	6,551	49,910	15,433	5,829	46,868	14,169	722	3,042	1,264	623	279	1,310	512
Miocene	11,663	10,107	77,107	23,827	7,772	69,069	20,063	2,335	8,038	3,764	841	692	3,039	1,233
Pre-Miocene	38	0	2,147	382	0	1,845	328	0	302	54	7	10	61	21
Span Ages	48	1,507	890	1,665	59	30	64	1,448	860	1,601	60	2,808	969	2,980
Central Planning Area Subtotal	***24,926***	***19,369***	***150,401***	***46,132***	***14,759***	***137,250***	***39,182***	***4,610***	***13,151***	***6,950***	***1,807***	***3,861***	***5,808***	***4,894***
Eastern Planning Area														
Pre-Miocene	0	0	0	0	0	0	0	0	0	0	1	0	491	87
Eastern Planning Area Subtotal	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***		***1***	***0***	***491***	***87***
GOM Planning Areas														
Pleistocene	4,739	1,383	28,346	6,427	1,262	27,165	6,096	121	1,181	331	309	73	491	160
Pliocene	10,605	7,121	56,982	17,261	6,309	53,357	15,804	812	3,625	1,457	670	296	1,433	551
Miocene	14,209	10,270	95,964	27,345	7,916	87,059	23,407	2,354	8,905	3,938	995	707	3,624	1,352
Pre-Miocene	46	1	2,184	390	1	1,867	333	0	317	57	8	10	552	108
Span Ages	51	1,658	1,165	1,865	59	30	64	1,599	1,135	1,801	75	3,033	1,237	3,253
GOM Total	***29,650***	***20,433***	***184,641***	***53,288***	***15,547***	***169,478***	***45,704***	***4,886***	***15,163***	***7,584***	***2,057***	***4,119***	***7,337***	***5,424***

Data from the producing reservoirs were used to generate **Table 3** and the proved reserve trends for each geologic age presented in **Figure 8**. The Pleistocene proved reserves trend presented in **Figure 8** corresponds to the *Globorotalia flexuosa* through *Uvigerina hispida* biozones. Production within the Pleistocene extends from the Galveston area to east of the modern-day mouth of the Mississippi River. Deepwater Pleistocene production occurs in the East Breaks through Mississippi Canyon areas, and well control suggests sands continue beyond the Sigsbee Escarpment. Through December 31, 2007, the Pleistocene produced from 402 fields. Proved reserves were 1.38 BBO and 28.3 Tcf. Remaining proved reserves were 0.12 BBO and 1.2 Tcf.

Chronostratigraphy					Biostratigraphy		BOEMRE Chronozone
Province	System	Subsystem	Series		Foraminifer & Ostracod (O)	Nannoplankton	
			Holocene		Globorotalia inflata		
Cenozoic	Quaternary		Pleistocene	Upper	Globorotalia flexuosa Sangamon fauna	Emiliania huxleyi (base of acme) Gephyrocapsa oceanica (flood) Gephyrocapsa caribbeanica (flood)	PLU
				Middle	Trimosina "A"	Helicosphaera inversa Gephyrocapsa parallela Pseudoemiliania ovata	PLM
				Lower	Stilostomella antillea Trimosina "A" (acme) Hyalinea "B" / Trimosina "B" Angulogerina "B" Uvigerina hispida	Pseudoemiliania lacunosa "C" (acme) Calcidiscus macintyrei	PLL
	Tertiary	Neocene	Pliocene	Upper	Globorotalia crassula (acme) Lenticulina 1 Globoquadrina altispira Textularia 1	Discoaster brouweri	PU
				Lower	Buccella hannai (acme) Buliminella 1 Globorotalia plesiotumida (acme)	Sphenolithus abies Sphenolithus abies "B" Discoaster quintatus	PL
			Miocene	Upper	Globorotalia menardii (coiling change right-to-left) Textularia "X" Robulus "E" Bigenerina "A" Cristellaria "K" Bolivina thalmanni	Discoaster quinqueramus Discoaster berggrenii "A" Minylithus convallis Catinaster mexicanus Discoaster prepentaradiatus (increase)	MUU
					Discorbis 12 Bigenerina 2 Uvigerina 3	Helicosphaera walbersdorfensis Coccolithus miopelagicus	MLU
				Middle	Globorotalia fohsi robusta Textularia "W" Globorotalia peripheroacuta	Discoaster kugleri Discoaster kugleri (acme) Discoaster sanmiguelensis (increase)	MUM
					Bigenerina humblei Cristellaria "I" Cibicides opima	Sphenolithus heteromorphus Sphenolithus heteromorphus (acme)	MMM
					Cristellaria / Robulus / Lenticulina 53 Amphistegina "B" Robulus 43 Cibicides 38	Helicosphaera ampliaperta Discoaster deflandrei (acme) Discoaster calculosus	MLM
				Lower	Cristellaria 54 / Eponides 14 Gyroidina "K" Catapsydrax stainforthi	Reticulofenestra gartneri Sphenolithus disbelemnos	MUL
					Discorbis "B" Marginulina "A"	Orthorhabdus serratus Triquetrorhabdulus carinatus	MML
					Siphonina davisi Lenticulina hanseni	Discoaster saundersi Helicosphaera recta	MLL
		Paleogene	Oligocene	Upper	Robulus "A" Heterostegina texana Camerina "A" Bolivina mexicana	Dictyococcites bisectus Sphenolithus delphix	OU
				Lower	Nonion struma Textularia warreni	Sphenolithus pseudoradians Ismolithus recurvus	OL
			Eocene	Upper	Hantkenina alabamensis Camerina moodybranchensis	Discoaster saipanensis Cribrocentrum reticulatum Sphenolithus obtusus	EU
				Middle	Nonionella cockfieldensis Discorbis yeguaensis	Micrantholithus procerus Pemma basquensis Discoaster lodoensis	EM
				Lower	Globorotalia wilcoxensis	Chiasmolithus californicus Toweius crassus Discoaster multiradiatus	EL
			Paleocene	Upper	Morozovella velascoensis Vaginulina longiforma Vaginulina midwayana	Fasciculithus tympaniformis	LU
				Lower	Globorotalia trinidadensis Globigerina eugubina	Chiasmolithus danicus	LL
Mesozoic	Cretaceous	Upper	Gulfian		Abathomphalus mayaroensis Rosita fornicata Dicarinella concavata Hedbergella amabilis	Micula decussata Micula prinsii FAD Lithastrinus moratus Stoverius achylosus	KUU
					Dicarinella hagni Planulina eaglefordensis Rotalipora cushmani Favusella washitaensis Rotalipora gandolfii	Lithraphidites acutus	KLU
		Lower	Comanchean		Cythereis fredericksburgensis (O) Ammobaculites goodlandensis	Hayesites albiensis Braarudosphaera hockwoldensis	KUL
					Dictyoconus walnutensis Eocytheropteron trinitiensis (O) Orbitolina texana Rehacythereis? aff. R. glabrella (O)	Rucinolithus irregularis	KML
			Coahuilan		Ticinella bejaouaensis Choffatella decipiens Schuleridea acuminata (O)	Diadorhombus rectus Polycostella beckmanni	KLL
	Jurassic	Upper			Gallaecytheridea postrotunda (O) Epistomina uhligi Epistomina mosquensis Alveosepta jaccardi Paalzowella feifeli	Stephanolithion bigotii bigotii Stephanolithion bigotii maximum Stephanolithion speciosum	JU
		Middle			Reinholdella crebra	Watznaueria crucicentralis	JM

Abbreviated BOEMRE Gulf of Mexico biostratigraphic chart illustrating chronostratigraphy, biostratigraphy, and BOEMRE chronozones codes. For the complete chart visit : http:/www.gomr.mms.gov/homepg/whatsnew/papers/biochart.pdf.

Figure 7. BOEMRE GOM biostratigraphic chart.

The Pliocene proved reserves trend presented in **Figure 8** corresponds to *the Globorotalia crassula (acme)* through *Globorotalia plesiotumida (acme)* biozones. Production within the Pliocene extends from south of Galveston in the west to south of Mobile Bay in the east. Pliocene deepwater production extends into the areas of East Breaks, Garden Banks, Green Canyon, Ewing Bank, and Mississippi Canyon. Well control suggests Pliocene sands extend at least as far as the Sigsbee Escarpment. Through December 31, 2007, the Pliocene produced from 547 fields. Proved reserves were 7.12 BBO and 57.0 Tcf. Remaining proved reserves were 0.81 BBO and 3.6 Tcf.

The Miocene proved reserves trend presented in **Figure 8** corresponds to the *Globorotalia menardii (coiling change right-to-left)* through *Lenticulina hanseni* biozones. Production within the Miocene extends from North Padre Island in the west to east of the Mississippi River. Miocene productive sands also extend into deepwater from East Breaks and Garden Banks in the west to Ewing Bank, Green Canyon, Viosca Knoll, Mississippi Canyon, Atwater Valley, Destin Dome, Desoto Canyon, and Lloyd Ridge in the east. Wells indicate sands continue beyond the Sigsbee Escarpment. Through December 31, 2007 the Miocene produced from 722 fields. Proved reserves were 10.27 BBO and 96.0 Tcf. Remaining proved reserves were 2.35 BBO and 8.9 Tcf.

The Pre-Miocene proved reserves trend presented in **Figure 8** includes the Oligocene, Eocene, and Paleocene in the Tertiary series, and the Cretaceous and Jurassic series. These reservoirs include Jurassic Norphlet sands and Lower Cretaceous Carbonates. Production within the Jurassic is limited to east of the Mississippi River in the Mobile area. Well control suggests Pre-Miocene reservoir sands extend eastward into Destin Dome. Through December 31, 2007, these trends produced from 24 fields. Proved reserves were less than 0.01 BBO and 2.2 Tcf. Remaining proved reserves were less than 0.01 BBO and more than 0.3 Tcf.

The proved reserves in the 7 fields that Span Ages include reservoirs from the Upper Pleistocene to the Lower Paleogene. Proved reserves were 1.66 BBO and 1.2 Tcf. Remaining proved reserves is essentially the same as proved reserves (1.60 BBO and 1.1 Tcf).

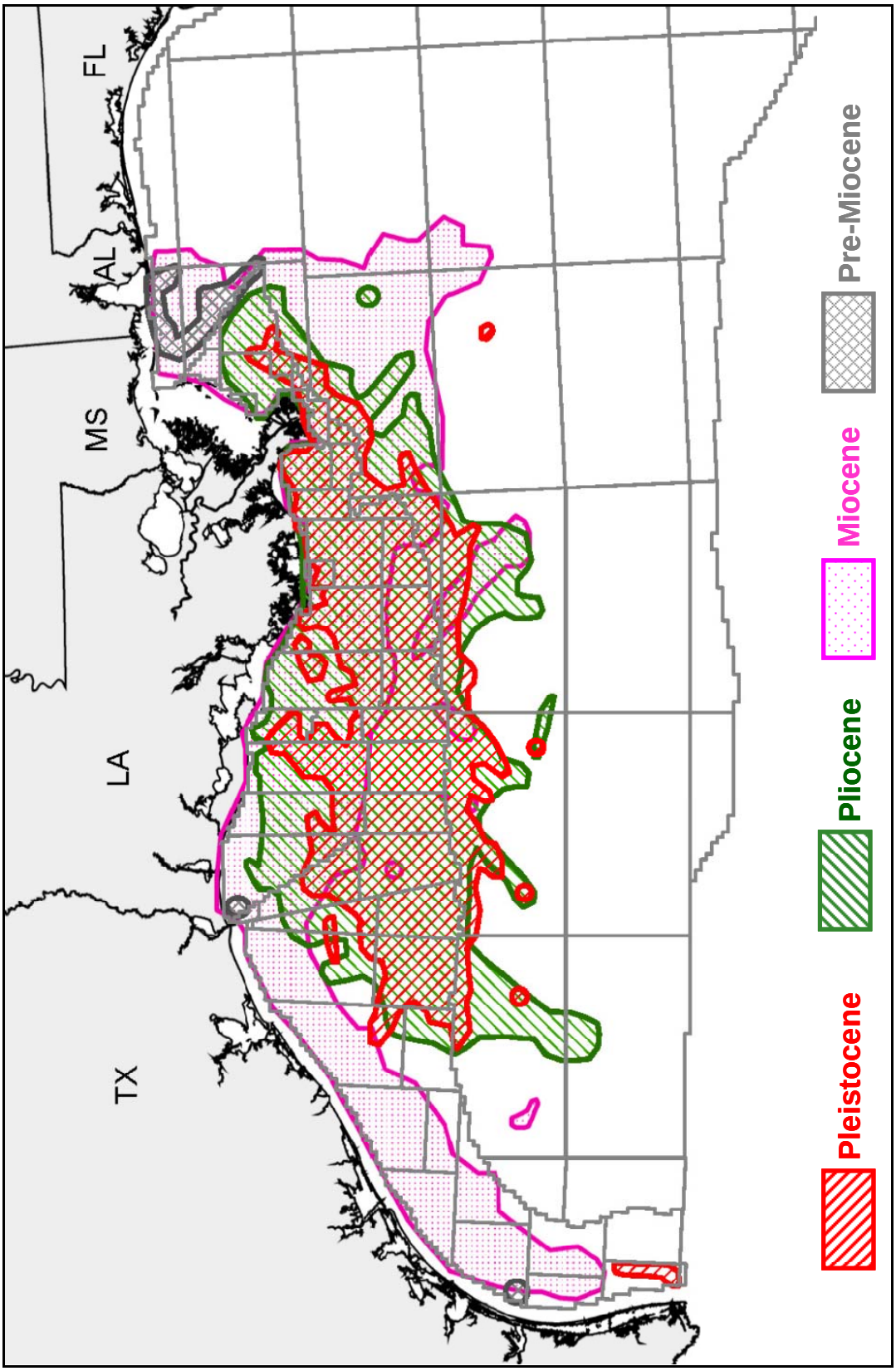
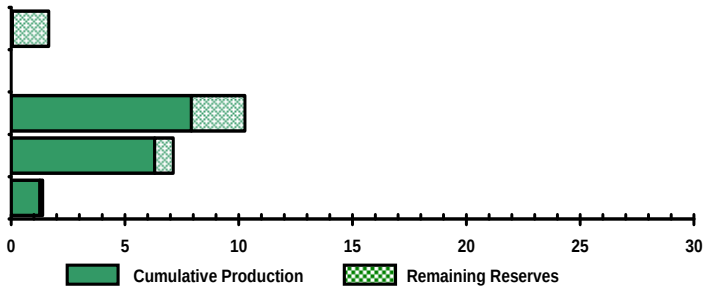


Figure 8. Proved reserves trends.

Reserves by Geologic Age

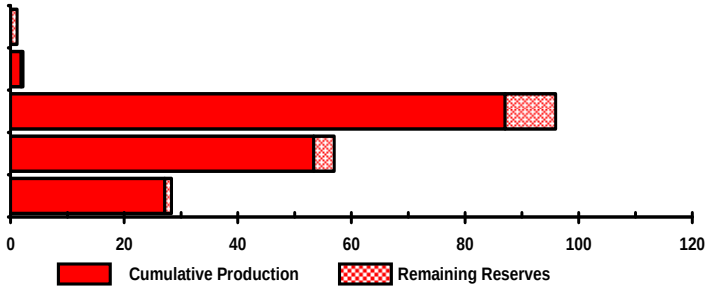
Figures 9(a), 9(b), and **9(c)** present proved reserves and production data by geologic age. This figure matches the chronostratigraphy by the BOEMRE in the abbreviated GOM biostratigraphic chart presented in **Figure 7**. This figure demonstrates that Miocene is the predominant reserves trend in the GOM, with the largest amount of proved reserves, cumulative production, and remaining proved reserves.

	Proved Oil (BBO)		
	Cumulative Production	Remaining Reserves	Total Reserves
SPAN AGES	0.059	1.598	1.658
PRE-MIOCENE	0.001	0.000	0.001
MIOCENE	7.916	2.354	10.270
PLIOCENE	6.309	0.812	7.121
PLEISTOCENE	1.262	0.121	1.383
TOTAL	**15.548**	**4.886**	**20.433**



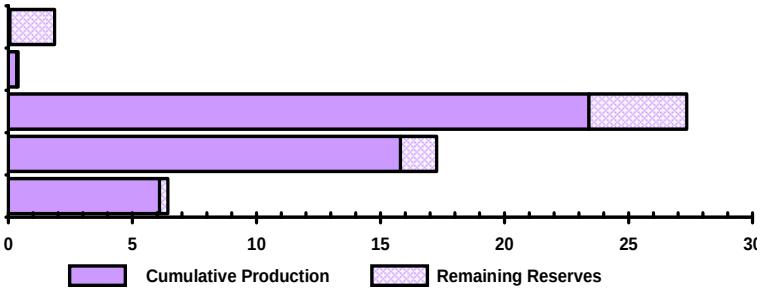
9(a). Proved oil reserves and production data, BBO.

	Proved Gas Reserves (TCF)		
	Cumulative Production	Remaining Reserves	Total Reserves
SPAN AGES	0.030	1.134	1.165
PRE-MIOCENE	1.867	0.317	2.185
MIOCENE	87.058	8.907	95.965
PLIOCENE	53.357	3.624	56.981
PLEISTOCENE	27.165	1.180	28.346
TOTAL	**169.478**	**15.163**	**184.641**



9(b). Proved gas reserves and production data, Tcf.

	Proved BOE Reserves (BBOE)		
	Cumulative Production	Remaining Reserves	Total Reserves
SPAN AGES	0.065	1.800	1.865
PRE-MIOCENE	0.333	0.057	0.390
MIOCENE	23.407	3.939	27.345
PLIOCENE	15.803	1.457	17.260
PLEISTOCENE	6.096	0.331	6.427
TOTAL	**45.704**	**7.584**	**53.288**



9(c). Proved BOE reserves and production **data**, BBOE.

Figure 9. Distribution of proved reserves and production data by geologic age.

RESERVES BY RESERVOIR DEPTH

In the last few years, operators have not only moved their operational activities farther offshore, but are also developing exploration targets that are deeper beneath the sea floor. The prolific Wilcox sands found onshore are being targeted in ultra-deep plays on the shelf and in deepwater. For this report, deep gas reservoirs and deep oil reservoirs are defined as a reservoir with a datum depth (the subsea depth to the average depth of the reservoir) at or greater than 15,000 ft true vertical depth subsea (TVDSS). The reservoirs were aggregated to the field level for this analysis. While only 3.6 percent of all proved oil and gas reservoirs have a datum depth of 15,000 ft TVDSS or greater, these reservoirs account for 15.5 percent of the total proved reserves in the GOM.

Deep Gas

The interest in deeper gas targets was spurred, in part, when the Federal Government offered shallow water deep gas royalty relief incentives beginning with leases acquired in Central Gulf Lease Sale 178 in 2001. On January 26, 2004, a new incentive for existing leases was published. This rule provided for royalty suspensions for wells drilled to deep depths on existing shallow water [less than 200 meters (656 ft)] leases. Deep depths were defined as 15,000 ft or deeper TVDSS when a well is completed and produces from a reservoir entirely below that depth, or as 18,000 ft TVD SS when a well without completions penetrates a reservoir target entirely below that deeper depth. Since the initial ruling, additional modifications have been added to encourage exploration. More information is available from the BOEMRE Web site at http://www.boemre.gov/econ/econROYSWDG.htm. Industry announced three deep shelf discoveries in 2007: the Butch Cassidy prospect in South Timbalier (ST) and the Flatrock and Hurricane Deep prospects in South Marsh Island (SM). One deepwater discovery, the Danny Noonan prospect in Garden Banks (GB) was announced.

Figure 10 shows gas reservoirs at datum depths 15,000 to 17,999 ft, 18,000 to 19,999 ft, and 20,000 ft or greater. The size of the bubble corresponds to proved recoverable reserves at the field level as of December 31, 2007. The proved reserves from reservoir depths of 15,000 ft or greater is 4.8 percent of all proved gas reserves. Mobile Block 823 (MO 823) Field contains the reservoir with the largest proved gas reserves on the shelf. Mississippi Canyon Block 731 (MC 731) Field contains the reservoir with the largest proved gas reserves in deepwater.

Deep Oil

Below a depth of 18,000 ft oil reservoirs are primarily restricted to deep water and contain significant volumes. In 2007 industry announced five deepwater deep oil discoveries: Droshky in Green Canyon (GC), Isabela in Mississippi Canyon (MC), Vicksburg in Desoto Canyon (DC), West Tonga in GC, and a Lower Tertiary discovery announcement at the Julia prospect in Walker Ridge (WR).

Figures 11 shows oil reservoirs at datum depths 15,000 to 17,999 ft, 18,000 to 19,999 ft, and 20,000 ft or greater. The size of the bubble corresponds to proved recoverable reserves at the field level as of December 31, 2007. The proved reserves from target depths of 15,000 ft or greater is 10.7 percent of all proved oil reserves. South Pass Block 89 (SP 89) Field contains the reservoir with the largest proved oil reserves on the shelf. Green Canyon Block 640 (GC 640) Field contains the reservoir with the largest proved oil reserves in deepwater.

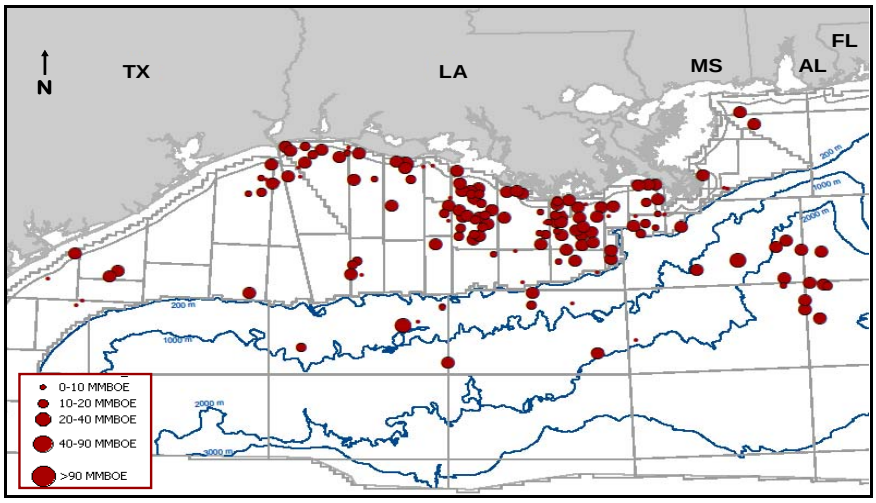


Figure 10(a). Gas reservoirs datum depth 15,000 - 17,999 ft.

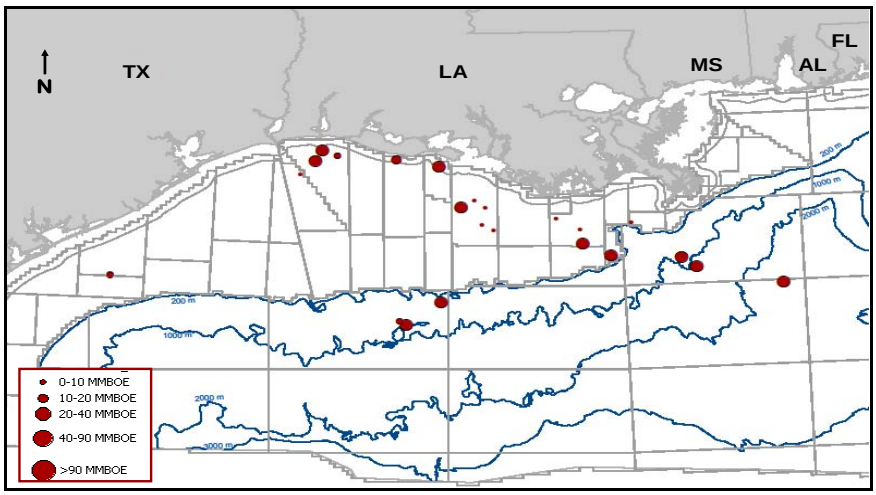


Figure 10(b). Gas reservoirs datum depth 18,000 - 20,000 ft.

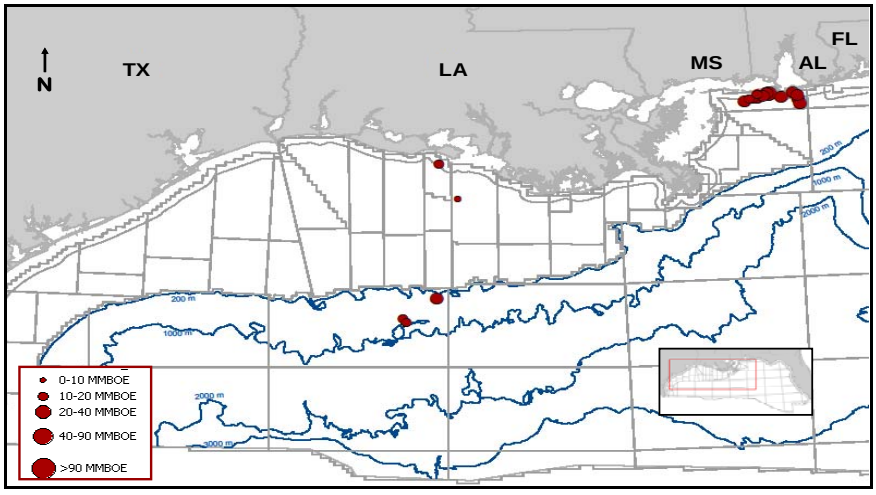


Figure 10(c). Gas reservoirs datum depth > 20,000 ft.

Figure 10. Deep gas reservoirs by datum depth summed to field level.

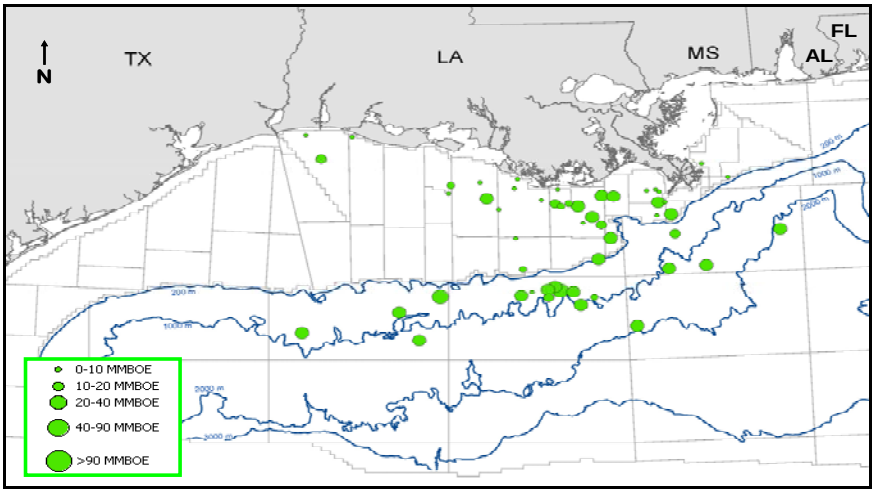


Figure 11(a). Oil reservoirs datum depth 15,000-17,999 ft.

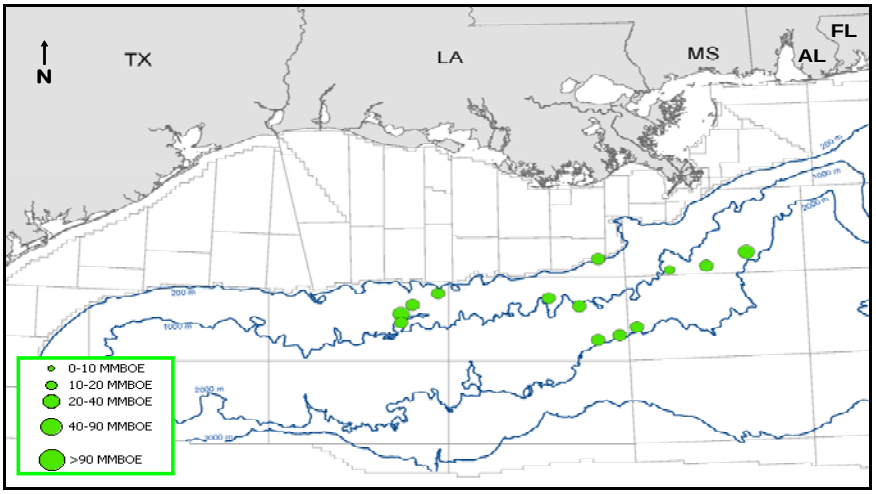


Figure 11(b). Oil reservoirs datum depth 18,000-20,000 ft.

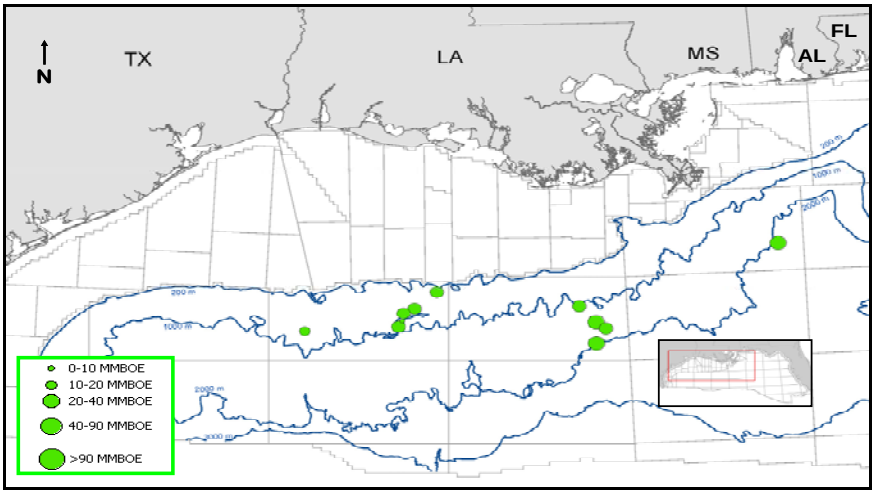


Figure 11(c). Oil reservoirs datum depth > 20,000 ft.

Figure 11. Deep oil reservoirs by datum depth summed to field level.

FIELD-SIZE DISTRIBUTION

Reserve sizes are expressed in terms of BOE. Gas reserves are converted to BOE and added to the liquid reserves for the convenience of comparison. The conversion factor of 5,620 standard cubic feet of gas equals 1 BOE is based on the average heating values of domestic hydrocarbons. A geometric progression, developed by the USGS (Attanasi, 1998), was selected for field-size (deposit-size) distribution ranges (**Table 4**).

In this report, fields are classified as either oil or gas; some fields do produce both products, making a field type determination difficult. Generally, fields with a gas/oil ratio (GOR) less than 9,700 standard cubic feet per stock tank barrel (SCF/STB) are classified as oil.

Table 4. Description of deposit-size classes.

Class	Deposit-size range*	Class	Deposit-size range*	Class	Deposit-size range*
1	0.031 - 0.062	10	16 - 32	18	4,096 - 8,192
2	0.062 - 0.125	11	32 -64	19	8,192 - 16,384
3	0.125 - 0.25	12	64 - 128	20	16,384 - 32,768
4	0.25 - 0.50	13	128 - 256	21	32,768 - 65,536
5	0.50 - 1.00	14	256 - 512	22	65,536 - 131,072
6	1 - 2	15	512 - 1,024	23	131,072 - 262,144
7	2 - 4	16	1,024 - 2,048	24	262,144 - 524,288
8	4 - 8	17	2,048 - 4,096	25	524,288 - 1,048,576
9	8 - 16	*Million Barrels of Oil Equivalent (MMBOE)			

The field-size distribution based on proved BOE reserves for 1,251 proved fields is shown in **Figure 12(a)**. Of the 1,251 proved oil and gas fields, there are 229 proved oil fields represented in **Figure 13(a)** and 1,022 gas fields shown in **Figure 14(a)**. The Western Gulf of Mexico field-size distributions are displayed on **Figures 12(b)**, **13(b)**, and **14(b)**. **Figures 12(c)**, **13(c)**, and **14(c)** present the Central GOM field-size distributions of proved reserves including one field in the Eastern GOM. The field-size distribution, derived from unproved reserves for 53 unproved fields, is shown in **Figure 15(a)**. There are 35 unproved oil fields in **Figure 15(b)** and 18 unproved gas fields in **Figure 15(c)**. All unproved active fields were studied.

Analysis of the 1,251 proved oil and gas fields indicates that the GOM is historically a gas-prone basin. **Table 5** presents the median (exceeded by 50%) and the mean (arithmetic average) reserves from the field-size distributions. This figure also provides information on the largest two field-size ranges from **Figures 12-15**. The cumulative GOR of the 229 proved oil fields is 2,555 SCF/STB. The GOR of the 35 unproved oil fields is 608 SCF/STB. The yield (condensate divided by gas) for the 1,022 proved gas fields is 23.1 barrels (Bbl) of condensate per million cubic feet (MMcf) of gas. The yield of the 18 unproved gas fields is 2.8 Bbl of condensate per MMcf.

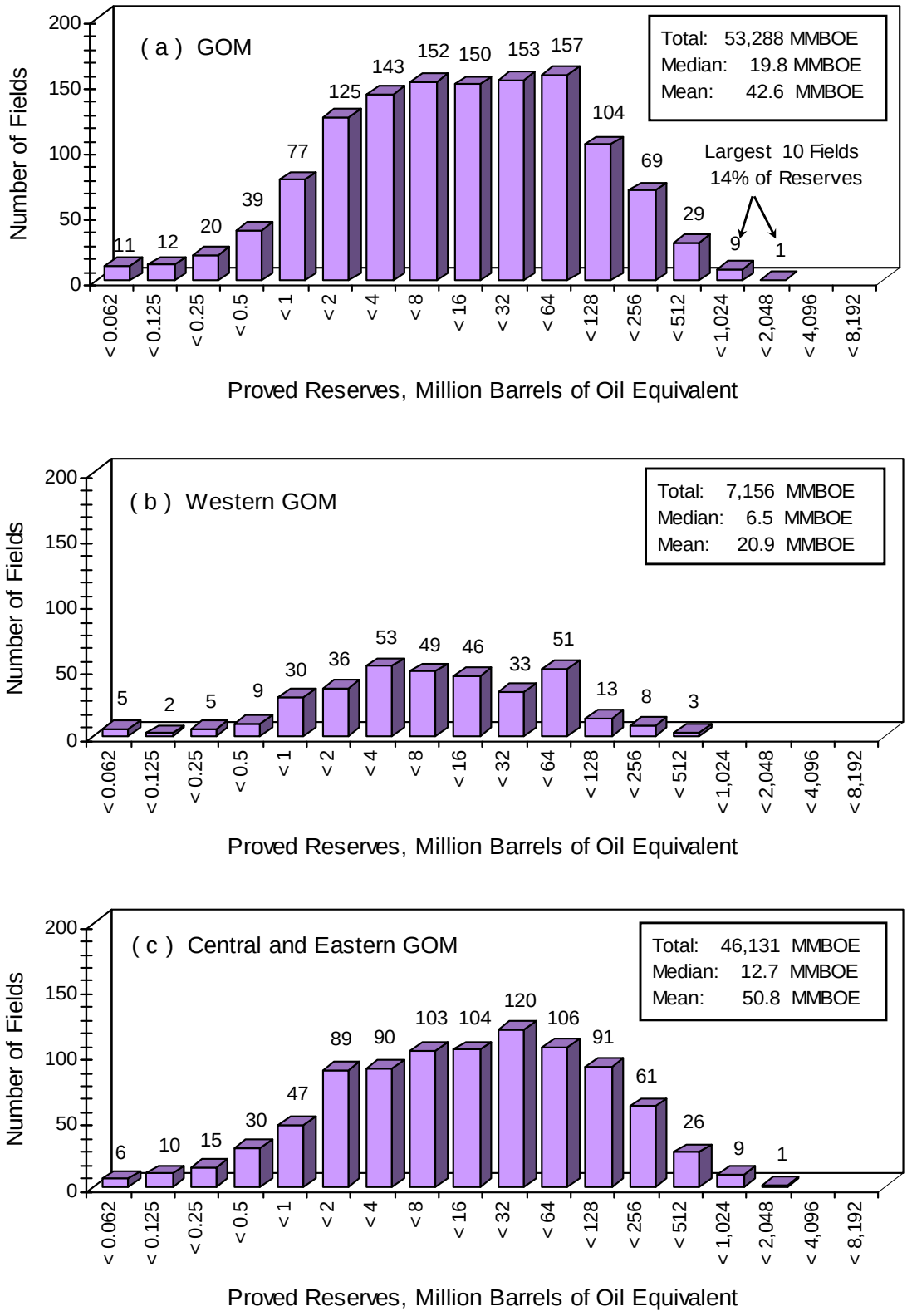


Figure 12. Field-size distribution of proved fields: (a) GOM, 1,251 fields; (b) Western GOM, 343 fields; (c) Central and Eastern GOM, 908 fields.

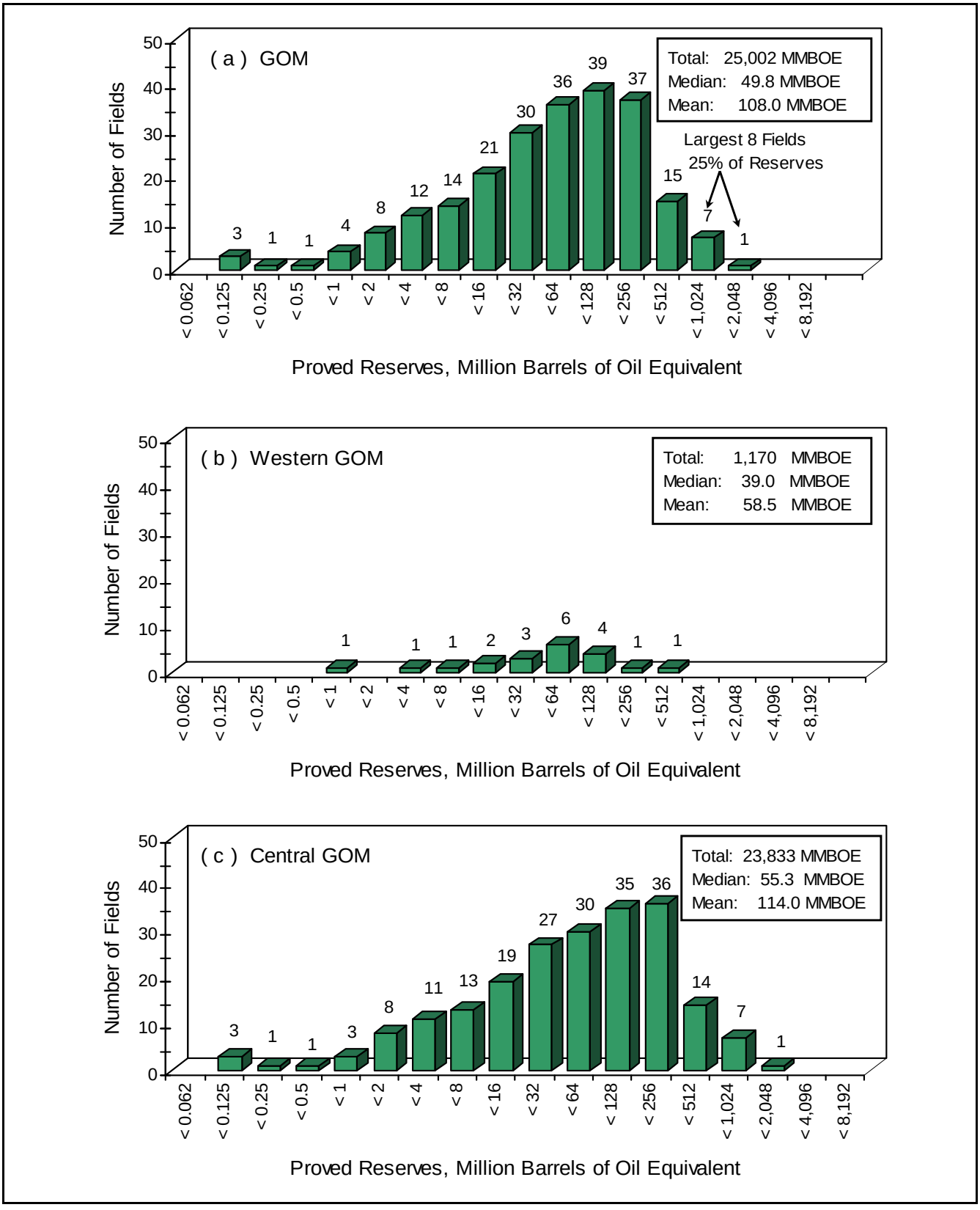


Figure 13. Field-size distribution of proved oil fields: (a) GOM, 229 fields; (b) Western GOM, 20 fields; (c) Central GOM, 209 fields.

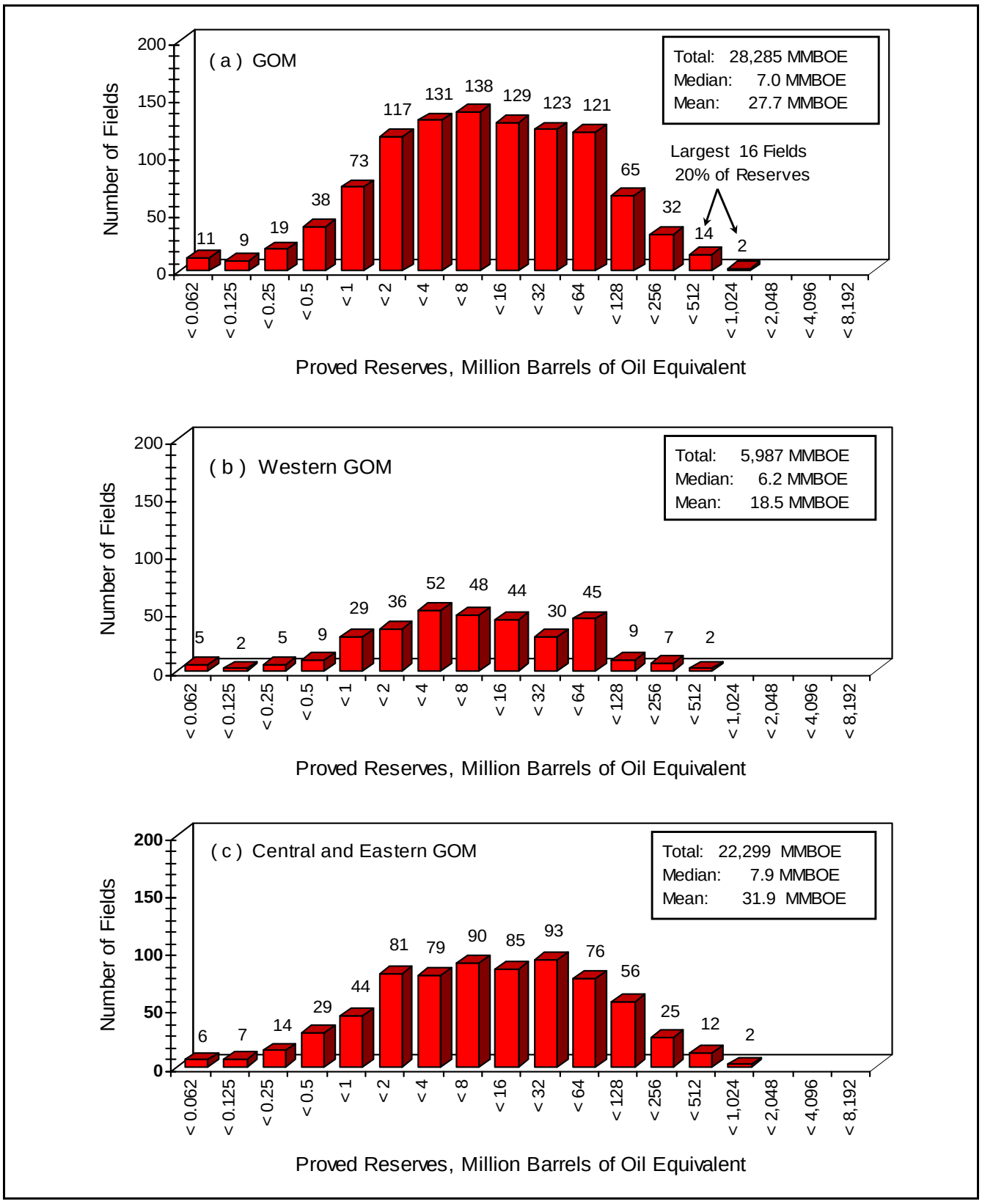
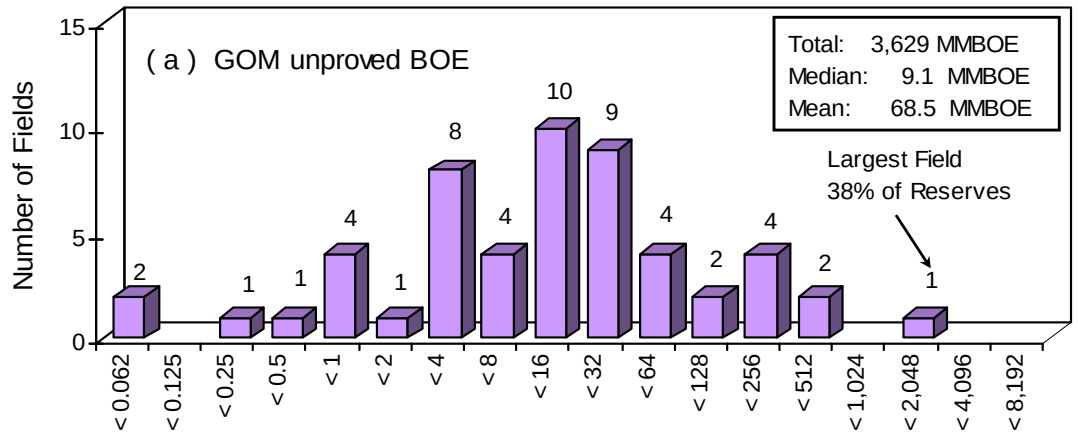
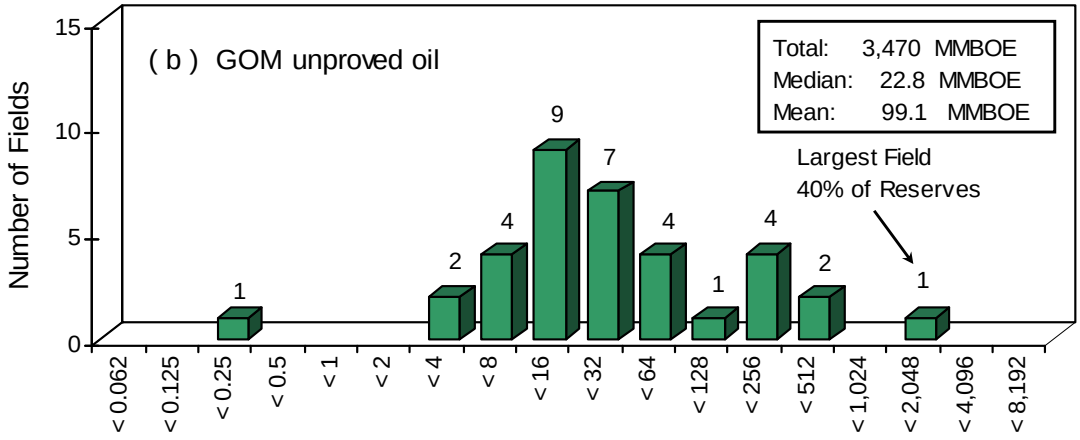


Figure 14. Field-size distribution of proved gas fields: (a) GOM, 1,022 fields; (b) Western GOM, 323 fields; (c) Central and Eastern GOM, 699 fields.





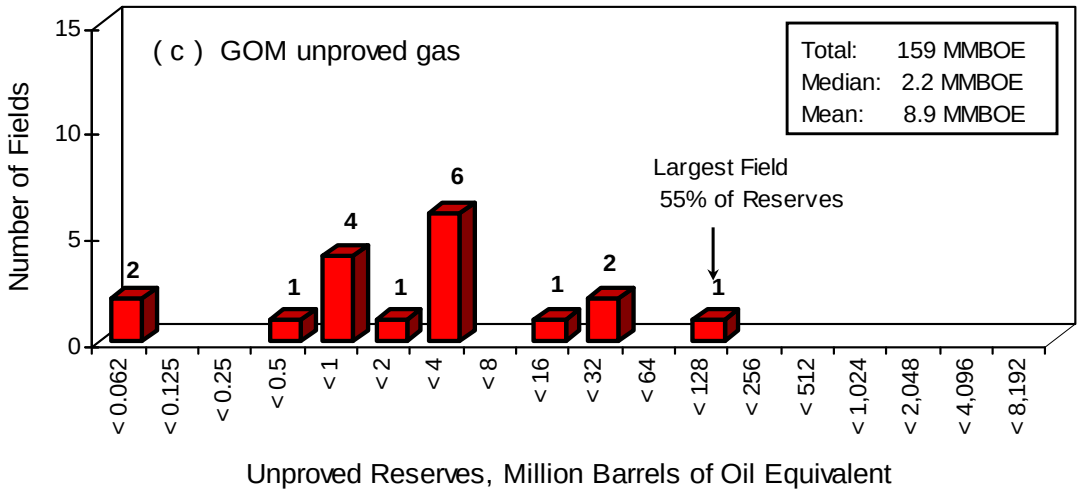


Figure 15. Field-size distribution of unproved fields: (a) GOM unproved BOE, 53 oil and gas fields; (b) GOM unproved oil, 35 fields; (c) GOM unproved gas, 18 fields.

Table 5. Field-size distributions.

Description of Fields	Figure Number	Median*	Mean*	Largest Fields	
				Number	Reserves %
1,251 Proved	Fig. 24a	9.8	42.6	10	14%
229 Proved Oil	Fig. 25a	49.8	108.0	8	25%
1,022 Proved Gas	Fig. 26a	7.0	27.7	16	20%
53 Unproved	Fig. 27a	9.1	68.5	1	38%
35 Unproved Oil	Fig. 27b	22.8	99.1	1	40%
18 Unproved Gas	Fig. 27c	2.2	8.9	1	55%
* Million barrels of oil equivalent (MMBOE)					

Figure 16 shows the cumulative percent distribution of proved reserves in billion barrels of oil equivalent (BBOE), by field rank. All 1,251 proved fields in the GOM OCS are included in this figure. A phenomenon often observed in hydrocarbon-producing basins is a rapid drop-off in size from that of largest known field to smallest. Twenty-five percent of the proved reserves are contained in the 25 largest fields. Fifty percent of the proved reserves are contained in the 86 largest fields. Ninety percent of the proved reserves are contained in the 421 largest fields.

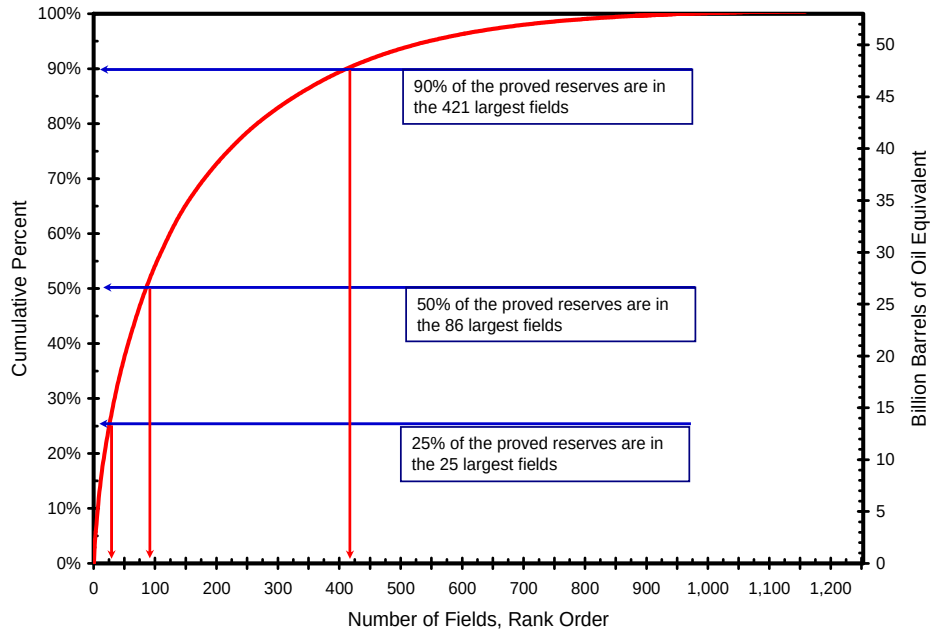


Figure 16. Cumulative percent total reserves versus rank order of field size for 1,251 proved fields.

Table 6 shows the distribution of the number of fields and proved reserves by water depth. A field's water depth is determined by averaging the water depth of the wells drilled in the field. The water depth ranges used in this figure are less than 500 ft, 500-999 ft, 1,000-1,499 ft, 1,500-4,999 ft, 5,000-7,499 ft and greater than or equal to 7,500 ft. Proved reserves, reported in MMBOE, are associated with the 1,251 proved fields. The 53 unproved active fields are presented to show recent activity. Proved reserves in the GOM are located in less than 500 ft of water accounts for 85 percent of the proved reserves. Development beyond 500 ft reflects a sizeable amount of proved reserves associated with a few fields. The mean proved reserves per proved field in the GOM is 42.6 MMBOE. For water depths less than 500 ft it is 38.4 MMBOE; for 500-999 ft it is 23.6 MMBOE; for 1,000-1,499 ft it is 57.1 MMBOE, for 1,500-4,999 ft it is 80.2 MMBOE; for 5,000-7,499 ft it is 148.8 MMBOE; and greater than or equal to 7,500 ft it is 36.0 MMBOE.

Table 6. Field and reserves distribution by water depth.

Water Depth Range (Feet)	Number of Proved Fields	Proved Reserves (MMBOE)	Remaining Proved Reserves (MMBOE)	Number of Unproved Fields	Unproved Reserves (MMBOE)
< 500	1,062	40,785	1,995	11	99
500 - 999	54	1,273	107	1	8
1,000 - 1,499	22	1,257	126	1	0
1,500 - 4,999	80	6,416	2,469	24	1,085
5,000 - 7,499	21	3,125	2,496	9	2,185
>= 7,500	12	432	391	7	251
Totals:	1,251	53,288	7,584	53	3,629

Figure 17 shows the largest 20 fields ranked in **order** by remaining proved reserves. Eighteen of the 20 fields lie in water depths of greater than or equal to 1,500 ft and account for 57 percent of the remaining proved reserves in the GOM.

The trend of increasing estimates of proved reserves in water greater than 500 ft is expected to continue with additional exploration and development. Of the 189 proved fields in water depths greater than 500 ft, 158 are producing, 22 are depleted, and 9 have yet to produce. There are 42 unproved active fields in water depths greater than 500 ft. These fields contain 3,530 MMBOE, representing 97 percent of the GOM total of estimated unproved reserves.

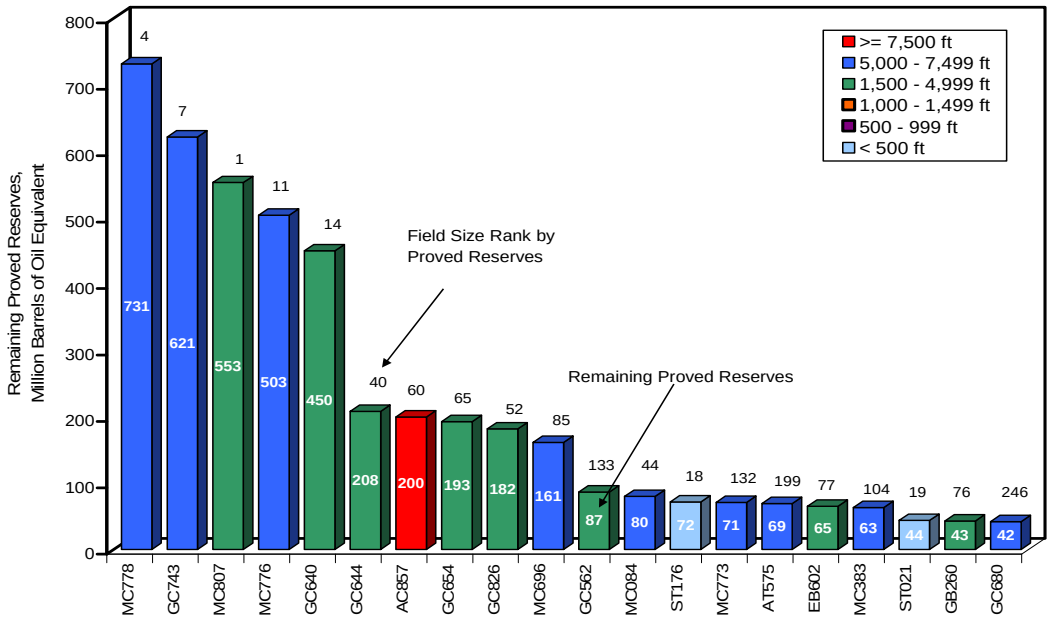


Figure 17. Largest 20 fields ranked by remaining proved reserves.

Table 7 lists the 50 largest proved fields ranked by proved reserves expressed in BOE. Rank, field name, field nickname, discovery year, water depth, field classification, field type, field GOR, proved reserves, cumulative production through 2007, and remaining proved reserves are presented. A complete listing of all 1,251 proved fields, ranked by proved reserves, is available by contacting the BOEMRE at 1-800-200-GULF or from BOEMRE's GOMR Web site at http://www.gomr.boemre.gov/homepg/pubinfo/freeasci/geologic/estimated2007.html.

Table 7. Proved fields by rank order, based on proved BOE reserves, top 50 fields.

(For proved fields not qualified in 2006 the names are replaced with asterisks to preserve the proprietary nature of the data.)
(Field class: PDP - Proved Developed Producing; PDN - Proved Developed Non-Producing; PU - Proved Undeveloped)
(Field type: O - Oil; G - Gas)

Rank	Field name	Field Nickname	Disc year	Water depth (feet)	Field class	Field type	Field GOR (SCF/STB)	Proved reserves			Cumulative production through 2007			Remaining proved reserves		
								Oil (MMbbl)	Gas (Bcf)	BOE (MMbbl)	Oil (MMbbl)	Gas (Bcf)	BOE (MMbbl)	Oil (MMbbl)	Gas (Bcf)	BOE (MMbbl)
1	MC807	MARS-URSA	1989	3,392	PDP	O	1,417	1,238.3	1,755.3	**1,550.6**	809.9	1,057.7	998.1	428.4	697.6	552.5
2	EI330		1971	247	PDP	O	4,229	429.7	1,817.2	**753.0**	423.9	1,807.0	745.4	5.8	10.1	7.6
3	WD030		1949	48	PDP	O	1,622	574.2	931.4	**739.9**	565.0	892.1	723.7	9.2	39.3	16.2
4	MC778	THUNDER HORSE	1999	6,080	PU	O	776	642.7	498.4	**731.4**	0.0	0.0	0.0	642.7	498.4	731.4
5	GI043		1956	140	PDP	O	4,262	381.7	1,626.6	**671.1**	362.7	1,545.4	637.7	19.0	81.2	33.5
6	BM002		1949	50	PDP	O	1,038	529.9	549.9	**627.7**	524.9	540.1	621.0	4.9	9.8	6.7
7	GC743	ATLANTIS	1998	6,413	PDP	O	647	558.6	361.4	**623.0**	1.6	0.9	1.7	557.1	360.5	621.2
8	TS000		1958	13	PDP	G	83,291	39.3	3,275.4	**622.1**	37.7	3,161.2	600.2	1.6	114.2	22.0
9	VR014		1956	26	PDP	G	64,006	48.1	3,081.0	**596.4**	47.9	3,058.9	592.2	0.3	22.2	4.2
10	MP041		1956	42	PDP	O	5,676	266.2	1,510.5	**534.9**	254.4	1,458.0	513.9	11.7	52.6	21.1
11	MC776	N.THUNDER HORSE	2000	5,665	PU	O	1,142	419.5	471.2	**503.3**	0.0	0.0	0.0	419.5	471.2	503.3
12	VR039		1948	38	PDP	G	80,722	31.6	2,552.5	**485.8**	31.3	2,544.5	484.0	0.4	7.9	1.8
13	SS208		1960	102	PDP	O	6,217	220.3	1,369.5	**464.0**	217.1	1,342.3	455.9	3.2	27.2	8.1
14	GC640	TAHITI	2002	4,266	PDP	O	487	414.0	201.6	**449.9**	0.0	0.0	0.0	414.0	201.5	449.8
15	GB426	AUGER	1987	2,860	PDP	O	3,575	235.3	841.3	**385.0**	217.4	776.4	355.5	17.9	64.9	29.5
16	WD073		1962	178	PDP	O	2,466	265.3	654.2	**381.7**	260.4	635.9	373.6	4.8	18.3	8.1
17	GI016		1948	53	PDP	O	1,269	303.6	385.2	**372.2**	300.1	378.7	367.5	3.5	6.5	4.7
18	ST176		1963	127	PDP	G	15,772	96.4	1,519.7	**366.8**	82.9	1,193.6	295.3	13.5	326.1	71.5
19	ST021		1957	46	PDP	O	1,775	276.8	491.3	**364.2**	249.0	401.7	320.4	27.8	89.6	43.7
20	SP061		1967	219	PDP	O	1,923	269.3	517.7	**361.4**	261.6	507.9	351.9	7.7	9.8	9.4
21	EI238		1964	147	PDP	G	16,211	92.1	1,492.6	**357.7**	86.9	1,439.5	343.0	5.2	53.0	14.6
22	ST172		1962	98	PDP	G	121,506	15.7	1,913.2	**356.2**	11.6	1,837.7	338.6	4.1	75.5	17.5
23	SP089		1969	424	PDP	O	4,437	192.0	852.1	**343.6**	189.4	836.5	338.2	2.6	15.5	5.4
24	WC180		1961	49	PDP	G	136,936	13.3	1,827.1	**338.4**	12.9	1,786.4	330.7	0.5	40.7	7.7
25	SS169		1960	63	PDP	O	5,420	163.5	886.0	**321.1**	156.8	838.6	306.0	6.6	47.4	15.1
26	MC194	COGNAC	1975	1,022	PDP	O	4,174	179.9	751.1	**313.6**	177.3	741.6	309.3	2.6	9.5	4.3
27	SM048		1961	101	PDP	G	55,952	28.6	1,600.7	**313.4**	27.9	1,518.7	298.1	0.7	82.0	15.3
28	EC064		1957	50	PDP	G	57,750	27.3	1,574.1	**307.3**	26.7	1,547.0	302.0	0.5	27.0	5.3
29	EI292		1964	212	PDP	G	85,166	19.0	1,616.7	**306.6**	18.4	1,611.4	305.2	0.5	5.3	1.5
30	EC271		1971	171	PDP	G	18,827	70.4	1,325.6	**306.3**	68.0	1,312.0	301.5	2.4	13.5	4.8
31	SS176		1956	101	PDP	G	19,876	65.2	1,295.2	**295.6**	63.8	1,270.1	289.8	1.3	25.1	5.8
32	SP027	EAST BAY	1954	65	PDP	O	5,229	151.5	792.2	**292.5**	150.3	763.5	286.2	1.2	28.7	6.3
33	WC587		1971	211	PDP	G	111,893	13.9	1,554.0	**290.5**	12.9	1,531.5	285.4	1.0	22.6	5.0
34	ST135		1956	129	PDP	O	3,626	172.3	624.9	**283.5**	166.2	587.6	270.8	6.1	37.2	12.8
35	WC192		1954	57	PDP	G	59,659	23.7	1,411.3	**274.8**	22.5	1,365.2	265.5	1.1	46.0	9.3
36	EI296		1971	214	PDP	G	69,512	20.5	1,425.7	**274.2**	20.3	1,417.1	272.5	0.2	8.6	1.7
37	WD079		1966	124	PDP	O	3,805	162.7	619.1	**272.9**	160.8	610.9	269.5	1.9	8.2	3.3
38	HI573A		1973	341	PDP	O	7,686	111.4	856.2	**263.7**	108.5	851.8	260.1	2.9	4.4	3.7
39	MI623		1980	83	PDP	G	98,994	13.9	1,372.8	**258.1**	13.4	1,346.9	253.0	0.5	25.9	5.1
40	GC644	HOLSTEIN	1999	4,340	PDP	O	1,234	209.6	258.7	**255.6**	40.4	41.6	47.8	169.2	217.1	207.8
41	GI047		1955	88	PDP	O	3,747	151.8	568.9	**253.0**	145.4	529.4	239.6	6.4	39.5	13.5
42	PL020		1951	33	PDP	O	5,768	117.8	679.7	**238.8**	109.2	616.1	218.8	8.6	63.6	20.0
43	SP078		1972	203	PDP	G	11,471	78.3	897.9	**238.0**	74.4	887.2	232.3	3.9	10.8	5.8
44	MC084	KING/HORN MT.	1993	5,300	PDP	O	1,170	195.7	228.9	**236.5**	131.2	142.3	156.6	64.5	86.6	79.9
45	SM023		1960	82	PDP	G	38,736	29.9	1,159.3	**236.2**	29.5	1,145.2	233.3	0.4	14.1	2.9
46	SM130		1973	214	PDP	O	1,341	187.1	251.0	**231.8**	183.6	246.6	227.5	3.5	4.4	4.3
47	GC244	TROIKA	1994	2,762	PDP	O	2,005	170.3	341.5	**231.0**	161.3	321.2	218.5	9.0	20.3	12.6
48	SM066		1963	124	PDP	G	255,966	4.9	1,250.4	**227.4**	4.8	1,222.1	222.3	0.1	28.3	5.1
49	VK956	RAM-POWELL	1985	3,254	PDP	O	8,909	87.8	782.5	**227.1**	83.2	760.5	218.5	4.7	22.0	8.6
50	VR076		1949	31	PDP	G	141,473	8.7	1,224.8	**226.6**	7.6	1,178.8	217.4	1.0	46.0	9.2

RESERVOIR-SIZE DISTRIBUTION

The size distributions of the proved reservoirs are shown in **Figures 18**, **19**, and **20**. The size ranges are based on proved reserves and are presented on a geometrically progressing horizontal scale. These sizes correspond with the USGS deposit-size ranges shown in **Table 4** with a modification to reflect small reservoirs in a finer distribution. For **Figures 19** and **20**, the proved reserves are presented in million barrels (MMbbl) and billion cubic feet (Bcf), respectively. The number of reservoirs in each size grouping, shown as percentages of the total, is presented on a linear vertical scale. For the combination reservoirs (saturated oil rims with associated gas caps), shown in **Figure 18**, gas is converted to BOE and added to the liquid reserves.

Figure 18 shows the reservoir-size distribution, on the basis of proved BOE, for 2,278 proved combination reservoirs. The median is 0.9 MMBOE and the mean is 2.9 MMBOE. The GOR for the oil portion of the reservoirs is 1,190 SCF/STB, and the yield for the gas cap is 21.4 Bbl of condensate per MMcf of gas.

Figure 19 shows the reservoir-size distribution, on the basis of proved oil, for 8,051 proved undersaturated oil reservoirs. The median is 0.3 MMbbl, the mean is 1.8 MMbbl, and the GOR is 1,219 SCF/STB.

Figure 20 shows the reservoir-size distribution, on the basis of proved gas, for 17,731 gas reservoirs. The median is 2.1 Bcf of gas, the mean is 8.5 Bcf, and the yield is 12.0 Bbl of condensate per MMcf of gas.

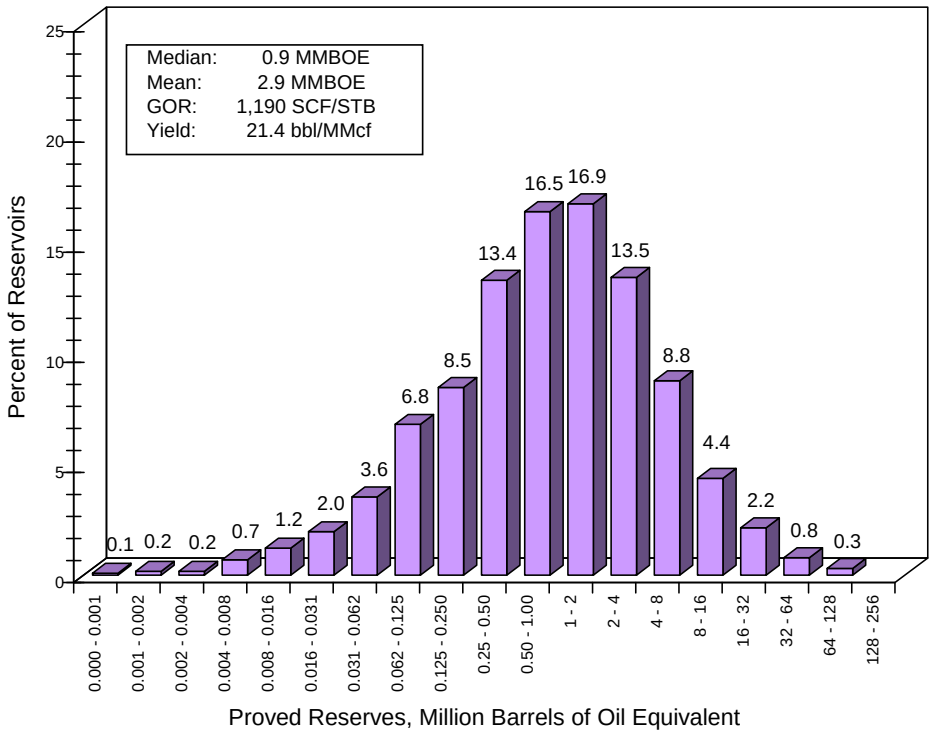


Figure 18. Reservoir-size distribution, 2,278 proved combination reservoirs.

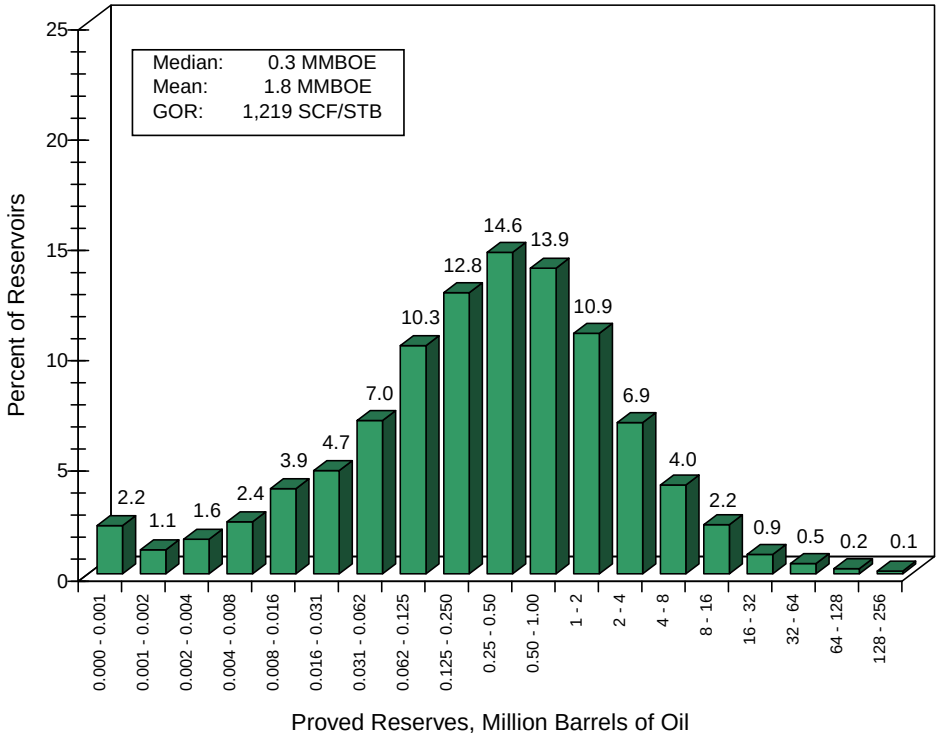


Figure 19. Reservoir-size distribution, 8,051 proved oil reservoirs.

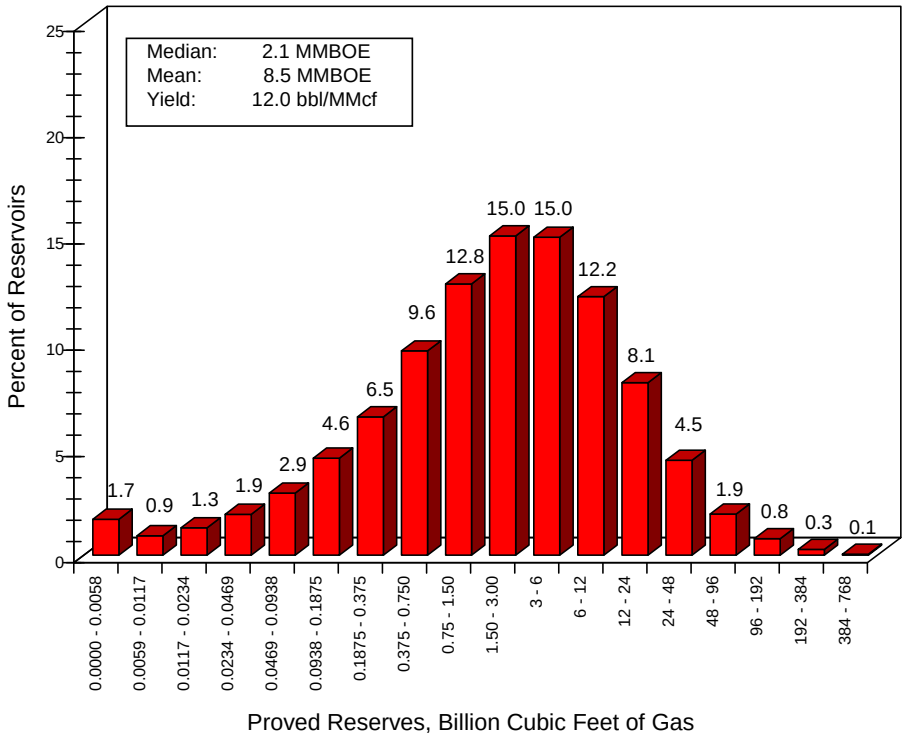


Figure 20. Reservoir-size distribution, 17,731 proved gas reservoirs.

DISCOVERY AND PRODUCTION PATTERNS AND TRENDS

It is informative to review the historic exploration and development activities that resulted in the world-class hydrocarbon-producing basin that is the GOM. Activity in the GOM will be examined by reviewing the status of exploration and development, the number of fields and quantities of proved reserves discovered during each decade. The discovery year for a field is defined as the year in which the first well reached total depth and encountered significant hydrocarbons. This date may differ from the year in which the field discovery was announced.

Discovery of Proved Fields

The BOEMRE first reported estimates of the GOM's oil and gas reserves in 1975 (*USGS Open File Report 77-71 (Bryan and Knipmeyer, 1977)*. As expected, initial development was in shallow, nearshore waters concentrated mainly in the Federal waters off central and western Louisiana. This primarily reflected the gradual extension of existing inland drilling and development technologies into the open-water marine environments, and the infancy of marine seismic acquisition activities. Early exploratory drilling in very shallow water on the shelf utilized barges and platforms. The mid-1950's witnessed the introduction of submersible and jack-up drilling rigs. Though still confined to the shelf (656 ft or less), field discoveries in the 1960's and early 1970's advanced seaward into deeper waters. Prior to 1975, 3,827 exploratory wells were drilled, culminating in the discovery of 342 proved fields. It was also during this period that 5 of the top 10 fields in the GOM, based on proved reserves, were discovered, the largest being West Delta Block 30 (WD 30).

Figures 21-23 depict locations of proved fields beginning in 1975 with bar heights proportional to total proved reserves in BOE.

Figure 21 shows the location of the proved fields discovered from 1975 through 1989. This period reflects continued drilling and development on the shelf, with an increase in field discoveries further offshore, predominantly of Pleistocene age. Development activities occurred over practically the entire central and western GOM shelf, as well as on the upper slope. In addition, the first Norphlet fields and a Miocene shallow bright spot play were discovered in the eastern Central GOM planning area. Exploratory drilling had reached water depths beyond 6,000 ft. During this period, 6,175 exploratory wells were drilled, resulting in the discovery of 536 proved fields. Thirty-eight of these fields were discovered in water depths greater than 1,000 ft. Deepwater activity is discussed in more detail in MMS OCS Report, *Deepwater Gulf of Mexico 2008: America's Offshore Energy Future (Richardson et al., 2008).* Significant discoveries in the GOM occurred during this time period: MC 194, the first field in over 1,000 ft of water; and, the largest field in the GOM, MC 807, in 3,400 ft of water.

For the 1990's (**Figure 22**), 4,126 exploration wells were drilled, resulting in the discovery of 223 proved fields (53 were discovered in water depths greater than 1,000 ft). The 1990's saw the refinement and reduction in cost of tension leg platform design and an expanded use of subsea completions. Available production histories have documented high production rates for deepwater fields. The expanding use of horizontal drilling increased productivity of specific reservoirs. Computer workstation technology using three-dimensional seismic data allowed for reduced risk and greater geologic assurance in exploration and field development, as well as exploration of new plays. The fourth largest field in the GOM, MC 778, was discovered during this time period.

From 2000 to 2007 (**Figure 23**), 2,936 exploration wells were drilled, resulting in the discovery of 150 proved fields. Nearly 30 percent of those fields were in greater than 1,000 ft of water. Reserve estimates for field discoveries during this period may have significant increases because of increased well control, reservoir management, and in-field exploration. MC 776, the eleventh largest field in the GOM, was discovered during this time period.

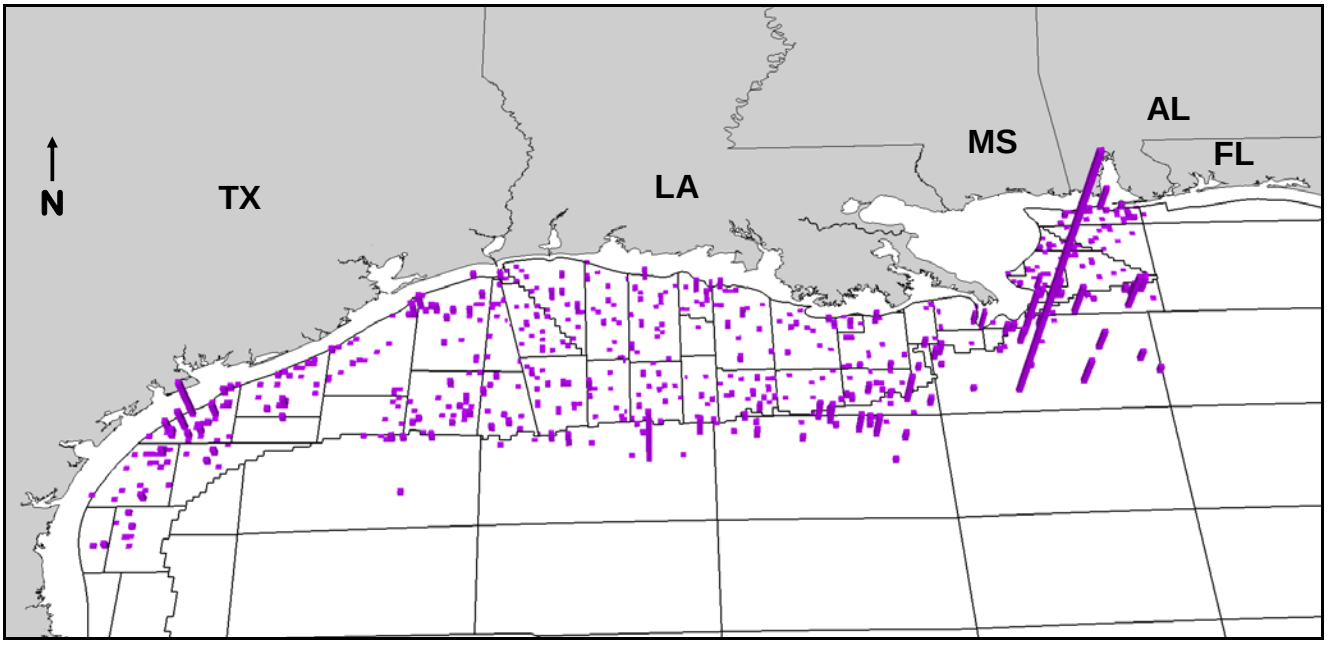


Figure 21. Location of proved fields discovered 1975-1989.

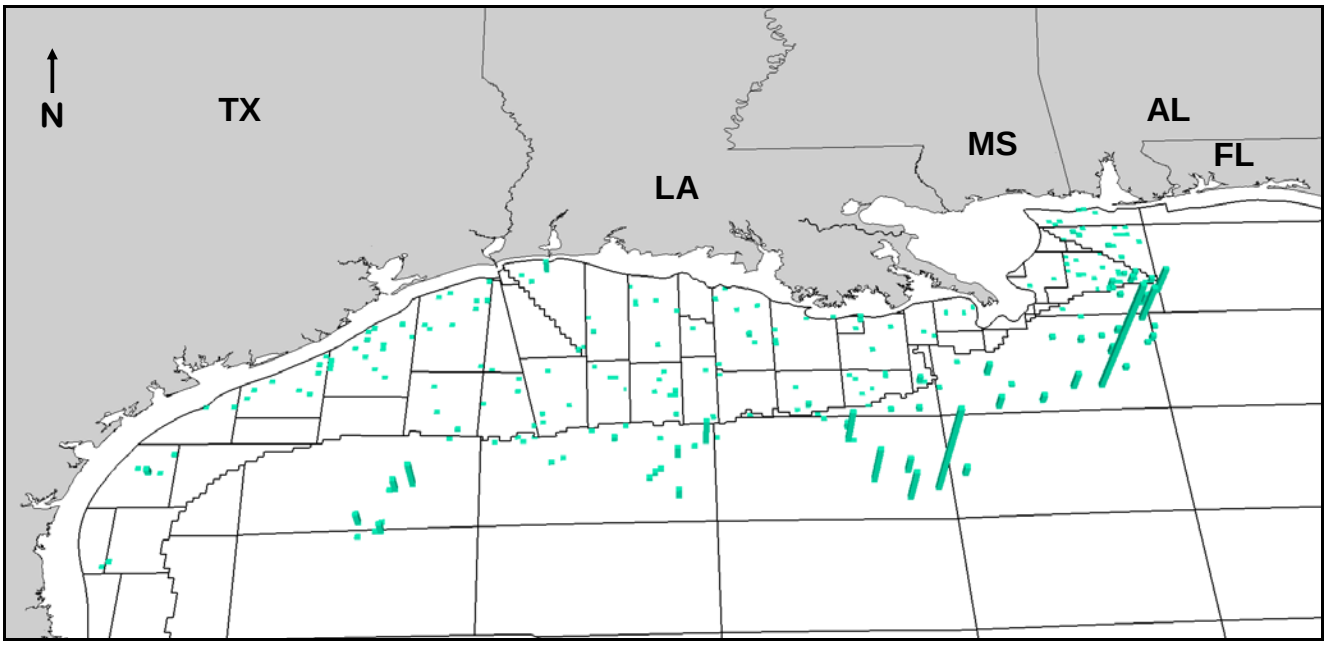


Figure 22. Location of proved fields discovered 1990-1999.

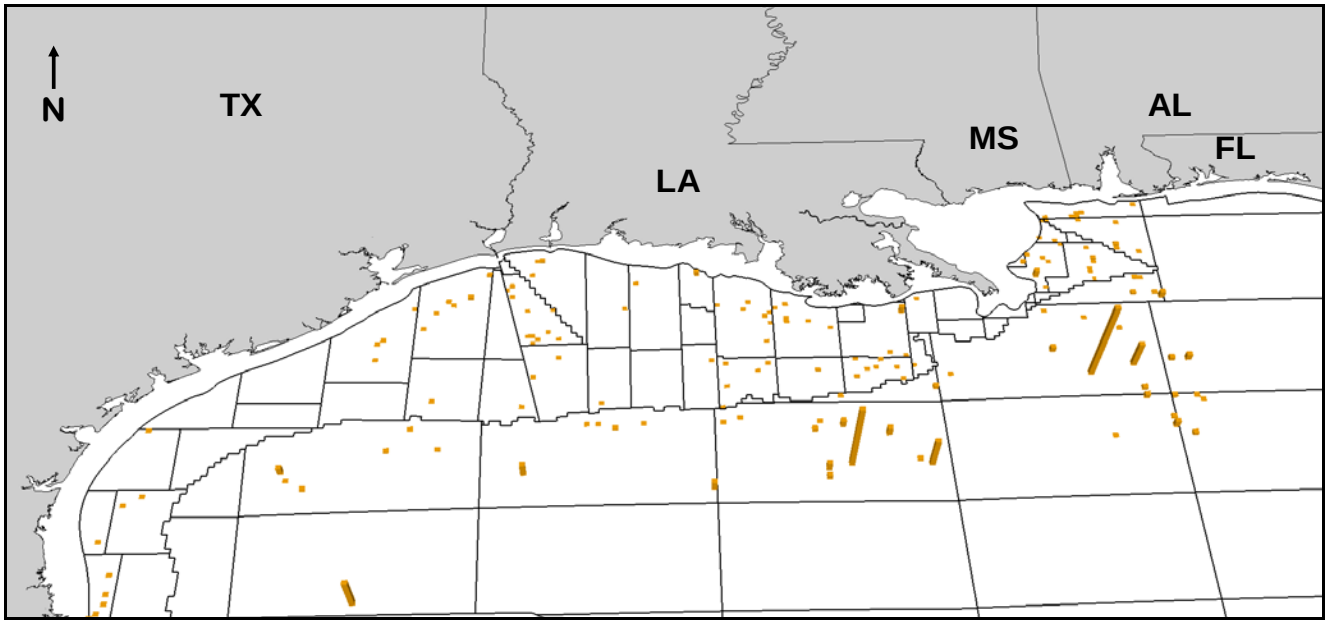


Figure 23. Location of proved fields discovered 2000-2007.

Production and Completion Trends

The mean daily production in the GOM OCS during 2007 was 1.06 MMbbl of crude oil, 0.22 MMbbl of gas condensate, 1.68 Bcf of casinghead gas, and 6.06 Bcf of gas-well gas. The mean GOR of oil wells was 1,580 SCF/STB, and the mean yield from gas wells was 36.27 Bbl of condensate per MMcf of gas.

Table 8 summarizes the data from monthly distributions of oil and gas production rates. The highest reported monthly oil production volume was from a Span Ages reservoir in GC 826 with a subsea depth of 21,300 ft, during the month of January. The highest reported monthly gas production volume was from a Miocene reservoir in MC 731, with a subsea depth of 15,395 ft, during the month of July. The mean number of oil completions producing more than 1,000 bbl per day was 199, and the mean number of gas completions producing more than 10 MMcf per day was 98.

Table 8. Monthly completion and production data.

2007	Oil		Gas	
Mean Number of Producing Completions	2,584 (199 > 1,000 bbls per day)		2,537 (98 > 10MMcf per day)	
Mean Number of Continuously Producing Completions	1,938		1,789	
Highest Monthly Mean Number of Producing Completions	2,721 (November)		2,586 (December)	
Lowest Monthly Mean Number of Producing Completions	2,331 (January)		2,395 (January)	
Mean Production Volume Mean Producing Rate	12,450 bbl (457 bbl per day)		72.1 MMcf (2.7 MMcf per day)	
Median Production Volume Median Producing Rate	2,129 bbl (77 bbl per day)		22.2 MMcf (0.9 MMcf per day)	
	Field		Field	
Highest Production Volume Highest Producing Rate Highest Producing Month Highest Production Volume Trend Highest Production Volume Subsea Depth	GC826	740,232 bbl (23,878 bbl per day) (January) (SPAN AGES) (21,300 feet)	MC731	4,344 MMcf (140.1 MMcf per day) (July) (MIOCENE) (15,395 feet)

Production Rates

Annual production in the GOM OCS is shown in **Figure 24**. The oil plot includes condensate and the gas plot includes casinghead gas. From 1986 through 1990, annual oil production declined 23 percent. From 1990 through 2002, annual oil production increased 106 percent, from 275 MMbbl to 567 MMbbl. From 2002 to 2007 annual oil production decreased 18 percent to 468 MMbbl.

From 1990 through 1993, annual gas production declined 5 percent. From 1993 through 2001, annual gas production rose from 4.7 Tcf, peaking at 5.1 Tcf in 1997, a 9-percent increase. Annual gas production reached at least 5.0 Tcf per year from 1996 through 1999 and in 2001. From 2001 to 2007, annual gas production declined 46 percent to 2.8 Tcf. For further analysis of the gas production decline, see the MMS OCS Report, *Gulf of Mexico Oil and Gas Production Forecast: 2007-2016 (Brewton et al., 2007)*, available from BOEMRE's GOMR Web site at http://www.gomr.boemre.gov/PDFs/2007/2007-020.pdf.

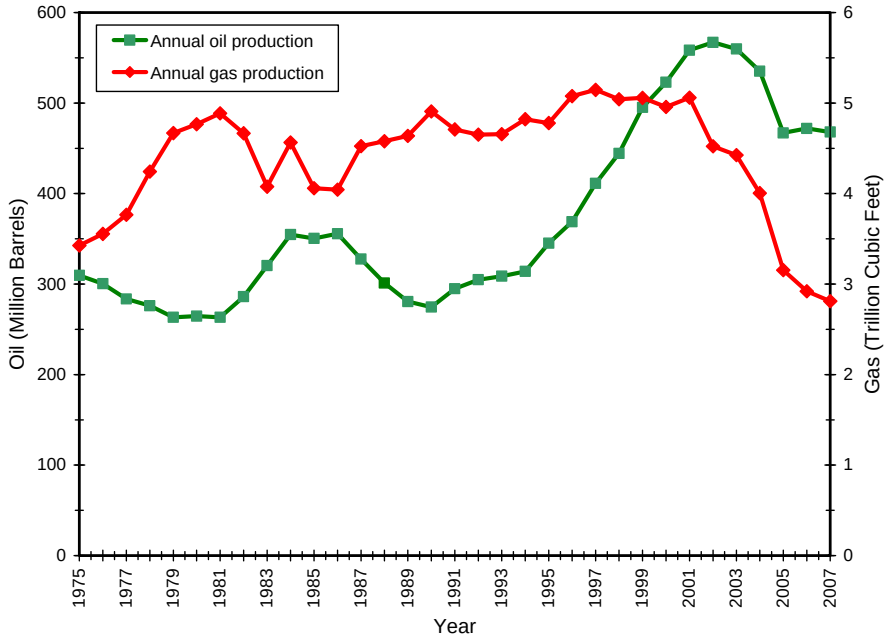


Figure 24. Annual oil and gas production.

Figure 25 is a plot of the number of proved gas and oil fields by discovery year. The annual number of gas fields discovered peaked in 1984, and has steadily declined through 2007. The number of oil fields discovered has not varied much from year to year, never exceeding 11, and averaging only about 3.7 discoveries per year.

Figure 26 presents proved reserves, cumulative production, and remaining proved reserves in BBOE as of December 31, 2007, summed according to field discovery year. Field depletion may be estimated by the relative positions of the cumulative production curve and the remaining proved reserves curve. For example, if the value of the remaining proved reserves is higher than the value of cumulative production for a given year, the aggregate depletion for fields discovered that year is less than 50 percent. The plot demonstrates that fields discovered after 1996 are less than 50 percent depleted.

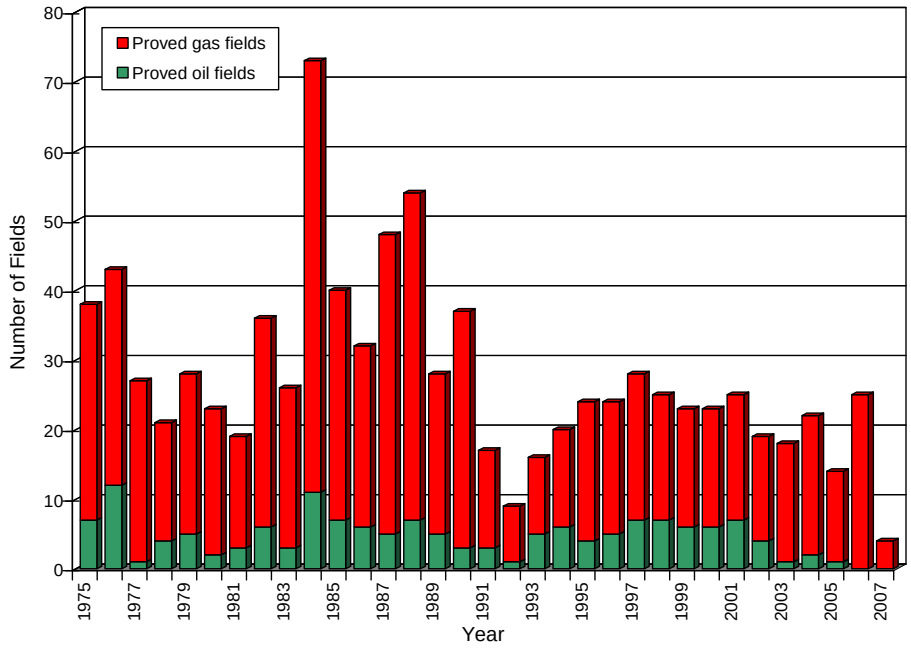


Figure 25. Annual number of proved oil and gas field discoveries.

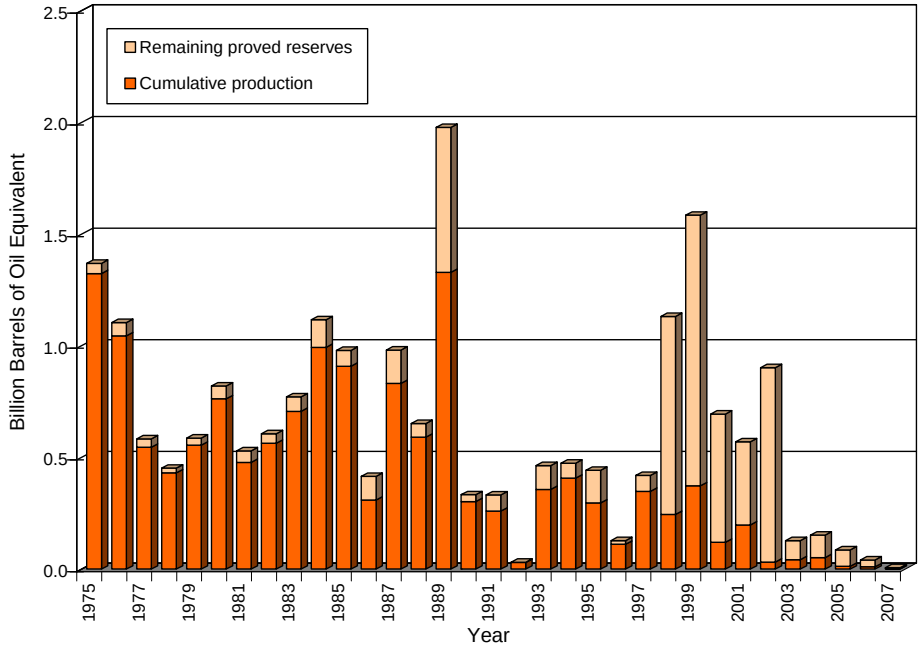


Figure 26. Proved reserves and production by field discovery year.

Figure 27 presents the number of proved fields and the mean field size by field discovery year. This plot shows that the number of discovered fields steadily declined since 1997, and the mean size of the fields has been getting smaller except for 1989 and for the period 1998 through 2002. The mean field size discovered is expected to increase because of reserves growth and additions in proved fields and reserves from unproved fields that become proved.

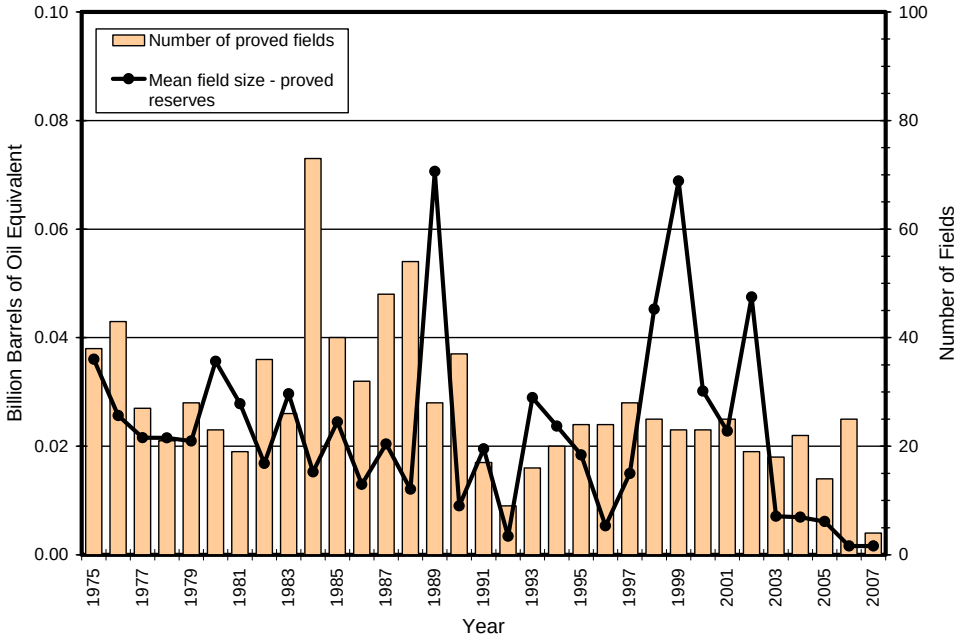


Figure 27. Number of proved fields and mean field size by field discovery year.

Figure 28 presents the number of proved and unproved fields and the average water depth of the fields discovered in each year. For 2001, the mean water depth for the fields discovered peaked at nearly 3,200 ft. Since 1995, the mean water depth has been greater than 1,000 ft, indicating that exploration and resulting production have moved into deeper water.

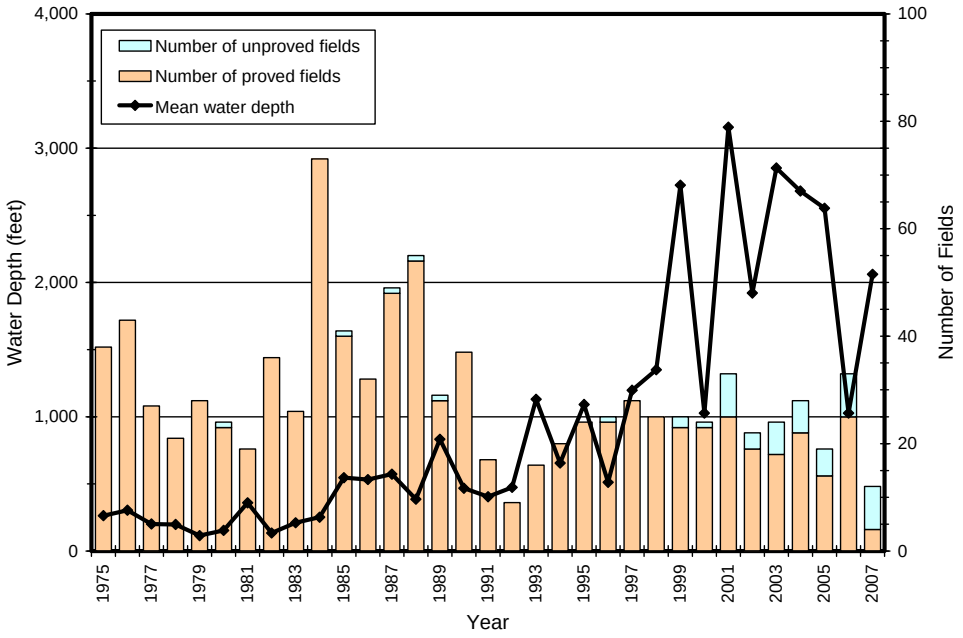


Figure 28. Number of proved and unproved fields and mean water depth by field discovery year.

Figures 29 and **30** show proved oil and gas reserves and annual production by reservoir discovery year. Data presented in **Figure 29** include crude oil and condensate, and data presented in **Figure 30** include associated and nonassociated gas. The year of discovery assigned to a reservoir is the year in which the first well encountering hydrocarbons penetrated the reservoir. For comparison with the rate of discoveries, the annual production of oil and gas is also shown. In five of the last ten years, annual proved reserves additions for oil have exceeded annual oil production, resulting in an increase in remaining proved oil reserves. Since 1985, annual gas production has exceeded annual proved reserve additions for gas. In general, annual proved gas reserve additions have declined since the mid 1970's.

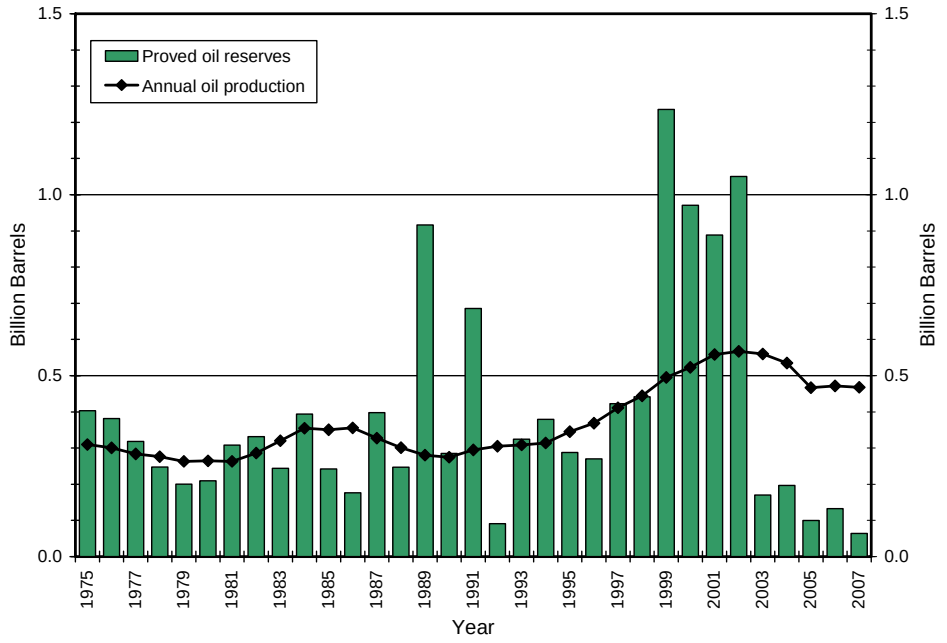


Figure 29. Proved oil reserves by reservoir discovery year and annual oil production.

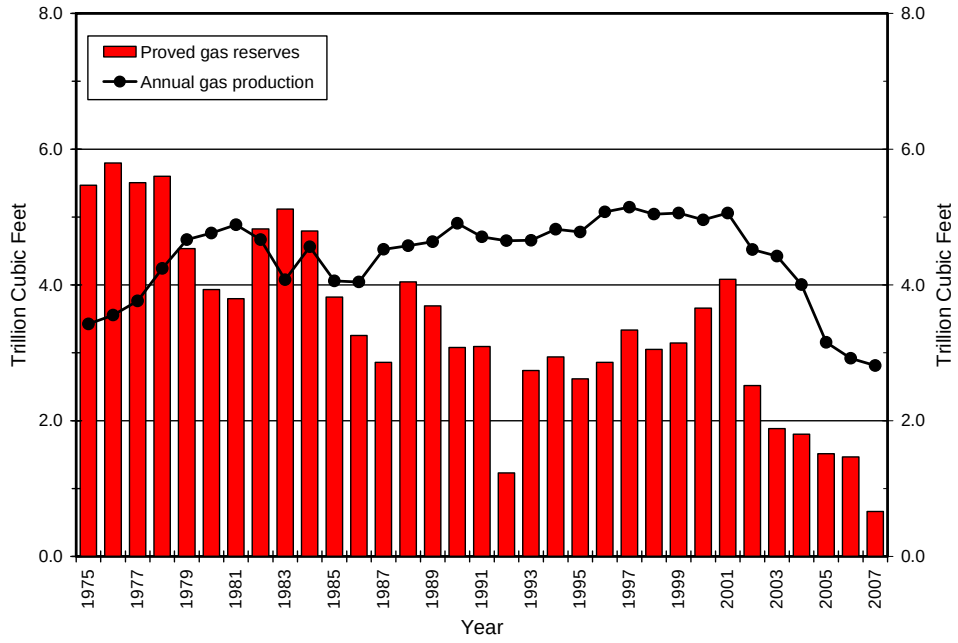


Figure 30. Proved gas reserves by reservoir discovery year and annual gas production.

Figure 31 presents proved reserves in BBOE for water depth categories by reservoir discovery year. From 1975 to 1985 the majority of reserves discovered were in less than 500 ft of water. From 1999 through 2002 the majority of reserves discovered occurred in greater than 1,500 ft of water. Since 2003 the majority of reserve discoveries have returned to less than 500 ft of water. As mentioned earlier, reserves are expected to increase because of reserves growth and additions in proved fields and reserves from unproved fields that become proved.

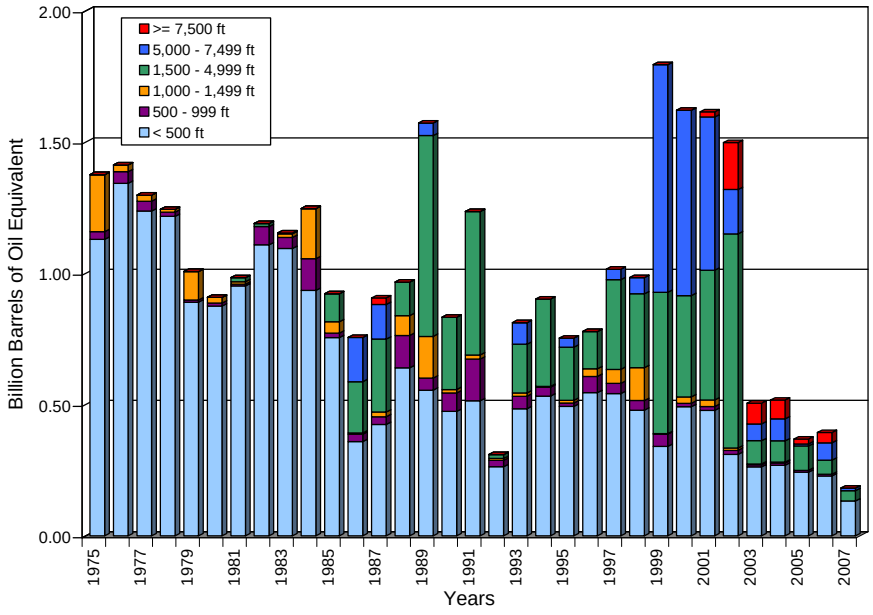


Figure 31. Proved BOE reserves water depth categories by reservoir discovery year.

Figure 32 presents the total footage drilled and the number of exploratory and development wells drilled in the GOM OCS each year. Since 2000 the number of exploratory wells drilled has remained mostly constant. The number of development wells drilled per year has decreased, and the total footage drilled has decreased.

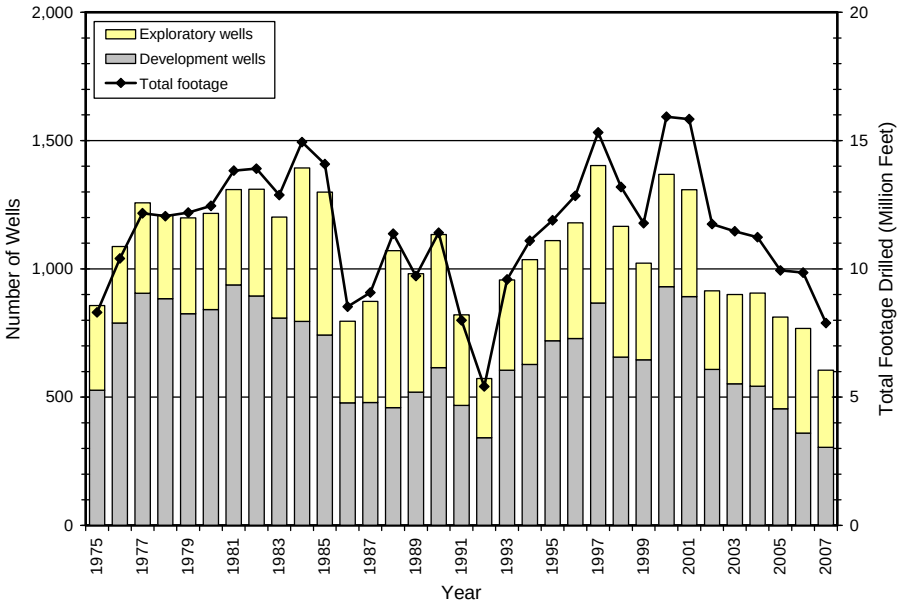


Figure 32. Number of wells and total footage drilled by year.

Figure 33 presents the number of exploratory wells drilled each year by water depth category. The plot shows an increase of drilling in deeper water, but also illustrates continued drilling in water depths less than 500 ft. From 1997 through 2007, the number of exploratory wells drilled in water depths less than 500 ft decreased by nearly 50 percent. Exploratory wells drilled in water depths greater than 1,000 ft have more than doubled since 1995.

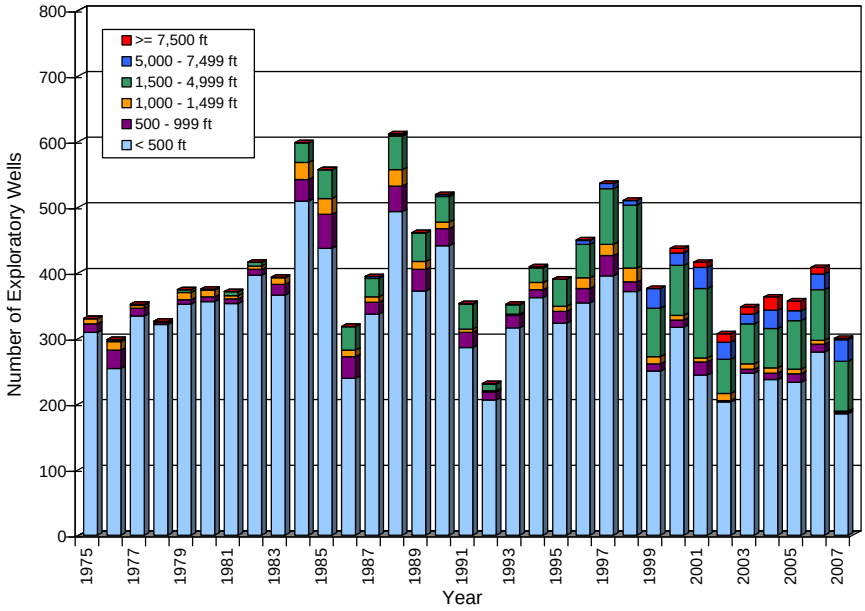


Figure 33. Number of exploratory wells drilled by water depth.

Figure 34 presents the number of development wells drilled each year by water depth category. For water depths less than 500 ft development drilling peaked in 2000 to nearly 800 wells. For water depths greater than 1,000 ft development drilling peaked in 2001 to nearly 150 wells. From 2000 to 2007, the number of development wells drilled in water depths less than 500 ft decreased nearly 70 percent. Development wells drilled in water depths greater than 1,000 ft have decreased nearly two-thirds since 2001.

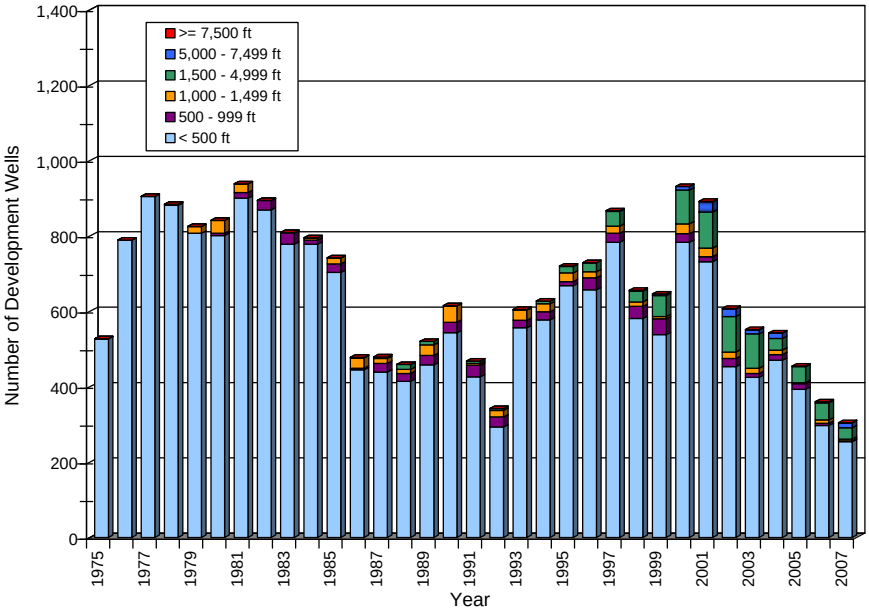


Figure 34. Number of development wells drilled by water depth.

SUMMARY AND CONCLUSIONS

A summary of the proved reserve estimates for 2007 and a comparison with estimates from the previous year's report (December 31, 2006) are shown in **Table 9**. There were 22 proved fields added during 2007 (2 oil fields and 20 gas fields), which are summarized and tabulated as increases to proved reserves. Note that 18 of the proved fields added were discovered prior to 2006.

Comparison of Proved Reserves

Proved reserve estimates are revised as additional wells are drilled and new leases are added to existing fields, and as reservoirs are depleted and leases relinquished. Complete reevaluations of existing field studies are conducted on the basis of changes in field development and/or production history. Revisions of proved reserves are summarized and presented as changes in **Table 9**. Based on periodic reviews and revisions of field studies conducted since the 2006 report, the revisions for proved oil and gas reserves have resulted in a net increase. A net change in the proved oil and gas reserves is a result of combining the discoveries and the revisions.

Table 9 demonstrates that the 2007 proved oil and gas discoveries and field revisions did not exceed production, resulting in a net decrease in remaining proved reserves. The remaining proved reserves decreased 6 percent for oil and decreased 11 percent for gas since the 2006 report.

Table 9. Summary and comparison of GOM proved oil and gas reserves as of December 31, 2006, and December 31, 2007.

	Oil (billion bbl)	Gas (trillion cu ft)	BOE (billion bbl)
Proved reserves:			
Previous estimates, as of 12/31/2006*	**20.30**	**183.6**	**52.97**
Discoveries	0.01	0.5	0.10
Revisions	0.12	0.5	0.21
Estimate, as of 12/31/2007 (this report)	**20.43**	**184.6**	**53.28**
Cumulative production:			
Previous estimates, as of 12/31/2006*	**15.08**	**166.7**	**44.74**
Discoveries	0.00	0.0	0.00
Revisions	0.47	2.8	0.97
Estimate, as of 12/31/2007 (this report)	**15.55**	**169.5**	**45.71**
Remaining proved reserves:			
Previous estimates, as of 12/31/2006*	**5.22**	**16.9**	**8.23**
Discoveries	0.01	0.5	0.10
Revisions	0.12	0.5	0.21
Production during 2007	-0.47	-2.8	-0.97
Estimate, as of 12/31/2007 (this report)	**4.88**	**15.1**	**7.57**

*Crawford et.al., 2009

Table 10 presents all previous reserve estimates by year. Because of adjustments and corrections to production data submitted by Gulf of Mexico OCS operators, the difference between historical cumulative production for successive years does not always equal the annual production for the latter year. No comparisons are made for unproved reserves.

Table 10. Proved oil and gas reserves and cumulative production at end of year, 1975-2007.

Oil expressed in billions of barrels; gas in trillions of cubic feet. "Oil" includes crude oil and condensate; "gas" includes associated and nonassociated gas. Remaining proved reserves estimated as of December 31 each year.

Year	Number of fields included	Proved reserves			Historical cumulative production			Remaining proved reserves		
		Oil	Gas	BOE	Oil	Gas	BOE	Oil	Gas	BOE
1975	255	6.61	59.9	17.27	3.82	27.2	8.66	2.79	32.7	8.61
1976	306	6.86	65.5	18.51	4.12	30.8	9.60	2.74	34.7	8.91
1977	334	7.18	69.2	19.49	4.47	35.0	10.70	2.71	34.2	8.80
1978	385	7.52	76.2	21.08	4.76	39.0	11.70	2.76	37.2	9.38
1979 *	417	7.71	82.2	22.34	4.83	44.2	12.69	2.88	38.0	9.64
1980	435	8.04	88.9	23.86	4.99	48.7	13.66	3.05	40.2	10.20
1981	461	8.17	93.4	24.79	5.27	53.6	14.81	2.90	39.8	9.98
1982	484	8.56	98.1	26.02	5.58	58.3	15.95	2.98	39.8	10.06
1983	521	9.31	106.2	28.21	5.90	62.5	17.02	3.41	43.7	11.19
1984	551	9.91	111.6	29.77	6.24	67.1	18.18	3.67	44.5	11.59
1985	575	10.63	116.7	31.40	6.58	71.1	19.23	4.05	45.6	12.16
1986	645	10.81	121.0	32.34	6.93	75.2	20.31	3.88	45.8	12.03
1987	704	10.76	122.1	32.49	7.26	79.7	21.44	3.50	42.4	11.04
1988 †	678	10.95	126.7	33.49	7.56	84.3	22.56	3.39	42.4	10.93
1989	739	10.87	129.1	33.84	7.84	88.9	23.66	3.03	40.2	10.18
1990	782	10.64	129.9	33.75	8.11	93.8	24.80	2.53	36.1	8.95
1991	819	10.74	130.5	33.96	8.41	98.5	25.94	2.33	32.0	8.02
1992	835	11.08	132.7	34.69	8.71	103.2	27.07	2.37	29.5	7.62
1993	849	11.15	136.8	35.49	9.01	107.7	28.17	2.14	29.1	7.32
1994	876	11.86	141.9	37.11	9.34	112.6	29.38	2.52	29.3	7.73
1995	899	12.01	144.9	37.79	9.68	117.4	30.57	2.33	27.5	7.22
1996	920	12.79	151.9	39.82	10.05	122.5	31.85	2.74	29.4	7.97
1997	957	13.67	158.4	41.86	10.46	127.6	33.17	3.21	30.8	8.69
1998	984	14.27	162.7	43.22	10.91	132.7	34.52	3.36	30.0	8.70
1999	1,003	14.38	161.3	43.08	11.40	137.7	35.90	2.98	23.6	7.18
2000	1,050	14.93	167.3	44.70	11.93	142.7	37.32	3.00	24.6	7.38
2001	1,086	16.51	172.0	47.11	12.48	147.7	38.77	4.03	24.3	8.35
2002	1,112	18.75	176.8	50.21	13.05	152.3	40.15	5.71	24.6	10.09
2003	1,141	18.48	178.2	50.19	13.61	156.7	41.49	4.87	21.5	8.70
2004	1,172	18.96	178.4	50.70	14.14	160.7	42.73	4.82	17.7	7.97
2005	1,196	19.80	181.8	52.15	14.61	163.9	43.77	5.19	17.9	8.38
2006	1,229	20.30	183.6	52.97	15.08	166.7	44.74	5.22	16.9	8.23
2007	1,251	20.43	184.6	53.28	15.55	169.5	45.71	4.88	15.1	7.57

* Gas plant liquids dropped from system
\+ Basis of reserves changed from demonstrated to SPE proved.

Conclusions

As of December 31, 2007, the 1,251 proved oil and gas fields in the federally regulated part of the GOM OCS contained proved reserves estimated to be 20.43 BBO and 184.6 Tcf of gas. Cumulative production from the proved fields accounts for 15.55 BBO and 169.5 Tcf of gas. Remaining proved reserves are estimated to be 4.88 BBO and 15.1 Tcf of gas for the 953 proved active fields. Remaining proved oil reserves have decreased 7 percent and the remaining proved gas reserves have decreased 11 percent from the 2006 report.

Unproved reserves in the federally regulated part of the GOM OCS are estimated to be 4.12 BBO and 7.3 Tcf of gas. Unproved reserves in water depths greater than 1,000 feet (ft) represent 95 percent of the total unproved oil and 53 percent of the total unproved gas. Estimated unproved reserves for oil are 8.3 times 2007 annual oil production, and for gas are 1.4 times 2007 annual gas production.

In addition to the proved and unproved reserves discussed above, there are an estimated 1.69 BBO and 9.5 Tcf of gas that are not presented in the tables and figures of this report. This oil and gas occurs on leases that have not yet qualified (and therefore have not been placed in a field) or they occur as known resources in proved fields, or as known resources in unproved fields. As further drilling and development occur, additional hydrocarbon volumes will become reportable, and BOEMRE anticipates future proved and unproved reserves to increase.

CONTRIBUTING PERSONNEL

This report includes contributions from the following Gulf of Mexico Region, Office of Resource Evaluation, personnel.

David W. Absher

Eric G. Kazanis

Kellie K. Lemoine

Lesley D. Nixon

Robert M. Surcouf, Jr.

Chee W. Yu

Blake A. Zeringue

REFERENCES

Attanasi, E.D., 1998, *Economics and the National Assessment of United States Oil and Gas Resources*, U.S. Geological Survey Circular 1145, United States Government Printing Office, Washington, D.C.,Table A-4, p. 29.

Bascle, B.J., L.D. Nixon, and K.M. Ross, 2001, *Atlas of Gulf of Mexico Gas and Oil Sands as of January 1, 1999*, U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, Office of Resource
Evaluation, OCS Report MMS 2001-086, New Orleans, 342 p. Web site: http://www.gomr.boemre.gov/homepg/gomatlas/atlas99.html

Brewton, A., L. Almasy, R. Baud, R. Bongiovanni, T.M. DeCort, A.G. Josey, E.G. Kazanis, T. Riches Jr., M. Uli, F. Yam, *Gulf of Mexico Oil and Gas Production Forecast: 2007-2016,* U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico Region, OCS Report MMS 2007-020, New Orleans, 23 p. Web site: http://www.gomr.boemre.gov/PDFs/2007/2007-020.pdf

Bryan, F.T., and Knipmeyer, J.H., 1977, *Estimated Oil and Gas Reserves, Gulf of Mexico Outer Continental Shelf, January 1, 1976*: U.S. Geological Survey Open-File Report 77-71, 10p.

Crawford, T.G., G.L. Burgess, S.M. Haley, P.F. Harrison, C.J. Kinler, G.D. Klocek, and N.K. Shepard, 2009, *Estimated Oil and Gas Reserves, Gulf of Mexico, December 31, 2006,* U. S. Department of the Interior, Minerals Management Service, Gulf of Mexico Region, OCS Report MMS 2009-064, New Orleans, 48 p. Web site: http://www.gomr.boemre.gov/homepg/offshore/fldresv/resvmenu.html

Federal Register. 2006. Federal Outer Continental Shelf (OCS) administrative boundaries extending from the Submerged Lands Act boundary seaward to the limit of the United States Outer Continental Shelf. Tuesday, January 3, 2006. 71 FR 1, pp. 127-131.

Hasseltine, G.H., 2008, *Indicated Hydrocarbon List, Central, Western, and Eastern Gulf of Mexico*, U. S. Department of the Interior, Minerals Management Service, Gulf of Mexico Region. Web site: http://www.gomr.boemre.gov/homepg/offshore/gulfocs/hclist/hclist.html

Lore, G.L., D.A. Marin, E. C. Batchelder, W. C. Courtwright, R. P. Desselles, Jr., and R. J. Klazynski, 2001, *2000 Assessment of Conventionally Recoverable Hydrocarbon Resources of the Gulf of Mexico and Atlantic Outer Continental Shelf as of January 1, 1999*, U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, Office of Resource Evaluation, OCS Report MMS 2001-087, New Orleans, 652 p. Web site: http://www.gomr.boemre.gov/homepg/offshore/gulfocs/assessment/assessment.html

Lore, G.L. 2006, *Assessment of Undiscovered Technically Recoverable Oil and Gas Resources of the Nation's Outer Continental Shelf, 2006*, U.S. Department of the Interior, Minerals Management Service, Resource Evaluation Division, 6 p. Web site:
http://www.boemre.gov/revaldiv/PDFs/2006NationalAssessmentBrochure.pdf

Office of the Federal Register, National Archives and Records Administration, 2007, *Code of Federal Regulations, 30 CFR, Mineral Resources,* U.S. Government Printing Office, Washington, D.C. Web site: http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?&c=ecfr&tpl=/ecfrbrowse/Title30/30tab_02.tpl

Richardson, G.E, L.D. Nixon, C.M. Bohannon, M.P. Gravois, E.G. Kazanis, and T.M. Montgomery, 2008, *Deepwater Gulf of Mexico 2008: Deepwater Gulf of Mexico 2008: America's Offshore Energy Future*, U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico Region, OCS Report MMS 2008-013, New Orleans, 102 p. Web site: http://www.gomr.boemre.gov/PDFs/2008/2008-013.pdf

Society of Petroleum Engineers (SPE), World Petroleum Congress (WPC), American Association of Petroleum Geologists (AAPG), and Society of Petroleum Evaluation Engineers (SPEE), 2007, *Petroleum Resource Management System*, 49 p. Web site: http://www.spe.org/spe-app/spe/industry/reserves/prms.htm

U.S. Department of Energy (DOE), 1989, Conversion Factors, *Monthly Energy*, December 1989, p. 132-133.

U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico Region, *Gulf of Mexico OCS Deep Gas Update: 2001-2002,* OCS Report MMS 2003-026, New Orleans, 8 p. Web site: http://gomr.boemre.gov/PDFs/2003/2003-026.pdf

U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico Region, *OCS Operations Field Directory*, 2007, New Orleans, 178 p. Web site: http://www.gomr.boemre.gov/homepg/offshore/fldresv/mastlist/mastlist.html

U.S. Geological Survey and Minerals Management Service, 1989, *Estimates of Undiscovered Conventional Oil and Gas Resources in the United States–A Part of the Nation's Energy Endowment*, 44 p.

APPENDICES

APPENDIX A. Comparison of Previous and New Planning Areas

The BOEMRE implemented the planning area boundary realignments as initially described in the Draft Proposed Program for the Revised Program Outer Continental Shelf Oil and Gas Leasing Program 2007-2012 (Revised December 2010). BOEMRE has developed offshore administrative lines from each adjoining coastal state. BOEMRE undertook this task in light of the increasing number and type of both traditional and non-traditional energy, alternative energy-related, and other activities on the OCS. BOEMRE has used, to the extent practicable, the updated National Baseline (or Supreme Court fixed baselines where they exist) to derive offshore administrative boundaries in compliance with accepted cartographic practice. For this task, BOEMRE has used the computational software known as CARIS LOTS "Limits and Boundaries." This software was specifically designed to meet international standards for calculating marine boundaries, including United Nations Convention on the Law of the Sea requirements. Additional details can be accessed at http://edocket.access.gpo.gov/2006/pdf/05-24659.pdf.

As a result of the realignment of some planning areas to follow the new administrative lines, the areas formerly included in the Eastern and Western Gulf Planning Area are now part of the Central Gulf Planning Area. In order to be able to address mapping and programming requirements of BOEMRE's Technical Information Management System and to offer the areas that have blocks divided by administrative lines, substantive programming changes were required. (See **Figure A-1** modified from http://www.boemre.gov/ld/lateral/Gulf_Plan.pdf).

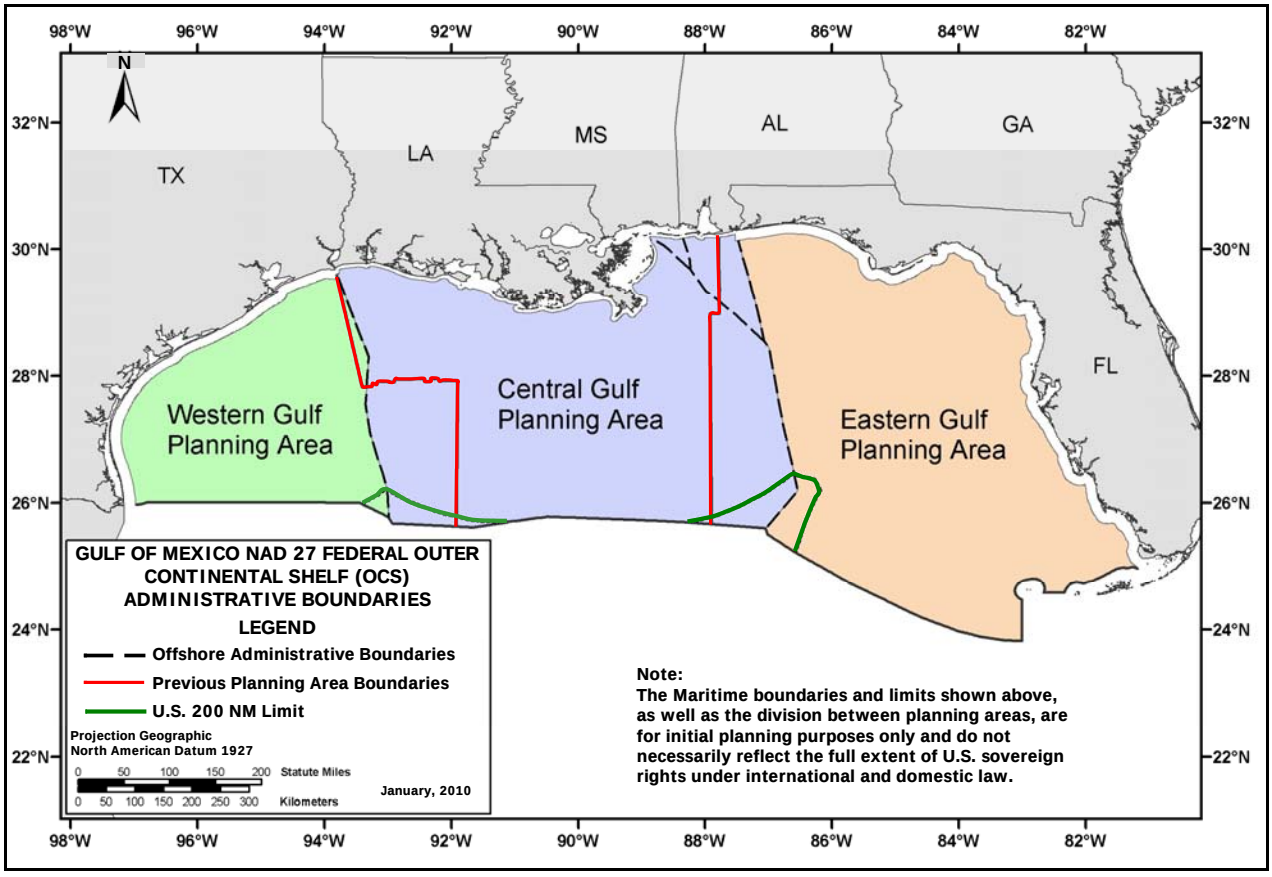
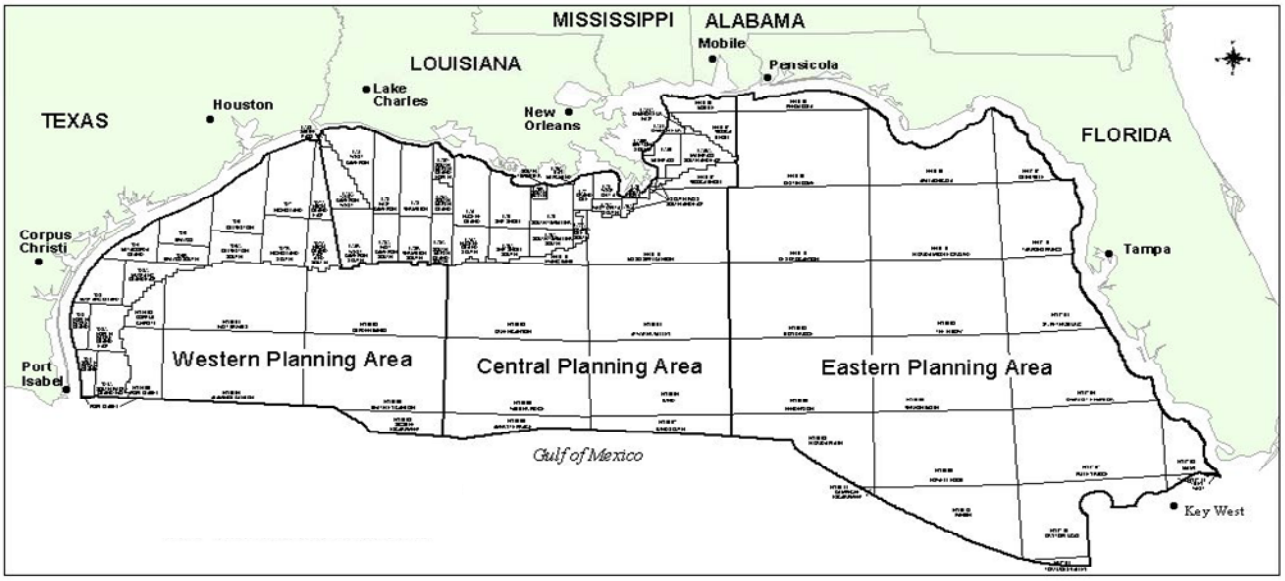


Figure A-1. Comparison of GOM OCS Administrative and Planning Area Boundaries.

APPENDIX B. Reserves Tables Prior To Planning Area Boundary Changes

In previous *Estimated Oil and Gas Reserves Reports*, reserves were reported by planning area and by shelf (less than or equal to 650 ft of water) and slope (greater than 650 ft of water). As indicated in **Appendix A,** BOEMRE realigned some planning areas to follow new administrative lines in 2007. **Figure B-1** presents the status of the number of blocks and acres by planning area prior to the realignment in 2007 in the GOMR. **Figure B-2** is a GOMR active lease map that presents the status of blocks and acres by planning area after the 2007 realignment. As a result of this change, the Central Planning Area gained 3,296 blocks and 18.65 million acres from the Western and Eastern Planning Areas. This change made it difficult to compare reserves by planning area in some tables from previous reports. For this report **Appendix B** presents comparable reserve tables for the previous planning area boundaries.

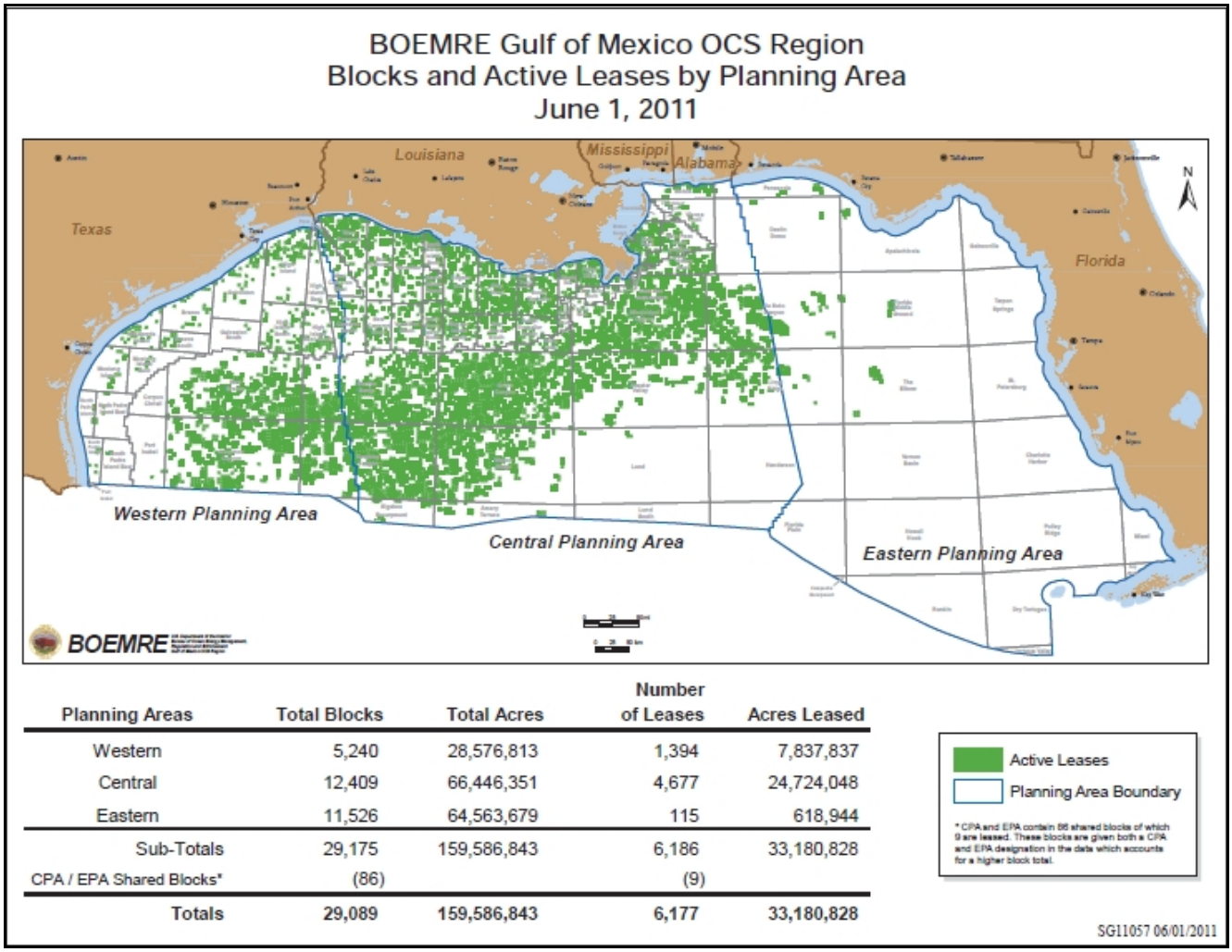


Gulf of Mexico Region Planning Areas
January 3, 2007

	Total Blocks	Total Acres	Blocks Leased	Acres Leased
Westen Planning Area	6,517	35,930,495.793	2,733	15,407,477.42
Central Planning Area	9,113	47,798,125.396	4,880	24,820,627.9464
Eastern Planning Area	13,457	75,585,243.528	242	1,393,920.00
Totals	29,087	159,313,864.717	7,855	41,622,025.3664

MAU GOMPA 01/03/2007

Figure B-1. Pre-2007 GOM Planning Areas.



Planning Areas	Total Blocks	Total Acres	Number of Leases	Acres Leased
Western	5,240	28,576,813	1,394	7,837,837
Central	12,409	66,446,351	4,677	24,724,048
Eastern	11,526	64,563,679	115	618,944
Sub-Totals	29,175	159,586,843	6,186	33,180,828
CPA / EPA Shared Blocks*	(86)		(9)	
Totals	**29,089**	**159,586,843**	**6,177**	**33,180,828**

Figure B-2. 2007 GOM Planning Areas.

Appendix B

Table B-1 presents the estimated oil and gas reserves for the 1,251 proved fields and 53 unproved fields as of December 31, 2007 by the planning area boundaries prior to 2007. In comparing **Table B-1** to **Table 1** (page 11) in this report the Central Planning Area's gained 920 MMBOE of proved reserves and 1,491 MMBOE of unproved reserves from the Western and Eastern Planning Areas.

Table B-1. Estimated oil and gas reserves for 1,251 proved and 53 unproved fields, GOM OCS, December 31, 2007 (Pre-2007 Planning Areas).

(Reserves: oil expressed in millions of barrels at 60 °F and 1 atmosphere; gas in billions of cubic feet at 60 °F and 15.025 psia.)

Area(s) (Figs. 4, 5, and 6)	Number of fields					Proved reserves			Cumulative production through 2007			Remaining proved reserves			Unproved reserves		
	Proved active prod	Proved active nonprod	Proved expired depleted	Unproved active	Expired nonprod	Oil	Gas	BOE	Oil	Gas	BOE	Oil	Gas	BOE	Oil	Gas	BOE
Western Planning Area																	
Alaminos Canyon	3	1	0	3	2	224	399	295	64	106	84	160	293	211	226	268	273
Brazos	21	2	15	0	3	10	3,604	652	10	3,463	626	0	141	26	0	28	5
East Breaks	17	2	0	2	3	251	2,123	629	190	1,698	493	61	425	136	16	89	32
Galveston	21	7	20	1	3	69	2,219	464	56	2,005	412	13	214	52	0	46	9
Garden Banks	26	3	7	1	4	657	3,998	1,368	529	3,314	1,119	128	684	249	68	152	95
High Island and Sabine Pass	74	5	48	2	9	403	15,529	3,166	388	15,079	3,070	15	450	96	0	91	16
Matagorda Island	22	0	7	0	2	25	5,180	946	23	5,031	918	2	149	28	1	295	53
Mustang Island	11	2	16	0	5	9	1,805	330	7	1,700	309	2	105	21	13	138	38
N.& S.Padre Island	11	0	7	1	0	0	619	111	0	568	102	0	51	9	0	1	0
Western Planning Area (Other)*	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1,342	297	1,395
Western Planning Area Subtotal	***206***	***22***	***120***	***11***	***32***	***1,648***	***35,476***	***7,961***	***1,267***	***32,964***	***7,133***	***381***	***2,512***	***828***	***1,666***	***1,405***	***1,916***
Central Planning Area																	
Atwater Valley	4	1	0	4	3	60	517	152	0	27	5	60	490	147	108	291	160
Chandeleur	6	3	4	0	0	0	373	67	0	356	64	0	17	3	0	4	1
East Cameron	41	6	19	0	0	355	10,881	2,291	330	10,502	2,198	25	379	93	4	137	28
Eugene Island	72	6	10	0	3	1,651	19,578	5,135	1,600	18,974	4,976	51	604	159	35	214	73
Ewing Bank	17	0	0	0	2	359	709	485	279	564	380	80	145	106	53	108	72
Grand Isle	14	1	6	1	1	993	4,904	1,865	956	4,670	1,787	37	234	78	19	116	40
Green Canyon	31	3	4	12	16	2,669	3,723	3,332	941	2,354	1,360	1,728	1,369	1,972	759	595	866
Main Pass and Breton Sound	57	11	22	0	5	1,124	6,756	2,326	1,046	6,283	2,164	78	473	162	6	18	9
Mississippi Canyon	39	3	4	9	7	3,601	9,613	5,310	1,645	6,428	2,788	1,956	3,185	2,522	535	2,077	905
Mobile	22	3	8	0	2	0	2,205	393	0	1,913	341	0	292	52	0	47	8
Ship Shoal	54	2	12	1	2	1,400	12,212	3,573	1,354	11,802	3,454	46	410	119	21	183	53
South Marsh Island	38	7	6	0	0	945	14,424	3,512	880	13,794	3,334	65	630	178	14	298	67
South Pass	9	1	3	0	0	1,089	4,383	1,869	1,058	4,247	1,813	31	136	56	1	6	2
South Pelto	9	0	0	0	0	163	1,219	380	150	1,080	342	13	139	38	4	14	6
South Timbalier	45	5	11	3	1	1,646	10,855	3,577	1,503	9,520	3,197	143	1,335	380	1	28	6
Vermilion	56	8	20	0	2	570	16,394	3,487	535	15,895	3,363	35	499	124	17	343	78
Viosca Knoll	33	1	17	3	5	552	3,394	1,156	445	2,949	970	107	445	186	80	210	117
West Cameron and Sabine Pass	76	11	30	0	0	225	20,795	3,926	206	19,624	3,698	19	1,171	227	12	484	98
West Delta	19	3	2	0	3	1,382	5,587	2,376	1,352	5,395	2,312	30	192	64	12	78	26
Central Planning Area (Other)**	0	0	0	6	1	0	0	0	0	0	0	0	0	0	762	147	788
Central Planning Area Subtotal	***642***	***75***	***178***	***39***	***53***	***18,784***	***148,522***	***45,212***	***14,280***	***136,377***	***38,546***	***4,504***	***12,145***	***6,666***	***2,443***	***5,398***	***3,403***
Eastern Planning Area Subtotal***	***8***	***0***	***0***	***3***	***2***	***1***	***643***	***115***	***0***	***137***	***25***	***1***	***506***	***90***	***10***	***534***	***105***
GOM Total:	***856***	***97***	***298***	***53***	***87***	***20,433***	***184,641***	***53,288***	***15,547***	***169,478***	***45,704***	***4,886***	***15,163***	***7,584***	***4,119***	***7,337***	***5,424***
	1,251																

*Western Planning Area (Other) includes Corpus Christi, Keathley Canyon, and Port Isabel.
**Central Planning Area (Other) includes Lund, Keathley Canyon, Walker Ridge, and others.
***Eastern Planning Area includes DeSoto Canyon, Destin Dome, Lloyd Ridge, and others.

Table B-2 presents the status of oil and gas leases, boreholes, and completions as of December 31, 2007 by the planning area boundaries prior to 2007. In comparing **Table B-2** to **Table 2** (page 13) in this report the Central Planning Area gained a total of 1,643 leases from the Western and Eastern Planning Areas.

Table B-2. Status of oil and gas leases, boreholes, and completions by area, GOM OCS, December 31, 2007 (Pre-2007 Planning Area Boundaries).

(All statistics associated with fields are presented within area totals compiled under each field name.)

Area(s) (Fig. 4)	Number of leases					Number of boreholes		Number of active completions
	Proved active	Proved depleted	Unproved qualified	Unqualified active	Expired	Drilled	Abandoned	
Western Planning Area								
Alaminos Canyon	12	1	8	417	345	55	34	8
Brazos	33	56	0	68	370	593	454	136
East Breaks	35	6	2	338	486	383	257	119
Galveston	33	72	1	111	620	661	576	106
Garden Banks	48	29	1	500	1,004	687	526	156
High Island and Sabine Pass	153	197	2	246	1,063	3,597	2,722	974
Matagorda Island	42	44	0	44	172	650	459	239
Mustang Island	25	30	0	44	441	480	371	127
N.& S.Padre Island	15	16	1	53	343	197	153	59
Western Planning Area	10	0	2	652	442	26	23	0
Western Planning Area Subtotal*	***406***	***451***	***17***	***2,473***	***5,286***	***7,329***	***5,575***	***1,924***
Central Planning Area								
Atwater Valley	9	0	5	277	471	100	79	11
Chandeleur	6	16	0	17	36	90	69	25
East Cameron	103	157	0	103	660	2,373	1,832	746
Eugene Island	200	143	0	112	520	5,605	4,126	1,721
Ewing Bank	33	8	0	64	253	374	272	115
Grand Isle	47	34	1	38	159	1,581	1,197	515
Green Canyon	85	17	16	619	812	1,103	794	263
Main Pass and Breton Sound	144	113	0	86	433	2,923	1,809	1,334
Mississippi Canyon	132	22	16	445	816	1,506	1,012	441
Mobile	41	13	0	16	101	183	119	65
Ship Shoal	162	99	1	122	526	3,943	2,643	1,419
South Marsh Island	121	87	0	84	359	3,056	2,063	1,089
South Pass	40	20	0	16	111	2,242	1,507	944
South Pelto	22	4	0	4	32	424	303	153
South Timbalier	132	73	4	113	503	3,493	2,403	1,306
Vermilion	137	169	0	139	634	3,320	2,545	1,017
Viosca Knoll	59	29	3	83	393	617	397	189
West Cameron and Sabine Pass	201	274	0	234	1,038	3,834	2,923	1,075
West Delta	87	50	0	35	198	3,040	2,182	887
Central Planning Area	24	0	10	514	220	44	36	0
Central Planning Area Subtotal	***1,785***	***1,328***	***56***	***3,121***	***8,275***	***39,851***	***28,311***	***13,315***
Eastern Planning Area Subtotal**	***16***	***0***	***4***	***230***	***361***	***85***	***68***	***15***
GOM Total:	***2,207***	***1,779***	***77***	***5,824***	***13,922***	***47,265***	***33,954***	***15,254***

*Western Planning Area (Other) includes Corpus Christi, Keathley Canyon, and Port Isabel.
**Central Planning Area (Other) includes Lund, Keathley Canyon, Walker Ridge, and others.
***Eastern Planning Area includes DeSoto Canyon, Destin Dome, Lloyd Ridge, and others.

Table B-3 presents the proved fields affected by the GOM planning area boundary change. There were a total of 65 fields (60 proved and 5 unproved) that had a planning area change. For the proved fields, 23 moved from Central to Western Planning Area, 29 moved from Western to Central Planning Area, and 8 moved from Eastern to Central Planning Area. For the unproved fields (not shown in the **Table B-3** because of proprietary nature), 2 fields moved from the Western to Central Planning Area and 3 fields moved from the Eastern to Central Planning Area.

Table B-3. Proved fields affected by planning area boundary change.

Field Name	Area Code	Block	Pre-2007 Planning Area	New Planning Area	Nickname
DC133	DC	133	E	C	King's Peak
DC618	DC	618	E	C	San Jacinto
DC621	DC	621	E	C	Spiderman/Amazon
GB065	GB	65	W	C	
GB070	GB	70	W	C	Seastar
GB072	GB	72	W	C	Spectacular Bid
GB083	GB	83	W	C	Enchilada/Elmer
GB108	GB	108	W	C	
GB161	GB	161	W	C	Spend A Buck
GB171	GB	171	W	C	Salsa
GB189	GB	189	W	C	Tick
GB197	GB	197	W	C	
GB200	GB	200	W	C	Northwestern
GB205	GB	205	W	C	
GB208	GB	208	W	C	
GB236	GB	236	W	C	Pimento
GB240	GB	240	W	C	Mustique
GB244	GB	244	W	C	Cottonwood
GB260	GB	260	W	C	Baldpate
GB302	GB	302	W	C	GB302
GB367	GB	367	W	C	Dulcimer
GB379	GB	379	W	C	
GB387	GB	387	W	C	Llano
GB388	GB	388	W	C	Cooper
GB409	GB	409	W	C	Ladybug
GB426	GB	426	W	C	Auger
GB462	GB	462	W	C	Geauxpher
GB516	GB	516	W	C	Serrano
GB559	GB	559	W	C	Oregano
GB602	GB	602	W	C	Macaroni
GB783	GB	783	W	C	Magnolia
GB877	GB	877	W	C	Red Hawk
LL001	LL	1	E	C	Mondo NW
LL005	LL	5	E	C	Atlas NW
LL050	LL	50	E	C	Atlas
LL399	LL	399	E	C	Cheyenne
PE881	PE	881	E	C	
WC297	WC	297	C	W	
WC310	WC	310	C	W	Bases Loaded
WC359	WC	359	C	W	
WC398	WC	398	C	W	
WC416	WC	416	C	W	
WC417	WC	417	C	W	
WC420	WC	420	C	W	
WC424	WC	424	C	W	
WC442	WC	442	C	W	
WC472	WC	472	C	W	
WC492	WC	492	C	W	
WC498	WC	498	C	W	
WC518	WC	518	C	W	
WC540	WC	540	C	W	
WC543	WC	543	C	W	
WC546	WC	546	C	W	
WC547	WC	547	C	W	
WC587	WC	587	C	W	
WC589	WC	589	C	W	
WC592	WC	592	C	W	
WC615	WC	615	C	W	
WC635	WC	635	C	W	
WC663	WC	663	C	W	

Notice

This report, *Estimated Oil and Gas Reserves, Gulf of Mexico, December 31, 2007,* has undergone numerous changes over the last few years. We are continually striving to provide meaningful information to the users of this document. Suggested changes, additions, or deletions to our data or statistical presentations are encouraged so we can publish the most useful report possible. Please contact the Reserves Section Chief at (504) 736-2918 at the Bureau of Ocean Energy Management, Regulation and Enforcement, 1201 Elmwood Park Boulevard, MS 5130, New Orleans, Louisiana 70123-2394, to communicate your ideas for consideration in our next report.

For free publication and digital data, visit the Gulf of Mexico Web site. The report can be accessed as an Acrobat .pdf (portable document format) file, which allows you to view, print, navigate, and search the document with the free downloadable Acrobat Reader 9.0. Digital data used to create the tables and figures presented in the document are also accessible as Excel 97 spreadsheet files (.xls; using Microsoft's Excel spreadsheet viewer, a free file viewer for users without access to Excel). These files are made available in a zipped format, which can be unzipped with the downloadable WinZip program.

For information on this publication contact:

Bureau of Ocean Energy Management,
Regulation and Enforcement
Gulf of Mexico OCS Region
Attn: Public Information Unit (MS 5034)
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394
(504) 736-2519 or 1-800-200-GULF
http://www.gomr.boemre.gov

David W. Cooke
Regional Supervisor
Resource Evaluation

The Department of the Interior Mission

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

The Bureau of Ocean Energy Management, Regulation and Enforcement Mission

As a bureau of the Department of the Interior, the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) is the federal agency responsible for overseeing the safe and environmentally responsible development of traditional and renewable ocean energy and mineral resources on the Outer Continental Shelf (OCS).

Moreover, in working to meet its responsibilities, the **Offshore Energy and Minerals Management Program** administers the OCS competitive leasing program and conducts and oversees world-class research and environmental reviews to support decision-making regarding offshore conventional and renewable energy development.

The BOEMRE strives to fulfill its responsibilities through the general guiding principles of: (1) being responsive to the public's concerns and interests by maintaining a dialogue with all potentially affected parties and (2) carrying out its programs with an emphasis on working to enhance the quality of life for all Americans by lending BOEMRE assistance and expertise to economic development and environmental protection.