UNDERSTANDING OUTER CONTINENTAL SHELF LEASING UNDER THE DEEP WATER ROYALTY RELIEF ACT

Final Report

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Objective

The Deep Water Royalty Relief Act (DWRRA) was enacted to encourage the exploitation of the sizeable, but costly to develop, oil and gas resources in deep water federal offshore areas. Changes to the prevailing royalty relief provisions for deep water areas that were leased between 1996 and 2000 may put the production from these leases at risk. To comprehend this potential risk, it is important to understand what was leased over this time period, what has been the fate of those leases, what benefits are attributable to the cumulative production from these leases to date, and what future benefits may result from these leases.

In response to an information request by the American Petroleum Institute (API), Advanced Resources International (ARI) developed the data presented in this report, which can be used to characterize the benefits associated with the specific leases at issue over the 1996 to 2000 time period.

How many leases were issued from 1996-2000?

The Minerals Management Service (MMS) oversees all leasing and resource management functions on Federal offshore areas. Between April 1996 and August 2000, MMS conducted a total of 10 lease sales in the Gulf of Mexico Outer Continental Shelf (OCS) Region (Table 1). The MMS compiles detailed statistics for each lease sale it administers, and data files containing all publically releasable information can be downloaded from the MMS website[1].

The MMS' *Leasing Information and Data* includes information on the status of leases along with other data such as water depth, sale date, and bid amount. Examination of these data revealed that out of the 27,061 leases in the MMS data files, a total of 5,503 lease blocks were bid on during the 10 lease sales held between 1996 and 2000. Further investigation into the status of these leases indicated 5,301 (96%) of the lease blocks receiving bids were awarded.

TABLE 1: Chronological Listing of GOM Lease Sales, 1996-2000

Sale Number	Sale Location	Sale Date
157	CGOM	4/24/1996
161	WGOM	9/25/1996
166	CGOM	3/05/1997
168	WGOM	8/27/1997
169	CGOM	3/18/1998
171	WGOM	8/26/1998
172	CGOM	3/17/1999
174	WGOM	8/25/1999
175	CGOM	3/15/2000
177	WGOM	8/23/2000

Source: MMS (2008). *Deepwater Gulf of Mexico 2008: America's Offshore Energy Future*. OCS Report MMS 2008-013, Table B-1.

In order to understand leasing activity with respect to the DWRRA, the leases awarded between 1996 and 2000 were grouped by water depth, with deep water defined as water depths greater than or equal to 200 meters (m). Table 2 presents summary statistics on Gulf of Mexico (GOM) leases awarded (i.e. issued) by lease sale and water depth.[2] Following the passage of the DWRRA in 1995, significant deep water leasing activity ensued, particularly in waters deeper than 800 m where the royalty relief was greatest. There are numerous complex business reasons for shifting lease patterns in the shallow water GOM, including the maturity of the basin as an exploration target and advances in technology that made unexplored deepwater areas possible. That being said, in 1995, 39% of all leases awarded were in deep

[1] MMS, Gulf of Mexico Region Products/Free Data, Free ASCII Data Files, available at http://www.gomr.mms.gov/homepg/pubinfo/freeasci/freedesc.html

[2] It is necessary to note the distribution of leases by water depth interval found in Table 2 may differ slightly from other MMS figures based on the same data set, such as those found in Figure 15 of the MMS report, *Deepwater Gulf of Mexico 2009: Interim Report of 2008 Highlights* (OCS Report, MMS 2009-016, May 2009). However, there is no difference in the total number of leases awarded, and no single depth interval varies by more than 6 leases, which should not have a material impact on the results of this analysis. For the analysis presented in this memorandum, the data field "Block Max Water Depth" was used to establish the water depth of each lease. This is the point of the highest (or maximum) vertical distance from mean sea level to the sea floor for a block, in feet. The data were converted into meters by dividing by 3.28084 feet per meter.

water, with leases in water of at least 800 m in depth accounting for 20% of total leases awarded. From 1996 to the end of 2000, leases awarded in deep water increased to 64%, with leases in water of at least 800 m in depth growing to over half (55%) of total leases awarded.

TABLE 2: Leases Awarded[a] from GOM Lease Sales Held Between 1996 and 2000

Water Depth Interval	Leases Awarded by Lease Sale					
	1996 Sales	1997 Sales	1998 Sales	1999 Sales	2000 Sales	Total
Shallow Water (<200m)	625	527	265	168	325	1,910
Deep Water (≥200m)	883	1,251	864	165	228	3,391
200m to <400m	62	41	35	14	14	166
400m to <800m	112	105	57	16	29	319
800m to <1600m	317	419	228	65	100	1,129
1600m to <2000m	159	283	109	26	39	616
≥2000m	233	403	435	44	46	1,161
Total	**1,508**	**1,778**	**1,129**	**333**	**553**	**5,301**

[a] Awarded leases are defined as leases with Lease Status Codes of EXPIR, OPERNS, PRIMRY, PROD, RELINQ, SOP, TERMIN, or UNIT. Leases not awarded are defined as leases with Lease Status Codes of NO-ISS or REJECT.

Source: MMS, Gulf of Mexico Region Products/Free Data, Free ASCII Data Files, Leasing Information and Data, File Name: "LEASE DATA", Data Fields: Lease Number, Sale Number, Block Max Water Depth, and Lease Status Code.

How much did the government receive in bonuses from these leases?

The MMS' *Leasing Information and Data* also includes information on the bonuses received by the government from lease sales held between 1996 and 2000. For the leases issued between 1996 and 2000, total bonuses received were approximately $4.3 billion, with deep water leases accounting for 73% of all bonuses received, and with leases in water of at least 800 m in depth accounting for 62% of total bonuses received (Table 3).

TABLE 3: Bonus Received for Leases Awarded Between 1996 and 2000

Water Depth Interval	Bonus Received (Million $) by Lease Sale					
	1996 Sales	1997 Sales	1998 Sales	1999 Sales	2000 Sales	Total
Shallow Water (<200m)	386	380	191	58	140	1,154
Deep Water (≥200m)	478	1,030	1,124	191	302	3,125
200m to <400m	54	34	28	9	4	129
400m to <800m	82	152	72	5	24	335
800m to <1600m	172	380	365	67	187	1,172
1600m to <2000m	73	217	170	35	29	524
≥2000m	96	247	489	75	58	965
Total	**864**	**1,410**	**1,315**	**249**	**442**	**4,280**

Source: MMS, Gulf of Mexico Region Products/Free Data, Free ASCII Data Files, Leasing Information and Data, File Name: "LEASE DATA", Data Field: Bid Amount.

How much oil and gas production is expected?

In order to estimate future oil and gas production from the deep water leases of interest, we first looked at historical oil and gas production to date for leases issued between 1996 and 2000. From this production data, we then derived historical production decline rates, which were used to estimate future production from these leases.

Historical oil and gas production from deep water leases awarded between 1996 and 2000 was established by cross-referencing these leases with the MMS' *Production Information and Data*, which includes information on oil and gas production by lease, well, or lease operator. Tables 4 and 5 present historical oil and gas production, respectively, from deep water leases awarded between 1996 and 2000 (Tables A1 and A2 in the Appendix present historical gas production and combined oil and gas production, respectively, on a BOE basis). Of the 3,391 deepwater leases awarded over the 1996 to 2000 time period, 433 leases had oil or gas production at some point between 1996 and August 2009.[3]

Since GOM production was impacted by hurricane activity in 2004, 2005, 2006, and 2008, a three-year moving average was used to determine the average oil and gas production from which decline rates for the five lease sales of interest were generated. Total oil production for leases sold between 1996 and 2000 declined by a rate of 10.5% from 2007 to 2008, while gas production declined by 10.1% over the same period. Oil and gas production for 2009 and beyond was estimated by applying the relevant decline rate to the previous year's production. Figure 1 shows estimated oil and gas production on a BOE basis for the deep water leases awarded between 1996 and 2000 (Tables A3 and A4 in the Appendix present the oil and gas production data, respectively, used to create Figure 1). Assuming current decline rates hold steady, an additional 639 million BOE of oil and gas production is projected over the next 10 years. It should be noted that this estimate is likely a lower bound since the forecasted production does not account for any increase in production from leases issued between 1996 and 2000.

[3] A total of 397 leases had oil production at some point between 1996 and August 2009, and 432 leases had gas production over the same period.

TABLE 4: Historical Oil Production from Deep Water (≥200m) Leases Awarded Between 1996 and 2000

Production Year	Oil Production (Thousand Barrels) by Lease Sale					
	1996 Sales	1997 Sales	1998 Sales	1999 Sales	2000 Sales	Total
1996	0					0
1997	6	0				6
1998	1	0	0			1
1999	2	0	0	0		2
2000	103	731	0	0	0	834
2001	253	3,429	38	0	0	3,719
2002	1,273	4,048	2,184	0	1,543	9,047
2003	7,822	6,938	30,270	200	1,978	47,208
2004	22,696	10,479	35,662	96	2,230	71,164
2005	24,251	11,546	24,496	86	8,811	69,189
2006	29,491	8,303	21,832	80	16,446	76,151
2007	18,254	10,897	20,491	71	14,167	63,880
2008	14,413	10,029	11,925	193	10,606	47,166
2009[a]	20,816	6,542	15,116	1,431	4,297	48,201
Total	**139,380**	**72,942**	**162,014**	**2,155**	**60,078**	**436,569**

[a] January through August 2009

Source: MMS, Gulf of Mexico Region Products/Free Data, Free ASCII Data Files, Production Information and Data, Oil and Gas Operations Reports – Part A (OGOR-A) Well Production 1996-2009, File Names: "OGOR-A Production for 1996" through "OGOR-A Production for 2009" (14 files in total), Data Fields: Lease Number, and Monthly Oil Volume.

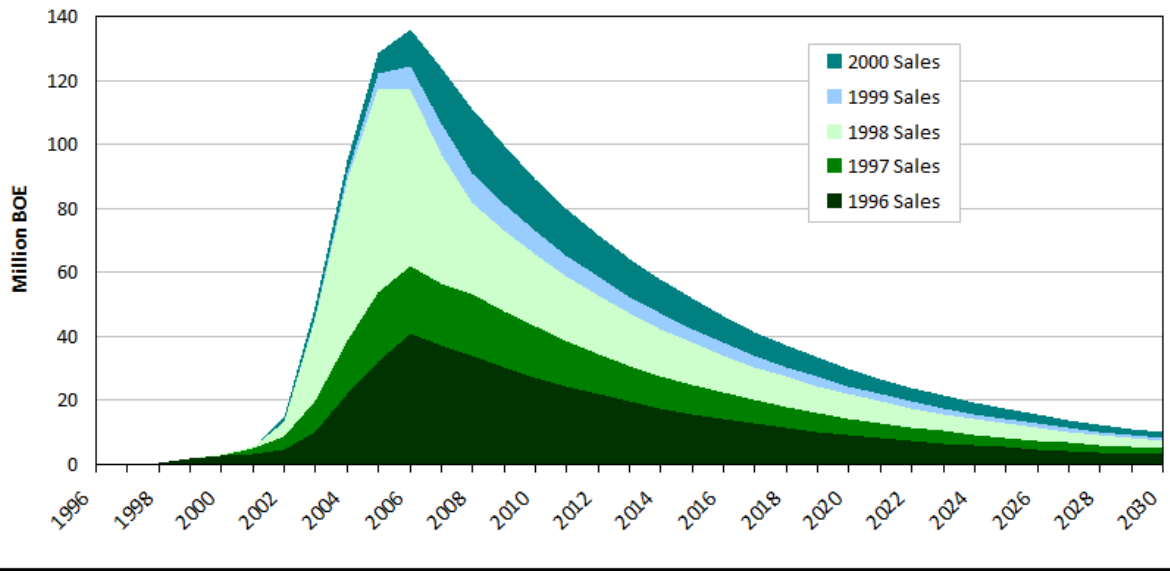
TABLE 5: Historical Gas Production from Deep Water (≥200m) Leases Awarded Between 1996 and 2000

Production Year	Gas Production (Billion Cubic Feet) by Lease Sale					
	1996 Sales	1997 Sales	1998 Sales	1999 Sales	2000 Sales	Total
1996	0.1					0.1
1997	3	0				3
1998	8	0	0			8
1999	20	0	0	0		20
2000	14	1	7	0	0	22
2001	19	4	3	0	0	27
2002	37	12	59	0	12	121
2003	60	68	187	9	17	341
2004	98	77	213	27	7	422
2005	73	59	170	36	8	347
2006	86	51	84	59	25	305
2007	61	41	53	65	39	258
2008	77	72	33	27	47	255
2009[a]	48	46	23	11	17	145
Total	**604**	**434**	**831**	**233**	**171**	**2,273**

[a] January through August 2009

Source: MMS, Gulf of Mexico Region Products/Free Data, Free ASCII Data Files, Production Information and Data, Oil and Gas Operations Reports – Part A (OGOR-A) Well Production 1996-2009, File Names: "OGOR-A Production for 1996" through "OGOR-A Production for 2009" (14 files in total), Data Fields: Lease Number, and Monthly Gas Volume.

FIGURE 1: Estimated Oil and Gas Production from Deep Water Leases Awarded Between 1996 and 2000



How many were returned to the government?

By looking at the current status of the leases awarded between 1996 and 2000 it can be determined which are currently active, and which have been returned to the government. Once again, the MMS' *Leasing Information and Data,* which includes lease status information, was consulted for this purpose. Table 6 summarizes the current status of deep water leases awarded between 1996 and 2000. For ease of reference, Table 6 also presents information on deep water leases awarded by lease sale and water depth, which was reported previously in Table 2. Only 299 (9%) of the 3,391 deep water leases issued over the period of interest remain active, while 3,092 (91%) have been returned to the government.

TABLE 6: Current Status of Deep Water (≥200m) Leases Awarded Between 1996 and 2000						
Water Depth Interval	**Deep Water Leases Awarded by Lease Sale**					
	1996 Sales	**1997 Sales**	**1998 Sales**	**1999 Sales**	**2000 Sales**	**Total**
200m to <400m	62	41	35	14	14	166
400m to <800m	112	105	57	16	29	319
800m to <1600m	317	419	228	65	100	1,129
1600m to <2000m	159	283	109	26	39	616
≥2000m	233	403	435	44	46	1,161
Total DW Leases Awarded	**883**	**1,251**	**864**	**165**	**228**	**3,391**
Water Depth Interval	**Active[a] Deep Water Leases by Lease Sale**					
	1996 Sales	**1997 Sales**	**1998 Sales**	**1999 Sales**	**2000 Sales**	**Total**
200m to <400m	2	1	0	0	3	6
400m to <800m	5	3	0	0	3	11
800m to <1600m	22	14	10	22	69	137
1600m to <2000m	4	7	4	13	26	54
≥2000m	24	9	13	17	28	91
Total Active DW Leases	**57**	**34**	**27**	**52**	**129**	**299**
Water Depth Interval	**Deep Water Leases Returned[b] to the Government by Lease Sale**					
	1996 Sales	**1997 Sales**	**1998 Sales**	**1999 Sales**	**2000 Sales**	**Total**
200m to <400m	60	40	35	14	11	160
400m to <800m	107	102	57	16	26	308
800m to <1600m	295	405	218	43	31	992
1600m to <2000m	155	276	105	13	13	562
≥2000m	209	394	422	27	18	1,070
Total Leases Returned	**826**	**1,217**	**837**	**113**	**99**	**3,092**

[a] Active leases are defined as leases with Lease Status Codes of OPERNS, PRIMRY, PROD, SOP, or UNIT.

[b] Returned leases are defined as leases with Lease Status Codes of EXPIR, RELINQ, or TERMIN.

Source: MMS, Gulf of Mexico Region Products/Free Data, Free ASCII Data Files, Leasing Information and Data, File Name: "LEASE DATA", Data Fields: Lease Number, Sale Number, Block Max Water Depth, and Lease Status Code.

How many were re-leased? Are they at higher royalty rates? How much was received in additional bonuses from re-leasing?

From Table 6 above we know many of the deep water leases issued between 1996 and 2000 were returned to the government. By isolating the area and block corresponding to the returned leases, it was possible to ascertain how many of the returned leases were offered for sale as part of future lease sales, and which were subsequently re-leased.

Table 7 shows the current status of deep water lease blocks returned to the government as part of lease sales held in 1996 to 2000. Of the 3,092 returned lease blocks, a total of 1,613 (52%) were re-leased as part of future lease sales. According to the MMS, the record setting lease sales in 2007 and 2008 were due in part to the expiration of the primary terms of leases issued in 1997 and 1998.[4]

[4] MMS (May 2009). *Deepwater Gulf of Mexico 2009: Interim Report of 2008 Highlights*. OCS Report, MMS 2009-016, p. 22.

The bottom of Table 7 also shows summary statistics on the number of re-leased blocks that were awarded at higher royalty rates, compares total bonuses received by blocks for the original lease sales and subsequent lease sales, and indicates the number of re-leased blocks that are currently active.

TABLE 7: Current Status of Deep Water (≥200m) Lease Blocks Returned to the Government

Year Offered	Returned Lease Blocks Offered as Part of Future Lease Sales					
	1996 Sales	1997 Sales	1998 Sales	1999 Sales	2000 Sales	Total
1997	0					0
1998	0	0				0
1999	1	0	0			1
2000	5	2	1	0		8
2001	18	21	2	0	0	41
2002	72	10	3	0	0	85
2003	21	46	10	0	0	77
2004	42	35	32	1	5	115
2005	36	38	30	20	0	124
2006	45	79	29	0	12	165
2007	270	55	36	1	9	371
2008	72	351	20	2	15	460
2009	27	75	130	2	2	236
Total Offered	**609**	**712**	**293**	**26**	**43**	**1,683**
Year Awarded	**Returned Lease Blocks that are Awarded Leases in Future Lease Sales**					
	1996 Sales	1997 Sales	1998 Sales	1999 Sales	2000 Sales	Total
1997	0					0
1998	0	0				0
1999	1	0	0			1
2000	5	2	1	0		8
2001	18	21	2	0	0	41
2002	65	9	3	0	0	77
2003	18	42	10	0	0	70
2004	39	33	32	1	5	110
2005	35	36	27	20	0	118
2006	45	76	28	0	10	159
2007	261	53	33	1	8	356
2008	70	341	20	2	15	448
2009	24	68	129	2	2	225
Total Awarded	**581**	**681**	**285**	**26**	**40**	**1,613**
Awarded at Higher Royalty Rate	360	461	180	5	25	1,031
Total Bonus - Original Lease (MM$)	318	593	405	30	39	1,384
Total Bonus - Re-Lease (MM$)	2,305	3,739	700	48	37	6,828
Re-Leased Blocks Currently Active	498	622	262	19	38	1,439

Source: MMS, Gulf of Mexico Region Products/Free Data, Free ASCII Data Files, Leasing Information and Data, File Name: "LEASE DATA", Data Fields: Lease Number, Sale Number, Lease Status Code, Area Code, Block Number, Royalty Rate, and Bid Amount.

How much did companies spend to develop these leases?

Company expenditures to develop the deep water leases issued between 1996 and 2000 were based on average drilling and lifting costs, as reported in API's *Joint Association Survey on Drilling Costs (JAS),* and the Energy Information Administration's (EIA's) *Performance Profiles of Major Energy Producers*[5]*,* respectively.

Drilling expenditures were calculated as a function of the number of wells drilled on the leases multiplied by the average drilling costs for offshore wells. The number of wells drilled on the deep water leases issued between 1996 and 2000 were established by analyzing the MMS's *Well Information Data*, which includes wells drilled, spud date, well type, and well status. On the 3,391 deep water leases that were awarded between 1996 and 2000, there were a total of 979 borehole records, including 915 wells drilled, 36 wells being drilled, and 28 wells in planning. Table 8 provides data on the 915 wells drilled, while Table A5 in the Appendix provides a more detailed look at the current status of the 979 boreholes, including a breakdown of exploratory and development wells.

TABLE 8: Wells Drilled on Deep Water (≥200m) Leases Awarded Between 1996 and 2000

Year Spudded	Wells Drilled by Lease Sales:					
	1996 Sales	1997 Sales	1998 Sales	1999 Sales	2000 Sales	Total
1996	2					2
1997	20	3				23
1998	18	13	2			33
1999	18	16	27	3		64
2000	33	26	30	8	4	101
2001	59	14	43	9	30	155
2002	37	17	33	2	18	107
2003	18	22	13	10	9	72
2004	21	12	18	2	24	77
2005	20	9	2	5	15	51
2006	36	12	14	6	9	77
2007	11	25	15	1	12	64
2008	20	16	18	2	12	68
2009	8	4	6	2	1	21
Total	**321**	**189**	**221**	**50**	**134**	**915**

Source: MMS, Gulf of Mexico Region Products/Free Data, Free ASCII Data Files, Well Information Data, File Name: "Borehole", Data Fields: API Well Number, Spud Date, Bottom Lease Number, Type Code, and Status Code.

Company expenditures for production were calculated as a function of lifting costs multiplied by oil and gas production on a BOE basis. Table A2 presents oil and gas production, as calculated above, in units of BOE. Using drilling and lifting costs in combination with wells drilled and production, respectively, we calculated how much companies spent to develop and produce the leases (Table 9). Through the end of August 2009, it is estimated companies spent approximately $37.4 billion to develop and produce the deep water leases issued between 1996 and 2000. This estimate is likely a lower bound estimate of

[5] As defined in EIA (December 2008), *Performance Profiles of Major Energy Producers 2007* (DOE/EIA-0206(07)): *Lifting costs* (also referred to as production costs) are the out-of-pocket costs to operate and maintain existing production wells and related equipment and facilities per barrel of oil equivalent (BOE) of oil and natural gas produced by those facilities after the hydrocarbons have been found, acquired, and developed for production.

total company expenditures since it does not include capital expenditures for platforms, pipelines, and other ancillary facilities and equipment needed to operate in deep water offshore areas.

TABLE 9: Expenditures for Development of Deep Water Leases Awarded Between 1996 and 2000

Year	Wells Drilled on Leases Awarded 1996-2000	Average Drilling Costs (Per well cost in thousand 2007$)[a]	Drilling Expenditures (Million 2007$)[b]	Oil & Gas Production - Leases Awarded 1996-2000 (Million BOE)[c]	Lifting Costs - U.S. Offshore (2007$ per BOE)[d]	Production Expenditures (Million 2007$)[b]	Total Expenditures (Million 2007$)
1996	2	14,243	28	0.0	3.51	0.1	28.6
1997	23	14,243	328	0.6	3.38	2.0	329.6
1998	33	14,197	469	1.4	3.34	4.8	473.3
1999	64	14,151	906	3.5	3.90	13.7	919.4
2000	101	15,198	1,535	4.8	3.18	15.2	1,550.2
2001	155	16,245	2,518	8.5	3.21	27.1	2,545.0
2002	107	18,957	2,028	30.6	3.15	96.4	2,124.7
2003	72	20,989	1,511	107.8	3.54	381.2	1,892.4
2004	77	25,358	1,953	146.2	4.44	649.3	2,601.9
2005	51	42,834	2,185	130.9	6.56	859.1	3,043.7
2006	77	60,310	4,644	130.5	7.52	981.1	5,624.9
2007	64	90,195	5,772	109.9	8.92	980.0	6,752.4
2008	68	90,195	6,133	92.5	8.92	825.1	6,958.3
2009	21	90,195	1,894	74.0	8.92	660.0	2,554.1
Total	**915**		**31,904**	**841.2**		**5,495.1**	**37,398.6**

[a] Drilling costs are average well costs for offshore wells drilled in 500+ feet of water. Drilling costs for 1998, 2000, 2004, and 2005 were interpolated linearly. Drilling costs for 2008 and 2009 are assumed to remain unchanged from 2007.

[b] Products of number of wells drilled times average drilling costs, and production times lifting costs, may not match expenditures presented above due to independent rounding.

[c] Natural gas is converted to BOE at 0.178 BBL per thousand cubic feet (MCF).

[d] Lifting costs for 2008 and 2009 are assumed to remain unchanged from 2007.

Sources:

API (December 2008). *2007 Joint Association Survey on Drilling Costs*.

EIA (January 1998 through December 2008). *Performance Profiles of Major Energy Producers* 1996-2007 (12 Reports).

Provide an estimate of the taxes paid on production from these leases.

Table 10 presents the projected or potential tax revenue on production from leases subject to deepwater royalty relief and is based upon EIA and MMS data. It is not known how this projected tax revenue actually flowed to the Treasury because no tax determination is captured so specifically. These activities become part of the overall mix of income and deductions on which the companies pay their total U.S. tax. For purposes of this Table, the effective tax rate is calculated by taking U.S. production revenues and dividing it by the corresponding U.S. tax expense associated with those production activities for the years in question. This information is compiled on Schedule 5210 as part of EIA's Financial Reporting System public data. The potential tax expense is calculated by multiplying this calculated effective tax rate by the estimated revenue from sales of oil and gas from the leases subject to deepwater royalty relief. Those revenues are determined by multiplying oil and gas production (see Tables 4 and 5) by the corresponding average oil and gas price for each year. Based upon this analysis,

through the end of 2007, activity on deep water leases issued between 1996 and 2000 was estimated to have generated $5.1 billion in taxes, which represent costs to the producer and revenue to the government.

TABLE 10: Estimated Tax Cost for Deep Water (≥200m) Leases Awarded Between 1996 and 2000

Year	(A) Total US Operating Revenues – Production (million $)	(B) Total US Other Revenue (Expense) – Production (million $)	(C=A+B) Total (million $)	(D) Income Tax Expense – US Production (million $)	(E=D/C) Tax Expense as a Percent of Revenue	(F) Revenue from DWRRA leases[a] (million $)	(G=E*F) Projected Tax Cost (million $)
1996	61,102	920	62,022	5,474	9%	0.31	0.03
1997	61,991	1,768	63,759	5,313	8%	7.60	0.63
1998	46,340	(428)	45,912	(277)	-1%	15.85	(0.10)
1999	51,564	1,868	53,432	3,217	6%	43.15	2.60
2000	83,632	1,451	85,083	10,972	13%	103.98	13.41
2001	83,831	1,610	85,441	9,641	11%	187.56	21.16
2002	73,974	1,353	75,327	6,274	8%	560.45	46.68
2003	68,594	2,524	71,118	11,974	17%	2,963.04	498.88
2004	86,097	2,898	88,995	16,809	19%	4,914.14	929.11
2005	105,213	3,186	108,399	23,015	21%	6,020.44	1,278.24
2006	114,018	5,930	119,948	23,806	20%	6,504.24	1,290.89
2007	117,651	7,714	125,365	21,422	17%	5,899.95	1,008.17
					Total Estimated Tax Cost		**5,089.71**

[a] Calculated using crude oil first purchase price and natural gas wellhead price and Historical Production from Tables 4 and 5.
Source: EIA Financial Reporting System Schedule 5210

APPENDIX

TABLE A1: Historical Gas Production from Deep Water (≥200m) Leases Awarded Between 1996 and 2000						
Production Year	Gas Production (Thousands of Barrels of Oil Equivalent[a]) by Lease Sale					
	1996 Sales	1997 Sales	1998 Sales	1999 Sales	2000 Sales	Total
1996	26					26
1997	588	0				588
1998	1,439	0	0			1,439
1999	3,504	0	0	0		3,504
2000	2,534	235	1,182	0	0	3,952
2001	3,388	734	610	0	0	4,732
2002	6,660	2,219	10,548	0	2,102	21,529
2003	10,595	12,144	33,286	1,593	3,004	60,622
2004	17,513	13,756	37,849	4,756	1,188	75,061
2005	12,955	10,563	30,235	6,474	1,494	61,720
2006	15,287	9,155	14,924	10,511	4,432	54,308
2007	10,815	7,320	9,436	11,512	6,897	45,980
2008	13,620	12,813	5,835	4,786	8,278	45,332
2009	8,563	8,244	4,013	1,917	3,056	25,793
Total	**107,486**	**77,183**	**147,917**	**41,548**	**30,451**	**404,586**

[a] Natural Gas is converted to BOE at 0.178 barrels (BBL) per thousand cubic feet (MCF).

TABLE A2: Historical Oil & Gas Production from Deep Water (≥200m) Leases Awarded Between 1996 and 2000						
Production Year	Oil & Gas Production (Thousands of Barrels of Oil Equivalent[a]) by Lease Sale					
	1996 Sales	1997 Sales	1998 Sales	1999 Sales	2000 Sales	Total
1996	26					26
1997	593	0				593
1998	1,441	0	0			1,441
1999	3,507	0	0	0		3,507
2000	2,637	966	1,182	0	0	4,786
2001	3,641	4,163	648	0	0	8,451
2002	7,932	6,267	12,732	0	3,645	30,576
2003	18,417	19,082	63,555	1,793	4,983	107,830
2004	40,209	24,235	73,511	4,852	3,418	146,225
2005	37,205	22,109	54,731	6,559	10,304	130,909
2006	44,777	17,458	36,756	10,590	20,878	130,460
2007	29,069	18,217	29,927	11,582	21,065	109,860
2008	28,033	22,842	17,760	4,978	18,884	92,498
2009	29,379	14,786	19,128	3,348	7,353	73,994
Total	**246,867**	**150,125**	**309,931**	**43,703**	**90,529**	**841,155**

[a] Natural Gas is converted to BOE at 0.178 barrels (BBL) per thousand cubic feet (MCF).

TABLE A3: Estimated Future Oil Production from Deep Water Leases Awarded Between 1996 and 2000						
Production Year	**Oil Production (Thousands of BOE) by Lease Sale - 3-yr Moving Avg.**					
	1996 Sales	**1997 Sales**	**1998 Sales**	**1999 Sales**	**2000 Sales**	**Total**
1996	0					0
1997	0	0				0
1998	2	0	0			2
1999	3	0	0	0		3
2000	36	244	0	0	0	279
2001	119	1,387	13	0	0	1,518
2002	543	2,736	741	0	514	4,533
2003	3,116	4,805	10,831	67	1,174	19,991
2004	10,597	7,155	22,705	99	1,917	42,473
2005	18,256	9,654	30,143	127	4,340	62,520
2006	25,479	10,110	27,330	87	9,162	72,168
2007	23,999	10,249	22,273	79	13,141	69,740
2008	20,719	9,743	18,083	114	13,740	62,399
Subtotal	**102,869**	**56,082**	**132,117**	**573**	**43,988**	**335,629**
Production Year	**Oil Production (Thousands of BOE) by Lease Sale - Forecast**					
	1996 Sales	**1997 Sales**	**1998 Sales**	**1999 Sales**	**2000 Sales**	**Total**
2009	18,538	8,717	16,179	102	12,294	55,831
2010	16,587	7,800	14,476	92	10,999	49,954
2011	14,841	6,979	12,952	82	9,842	44,695
2012	13,279	6,244	11,589	73	8,806	39,991
2013	11,881	5,587	10,369	66	7,879	35,781
2014	10,630	4,999	9,277	59	7,049	32,014
2015	9,511	4,473	8,301	52	6,307	28,644
2016	8,510	4,002	7,427	47	5,643	25,629
2017	7,614	3,581	6,645	42	5,049	22,931
2018	6,813	3,204	5,946	38	4,518	20,517
2019	6,096	2,866	5,320	34	4,042	18,358
2020	5,454	2,565	4,760	30	3,617	16,425
2021	4,880	2,295	4,259	27	3,236	14,696
2022	4,366	2,053	3,811	24	2,895	13,149
2023	3,907	1,837	3,409	22	2,591	11,765
2024	3,495	1,644	3,051	19	2,318	10,527
2025	3,127	1,471	2,729	17	2,074	9,419
2026	2,798	1,316	2,442	15	1,856	8,427
2027	2,504	1,177	2,185	14	1,660	7,540
2028	2,240	1,053	1,955	12	1,486	6,746
2029	2,004	943	1,749	11	1,329	6,036
2030	1,793	843	1,565	10	1,189	5,401
Subtotal	**160,868**	**75,647**	**140,397**	**888**	**106,679**	**484,478**
Total	**263,737**	**131,729**	**272,515**	**1,460**	**150,667**	**820,107**

TABLE A4: Estimated Future Gas Production from Deep Water Leases Awarded Between 1996 and 2000						
Production Year	**Gas Production (Thousands of BOE[a]) by Lease Sale - 3-yr Moving Avg.**					
	1996 Sales	**1997 Sales**	**1998 Sales**	**1999 Sales**	**2000 Sales**	**Total**
1996	0					0
1997	0	0				0
1998	684	0	0			684
1999	1,844	0	0	0		1,844
2000	2,493	78	394	0	0	2,965
2001	3,142	323	597	0	0	4,063
2002	4,194	1,063	4,113	0	701	10,071
2003	6,881	5,032	14,815	531	1,702	28,961
2004	11,589	9,373	27,228	2,116	2,098	52,404
2005	13,688	12,154	33,790	4,274	1,895	65,801
2006	15,251	11,158	27,669	7,247	2,371	63,697
2007	13,019	9,013	18,198	9,499	4,274	54,003
2008	13,241	9,763	10,065	8,936	6,536	48,540
Subtotal	**86,025**	**57,957**	**136,870**	**32,603**	**19,577**	**333,032**
Production Year	**Gas Production (Thousands of BOE[a]) by Lease Sale - Forecast**					
	1996 Sales	**1997 Sales**	**1998 Sales**	**1999 Sales**	**2000 Sales**	**Total**
2009	11,901	8,775	9,047	8,032	5,875	43,630
2010	10,697	7,887	8,132	7,220	5,280	39,217
2011	9,615	7,090	7,309	6,489	4,746	35,250
2012	8,643	6,372	6,570	5,833	4,266	31,684
2013	7,769	5,728	5,905	5,243	3,835	28,479
2014	6,983	5,148	5,308	4,713	3,447	25,598
2015	6,276	4,628	4,771	4,236	3,098	23,009
2016	5,641	4,160	4,288	3,807	2,785	20,682
2017	5,071	3,739	3,855	3,422	2,503	18,589
2018	4,558	3,361	3,465	3,076	2,250	16,709
2019	4,097	3,021	3,114	2,765	2,022	15,019
2020	3,682	2,715	2,799	2,485	1,818	13,500
2021	3,310	2,440	2,516	2,234	1,634	12,134
2022	2,975	2,194	2,262	2,008	1,469	10,907
2023	2,674	1,972	2,033	1,805	1,320	9,803
2024	2,404	1,772	1,827	1,622	1,186	8,812
2025	2,161	1,593	1,642	1,458	1,066	7,920
2026	1,942	1,432	1,476	1,311	959	7,119
2027	1,746	1,287	1,327	1,178	862	6,399
2028	1,569	1,157	1,193	1,059	774	5,752
2029	1,410	1,040	1,072	952	696	5,170
2030	1,268	935	964	856	626	4,647
Subtotal	**106,392**	**78,445**	**80,873**	**71,803**	**52,516**	**390,029**
Total	**192,417**	**136,401**	**217,743**	**104,406**	**72,094**	**723,061**

[a] Natural Gas is converted to BOE at 0.178 barrels (BBL) per thousand cubic feet (MCF).

TABLE A5: Summary Statistics for Oil and Gas Wells Drilled on Deep Water (≥200m) Leases Awarded Between 1996 and 2000

Current Status[a]	Well Type		
	Exploratory	Development	Total
Wells Drilled			
Completed	106	83	189
Sidetracked	291	104	395
Temporarily Abandoned	88	16	104
Permanently Abandoned	191	36	227
Subtotal	**676**	**239**	**915**
Wells Being Drilled			
Drilling Active	5	2	7
Drilling Suspended	6	23	29
Subtotal	**11**	**25**	**36**
Wells in Planning			
Application for Permit to Drill	2	7	9
Approved Sidetrack	2	1	3
Canceled	10	6	16
Subtotal	**14**	**14**	**28**
Total	**701**	**278**	**979**

[a] Wells drilled are defined as boreholes with Status Codes of ST, PA, COM, or TA. Wells being drilled are defined as boreholes with Status Codes of DRL or DSI. Wells in planning are defined as boreholes with Status Codes of APD, AST, or CNL.

Source: MMS, Gulf of Mexico Region Products/Free Data, Free ASCII Data Files, Well Information Data, File Name: "Borehole", Data Fields: API Well Number, Spud Date, Bottom Lease Number, Type Code, and Status Code.