OCS Report
MMS 2007-020

Gulf of Mexico Oil and Gas Production Forecast: 2007-2016

MMS
U. S. Department of the Interior
Minerals Management Service
Gulf of Mexico OCS Region

Cover: The Atlantis semisubmersible platform is designed to process 200,000 barrels of oil and 180 million cubic feet of gas per day and is the deepest moored floating production facility in the world – 7,074 feet of water. First oil is expected in 2007. Photo courtesy of operator, BP. BHP Billiton is also a partner.

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Table of Abbreviations

BCFPD	billion cubic feet per day
EDP model	Exploration, Development, and Production model
GOM	Gulf of Mexico
MMBOE	million barrels of oil equivalent
MMBOPD	million barrels of oil per day
MMS	Minerals Management Service
OCS	Outer Continental Shelf
TVD	true vertical depth

Introduction

This report provides a daily oil and gas production rate forecast for the Gulf of Mexico (GOM) Outer Continental Shelf (OCS) for the years 2007 through 2016. The forecast shows average daily oil and gas production estimates for each calendar year. In this report, daily oil production rates include oil and condensate production, and daily gas production rates include gas-well gas and associated gas production.

This report refers to various deepwater development "projects." In most cases, the project names and their lateral extents are defined by operators. Hydrocarbon accumulations developed via a common surface facility or a common subsea system are typically considered to be a single project. Note that the water depth of a subsea project, or that of an undeveloped project, refers to the deepest water depth at a well location within that project.

The classifications used throughout this report are illustrated in Figure 1. Projects in less than 1,000 ft (305 m) water depths are considered to be shallow-water projects and those in greater than 1,000 ft (305 m) are considered to be deepwater projects. For gas production, the shallow water is further subdivided according to the true vertical depth (TVD) of the producing zones and the water depth. The "shallow-water deep" zone refers to gas production from well completions at or below 15,000 ft (4,572 m) TVD subsea and in water depths less than 656 ft (200 meters). All other shallow-water completions are referred to as part of the "shallow-water shallow" zone.

The forecast is composed of a committed scenario and a full potential scenario. The committed scenario includes producing projects and those that operators have committed to produce in the near term. The more speculative full potential scenario adds potential production from industry-announced discoveries and undiscovered resources.

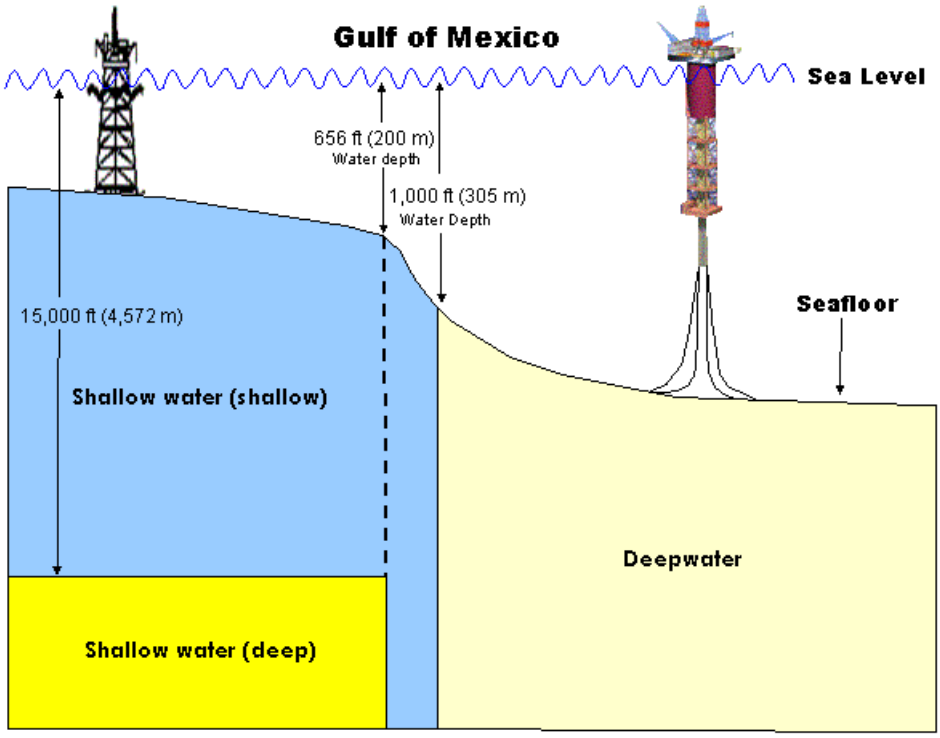


Figure 1. - Water-depth and completion-depth divisions.

Forecast Method: Committed Scenario

The committed scenario includes projects that are currently producing and those that operators have committed to producing in the near term. The 2006 production volumes have been estimated by using the data available at the time of this publication. The certainty of our forecast beyond 2006 is based, in part, on the accuracy of this 2006 estimate. Our committed scenario production estimates beyond 2006 are derived by dividing GOM production into two major components and using the method we believe to be the most reliable to forecast production for each component. These components include the shallow-water trends and the deepwater projection (industry and MMS). Our method does not explicitly forecast production that may or may not result from the passage of the Energy Policy Act of 2005, which includes

1) royalty relief incentives for ultra-deep gas wells (with perforations >20,000 feet TVD SS) in water depths less than 400 meters,
2) royalty relief incentives for deep gas wells (with perforations >15,000 feet TVD SS) in water depths 200 to 400 meters, and
3) royalty incentives for deepwater leases (>400 meters) issued in sales held during the 5-year period following the date of enactment.

MMS Shallow-water Projection and Shallow-water Deep Gas Projection

Shallow-water oil and gas production (excluding the shallow-water deep-gas trend) is projected by fitting exponential decline curves to recent periods of sustained decline (1997-2004 for oil and 1996-2004 for gas), then assuming that future shallow-water production will decline at half this rate. The 2005 oil and gas volumes are anomalous (because of hurricane activity) and, therefore, not used in the fitting these decline curves. This method results in a 3-percent exponential decline for shallow-water oil and a 4-percent exponential decline for shallow-water gas (excluding the shallow-water deep-gas trend). The shallow-water deep-gas production is projected by performing a linear regression on the historical production in this trend and extrapolating forward in time.

Deepwater Projection - Industry and MMS

Deepwater GOM operators were surveyed in order to project near-term deepwater activity. This method of surveying operators to forecast production was analyzed in our 2004 report (Melancon et al., 2004) and confirmed the ability of operators to project future deepwater production accurately. Operators were asked to provide projected production rates for all deepwater projects online or planned to come online before yearend 2013. The names and startup years of the publicly releasable projects are shown in Table 1. The deepwater oil and gas production estimates (based on the operator survey) are assumed to decline exponentially at a rate of 12 percent each year (an assumption based on historic deepwater decline rates) from 2012 through 2016.

Table 1 - Productive Deepwater GOM Projects

Year of First Production	Project Name[2]	Operator	Block	Water Depth (ft)	System Type	DWRR[3]
1979	Cognac	Shell	MC 194	1,023	Fixed Platform	
1984	Lena	ExxonMobil	MC 280	1,000	Compliant Tower	
1988[1]	GC 29	Placid	GC 29	1,154	Semisubmersible/Subsea	
1988[1]	GC 31	Placid	GC 31	2,243	Subsea	
1989	Bullwinkle	Shell	GC 65	1,353	Fixed Platform	
1989	Jolliet	ConocoPhillips	GC 184	1,760	TLP	
1991	Amberjack	BP	MC 109	1,100	Fixed Platform	
1992	Alabaster	ExxonMobil	MC 485	1,438	Subsea	
1993[1]	Diamond	Kerr McGee	MC 445	2,095	Subsea	
1993	Zinc	ExxonMobil	MC 354	1,478	Subsea	
1994	Auger	Shell	GB 426	2,860	TLP	
1994	Pompano/ Pompano II	BP	VK 989	1,290	Fixed Platform/ Subsea	
1994	Tahoe/SE Tahoe	Shell	VK 783	1,500	Subsea	
1995[1]	Cooper	Newfield	GB 388	2,600	Semisubmersible	
1995[1]	Shasta	ChevronTexaco	GC 136	1,048	Subsea	
1995	VK 862	Walter	VK 862	1,043	Subsea	
1996	Mars	Shell	MC 807	2,933	TLP/Subsea	
1996	Popeye	Shell	GC 116	2,000	Subsea	
1996	Rocky	Shell	GC 110	1,785	Subsea	
1997	Mensa	Shell	MC 731	5,318	Subsea	
1997	Neptune	Kerr McGee	VK 826	1,930	Spar/Subsea	
1997	Ram-Powell	Shell	VK 956	3,216	TLP	
1997	Troika	BP	GC 200	2,721	Subsea	
1998	Arnold	Marathon	EW 963	1,800	Subsea	
1998	Baldpate	Amerada Hess	GB 260	1,648	Compliant Tower	
1998	Morpeth	Eni	EW 921	1,696	TLP/Subsea	
1998	Oyster	Marathon	EW 917	1,195	Subsea	
1999	Allegheny	Eni	GC 254	3,294	TLP	
1999	Angus	Shell	GC 113	2,045	Subsea	
1999[1]	Dulcimer	Mariner	GB 367	1,120	Subsea	Yes
1999	EW 1006	Walter	EW 1006	1,884	Subsea	
1999	Gemini	ChevronTexaco	MC 292	3,393	Subsea	
1999	Genesis	ChevronTexaco	GC 205	2,590	Spar	
1999	Macaroni	Shell	GB 602	3,600	Subsea	
1999	Penn State	Amerada Hess	GB 216	1,450	Subsea	
1999	Pluto	Mariner	MC 674	2,828	Subsea	Yes
1999	Ursa	Shell	MC 809	3,800	TLP	
1999	Virgo	TotalFinaElf	VK 823	1,130	Fixed Platform	Yes
2000	Black Widow	Mariner	EW 966	1,850	Subsea	Yes

Table 1 - Productive Deepwater GOM Projects - *continued*

Year of First Production	Project Name[2]	Operator	Block	Water Depth (ft)	System Type	DWRR[3]
2000	Conger	Amerada Hess	GB 215	1,500	Subsea	
2000	Diana	ExxonMobil	EB 945	4,500	Subsea	
2000	Europa	Shell	MC 935	3,870	Subsea	
2000	Hoover	ExxonMobil	AC 25	4,825	Spar	
2000	King	Shell	MC 764	3,250	Subsea	
2000	Marlin	BP	VK 915	3,236	TLP	
2000	Northwestern	Amerada Hess	GB 200	1,736	Subsea	Yes
2000	Petronius	ChevronTexaco	VK 786	1,753	Compliant Tower	
2001	Brutus	Shell	GC 158	3,300	TLP	
2001	Crosby	Shell	MC 899	4,400	Subsea	
2001	Einset	Shell	VK 872	3,500	Subsea	Yes
2001	EW 878	Walter	EW 878	1,585	Subsea	Yes
2001	Ladybug	ATP	GB 409	1,355	Subsea	Yes
2001	Marshall	ExxonMobil	EB 949	4,376	Subsea	
2001[1]	MC 68	Walter	MC 68	1,360	Subsea	
2001	Mica	ExxonMobil	MC 211	4,580	Subsea	
2001	Nile	BP	VK 914	3,535	Subsea	
2001	Oregano	Shell	GB 559	3,400	Subsea	
2001	Pilsner	Unocal	EB 205	1,108	Subsea	Yes
2001	Prince	El Paso	EW 1003	1,500	TLP	Yes
2001	Serrano	Shell	GB 516	3,153	Subsea	
2001[8]	Typhoon	ChevronTexaco	GC 237	2,679	TLP	Yes
2002	Aconcagua	TotalFinaElf	MC 305	7,100	Subsea	Yes
2002	Aspen	BP	GC 243	3,065	Subsea	Yes
2002	North Boomvang[5]	Kerr McGee	EB 643	3,650	Spar	Yes
2003	West Boomvang[5]	Kerr McGee	EB 642	3,678	Subsea	Yes
2003	East Boomvang[5]	Kerr McGee	EB 688	3,795	Subsea	Yes
2002	Madison	ExxonMobil	AC 24	4,856	Subsea	
2002	King's Peak	BP	DC 133	6,845	Subsea	Yes
2002	Lost Ark	Samedan	EB 421	2,960	Subsea	Yes
2002	Nansen	Kerr McGee	EB 602	3,675	Spar	Yes
2002	Navajo	Kerr McGee	EB 690	4,210	Subsea	Yes
2002	Tulane	Amerada Hess	GB 158	1,054	Subsea	Yes
2002	Manatee	Shell	GC 155	1,939	Subsea	Yes
2002[1]	Sangria	Spinnaker	GC 177	1,487	Subsea	Yes
2002	King Kong	Mariner	GC 472	3,980	Subsea	Yes
2002	Yosemite	Mariner	GC 516	4,150	Subsea	Yes
2002	Horn Mountain	BP	MC 127	5,400	Spar	Yes
2002[8]	Camden Hills	Marathon	MC 348	7,216	Subsea	Yes

Table 1 - Productive Deepwater GOM Projects - *continued*

Year of First Production	Project Name[2]	Operator	Block	Water Depth (ft)	System Type	DWRR[3]
2002	Princess	Shell	MC 765	3,600	Subsea	
2002	King	BP	MC 84	5,000	Subsea	
2003	Falcon	Pioneer Marubeni	EB 579	3,638	Subsea	Yes
2003	Tomahawk	Pioneer Marubeni	EB 623	3,412	Subsea	Yes
2003	Habanero	Shell	GB 341	2,015	Subsea	
2003	Durango[6]	Kerr McGee	GB 667	3,105	Subsea	Yes
2003	Gunnison	Kerr McGee	GB 668	3,100	Spar	Yes
2003	Dawson[6]	Kerr McGee	GB 669	3,152	Subsea	Yes
2003[8]	Boris	BHP	GC 282	2,378	Subsea	Yes
2003	Matterhorn	TotalFinaElf	MC 243	2,850	TLP	Yes
2003[8]	Pardner	Anadarko	MC 401	1,139	Subsea	Yes
2003	Zia	Devon	MC 496	1,804	Subsea	
2003	Herschel/ Na Kika	Shell	MC 520	6,739	FPS/Subsea[4]	
2003	Fourier/ Na Kika	Shell	MC 522	6,950	FPS/Subsea[4]	
2003	East Ansley/Na Kika	Shell	MC 607	6,590	FPS/Subsea[4]	
2003	North Medusa	Murphy	MC 538	2,223	Subsea	Yes
2003	Medusa	Murphy	MC 582	2,223	Spar	Yes
2004	South Diana	ExxonMobil	AC 65	4,852	Subsea	
2004	Hack Wilson	Kerr-McGee	EB 599	3,650	Subsea	Yes
2004[8]	Raptor	Pioneer	EB 668	3,710	Subsea	Yes
2004[8]	Harrier	Pioneer	EB 759	4,114	Subsea	Yes
2004	Llano	Shell	GB 386	2,663	Subsea	Yes
2004	Magnolia	ConocoPhillips	GB 783	4,674	TLP	
2004	Red Hawk	Kerr-McGee	GB 877	5,334	Spar	Yes
2004	Glider	Shell	GC 248	3,440	Subsea	
2004	Front Runner	Murphy	GC 338	3,330	Spar	Yes
2004	Marco Polo	Anadarko	GC 608	4,320	TLP	Yes
2004	Holstein	BP	GC 645	4,344	Spar	
2004	Kepler/Na Kika	BP	MC 383	5,759	FPS/Subsea[4]	
2004	Ariel/Na Kika	BP	MC 429	6,274	FPS/Subsea[4]	
2004	Coulomb/ Na Kika	Shell	MC 657	7,591	FPS/Subsea[4]	Yes
2004	Devil's Tower	Dominion	MC 773	5,610	Spar	Yes
2005	GC 137	LLOG	GC 137	1,168	Subsea	Yes
2005	Citrine	LLOG	GC 157	2,614	Subsea	Yes
2005	K2	ENI	GC 562	4,006	Subsea	
2005	Mad Dog	BP	GC 782	4,428	Spar	
2005	Triton/Goldfinger	Dominion	MC 728	5,610	Subsea	Yes
2005	Swordfish	Noble	VK 962	4,677	Subsea	
2006	K2 North	Anadarko	GC 518	4,049	Subsea	

Table 1 - Productive Deepwater GOM Projects - *continued*

Year of First Production	Project Name[2]	Operator	Block	Water Depth (ft)	System Type	DWRR[3]
2006	Constitution	Kerr McGee	GC 680	5,071	Spar	Yes
2006	Ticonderoga	Kerr McGee	GC 768	5,272	Subsea	Yes
2006	Rigel	Dominion	MC 252	5,225	Subsea	Yes
2006	Gomez	ATP	MC 711	3,098	Semisubmersible	
2006	Seventeen Hands	Dominion	MC299	5,881	Subsea	Yes
2006	Lorien	Noble	GC 199	2,315	Subsea	
2006	SW Horseshoe	Walter	EB 430	2,285	Subsea	Yes
2006	Dawson Deep	Kerr McGee	GB 625	2,965	Subsea	
2006	Allegheny South	ENI	GC 298	3,307	Subsea	
2007	Genghis Khan	Anadarko	GC 652	4,300	Subsea	
2007	Vortex/Ind. Hub	Anadarko	AT 261	8,344	FPS/Subsea[7]	
2007	Jubilee/Ind. Hub	Anadarko	AT 349	8,825	FPS/Subsea[7]	
2007	Spiderman/Ind. Hub	Anadarko	DC 621	8,087	FPS/Subsea[7]	
2007	Merganser/Ind. Hub	Anadarko	AT 37	8,015	FPS/Subsea[7]	
2007	Mondo NW/Ind. Hub	Anadarko	LL 1	8,340	FPS/Subsea[7]	
2007	Cheyenne/Ind. Hub	Anadarko	LL 399	8,951	FPS/Subsea[7]	
2007	Atlas-Atlas NW/Ind. Hub	Anadarko	LL 50	8,934	FPS/Subsea[7]	
2007	San Jacinto/Ind. Hub	Dominion	DC 618	7,850	FPS/Subsea[7]	
2007	Q/Ind. Hub	Hydro	MC 961	7,925	FPS/Subsea[7]	
2007	Neptune	BHP	AT 575	6,220	TLP	
2007	Atlantis	BP	GC 699	6,133	Semisubmersible	
2007	Cottonwood	Petrobras	GB 244	2,130	Subsea	
2007	Deimos	Shell	MC 806	3,106	Subsea	
2007	GB 302	Walter	GB 302	2,410	Subsea	
2007	MC 161	Walter	MC 161	2,924	Subsea	
2008	Mirage	ATP	MC 941	3,927	Subsea	
2008	Thunder Horse	BP	MC 778	6,089	Semisubmersible	
2008	Tahiti	ChevronTexaco	GC 640	4,292	Spar	
2008	Blind Faith	ChevronTexaco	MC 696	6,989	Semisubmersible	
2008	Thunder Hawk	Murphy	MC 734	5,724	Semisubmersible	
2009	Morgus	ATP	MC 942	3,960	Subsea	
2009	Telemark	ATP	AT 63	4,385	TLP	
2009	Navarro	ATP	GC 37	2,019		
2009	Cascade	BHP	WR 206	8,143	FPS/Subsea	
2009	Chinook	BHP	WR 469	8,831	FPS/Subsea	
2009	Shenzi	BHP	GC 653	4,238	TLP	
2009	Puma	BP	GC 823	4,129		
2009	Tubular Bells	BP	MC 725	4,334		
2009	Great White	Shell	AC 857	8,717	Spar	
2010	Silvertip	Shell	AC 815	9,226	Subsea	

Table 1 - Productive Deepwater GOM Projects - *continued*

Year of First Production	Project Name[2]	Operator	Block	Water Depth (ft)	System Type	DWRR[3]
2010	Tobago	Shell	AC 859	9,627	Subsea	
2010	Gotcha Deep	Total	AC 856	7,815		
2013	Unreleasable					
2013	Unreleasable					

[1] Projects off production, lease(s) expired.

[2] The previous edition of this report listed deepwater fields, whereas this version lists deepwater projects.

[3] Indicates projects with one or more leases, which may be subject to thresholds, Deep Water Royalty Relief.

[4] Na Kika FPS is located in Mississippi Canyon Block 474 in 6,340 ft (1,932 m) of water.

[5] 2004 Report referred to entire area as Boomvang.

[6] Included in 2004 Report with Gunnison.

[7] Independence Hub FPS is located in Mississippi Canyon Block 920 in 7,920 ft (2,414 m) of water.

[8] Projects off production, lease(s) active.

AC = Alaminos Canyon
AT = Atwater Valley
DC = De Soto Canyon
EB = East Breaks
EW = Ewing Bank
GB = Garden Banks
GC = Green Canyon
LL = Lloyd Ridge
MC = Mississippi Canyon
VK = Viosca Knoll
WR = Walker Ridge

Forecast Method: Full Potential Scenario

The full potential scenario adds potential oil and gas production from industry-announced discoveries and undiscovered resources. This part of the production forecast is more speculative than the committed scenario.

Industry-Announced Discoveries

Gulf of Mexico operators have announced numerous deepwater discoveries that were not reported in the operator survey, possibly because these projects have not been fully assessed and operators have not yet committed to development schedules. Many of these industry-announced discoveries are likely to begin production within the next 10 years. Some may even begin production within the next 5 years.

The industry-announced component is based on the following assumptions:

1. Ultimate recoverable volumes from the industry-announced discoveries are taken from independent, proprietary MMS assessments whenever available; otherwise, the industry-announced volumes are used.
2. During the first year of production, each project is assumed to produce at half its peak rate.
3. Projects with discovered resource volumes over 200 MMBOE are assumed to reach peak production in their second year, sustain that peak rate for a total of 4 years, then decline exponentially at 12 percent from that time forward.
4. The estimated peak production rate for each project is based on the estimated recoverable reserves as follows:

   Peak Rate = (0.00027455)*(ult rec rsvs) + 9000

   where the peak rate is in barrels of oil equivalent (BOE) per day and the ultimate recoverable reserves (ult rec rsvs) are in BOE. This relationship was derived by plotting maximum production rates of known fields against the

ultimate recoverable reserves of those fields and performing a linear regression. Note that MMS reserve estimates are on a field basis, so we assume here that this relationship based on historic field trends can be applied on a project basis.

5. Projects announced as gas discoveries are assumed to be 100-percent gas. The reserves of all other projects are assumed to be 61-percent oil and 39-percent gas, on the basis of an average of historic deepwater production.
6. The year when each industry-announced discovery is expected to begin production is estimated by using available information.
7. All industry-announced discoveries with resource estimates greater than 20 MMBOE are assumed to begin production within the next 10 years.

Undiscovered Resources

Forecast production from "undiscovered" GOM deepwater fields is anticipated to occur primarily on tracts anticipated to be leased, developed, and produced as a result of future OCS lease sales and from currently leased tracts still in their early stages of exploration. The methodology used to determine the production volumes anticipated from undiscovered fields is modeled on the basis of data from MMS' *Assessment of Undiscovered Technically Recoverable Oil and Gas Resources of the Nation's Outer Continental Shelf, 2006* (MMS Fact Sheet RED-2006-01b, February 2006). This assessment uses a geologic play-based methodology to determine the size and number of undiscovered fields expected to exist in the Gulf of Mexico OCS. These prospective fields are "discovered" through the use of a model developed for MMS and referred to as the Exploration, Development, and Production (EDP) model. In the EDP model, undiscovered fields are explored and discovered as a function of profitability and exploration drilling success rates. Once discovered, the timing of these developments is governed by each undiscovered field's expected value and is constrained by the availability of drilling rigs competing to drill all assets in the deepwater GOM arena. After discovery, the undiscovered field's reserves appreciate to simulate the continual

in-field exploration and delineation process. Forecast production is then a function of reserve levels of these fields as they mature.

For this report, forecast production from undiscovered fields is a function of two things:

1) Deepwater tracts anticipated to be leased, developed, and produced as a result of 11 Central and Western Gulf of Mexico OCS lease sales scheduled in the upcoming 2007-2012 Five-Year Oil and Gas Leasing Program. Production from these leases is projected to start in 2009 at the earliest.
2) Existing deepwater leases from previous OCS Oil and Gas Leasing Programs that remain in their early stages of exploration and development. Production is projected to commence on these leases in 2008 at the earliest.

Conclusions

Historic oil production in the Gulf of Mexico (GOM) increased steadily from 1991 through 2001, leveled off through 2003, and declined in 2004 through 2005, caused in large part by hurricane activity. Shallow-water oil production declined steadily since 1997, but was offset by increasing deepwater oil production during most of that period. Historic gas production in the GOM followed similar trends. While shallow-water deep-gas production generally increased during the period 1991 through 2002, the remaining part of the shallow-water gas production dropped steadily from 1996 though 2006. Increasing deepwater gas production was not sufficient to prevent an overall decline in total GOM gas production through 2006.

Within the next 10 years, total GOM oil production is expected to exceed 1.7 million barrels of oil per day (MMBOPD), a projection based on existing shallow and deepwater operator commitments as shown in Table 2 and Figure 2. If industry-announced discoveries and undiscovered resources realize their full potential, production could reach 2.1 MMBOPD.

Based on analysis of existing shallow and deepwater operator commitments, GOM gas production is expected to level off at around 8 billion cubic ft per day (BCFPD) in the near term as shown in Table 3 and Figure 3. If contributions from industry-announced discoveries and undiscovered resources reach their full potential, GOM gas production could exceed 9 BCFPD within the forecast period. Realization of this full potential scenario will depend on operator commitments to develop these resources within the next 10 years.

Each component described in this report adds potential GOM production to the forecast and the uncertainty increases with each subsequent component. The data from each component used in this report are presented in Tables 2 and 3 so that the reader may decide the degree of certainty that he or she deems appropriate. Whatever degree of certainty used, one can conclude that GOM oil production is expected increase within the forecast period and GOM gas production is expected to level off at rates below those seen in the 1990's.

Table 2. - Gulf of Mexico Oil Rates (Thousand Barrels/Day)

Year	Shallow-water	MMS Shallow-water Projection	Deepwater	Industry Deepwater Projection	MMS Deepwater Projection	Committed Scenario-Total GOM	Industry-Announced Discoveries	Undiscovered Resources	Full Potential Scenario-Total GOM
1992	733		102			**835**			
1993	745		101			**845**			
1994	746		115			**860**			
1995	794		151			**945**			
1996	813		198			**1010**			
1997	830		296			**1126**			
1998	781		436			**1217**			
1999	740		617			**1357**			
2000	690		743			**1433**			
2001	664		864			**1528**			
2002	599		953			**1552**			
2003	577		955			**1532**			
2004	513		953			**1466**			
2005	386		892			**1277**			
2006	352*		896*			**1248***			
2007		329		993		**1322**	18		**1340**
2008		308		1132		**1441**	44	1	**1486**
2009		288		1386		**1674**	86	11	**1771**
2010		270		1500		**1770**	211	39	**2020**
2011		253		1327		**1580**	427	101	**2108**
2012		237			1177	**1414**	539	207	**2159**
2013		221			1044	**1266**	531	347	**2144**
2014		207			926	**1133**	527	498	**2158**
2015		194			821	**1015**	494	643	**2153**
2016		182			728	**910**	439	750	**2099**

*Estimate

Figure 2. - Gulf of Mexico Oil Production.

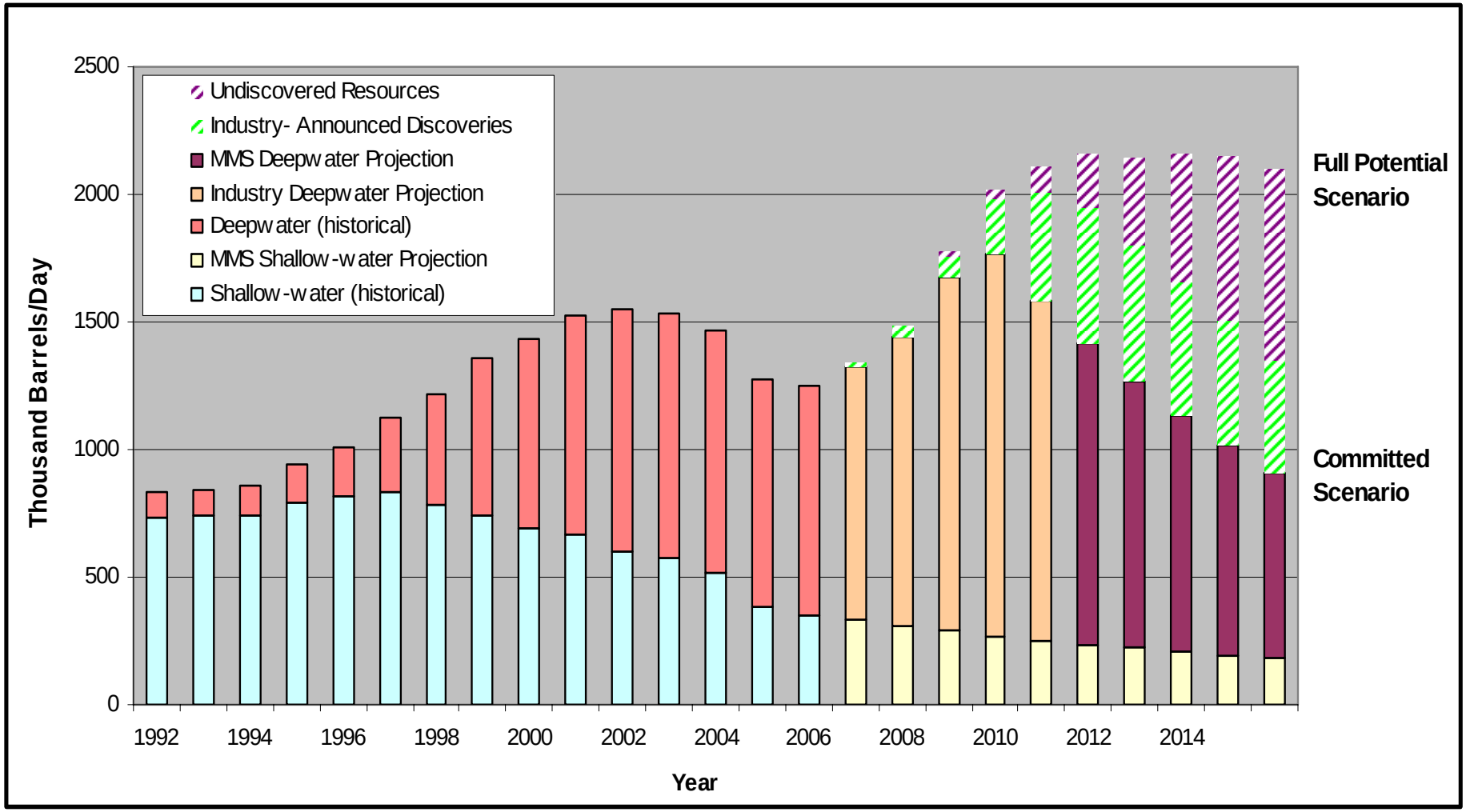
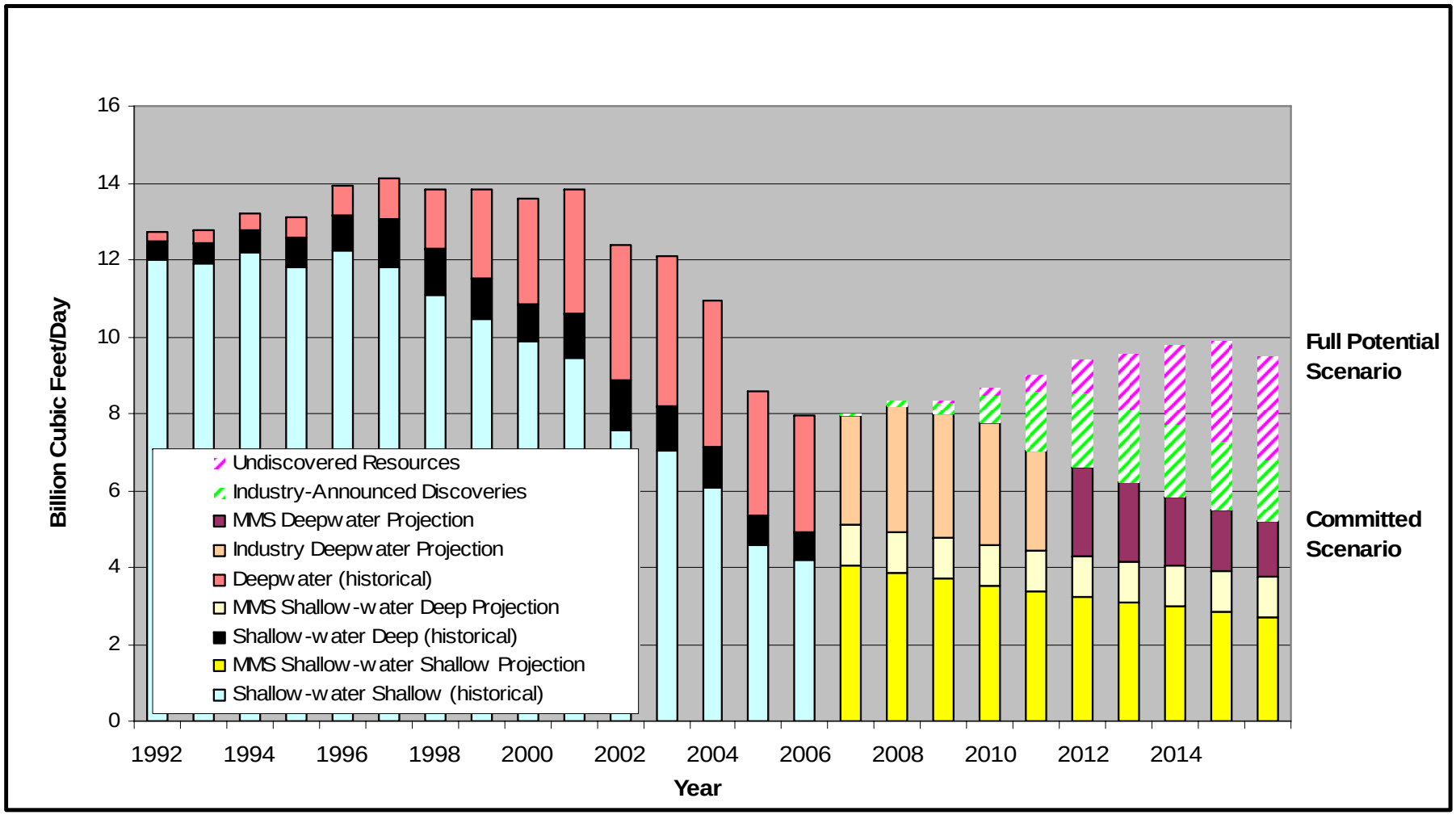


Table 3. - Gulf of Mexico Gas Rates (Billion Cubic Feet/Day)

Year	Shallow-water Shallow	MMS Shallow-water Shallow Projection	Shallow-water Deep	MMS Shallow-water Deep Projection	Deepwater	Industry Deepwater Projection	MMS Deepwater Projection	Committed Scenario-Total GOM	Industry-Announced Discoveries	Undiscovered Resources	Full Potential Scenario-Total GOM
1992	12.01		0.49		0.24			**12.74**			
1993	11.92		0.51		0.33			**12.76**			
1994	12.17		0.60		0.44			**13.21**			
1995	11.78		0.81		0.50			**13.09**			
1996	12.22		0.93		0.76			**13.91**			
1997	11.83		1.22		1.04			**14.10**			
1998	11.09		1.18		1.54			**13.81**			
1999	10.48		1.06		2.32			**13.85**			
2000	9.89		0.96		2.74			**13.58**			
2001	9.45		1.17		3.23			**13.84**			
2002	7.57		1.29		3.52			**12.38**			
2003	7.02		1.19		3.90			**12.11**			
2004	6.06		1.06		3.83			**10.95**			
2005	4.57		0.77		3.26			**8.60**			
2006	4.21*		0.72*		3.03*			**7.95***			
2007		4.03		1.07		2.83		**7.93**	0.07		**8.00**
2008		3.86		1.07		3.25		**8.18**	0.16	0.01	**8.34**
2009		3.69		1.07		3.23		**7.99**	0.31	0.05	**8.35**
2010		3.53		1.07		3.15		**7.74**	0.76	0.16	**8.66**
2011		3.38		1.06		2.60		**7.05**	1.54	0.41	**8.99**
2012		3.24		1.06			2.31	**6.61**	1.93	0.84	**9.38**
2013		3.10		1.06			2.05	**6.21**	1.91	1.42	**9.53**
2014		2.97		1.06			1.82	**5.84**	1.89	2.03	**9.76**
2015		2.84		1.06			1.61	**5.51**	1.78	2.61	**9.89**
2016		2.72		1.05			1.43	**5.20**	1.58	2.72	**9.50**

*Estimate

Figure 3. – Gulf of Mexico Gas Production.



Contributors

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Amerada Hess Corporation
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Notice

Our goal is to publish a reliable production forecast based on the data available. Therefore, we periodically review our methodology to improve our process and provide accurate information. Please contact the Regional Supervisor, Production and Development, Gulf of Mexico OCS Region, Minerals Management Service, 1201 Elmwood Park Boulevard, New Orleans, Louisiana, 70123, to communicate any questions you have or ideas for consideration in our next report. The telephone number is (504) 736-2675.

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 Minerals Management Service Mission

As a bureau of the Department of the Interior, the Minerals Management Service's (MMS) primary responsibilities are to manage the mineral resources located on the Nation's Outer Continental Shelf (OCS), collect revenue from the Federal OCS and onshore Federal and Indian lands, and distribute those revenues.

Moreover, in working to meet its responsibilities, the **Offshore Minerals Management Program** administers the OCS competitive leasing program and oversees the safe and environmentally sound exploration and production of our Nation's offshore natural gas, oil and other mineral resources. The MMS **Minerals Revenue Management** meets its responsibilities by ensuring the efficient, timely and accurate collection and disbursement of revenue from mineral leasing and production due to Indian tribes and allottees, States and the U.S. Treasury.

The MMS 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 MMS assistance and expertise to economic development and environmental protection.

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