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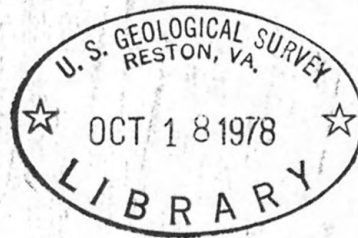
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Statistical Analysis of Re-bid Federal  
Offshore Gulf of Mexico Oil and Gas Leases

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STATISTICAL ANALYSIS OF RE-BID FEDERAL  
OFFSHORE GULF OF MEXICO OIL AND GAS LEASES

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INTRODUCTION AND SUMMARY

Through 1977, there were 178 cases where exactly the same Federal offshore oil and gas bonus bid lease was offered and received bids in 2 sales. (In addition, there were 131 cases where there was an overlap of acreage between a lease offered and receiving bids in 2 sales.)

Table 1 summarizes these exact re-bid leases which are in 2 categories: (1) Leases re-bid after rejection of any and all bids received as a result of a prior offering, and (2) Leases re-bid after prior offering, issue, and relinquishment of a lease. We will call the former category rejected re-bid leases, the latter relinquished re-bid leases. Table 1 shows there were 120 of the former and 58 of the latter.

The purpose of this study was simply development and analysis of the statistics of re-bid leases. The reasons why the data behave as they do are subjective and unavoidably involve nontechnical value judgments. Therefore, we do not speculate on the reasons in this report. The data source for this study was the LPR-5/-10 data base maintained by the General Services Administration, Fort Worth, Texas.

REJECTED RE-BID LEASES

Table 1 shows that when re-offered, the 120 rejected re-bid leases received more bids and that both the sums of the highest bids and geometric means of bids were higher.

Ninety-one of these 120 leases were issued upon re-offer; 29 were rejected again. The 91 rejected re-bid leases that were issued had production through 1976 yielding \$87.4 million royalty assessed at 16.67 percent.

Table 2 presents a matrix of the occurrence in sales of these 120 rejected re-bid leases. Records of Geological Survey pre-sale estimates are available for sales starting in May 21, 1968, which include the initial offering for 91 of the 120 rejected re-bid leases. Table 3 presents a comparison of bids and estimates for the aggregate of the 91 leases and larger sub-aggregates.

Table 3 shows that the 91 leases received 142 bids the first time and 199 when re-offered, an increase of 40 percent. The sum of the highest bids increased from \$157 million to \$465 million when re-bid, an increase of 196 percent. Of course, when there were more bids, one would expect the sum of highest bids to go up. When there are more bids, one has to bid higher to be highest. This is why the sum of geometric means of bids is of interest. This sum is a surrogate measure of the consensus of bidders' bids less affected by the number of bids. Table 3 shows that the sum of geometric means of bids for these 91 leases increased from \$128 million to \$274 million, an increase of 113 percent. On the other hand, the sum of the pre-sale estimates for these 91 leases decreased upon re-offering from \$518 million to \$315 million, a decrease of 39 percent. Note that upon initial offering the sum of the pre-sale estimates for these 91 leases exceeded the sum of highest bids by over 3 times; upon re-offering the sum of the highest bids exceeded the pre-sale estimates 48 percent.

#### RELINQUISHED RE-BID LEASES

Table 1 shows that for the 58 relinquished re-bid leases as for the 120 rejected re-bid leases, the sum of the highest bids and the sum of the geometric means of bids increased upon re-offering. The number of bids decreased upon re-offering for relinquished re-bid leases. The increase in the sum of highest bids was by a factor of 2 1/2 and for the sum of geometric means of bids by a factor of over 4.

A matrix of the occurrence in sales of these 58 relinquished re-bid leases is presented in Table 4. The time between the original and subsequent offerings for relinquished re-bid leases has always been 5 years or more. This contrasts with the rejected re-bid leases where the time between the original and subsequent offerings has frequently been less than one year.

Of these 58 relinquished re-bid leases, 44 were issued upon re-offering and 14 were rejected. Of the 44 issued, 11 have already been relinquished (through 1977) the second time.

None of these 58 relinquished leases yielded any production as a result of the original issue; production accruing a royalty of \$2 1/2 million through 1976 (at 16.67 percent) was obtained from the 44 relinquished re-bid leases issued upon re-offering.

#### LEASES RECEIVING BIDS IN THREE SALES

There were 17 leases where exactly the same acreage was offered and received bids 3 times. In no case was the same acreage on a lease offered and bids received 4 or more times. Table 5 summarizes the results for these 17 leases.

One of these 17 leases was issued 3 times, 5 were issued twice upon the first and third offerings, 9 were issued once at the third offering, and 2 were not issued as a result of any of the 3 offerings.

Pre-sale estimates of record are shown on Table 5 for all 3 times 11 of the 17 leases were offered. For these 11 sets of 3 pre-sale estimates, 8 decreased, 2 increased, and 1 remained constant with time. On the other hand, for highest bids and the geometric mean of bids between the first and third offering, all increased for these 11 leases with one exception where the highest bid was constant 3 times.

For 4 of the 17 leases, pre-sale estimates were available only for the second and third offering. In each case, the pre-sale estimate for the third offering was lower than for the second. On the other hand, the highest bids and the geometric mean of bids were higher the third offering compared to the second for all 4 of these leases.

Through 1976, there had been no production from any of these 17 leases.

TABLE 1.--Summary of Exact Re-bid Leases

	All Exact Re-Bid Leases	All Exact Leases Re-bid After Prior Rejection of Any and All Bids	All Exact Leases Re-bid After Prior Issue and Relinquish- ment of Leases
No. of Leases .....	178	120	58
Acres .....	858,898	558,814	300,094
No. of Bids Received Initially .....	337	177	160
No. of Bids Received when Re-bid .....	381	264	119
Sum of Initial Highest Bids (Millions \$) .....	255.81	161.81	94.00
Sum of Highest Bids when Re-bid (Millions \$) .....	759.64	521.53	238.11
Sum of Initial Geometric Means of Bids (Millions \$) ....	164.19	132.93	31.26
Sum of Geometric Means of Bids when Re-bid (Millions \$) ..	434.01	288.24	145.77
No. of Leases for which Any and All Bids were Rejected when Re-bid .....	43	29	14
No. of Leases Issued when Re-bid .....	135	91	44
No. of Leases Already Relinquished (through CY77) after Issue when Re-bid .....	21	10	11
No. of Leases Re-bid Originally Receiving Bids in or after the May 21, 1968 Sale when Pre-sale Estimates were First Recorded .....	93	91	2



TABLE 2.--Matrix of Occurrence of Exact Leases Re-bid After  
Prior Rejection of Any and All Prior Bids by Sale Date

Re-offer Sale Date .....	3/13/62	3/16/62	10/18/66	6/13/67	1/14/69	12/16/69	7/21/70	11/4/71	9/12/72	3/28/74	7/30/74	10/16/74	2/4/75	5/28/75	2/18/76	11/16/76	6/23/77	Total
Original Offer Sale Date																		
2/24/60	5	6	1											2				14
3/13/62	x		3	1														4
3/16/62		x								1		1						2
10/18/66			x	3	1		1											5
6/13/67				x		2			1					1				4
5/21/68													1					1
1/14/69					x			1										1
7/21/70							x	1										1
12/15/70														1		1		2
9/12/72									x						1		1	2
12/19/72																1		1
6/19/73																1		1
3/28/74										x					2		6	15
5/29/74											7							14
7/30/74											12					1	1	9
10/16/74											x				8		1	8
2/4/75												x			5	1	2	7
5/28/75													x		3		4	12
7/29/75																6	6	11
2/18/76															x	4	7	6
Total.....	5	6	4	4	1	2	1	2	1	1	19	1	1	4	19	15	34	120



TABLE 3.--Summary of Exact Leases Re-bid After Prior Rejection of Any and  
All Bids with Pre-sale Values of Record for Both Offerings

Original Offer Sale Date	No. of Leases	Acres	No. of Bids Received		No. of Leases Issued Upon Re-offer	Sum of Highest Bids (Millions \$)		Sum of Geometric Means of Bids (Millions \$)		Sum of Pre-sale Values (Millions \$)	
			Original Offer	Re-offer		Original Offer	Re-offer	Original Offer	Re-offer	Original Offer	Re-offer
7/30/74	19	94,359	30	22	3	40.98	44.66	34.26	40.68	149.80	149.80
2/18/76	19	95,063	22	35	16	33.55	55.85	32.36	39.62	81.19	22.43
11/16/76	15	68,241	21	39	13	20.82	95.41	18.83	48.20	63.35	37.25
6/23/77	34	171,772	63	95	29	59.57	258.61	41.61	137.64	210.20	95.20
*	4	19,510	6	8	3	2.33	10.79	1.41	7.86	13.38	10.25
Total .....	91	449,125	142	199	64	157.25	465.30	128.47	274.00	517.92	314.93

\* One lease from each of 5/21/68, 1/14/69, 7/21/70, and 12/15/70 sales

TABLE 4.--Matrix of Occurrence of Exact Leases Re-bid

After Prior Issue and Relinquishment by Sale Date

Re-offer Sale Date	3/13/62	3/16/62	10/18/66	6/13/67	5/21/68	11/19/68	12/15/70	9/12/72	12/19/72	3/28/74	10/16/74	2/4/75	5/28/75	7/29/75	2/18/76	11/16/76	6/23/76	Total
Original Offer Sale Date																		
10/13/54	1	1									2		2	1			1	8
11/9/54		1																1
7/12/55	2		2		1		1								1		1	8
2/24/60			1	1	3							1					3	9
3/13/62	x					1	1	2	1		2		3		1			11
3/16/62		x						1			3		1	1				10
6/13/67				x						1	5		2			3	1	9
5/21/68					x											1		1
11/19/68						x											1	1
Total	3	2	3	1	4	1	2	3	1	1	12	1	8	2	2	5	7	58

TABLE 5.--Summary of Exact Leases Offered

and Receiving Bids in Three Sales

OCS No.	Sale Date	Acres	No. of Bids	Issued?	Relinquished (Yr)	Highest Bid (Millions \$)	Geometric Mean of Bids (Millions \$)	Pre-sale Estimate (Millions \$)	Royalty Through 1976 (Millions \$)
1. 0510	11/9/54	5760	1	Yes	59	.103	.103	—	0
1116	3/16/62		1	Yes	67	.102	.102	—	0
3235	7/29/75		1	Yes	—	.334	.334	.144	0
1. 0606	7/12/55	2500	5	Yes	60	.500	.227	—	0
1489	10/18/66		1	No	—	.075	.075	—	0
1555	6/13/67		3	Yes	—	1.201	.291	—	0
1. 1264	3/16/62	5000	3	Yes	67	.313	.225	—	0
2151	9/12/72		2	No	—	.415	.045	1.273	0
3593	6/23/77		8	Yes	—	21.840	4.997	1.012	0
1. 1675	6/13/67	5000	1	No	—	.110	.110	—	0
2210	9/12/72		1	No	—	.005	.005	.261	0
3339	2/18/76		2	Yes	—	.382	.220	.125	0
1. 2604	3/28/74	5000	2	No	—	7.767	5.227	53.900	0
2805	7/30/74		1	No	—	7.817	7.817	53.900	0
3566	6/23/77		3	No	—	13.650	11.387	23.988	0
1. 2699	5/29/74	5760	1	No	—	.582	.582	3.000	0
2777	7/30/74		1	No	—	.582	.582	3.000	0
3312	2/18/74		2	Yes	—	8.383	6.523	.144	0
1. 2725	5/29/74	5760	1	No	—	.151	.151	.500	0
2783	7/30/74		1	No	—	.151	.151	.500	0
3313	2/18/76		5	Yes	—	12.247	3.805	.144	0
1. 2727	5/29/74	5760	2	No	—	1.820	1.543	9.700	0
2784	7/30/74		1	No	—	1.820	1.820	9.700	0
3314	2/18/76		1	Yes	—	1.820	1.820	9.700	0
1. 2744	5/29/74	5760	1	No	—	.778	.778	2.100	0
2787	7/30/74		1	No	—	.778	.778	2.100	0
3315	2/18/76		1	Yes	—	2.318	2.318	.144	0
1. 2758	5/29/74	5760	2	No	—	3.232	2.379	8.000	0
2791	7/30/74		1	No	—	3.249	3.249	8.000	0
3316	2/18/76		1	Yes	—	3.579	3.579	2.580	0
1. 0408	10/13/54	5000	5	Yes	59	4.003	2.228	—	0
2836	10/16/74		1	No	—	.278	.278	5.300	0
3500	6/23/77		3	Yes	—	13.880	2.653	3.120	0
1. 2086	12/15/70	5000	3	No	—	1.030	.106	3.954	0
3139	5/28/75		2	No	—	5.330	4.212	9.473	0
3400	11/16/76		6	Yes	—	34.220	14.501	13.293	0
1. 1514	6/13/67	5000	5	Yes	72	1.006	.271	—	0
3166	5/28/75		1	No	—	.601	.601	1.602	0
3582	6/23/77		3	Yes	—	8.492	3.228	.742	0
1. 1075	3/13/62	5000	4	Yes	67	6.215	1.211	0	0
3187	5/28/75		1	No	—	.867	.867	7.014	0
3601	6/23/77		1	Yes	—	16.717	16.717	.339	0
1. 2837	10/16/74	5000	1	No	—	.342	.342	.700	0
3320	2/18/76		3	No	—	1.357	1.105	5.710	0
3508	6/23/77		3	Yes	—	7.765	3.978	8.839	0
1. 2871	10/16/74	4307	1	No	—	.280	.280	3.700	0
3326	2/18/76		1	No	—	.170	.170	2.576	0
3547	6/23/77		1	Yes	—	4.840	4.840	1.660	0
1. 2881	10/16/74	5000	1	No	—	1.141	1.141	7.600	0
3330	2/18/76		3	No	—	3.290	1.930	7.230	0
3555	6/23/77		2	No	—	3.777	3.370	12.039	0

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