

**MINERALS MANAGEMENT SERVICE  
PACIFIC OCS REGION**

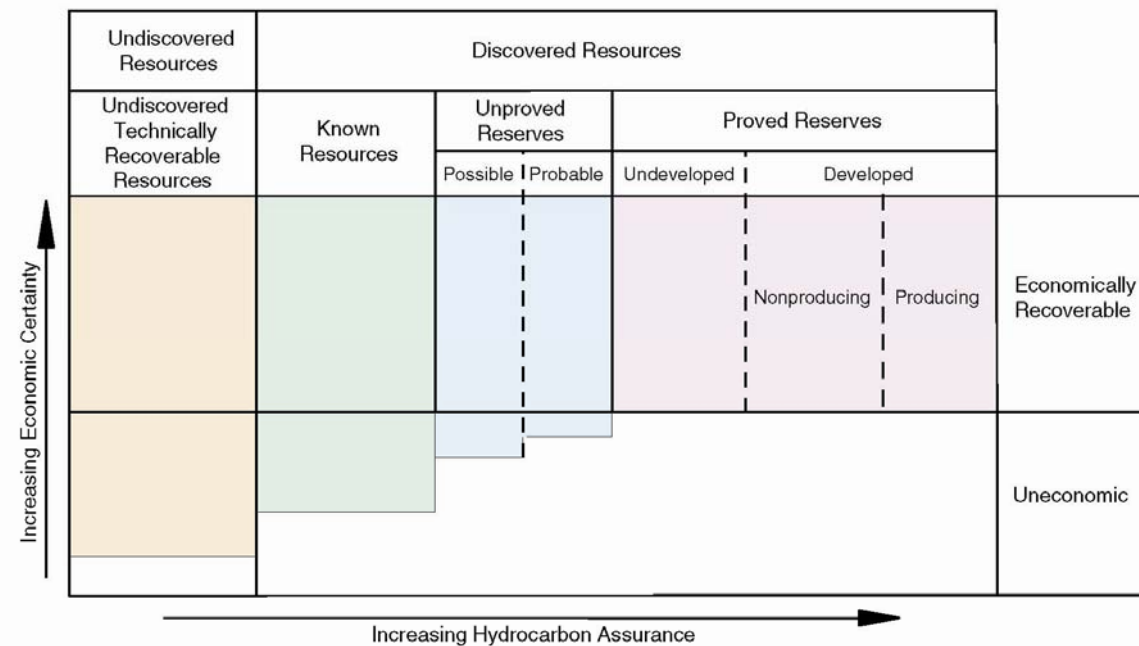
**FIELD RESERVE ESTIMATE SUMMARY**

**AS OF DECEMBER 2008**

## Purpose of this Summary

This document summarizes the results of the MMS, Pacific OCS Region’s Field & Reservoir Reserve Estimates Report (FRRE). The full FRRE Report breaks down POCS reserves and known resources by field as well as productive zone. This is an annual report and is for internal use only. In this summary only the field reserves/resources are reported. Detailed descriptions of reserves and fields can be found in the POCS Region Reserves Reports available on our website at <http://www.mms.gov/omm/pacific/offshore/ofrrpt.htm>. It is our hope that these summaries will provide valuable information regarding reserves and production during the intervening period between Reserve Reports.

## Definition of Resource and Reserve Terminology



The MMS has standardized its definitions of resources (*Estimates of Undiscovered Conventional Oil and Gas Resources in the United States—A Part of the Nation’s Energy Endowment*, U.S. Geological Survey (USGS) and MMS, 1989). The Society of Petroleum Engineers (SPE) and World Petroleum Congresses (WPC) have also adopted a standardized set of reserve categories and definitions (SPE and WPC, 1997). The definitions used within this summary conform with both these sources. Figure 1 shows how resource and reserve definitions are related. Figure 2 shows the POCS oil and gas fields.

Figure 1: MMS Petroleum Reserves Classification modified from USGS and MMS, 1989, and SPE, 1987).

## Definitions Used in this Summary

**Proved Developed and Producing Reserves (PDP)** - Once the first reservoir in a field begins production, the reservoir is considered to contain *proved developed producing reserves*. “Reserves subcategorized as producing are expected to be recovered from completion intervals which are open and producing at the time of the estimate. Improved recovery reserves are considered producing only after the improved recovery project is in operation” (SPE and WPC, 1997). If a reservoir had sustained production during the last year, it is considered to contain proved developed producing reserves.

**Unproved Possible Reserves (UPOS)** - After a lease qualifies under 30 CFR 250.115, the MMS Field Naming Committee reviews the new producible lease to assign it to an existing field or, if the lease is not associated with an established geologic structure, to a new field. Regardless of where the lease is assigned, the reserves associated with the lease are initially considered to be *unproved reserves*. “Unproved reserves are based on geologic and/or engineering data similar to that used in estimates of proved reserves; but technical, contractual, economic, or regulatory uncertainties preclude such reserves being classified as proved. Unproved reserves may be further classified as probable reserves and possible reserves.” (SPE and WPC, 1997)

Unproved reserves may be estimated assuming future economic conditions different from those prevailing at the time of the estimate. The effect of possible future improvements in economic conditions and technological developments can be expressed by allocating appropriate quantities of reserves to the probable and possible classifications.

“*Possible reserves* are those unproved reserves which analysis of geological and engineering data suggests are less likely to be recoverable than probable reserves...” “In general, possible reserves may include (1) reserves which, based on geological interpretations, could possibly exist beyond areas classified as probable, (2) reserves in formations that appear to be petroleum bearing based on log and core analysis but may not be productive at commercial rates, (3) incremental reserves attributed to infill drilling that are subject to technical uncertainty, (4) reserves attributed to improved recovery methods when (a) a project or pilot is planned but not in operation and (b) rock, fluid, and reservoir characteristics are such that a reasonable doubt exists that the project will be commercial, and (5) reserves in an area of the formation that appears to be separated from the proved area by faulting and geological interpretation indicates the subject area is structurally lower than the proved area.” (SPE and WPC, 1997) After a lease qualifies under 30 CFR 250.115, the reserves associated with the lease are initially classified as *unproved possible*.

**Known Resources (KR)** - Hydrocarbons associated with reservoirs penetrated by one or more wells that are on leases that are expired or relinquished are identified as *known resources*.

**2008 POCS Reserves and Cumulative Production Summary**

	Oil (bbl)	Gas (Mcf)
Cumulative Production	1,213,581,709	1,625,232,306
Remaining Proved Reserves	445,854,532	816,990,882
Remaining Unproved Reserves	1,077,559,000	447,558,000
<b>Total Reserves</b>	<b>2,736,995,241</b>	<b>2,541,053,896</b>
<b>Known Resources on Expired Leases</b>	<b>149,255,000</b>	<b>362,505,000</b>

CATEGORY	FIELD	Recoverable Reserves		Cumulative Production		Annual Production		Remaining Reserves	
		Oil, bbl	Gas, Mcf	Oil, bbl	Gas, Mcf	Oil, bbl	Gas, Mcf	Oil, bbl	Gas, Mcf
PDP	BETA	107,700,000	34,800,000	89,247,431	29,211,043	1,091,804	300,145	18,452,569	5,558,957
	CARPINTERIA	74,100,000	62,500,000	69,420,028	57,648,747	490,930	462,246	4,679,972	4,851,253
	DOS								
	CUADRAS	272,900,000	164,100,000	261,482,080	149,691,017	1,386,093	1,979,282	11,417,920	14,408,983
	HONDO	368,000,000	803,700,000	280,957,343	608,989,705	5,459,352	15,628,318	87,042,657	368,993,084
	HUENEME	11,800,000	7,774,000	11,243,003	6,942,805	121,391	325,226	556,997	831,195
	PESCADO	186,420,000	228,624,000	127,514,553	186,111,746	4,848,376	11,609,520	58,905,447	168,801,846
	PITAS POINT	210,500	239,215,000	207,681	229,216,758	702	1,601,413	2,819	9,998,242
	ARGUELLO	213,900,000	133,840,000	177,288,419	143,260,842	2,444,450	8,015,150	36,661,581	38,734,069
	POINT								
	PEDERNALES	106,000,000	45,000,000	83,467,981	28,855,850	2,678,265	1,488,092	22,532,019	16,144,150
	ROCKY POINT	88,531,000	42,270,000	2,168,762	1,604,783	187,588	255,911	86,362,238	40,665,217
	SACATE	123,729,000	131,097,000	28,243,587	24,958,264	3,156,213	3,564,388	95,485,413	106,138,736
	SANTA CLARA	53,413,741	85,227,896	42,878,226	67,189,085	600,714	451,624	10,535,515	18,038,811
SOCKEYE	52,732,000	115,348,000	39,462,615	91,551,661	1,509,138	1,164,141	13,269,385	23,796,339	
<b>TOTAL PDP</b>	<b>1,659,436,241</b>	<b>2,093,495,896</b>	<b>1,213,581,709</b>	<b>1,625,232,306</b>	<b>23,975,016</b>	<b>46,845,456</b>	<b>445,854,532</b>	<b>816,990,882</b>	

CATEGORY	FIELD	Recoverable Reserves		Cumulative Production		Annual Production		Remaining Reserves	
		Oil, bbl	Gas, Mcf	Oil, bbl	Gas, Mcf	Oil, bbl	Gas, Mcf	Oil, bbl	Gas, Mcf
UPOS	"A"	98,000,000	9,800,000	0	0	0	0	98,000,000	9,800,000
	"B"	696,000,000	283,100,000	0	0	0	0	696,000,000	283,100,000
	BETA NW	4,800,000	912,000	0	0	0	0	4,800,000	912,000
	BONITO	49,700,000	56,900,000	0	0	0	0	49,700,000	56,900,000
	ELECTRA	10,900,000	13,300,000	0	0	0	0	10,900,000	13,300,000
	GATO								
	CANYON	46,946,000	46,946,000	0	0	0	0	46,946,000	46,946,000
	JALAMA	10,513,000	7,200,000	0	0	0	0	10,513,000	7,200,000
	SANTA MARIA	25,400,000	1,200,000	0	0	0	0	25,400,000	1,200,000
	SWORD	29,500,000	7,300,000	0	0	0	0	29,500,000	7,300,000
	UNNAMED 435	91,800,000	6,900,000	0	0	0	0	91,800,000	6,900,000
	UNNAMED 443	14,000,000	14,000,000	0	0	0	0	14,000,000	14,000,000
<b>TOTAL UPOS</b>	<b>1,077,559,000</b>	<b>447,558,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,077,559,000</b>	<b>447,558,000</b>	
<b>TOTAL RESERVES</b>	<b>2,736,995,241</b>	<b>2,541,053,896</b>	<b>1,213,581,709</b>	<b>1,625,232,306</b>	<b>23,975,016</b>	<b>46,845,456</b>	<b>1,523,413,532</b>	<b>1,264,548,882</b>	

CATEGORY	FIELD	Known Resources	
		Oil, bbl	Gas, Mcf
KR	ANACAPA	1,105,000	884,000
	CASTLE		
	ROCK	16,039,000	18,500,000
	GOVERNMENT		
	POINT	23,000,000	182,700,000
	SMUGGLER'S		
	COVE	47,600,000	79,000,000
	SANTA ROSA	920,000	19,000,000
	UNNAMED 176	2,533,000	2,533,000
	UNNAMED 318	70,000	70,000
	UNNAMED 335	18,900,000	18,900,000
	UNNAMED 358	5,091,000	5,091,000
	UNNAMED 395	12,393,000	12,393,000
	UNNAMED 479	11,454,000	11,454,000
UNNAMED 512	1,750,000	1,900,000	
WILSON			
ROCK	8,400,000	10,080,000	
<b>TOTAL KR</b>		<b>149,255,000</b>	<b>362,505,000</b>

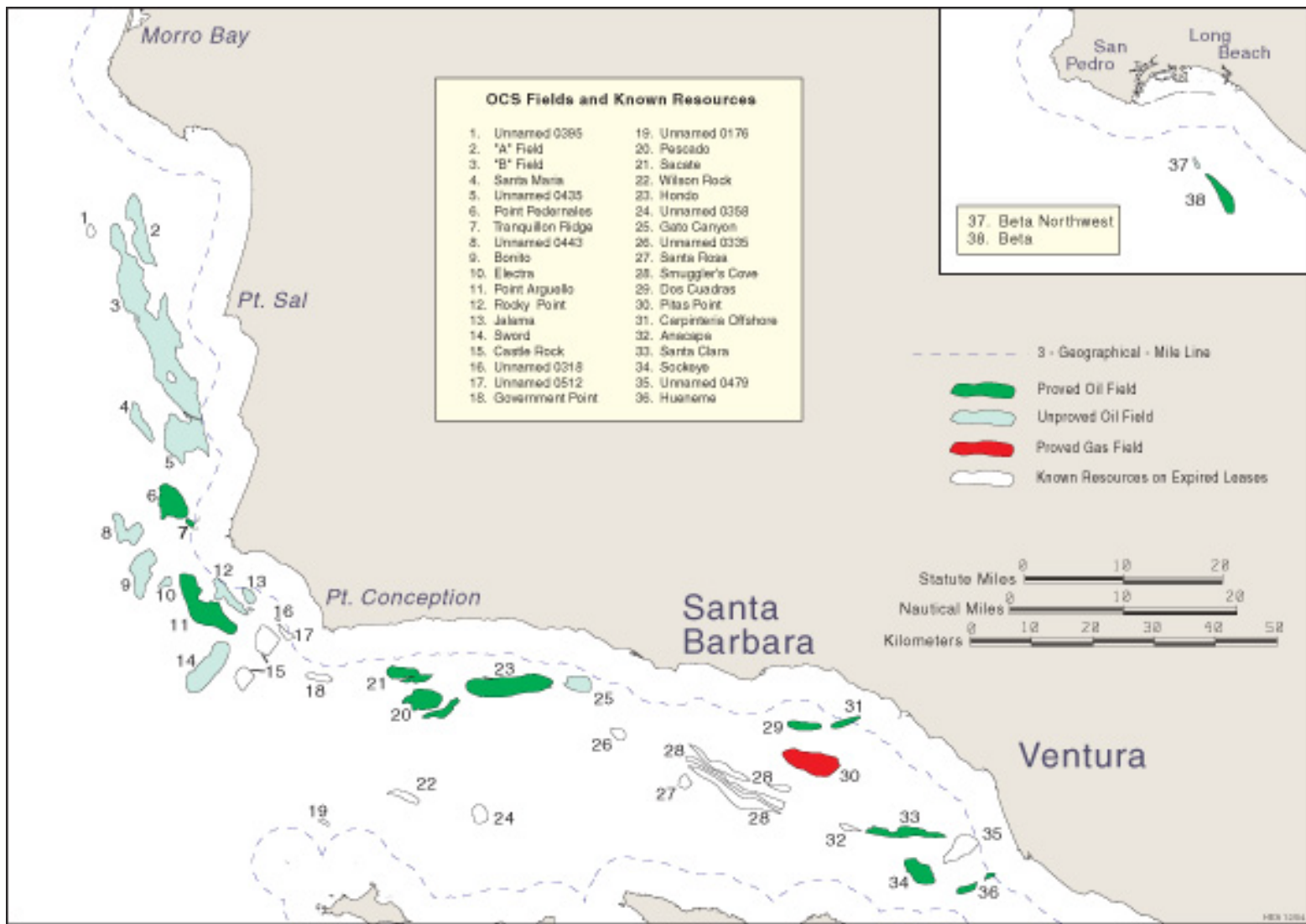


Figure 2: Oil and Gas Fields of the Pacific OCS Region