Final Report Addendum – October 8, 2013

The report analyzing the legality of the Win or Lose leases commissioned by the Louisiana State Mineral and Energy Board on May 8, 2012, is due to that Board on October 9, 2013. On October 8, 2013, numerical problems with State Lease 340 were identified. The Louisiana Department of Natural Resources' SONRIS system reports the total original lease acreage of State Lease 340 as 250,000.00 acres. Based upon this information, all of the size calculations and analyses of Part V(E)(2)(b) of the report used 250,000.00 acres as the size of State Lease 340. There is no definitive acreage for State Lease 340 contained within the original lease instrument. Instead, the lease area is described according to the physical water bodies that it covers. This was not an uncommon practice for the time. However, a reexamination of the record associated with State Lease 340 identified that there are several possible original sizes for this lease, none of which is, at this time, definitive. The bulk of this problem results from the reality that the Submerged Lands Act of 1952 ("SLA"), which identified (theoretically) where the seaward boundary of all coastal states was to be located, did not exist at the time of the letting of State Lease 340. Indeed, Louisiana's seaward boundary was not definitively set until a final United States Supreme Court decree in 1981.¹ Because the understanding of the location of Louisiana's seaward boundary with the United States has changed over time, and because, even since the enactment of the SLA, varying contentions and court determinations have altered what various parties have understood the seaward boundary to be, it appears that different acreages were ascribed to State Lease 340, which now straddles the three-mile federal-State border (and

¹ In *United States v. Louisiana*, 363 U.S. 1, 83 (1960), the U.S. Supreme Court ruled that the SLA grants Louisiana submerged lands within three geographic miles of its coastline, and the Court entered a final decree to that effect. *United States v. Louisiana*, 364 U.S. 502 (1960), *supplemental decree*, 382 U.S. 288 (1965). In 1975, the U.S. Supreme Court fixed Louisiana's coastline on the basis of fixed geographic coordinates. *United States v. Louisiana*, 422 U.S. 13 (1975). In 1981, the Court further fixed the offshore United States boundary with Louisiana on the basis of fixed geographic coordinates. *United States v. Louisiana*, 452 U.S. 726 (1981).

becomes OCS Lease 310 in federal waters), at varying times, dependent upon the interpretation of the law relating to such boundaries that was in vogue at any particular time.

Thus, there is little doubt that the 250,000.00 acre figure that was obtained from SONRIS was, at some time, a correct assessment of the size of State Lease 340. However, it is unclear at what time that figure was correct. A document related to a rental payment on State Lease 340 has been identified, dating from 1937, has been identified that indicates the size of State Lease 340 as 570,000.00 acres. Edward Gay's memorandum from 1941 indicates the size of State Lease 340 as "[e]stimated to exceed 500,000 acres." Much larger sizes have also been identified. Digitized area calculations of a Texas Company version of a Tobin map showing the original size of State Lease 340 present the possibility that, assuming a claim that the State could lease out to 30 miles from shore in 1936, the lease may have totaled 2,008,598.00 acres. Further, using the same map and a later State practice of recognizing leases out to ten miles from shore (or the rough equivalent of 3 nautical miles), the size of State Lease 340 may have been 1,006,338.20 acres. Finally, using the Texaco map as a baseline, a rough area calculation of the size of State Lease 340 to the legal seaward boundary of Louisiana, the lease size is approximately 616,663.59 acres. In other words, and very simply, the original size of State Lease 340 is unknown.

In an effort to ensure that the assumptions that were used in the report were reasonable, the largest possible size of State Lease 340 was used to retest some of the statistical analyses in Part V(E)(2)(b). The end result of these reanalyses is that, although State Lease 340, rather than State Lease 335, is considered the largest lease granted during the relevant time period, the ultimate conclusions do not change. The descriptive statistics reported in Table 14 and the

graphic representation of the leases shown in Figure 4 change (see below). However, the operative data – the median (500.00 acres) – does not change.

Figure 4. Both of these graphs (bar and line) were generated using the same data – size (in acreage) of State mineral leases granted between the years 1929 and 1941. All data were acquired from DNR's SONRIS Web site.



Table 14. Summary statistics for the size (acreage) of state mineral leases between the
years 1929 and 1941

Statistic	Value	
Number of Leases	267	
Minimum Size (Acres)	0.012	
Maximum Size (Acres)	2,008,598.000*	
Median Size (Acres)	500.000	
Arithmetic Mean (Acres)	15,129.742	
Standard Deviation	129,682.431	

* This figure represents a rough acreage calculation of the original size of State Lease 340. Based upon current information, it is not possible to know the actual acreage of the lease. The acreage amount is not included in the lease. Based upon certain practices at the time, it is known that the State would lease as far out into the Gulf of Mexico as 30 miles. This figure assumes that State Lease 340 extended for those 30 miles and it also incorporates all of the inland waterways identified in the lease document.

Similar to the original examination of these data, in this situation, although the mean size for the 1929-1941 leases is quite high (15,129.742 acres), the median size is much lower (500.0 acres). Once again, it is probable that the median value is a more appropriate indicator of central tendency in this scenario due to the absence of a normal distribution of data for the lease sizes.² Clearly, there is no normal distribution as to the size of State mineral leases during the sample period. Thus, the median value is used as a reasonable representative of what typical sizes of State mineral leases were during the 1929-1941 time period.

On the whole, the data presented in Figure 4 and Table 14 demonstrate that the size of mineral leases from the State during the examined twelve-year period were often quite low, in general. This reality is borne out by the median size for this twelve year period being 500.0 acres. State Lease 340, with a possible maximum size of 2,008,598.00 acres, was identified as an outlier using the Grubbs' test to determine whether any of the values in the dataset were extreme at the 95% (0.05) confidence level.³ Unlike the per acre price data analyzed above, although there was an outlier as to the size of the leases (State Lease 340), because that lease is one of the Win or Lose leases, it was not removed from the dataset.

Beyond the general size trends from 1929 through 1941, the most important matters for the purposes of this report are whether the Win or Lose leases significantly differ as to the size of other State leases at the time. To evaluate this question, the size of each of the Win or Lose leases is compared against the whole dataset for the size of State leases from 1929 through 1941. Because of the non-normal distribution of these data, and because the median value represents a better example of what the typical lease size during this period was, the Mann-Whitney U test

² Madrigal, *supra*. Using the Shapiro-Wilk test (n=266, W=0.084, p=0.000), it is clear that the size of the State leases granted between the years 1929 and 1941 do not follow a normal distribution pattern. The Kolmogorov-Smirnov one sample test (n=267, maximum difference = 0.888, p=0.000) similarly rejected the null hypothesis that the per acre values paid for State mineral leases between 1929 and 1941 were normally distributed. ³ n=267, Z=3.690, p=0.05.

was employed to determine whether each of the subjective leases were different from the sample set at a statistically significant level. The results of these tests for all of the Win or Lose leases are presented in Table 15.

State Lease ⁴	Size (in Acres)	U score ⁵	P value ⁶	Significant?	
309	500.00	139.5	0.9552	No	
315	15.00	212.5	0.4104	No	
318	470,000.00	264.5	0.0112	Yes (marginally)	
322	500.00	139.5	0.9552	No	
332	500.00	139.5	0.9552	No	
334	40,000.00	259.5	0.0597	No	
335	500,000.00	265.5	0.0149	Yes (marginally)	
336	1,000.00	155.0	0.8432	No	
337	5,295.00	213.0	0.4104	No	
340	2,008,598.00	266.5	0.0149	Yes (marginally)	
341	1,000.00	155.0	0.8432	No	
344	35,000.00	258.0	0.0746	No	
469	4,600.00	204.5	0.4702	No	
495	200.00	171.0	0.7239	No	

Table 15. Results of Mann-Whitney U tests of statistically significant differences between the 1929-1941 State lease data and the Win or Lose leases when considering the size (acreage) of the leases

The results of the examination of the Win or Lose leases by size are somewhat different from those considering the leases by price paid per acre. In the size examination, three leases, State Leases 318, 335, and 340, were all found to be significantly larger than the other leases

⁴ Data could not be found for State Leases 321, 326, 327, 330, 343. Thus, those leases are not included in this analysis.

⁵ The n_1 for these U scores all equal 267 and the n_2 for these U scores all equal 1.

 $^{^{6}}$ This is the two-tailed P value with a confidence level of 0.05 (95%).

issued by the State during the subject time period.⁷ Does this finding mean that the governors issuing these leases abused their discretion by issuing leases that were so large as to not be in the best interests of the State? The answer to this question is unclear. Certainly these three leases are significantly larger than all of the others at the time. However, as is set forth below, there were no size restrictions on State leases at the time. Had the per acre price for the leases been significantly lower than others at the time and the lease size been significantly higher, it would be much easier to conclude that such lease terms were unreasonable. However, that is not the case here. The governors had the discretion to grant such large leases and it cannot be said that the State did not get a reasonable price for these large areas. Thus, even for State Leases 318, 335, and 340, it cannot be concluded that the best interests of the State were not served by the granting of unusually large leases.

In an effort to further understand the relationships of the governors' influence over mineral leasing in the years prior to the creation of the State Mineral Board, data were collected and analyzed for the size (acreage) of mineral leases granted from the inception of mineral leasing in Louisiana in 1915 through 1936. Unlike the earlier analyses, this test spanned the terms of eight governors: Luther E. Hall (May 14, 1912 through May 9, 1916), Ruffin G. Pleasant (May 9, 1916 through May 11, 1920), John M. Parker (May 11, 1920 through May 13, 1924), Henry L. Fuqua (May 13, 1924 through October 11, 1926), Oramel H. Simpson (October 11, 1926 through May 21, 1928), Huey P. Long (May 21, 1928 through January 15, 1932), Alvin O. King (January 25, 1932 through May 10, 1932),⁸ Oscar K. Allen (May 10, 1932 through

⁷ A Student's t test examining whether the size of the Win or Lose leases (as a whole) significantly differed from entire dataset for the years of 1929-1941 also yielded results that differed at a statistically significant level. The results of this unpaired t test are: t=4.310, df=279, se=47321.222, P<0.0001.

⁸ King did not grant any mineral leases during his three and a half months in office. Thus, he is excluded from this analysis for an absence of data.

January 28, 1936), and James A. Noe (January 28, 1936 through May 12, 1936).⁹ Leases with available acreage data for this date range totaled 269 leases. These data were subject to an analysis of variance test (ANOVA), testing the null hypothesis that there is a significant difference between the sizes of mineral leases granted depending on who was in the governor's office. The results of that test are presented in Table 16 and represented graphically in Figure 5.

Table 16. Analysis of variance (ANOVA) examining the relationship of State mineral leasesize to governor for the years 1916 through 1936

Dependent Variable	Size (acreage)	
Ν	269	
Multiple R	0.304	
Squared Multiple R	0.093	

Source of Variation	df	Sum of Squares	Mean Squares	F-ratio	p-value
Governor	7	4.588	6.554	3.806	0.001
Error	261	4.495	1.722		

Figure 5. Graph of Analysis of Variance (ANOVA) examining the relationship of State mineral lease sizes to governor for the years 1916 through 1936.¹⁰

Least Squares Means



⁹ Although the State Mineral Board was not created until after Noe's departure from office in 1936, no State mineral leases were granted by Governor Richard W. Leche until after the creation of the State Mineral Board, thus no leases from Leche's term were included in this inquiry.

 $^{^{10}}$ The dependent variable in this graph is the price per acre. The governors, listed in the x axis, are represented numerically in chronological order from Hall (1) to Noe (8).

The data and analyses reported above affirm the null hypothesis that there is a significant difference among the size of mineral leases granted by the Louisiana governors from 1916 through 1936. Unlike the tests discussed above, the outcome of this ANOVA (assuming that State Lease 340 was originally more than two million acres) suggests that the sizes of the Win or Lose leases (which are included in the analyzed dataset) may be unreasonably large as compared to other leases granted prior to the advent of the State Mineral Board and the advent of size limitations for mineral leases that were instituted by Acts 1936, No. 93. However, because the size of State Lease 340 is not definitively known, the outcome of this analysis is inconclusive.

On the whole, the statistical analyses undertaken as part of this project lead to a conclusion that the Win or Lose leases were not unreasonable based on the other leases that the State granted at the time. There is a bit of uncertainty regarding the meaning of the larger sizes of State Leases 318, 335, and 340. However, it does not seem that a direct line can be drawn between these large sizes and an inference that an abuse of discretion occurred such that the leases were invalid. Clearly as to the price per acre that the State received, there was nothing out of the ordinary when the Win or Lose leases are compared to all of the leases from the subject time period. With the questionable nature of the meaning of lease size results and the suggestion from the per acre price results that the Win or Lose leases were reasonable at the time, it is not possible to say with any certainty that the governors that issued these leases did so on unreasonable terms or abused their discretion in so issuing the leases.

For the purposes of clarity, three variables were not considered in these analyses: royalties, rentals, and bonuses. Royalties were not considered because they remained at a relatively constant 12.5% during this period, thus providing no basis for comparison.¹¹ Rentals and bonuses were intermittently requested and received during this period and did not really

¹¹ See Table 8, supra, and the accompanying text.

come into vogue as a mandatory component of the State leasing process until after the creation of the State Mineral Board in 1936. Based upon the lack of data and the intermittent nature of the available data for these latter two variables, they were not included in any analyses.