

TESTIMONY TO THE CONGRESS
OF THE UNITED STATES OF AMERICA
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
SUBCOMMITTEE ON PUBLIC LANDS, NATIONAL PARKS AND FORESTS
(SENATOR DALE BUMPERS, CHAIRMAN)

16 JUNE, 1993

LECHUGUILLA CAVE PROTECTION ACT OF 1993 - S. 1049
ON THE VALUE OF CERTAIN AFFECTED OIL & GAS PROPERTIES

presented by Mr. John B. Gustavson, Minerals Appraiser

on behalf of

YATES ENERGY CORPORATION

My name is John B. Gustavson and I reside in Boulder, Colorado. I am employed by Gustavson Associates, Inc. in the capacity of President of a consultant firm with approximately 15 employees. Of profession, I am both a geologist and a petroleum engineer and I have through my experience become a minerals appraiser. I have been a consultant in the area of minerals appraisal for about 10 years preceded by another 20 years in the fields of oil and gas exploration and production as well as with the economics associated therewith. My professional affiliations include membership in the American Institute of Professional Geologists, the Society of Petroleum Engineers and the American Institute of Minerals Appraisers. My academic training includes Master's degrees in both engineering and in geology, and I have taught from time to time at the University of Tulsa and at the University of Colorado. I have published numerous articles in professional journals, both those related to the trade as well as in peer-review publications.

My professional experience can briefly be described as having spent the last 25 years as an *independent consultant*, heading up a company that slowly has gained more and more reputation for providing appraisal of the fair market value of oil and mineral properties. My clients, as well as those of my firm, include both government and industry members. I have thus served as an expert for the Department of Energy, the U.S. Army Corps of Engineers, the Internal Revenue Service, and various agencies of the Department of the Interior. I have also served as an expert for the Justice Department in comparable cases. On the industry side, I have functioned as an expert appraiser for major oil companies such as Texaco and Chevron as well as for numerous independent companies and financial institutions.

With regard to New Mexico, I can claim personal direct experience in the geology, oil and gas production and the economic conditions in southeastern New Mexico. As a totally independent appraiser, I have no interest in any oil or mineral properties and my work in this particular case has strictly been that of a fee paid independent appraiser.

Finally, as evidence of my ability to provide an expert testimony in this particular case, I can mention that I already in 1985 had developed a Continuing Education course for the University of Tulsa, which since then has been given numerous times to students all over the country as well as internationally dealing with the subject of *Appraisal of Oil and Gas Properties*. This course, which is the only one of its type in the country, has become widely recognized as a course which keeps detailed track of the market discount factors through hands-on experience and classroom exercises. I therefore feel qualified to offer the following opinion:

I have been requested, as an independent minerals appraiser, to estimate the Fair Market Value of the so-called Yates Energy Lease in Township T24S-R24E, Eddy County, New Mexico. The property consists of approximately 1,600 acres of leasehold obtained from the U.S. Bureau of Land Management. As is common practice in mineral appraisals, I first determined the Highest and Best Use of the leasehold property. Inasmuch as Yates, already in 1991, intended to drill gas wells on the lease and to market the produced gas through an existing pipeline only five miles away from the lease, and further that Yates was financially capable of drilling these wells just like Yates had drilled numerous other gas wells of this type before, I have no difficulty ascertaining that the criterion for *current use or use in the very near future* was satisfied.

In addition, a detailed geological audit was performed by me, and will be described in the following. The findings of that audit revealed that there was excellent geologic comparison between the Yates Energy Lease and other producing gas fields in the immediate neighborhood, and that the probability of production was so high as to *influence knowledgeable buyers and sellers to consider this fact in any bargaining*. Consequently, I arrived at the conclusion that the Highest and Best Use of the Yates Energy Lease was for the production of gas, as well as the income stream associated therewith.

Having thus determined the Highest and Best Use of the property, I proceeded to select the approach that could reasonably provide me an estimate of the Fair Market Value. I selected the so-called Income Approach which provides the most reliable results when the Highest and Best Use of a property is to produce income in the near future with a high probability. The base for the Income Approach is a financial forecast which consequently was prepared by me utilizing a reserve estimate. I prepared this on the basis of the available geologic and production data for the Yates Energy Lease, as well as for the surrounding area.

As part of this effort, I performed a detailed geologic audit, that is I carefully reviewed electric logs as well as various production data and other geologic and engineering data relating to the property and the nearby area. This work disclosed that the geologic work already performed in 1991 by Yates Energy and its associates had been accurately performed. Thus, sources of data had been accurately transposed onto maps, and reasonable interpretations of the subsurface and the gas-containing formations and structures had been made. I then compared the interpretations which I had derived, not only with those provided by Yates Energy, but also with those provided by the U.S. Bureau of Land Management as part of its Draft Environmental Impact Statement. I found that there was good correspondence in all cases, and that this work by various parties, including this independent Appraiser, basically confirms the same structural and reservoir morphology of the Yates Energy Lease.

Having thus satisfied the mapping and interpretation accuracies, the next task undertaken by this Appraiser was the risking, that is to say the determination of the probability that the various geologic and petroleum engineering features would indeed be encountered upon the drilling of the Yates Energy five-well program. This was done and is documented in the appraisal report by careful evaluation of both the reservoir which contains the gas as well as the structure which traps the gas in the quantities predicted.

The combination of the various probabilities for reservoir thickness, the location of the reservoir stream channel, the existence of the trapping fault, and the character of the structure led to a determination of the probability of the gas being trapped exactly as mapped. This number was subsequently used in the appraisal. Utilizing the drilling scenario as having been planned by Yates Energy in 1991, but subsequently stopped by the U.S. Government, and further utilizing the financial parameters associated

therewith, I was able to develop a production forecast. Other parameters included gas prices, which I obtained from El Paso Natural Gas, who will take the gas at a location 5.2 miles to the northwest of the Yates Energy Lease. From public sources of forecasts as well as from energy banks which I monitor on a regular basis, I established that \$1.90 per MCF is a reasonable price forecast for 1993.

Likewise, I ascertained that the petroleum industry as well as the financial industry utilize an escalation figure of from 5 to 7 percent per year in their price forecasts. Consequently, this Appraiser utilized a 6 percent escalation for the gas prices. Then, I determined the operating costs, which were found to be typical, by analyzing Yates Energy's operating costs and comparing with operating costs of wells in the nearby area. This operating cost was escalated at 5 percent per year in accordance with industry forecasts. Finally, by looking at analogous wells in the surrounding fields, this Appraiser prepared

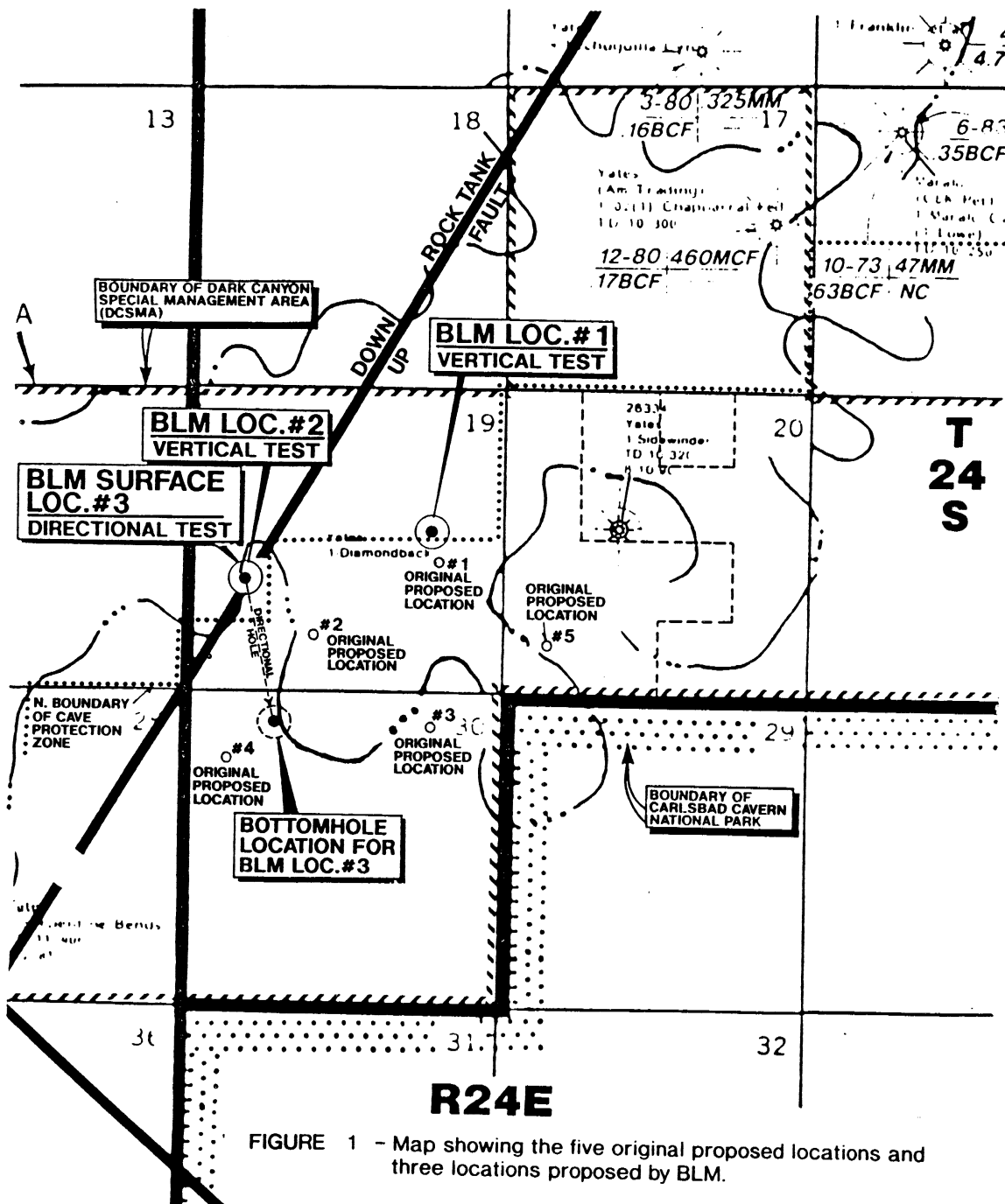


FIGURE 1 - Map showing the five original proposed locations and three locations proposed by BLM.

production forecasts which could be expected from the subject property. This, together with the volumetric content of the interpreted structure on the Yates Energy Lease, provided the necessary information to arrive at a reserve estimate with cash flow forecast for the property. When coupled with the drilling costs and with the cost of laying the pipeline over the 5.2 miles to the nearby El Paso pickup, this Appraiser was able to prepare a complete and realistic cash flow (net revenue) forecast for the Yates Energy Lease.

The final step in the appraisal was then to utilize several industry-proven methods of converting the *future net revenue* into an *appraised value* at the present time. The methods used are described in detail in the appraisal report and include a cash pay-back method which I used in analogy with real estate appraisals; also, a discounted cashflow method was used utilizing a discount rate as has been found by my research to be typical in the oil industry for comparable properties, and finally a more subjective risked present-worth method which examines a large number of the specific characteristics of this field, and consequently applies a market value discount factor to the future cash flow for the effect of these.

The values achieved from each of these methods were finally reconciled, with the most weight given to those methods in which this Appraiser has found greatest confidence on the basis of industry experience. Fortunately, in this case all three methods yielded results which were very close, so the reconciliation was not a difficult task.

My reconciled appraised Fair Market Value is \$20.7 million, which I herewith offer to be the value before taking of the Yates Energy Lease as of July 1, 1993. This value is higher than the value to which I testified before the House Subcommittee on National Parks, Forests and Public Lands (Chairman Bruce F. Vento) at the hearing on HR693, primarily because of an increase in natural gas prices during the interim period. Also, additional consideration, albeit minor, has been given to the oil potential of the shallower Delaware and Bone Springs formations which were penetrated in the first drilling on the Yates lease, namely the drilling of the #1 Sidewinder well. Mr. Yates has in prior projects made two significant discoveries in shallower formations while testing the deeper potential, and such occurrences are common in the oil industry.

In April of 1993 the U.S. Bureau of Land Management proposed a number of alternatives based on directional drilling. At the request of Yates Energy, I have made an appraisal of the effects of one of the alternatives as an example, namely Alternative "G," which constitutes a partial taking of the Yates property by allowing the drilling of only three wells (two vertical and one directional well) from alternative locations outside the Cave Protection Zone (see Figure 1). I have carefully appraised the Fair Market Value of this remaining property, which thereby could be made accessible to Yates Energy Corporation. I find that the value of the property after the taking is \$9.0 million, utilizing exactly the same appraisal approach as above.

My conclusion is therefore that the *partial taking* (Alternative "G") will result in a diminution of the Yates Energy leasehold property of \$11.7 million (the Before Value of \$20.7 million less the After Value of \$9.0 million). The other alternatives will also introduce a substantial reduction in value of the Yates property. Further, none of the BLM-proposed alternatives would allow an oil company to pursue the development of potential shallow oil-bearing formations. In addition, a final appraisal would also need to take into consideration the effects of presently undisclosed terms and regulations, the promulgation of which is planned to be totally at the discretion of the Secretary of the Interior.

Thank you, Mr. Chairman, for giving me an opportunity to present this independent opinion on behalf of Yates Energy Corporation.