

APPRAISING OIL & GAS PROPERTIES

A Newsletter for Appraisal Professionals

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Vol. 5, No.2 October, 2000

Despite rumors to that effect, we have not dropped off the face of the earth. Our last newsletter was way back in December, 1999 so if you have not received one recently it is not because we do not like you anymore or that I ran out of things to say. One of our avid readers once noted that he could tell how busy we were by the frequency of newsletters. Not always an accurate gauge, but certainly true for most of this year which was largely given over to preparing for a major property tax appeal. The hearing began in early June and I started this contribution to English literature in Bakersfield whilst enduring one of those exceptionally badly built and uncomfortable "seating facilities" that seem to be reserved for hearing rooms and airport departure lounges - (Albuquerque airport holds the undisputed "back-breaker" title in the latter category). I had planned to get in a bit of recreational writing in between the parts "...that I really should pay attention to..." Alas, the proceedings were continued until late August which I thought would allow time to go to the beach, get a few TO DO things done and unleash the Muse. That effort was only marginally successful as was my attempt to write during the hearing where it resumed in late August and early September. We were far too busy for any extracurricular work. Throw in 3 weeks of vacation cruising the Rhine with camera and beer stein and, well, here we are right up against Election Day.

New Staff Additions: Arriving January 6, 2000, just in time to help with the heavy workload, please welcome Sarah Rose Chandler and Summer Lynn Chandler both at 3 lbs. 10 oz. Both ladies are currently in the training program learning Input and Output.

To all the folks who have inquired about progress on the painting work at the cabin - we are not quite done - concerned volunteers are welcome as we have run out of relatives. The only part left is the underside of the cantilever deck in the back of the house. That probably does not sound too bad, except that the deck is 2½ stories up and extends out over the side of Dismemberment Gorge, which drops off about 100 ft nearly straight down (or ½ mile when trying to climb back up). Mountain Climbing teams train here. The combination of height and deck construction make this the hardest part of the job. After considering scaffolding, stilts, a bos'n chair on a bungee cord, and paying someone else, the Boss and I decided there were only two options. The first was to try to find footing for the ladder and climb up. Of course, this means moving the ladder every 5 ft. and imitating one of those acrobat acts they used to have on the Ed Sullivan Show. The second approach is to unscrew the deck boards, each of which is a 16 foot long 2"x 8", and attempt to move the boards out of the way without breaking any windows, tearing screens or dropping them over the side, all the while trying *not* to fall through the newly created hole in the deck. In the event we have used both approaches, and were progressing quite well over the July 4 weekend until - well, never mind. We took another shot at it over Labor Day but this is starting to resemble a CalTrans project.

Just to relieve the boredom of life in our wilderness, your Federal Government - the same folks who tried to burn down Los Alamos and who also turn wolves loose in cattle country - has decided that the California Condor (a bird), is an avian species whose demise would somehow diminish life as we know it and has released a flock of these things in the mountains near the cabin in what is supposed to be their natural habitat. It seems, however, that some of said habitat is now occupied by the estates, palatial and otherwise, of taxpayers - mere humans. Not to worry, WE, as in the all-wise and knowing government, are doing a good turn for old Mother Earth.

Now, the California Condor is not the bald eagle or peregrine falcon - birds which have redeeming social value as national symbol and urban pigeon reduction system respectively. The condor is a vulture with a six-foot wingspan and, aside from giving birdwatchers something to *ooh* and *aah* about, serves no useful purpose. It is big, ugly and stupid. A couple of the first ones to be released cratered after drinking from a puddle of anti-freeze. BUT they are protected by the Endangered Species Act or some such nonsense - so when several of them decided to roost on homes up here and proceeded to shred awnings, deck furniture, screens, roofs, and in a few cases, break windows and damage interiors - well, hey, it must be the humans' fault for being in the wrong place. Besides, look at all the free manure these wonderful creatures leave behind. The penalty for helping one of these useless critters down the path to extinction is not small, and by no means should they be caused any distress that might interrupt mating, etc. Once again, Government is your Friend. So far, none of these things have shown up near our place, but if they do, I plan to play Al "Just a Piano Player" Gore's acceptance speech through the outdoor speakers. I figure they will become drowsy and disoriented, then fly noggin first into a tree.

Data Sources for Evaluation Engineers

In past newsletters we have often examined evaluation parameters, particularly discount rates and price/cost projections and the application of same to oil property evaluation. Several times we have discussed the cost-of-capital and the derivation of discount rates from (a) financial data and (b) sales transactions. We have also passed along the results of studies and reports that provide evaluation data. In this newsletter, we review three of those studies with the objective of allowing potential users some insight into the purpose and composition of the studies as well as the results. The studies are:

- The Texas Comptroller Property Tax Division annual study of discount rates: known as the Texas Study
- The Society of Petroleum Evaluation Engineers annual survey of evaluation parameters: the SPEE Survey
- The Western States Petroleum Association study of California property sales: known as the WSPA Study

There are other data sources, of course, and one should seek out as many as possible. But, these three should provide any oil property appraiser with a reliable foundation for further work.

The WSPA Study

In the past we have refrained from tooting our own horn about our work, but I expect by now everyone knows that the WSPA Study is done by this firm every year under contract to that organization. Having posted that notice, we will proceed to be as dispassionate as possible.

The WSPA study is intended to be a property specific market value analysis of actual oil and gas property transactions in California. The data that is accumulated in the WSPA study provides information regarding (a) the state of the market for oil properties in California, and (b) the methods of evaluation and the economic parameters being used by buyers and sellers of oil properties in the marketplace, current and historical. WSPA had previously contracted with DeGolyer & MacNaughton (1969), H. J. Gruy (1976) and Babson & Shepard (1977-83) to do similar studies of sales data. Since our firm took over the work in 1985, the focus has been on the analysis of actual market transactions to examine evaluation methods and to derive market value economic parameters, specifically discount rates and price/cost escalation rates. The sales study has been expanded over time as the accumulation of data made the use of statistical analysis possible, and as the climate for evaluation work in areas such as ad valorem tax appraisal raised issues that could be addressed as part of the study. A cost-of-capital analysis was added in 1988 to augment the sales results.

As everyone in the oil business knows, obtaining information about property transactions is very difficult. The WSPA study is possible because of the nature of property tax law in California which requires that anyone who buys any type of property, including oil property, must provide the assessor in the county where the property is located with all the information used by the buyer in determining the value of the property, including the engineering and economic evaluations. The various assessors are quite diligent in encouraging a complete response. The WSPA Study benefits from this government overreach by obtaining, from the buyers of the properties, copies of the data that was filed with the assessor. In many cases, the tax agent who files the data on behalf of the buyer sends a copy to this firm at the same time. In other cases, we must contact the buyer after we find out about the transaction. California law treats this information as trade secret, and this firm is required to maintain confidentiality over the data.

The January, 2000 edition of the study contains data derived from 220+ fair market value transactions over the period from 1983 through 1999. This number of sales accounts for a large percentage of all fair market value transactions occurring in California during in that period and is significant, in that the sales set is large enough to allow useful data to be extracted.

The first major conclusion to become apparent was that the vast majority of oil properties were purchased using an income approach - a discounted (DCF) or undiscounted (Payout) cash flow. This may not seem all that important to industry people who have grown up on DCF, but there have been attempts to apply comparative sales methods of evaluation to oil properties. Having found that DCF dominates evaluation practice, some basic data analysis could be done. But, first we need to step back. The WSPA Study has not always had 200+ sales points. When we first started in 1985, there were fewer than 50 sales to work with and some of those, because of poor data collection methods, turned out to be less than useful. One of our early concerns was whether all of the sales could be used together, or did the sales data relate to the date of sale? Is data extracted from a 1983 sale unique to 1983, or could it be used to evaluate oil properties in 1986 or 1999?

The date of sale concern requires a discussion of purpose. If the only purpose is to gather historical data, then 1983 data is one thing and 1986 is another. We could compare the two data sets, but that's about all. However, the purpose of collecting and analyzing market data in the WSPA Study is to derive information that can be used to value oil properties today. To that end, the ability to apply parameters from 1983 to 1999 is important. Therefore, it was necessary to test the relation of various economic parameters to the date of the sale. As you might guess, we found that some parameters such as price and cost projections varied with time while other parameters demonstrated no relation to time.

In the WSPA study, the primary evaluation parameter being extracted is the discount rate that equates a future income stream to fair market value. Using linear regression, we found no relation between the date and the discount rate; all the data points could be used to analyze other relationships. The discount rate/date-of-sale relation has been continually tested since the study began, and no significant relationship has been found. We can, therefore, use all 220+ data points from 1983 through 1999 to derive a market value discount rate for 2000.

With time removed as a factor, the data base has been expanded as sales data has been obtained. This result allows testing of the relation of discount rates to price/cost escalation rates, size of reserves or dollar amount of the transaction, number of wells, property location and others. Over the 16 years of the WSPA study, the data has conclusively shown that the discount rate is related only to the perceived risk of the property. In this respect, the valuation of oil properties is no different than the valuation of stocks, bonds or other forms of real estate - where buyers perceive greater risk they require a higher return. The study has found that discount rate increases as the perceived risk of the property, expressed as the reserves risk, increases from a base of 19-20% BFIT for 100% PDP reserves to 30% ± BFIT for 100% PUD reserves.

In 1988, a weighted average cost-of-capital (WACC) calculation was added to the WSPA study for two reasons: WACC is an accepted source for estimating a discount rate, and it provides a point of comparison to the discount rates obtained from sales. This work began as a fairly simple procedure straight out of the old Corporate Finance 101 textbook, using publically available information from annual reports, the Wall Street Journal, Ibbotson and others. Since the early 1990's, however, this relatively mundane effort has become more complex as increasingly sophisticated work in the financial community has added new dimensions to WACC analysis.

The complexity of WACC analysis is an opportunity to obtain some help in mitigating two important concerns. The first is that there has been a decline in the number of market sales as properties are consolidated, so that cost-of-capital must assume a large role in estimating discount rates for valuation. Of course, in finance, the purpose of deriving a WACC is to obtain a discount rate for capital budgeting. The second issue is to resolve the difference that is found between the sales derived discount rates and the cost-of-capital where the former, when measured as an average over a period of time, always exceeds the latter for the same period. The improvement of WACC methodology, particularly as to the cost-of-equity, allows the difference and its components, to be measured and quantified. As a result, over the past few years cost-of-capital has assumed a larger role in the WSPA study.

As noted earlier, the basic purpose of the WSPA study is to provide information that will aid evaluators in the selection of

discount rates for FMV purposes. Providing an average or range of rates over the entire period of the study, or parts thereof, is useful from a statistical standpoint, but is not particularly helpful to an appraiser except to suggest that the appropriate rate should be, say, 20% BFIT not 12% BFIT. So, a large part of the work in the WSPA Study has been to analyze the discount rate data to attempt to determine the criteria that go into selection of an appropriate discount rate for the evaluation of a specific property.

Now, all sorts of notions get cross-threaded here. The analysis is done BFIT because income tax effects are specific to individuals and companies, not properties. People who are used to valuing real estate get confused between comparative sales and income evaluation and try to relate the discount rate to property characteristics. And those who advocate risk-adjustment of the income stream and the use of a single discount rate, become concerned about the concept of a range of rates. So, the WSPA database has been studied to try to determine if such things as number of wells, total reserve volume, escalation rates and reserves class - to name just a few - are indicators of whether the discount rate should be X% or Y%. This analysis has become more sophisticated as the data set improved. We started with single linear regressions and have worked through multiple linear regressions of up to 4 or 5 different factors. The results of all this analysis have been reported in the annual study and are being compiled into a statistical volume which will be published later this year. We have tested everything we can think of from the obvious to the ridiculous, and while the total compendium of data is too voluminous to recount here, it may be useful to present some highlights.

Discount Rate is a function of Reserves Risk. More specifically, it is a function of the proportion of Proved Producing reserves in the total volume of reserves. That is, the discount rate for 100% PDP reserves (- 22%) is less than the discount rate for 0% PDP (PUD) reserves (- 30%). No surprises there, but you would be amazed - or maybe not - at the arguments we get. It is common sense that investments with greater risk require a higher reward. The same thing is true of stocks, horse racing and various forms of poker. PUD reserves are, by definition, higher risk than PDP reserves, so the discount rate should be higher.

We have also found that the discount rate is not related to (a) the size of the transaction in terms of either dollars or reserves, (b) the property location, oil gravity or production method (except as the latter affects reserves class) or (c) the rate of price/cost escalation.

At the risk of immodest horn-tooting, it should be said that the WSPA Study has evolved over 16 years from a simple analysis of a small collection of sales to a relatively complex document that analyzes and discusses both sales and cost-of-capital data. The study now is expanding into the area of trying

to quantify the apparent difference(s) between the two methods. The study report receives a wide distribution, it is cited by several tax and appraisal authorities and has become an established industry source for sales information.

Having said that, the study has its critics - who are usually concerned about the California source of data and/or the wide variety of properties included in the database. Citing the source of data, three issues are often raised: (1) the effect of heavy oil, (2) environment/regulation, and (3) well, it is California (swimming pools, movie stars, etc.). The latter concern is misplaced. CA is the third largest producing state, and out here we produce oil the hard way - none of that wussy flowing, high pressure stuff. The heavy oil issue is valid, but oil gravity translates into oil price and lifting costs, both of which are components of the income stream, not the discount rate. The same is true of the environmental issue. There is a modest amount of political risk in parts of CA that is not encountered elsewhere but, in reviewing evaluations for even the most heavily regulated areas, we generally find that environmental and regulatory compliance included are considered a cost of doing business and are part of the operating costs and capital investment.

Copies of the 2000 WSPA study report are available at cost. The statistical volume will be made available later this year.

The Texas Comptroller Study

For many years - I have copies back to the early 1980's - the Property Tax Division ("PTD") of the Comptroller's Office (formerly the State Property Tax Board) has prepared an annual study of discount rates for the appraisal of oil properties for ad valorem tax in Texas. Taxes in Texas (sorry, that was too clever to leave out) are different. Actually, the system is different - from CA, that is - in requiring a fair market value estimate without all the bothersome regulation of CA. The biggest difference, for the purpose of this discussion, is that there is no requirement for the filing of transaction data. My *Government is Too Big* side applauds this, but gee whiz! - wouldn't it be fun to have sales data for the biggest oil state?

The PTD has also produced and updated a manual on deriving discount rates for oil property evaluation, which they are happy to share with interested parties. They also do the aforementioned annual study, which calculates a WACC and recommends discount rates for application to properties being appraised for ad valorem tax. However, the rates are generic discount factors that are broadly applicable to acquisitions, divestitures, estate tax and other uses.

In defining appropriate discount rates, the PTD uses basic cost-of-capital analysis of major and independent companies derived from annual reports, Ibbotson and public data. The PTD work is thorough, and professional and provides a sound basis

for development of a property specific discount rate. PTD accomplishes the latter by defining those aspects of properties that are considered to add risk, such as number of wells, operating system, etc, and then adding increments to the WACC discount rate to account for the risk over and above the risk inherent in stocks and bonds. This goes part way to the definition of the difference seen between market derived data and the WACC data. The fact that there is a difference is rational for the several reasons that were discussed above. The PTD approach is one way of bridging the gap.

PTD is aware of the difference for two reasons. First, WSPA and PTD have exchanged reports for many years, and the WSPA study is cited by PTD as one of their data sources. But, there is no need for PTD to rely on California data. Rather, they have experience of Texas data. Several years ago, when the PTD study was done by the late Mr. John Adair, PTD was able to obtain a small, but reasonable, sample of sales data for use in deriving discount rates. Mr. Adair, being an old industry hand, charmed, cajoled and wheedled some property buyers and sellers into providing enough sales information for him to derive discount rates and other information. Most of this data was for Proved Producing properties, which served the purpose of identifying representative discount rates for low risk oil and gas properties that could then be used as a base against which to measure the gap with the WACC derived rates. While the data set was probably not statistically significant, given the size of the Texas market for properties, the results obtained from the sales analysis showed that the derived rates were relatively consistent year-to-year.

This is important in establishing the use of the data as a base rate for PDP properties that could be compared to WACC for the same year. The results matched the WSPA derived data quite well. The latter is very important in demonstrating that, as logic would or should tell you, FMV discount rates are the same in CA(TX) as they are in TX(CA).

The PTD calculated value of WACC is consistent with the WSPA value from year to year, which makes sense since both use the same methodology. Actually, the PTD work predates the inclusion of WACC analysis in the WSPA report by several years and was used as the model for the WSPA cost-of-capital section. The contrast of the PTD study to the WSPA study is more than mildly interesting in one other facet. The PTD is done independently by a state government agency charged to, among other things, provide reliable data to taxing authorities in Texas. The WSPA study is done independently for an industry group where one of the purposes of the study is to provide reliable data to taxing authorities in CA. The fact that the results are so similar is interesting.

The PTD study is well written and carefully documented. The results are cross-checked with the companies used in their database, and the methodology is easy to follow. The PTD study

provides an excellent source for discount rate data. Copies of the PTD Discount Rate Manual and the annual study can be obtained from:

Comptroller of Public Accounts
P.O. Box 13528
Austin, TX 78711-3528

The SPEE Parameter Survey

The third player in our little trio for strings, brass and percussion is the Society of Petroleum Evaluation Engineers Annual Survey of Parameters Used in the Evaluation of Oil and Gas Properties, hereafter the SPEE Survey. The Survey is done by a committee of SPEE in April-May of each year and is presented at the SPEE Annual Meeting in June. Unlike the WSPA and PTD studies, which collect and analyze recent but nonetheless historical data, the SPEE survey attempts to determine the (a) price/cost escalation rates, (b) discount rates and (c) the method and form of risk adjustment that are being used or would be used by knowledgeable and informed evaluators of oil and gas properties for appraisal of oil properties on the survey date. The Survey has been done by SPEE since 1983 and has been remarkably consistent for many years in terms of structure, format and results. Over the past few years there have been a number of changes in the questions asked and in presentation of data in an attempt to improve the consistency of the responses.

The Survey endures most of the problems of any survey in terms of selection of the survey targets, quality control and data analysis, but these opportunities have been identified and handled well by SPEE. The largest group of data contributors are producing companies where evaluations of projects and acquisitions/sales are a common occurrence. The second largest group is consultants - most of whom are SPEE members and are involved in evaluation work as a profession. The result is a relatively consistent and reliable set of data that would be of use to any evaluator of oil properties who did not have access to other sources or wished to confirm those sources. The Survey does not pretend to be the absolute answer, but only to provide some useful guideposts. While one might quibble about various aspects of the survey, the results provide a reliable measure of current evaluation practice. The Survey data is most useful when viewed over a period of time to observe the trend in discount rates, price projections, etc. To wit:

- Escalation rates for prices and costs have trended downward over the years, and an increasing number of evaluations are done using flat pricing.
- Base or Minimum discount rates range from 17% to 19% with the trend moving slightly lower over time.
- An increasing number of evaluators apply risk adjustment factors to either the production projection or the cash flow

to account for risk related to class of reserves. The adjustment for PDP reserves has consistently averaged 96%, while the adjustment for PUD reserves is about 58%.

Aside from being a useful source of data in its own right, the Survey provides a convenient comparison point for both the WSPA and PTD studies. After all, if evaluators of oil properties actually do what they report to the Survey, then those results should bear a rational relationship to (a) the sales data in the PTD and WSPA studies and (b) to the cost-of-capital data in the WSPA and PTD studies. And, of course, they do. The minimum discount rate reported in the survey equals or exceeds the WACC reported in both WSPA and PTD. The discount rates for Proved Developed reserves reported in the Survey and the trend, if not the end points of the risk adjustment scale in the Survey, track very well with the trend of actual discount rates relative to reserves class found in the WSPA study. The relation between evaluators' intent as measured by the Survey and the result as measured by actual sales is not perfect - no one would expect that - because of the very large number of factors that affect the outcome of an acquisition or project implementation. Copies of the SPEE Survey can be obtained for a modest fee from:

SPEE
811 Dallas Street, Ste. 1416
Houston, TX 77002

Book Reviews and Articles

“Legal Alchemy: The Use and Misuse of Science in the Law,” Faigman, David L; W.H. Freeman and Company, 1999

This book is another in the growing library of good discussions of the confluence of law and science and the difficulty that is created when the two collide. Perhaps collision is too strong a word but as one who spends a considerable amount of time trying to relate petroleum geology, engineering, and economic evaluation to attorneys and others who have in some cases, a good grasp of the issues and, in other cases, no clue, I have developed an ongoing interest in the way in which science or applied science in the case of petroleum engineering is used in the legal arena. This is the first post-Kumho Tire book, that treats these issues. While there is no discussion of oil property evaluation, per se, the book does present several examples of the application of the legal ideas first brought out in Daubert and then by Kumho Tire to specific court issues.

From the book:

“The legal system is engaged in a delicate balancing act when it comes to scientific evidence. Some of the difficulty stems from the inherent differences between the legal and scientific enterprises. Many legal scholars point out that science seeks truth while law seeks justice. This observation is much too

simplistic, however, and manifests little appreciation for the culture of science and too facile an understanding of the culture of law. Truth, after all, should be no small component of justice. If silicone gel implants do not cause autoimmune disorders, then the \$24 million that Pamela Johnson won in compensatory and punitive damages in 1994 against Dow Corning is hardly just or fair. A real and central difficulty in reconciling the trial process and scientific research is the very different time frames in which the two operate. Law must make decisions within a definite period of time, periods typically too short for substantial scientific work to be done - at least in the early cases. Science works with larger time frames, with major research programs spreading from years into decades. But this difference tends to mask an essential similarity: both science and law seek to make the best decision possible given the information available. To do so, they need to be fully informed of the facts and fully appreciate the values at stake in the decision.”

“The Federal Rules of Evidence and Daubert: Evaluation Real Property Evaluation Witnesses” Dorchester, John D. Jr. MAI, CRE, in *The Appraisal Journal*, Vol. LXVIII, No. 3, July 2000.

Staying with our legal theme, but possibly coming closer to home, the referenced article relates directly to the qualification of expert valuation witnesses under the Daubert/Kumho Tire regime that has grown up in the Federal and state court systems since 1993. While the article is directed toward appraisers of real estate, it is a very simple matter to change the wording to oil property evaluation expert and apply the same arguments and illustrations.

Many oil property evaluators have not yet recognized that we can no longer practice our profession according to our age-old procedures, language, and standards and rationalize that we are “different” because we practice in a unique industry. Others however have seen the writing, not on the wall, - but in the pages of court decisions and appraisal texts. While concentrating on the best way to employ 3-D seismic data or the latest risk adjustment parlor game, there is a danger that we have missed the change in the context in which we express our fundamental results, the volume and value of reserves and future income streams, to those who have an interest in those results but perhaps neither the ability or inclination to absorb the engineering gems that we consider essential or concepts that we consider obvious. The result can be gross distortion of evaluation practices with the end product having no relation to established practice. The article reviews the application of Daubert/Kumho Tire to just such mis-understandings.

From the paper:

“Real property appraisals, including mass appraisals, require special and technical knowledge and experience, and involve application of systematic problem solving processes, standards

relating to how the process is to be applied, and tests to see whether the process is objective and reasonable. Valuation has a body of knowledge that has been tested, and accepted, by the courts, and the valuation field is subject to well-defined Standards. Scientific tests exist for certain tools applied in real property valuation, and potential error rates can be estimated or quantified” “The result of these reviews is reflected in courses, seminars, and Standards. Thus, there is a foundation against which the opinions and proposed testimony of real property expert witnesses can be judged, just as is true with other fields in which the federal rules of evidence are applied.” “As with other expert fields, real property valuation has established principles, and advanced educational program of learning and achievement, required evidences of mastery of necessary skills and technical knowledge, and stringent standards for competency, objectivity, and clarity of presentation. Further, the real property expert must also demonstrate and be prepared to defined the accuracy and reliability of valuation estimates in every valuation.”

Rule of Law

Occidental of Elk Hills, Inc. vs. County of Kern
Assessment Appeals Board for Tax Year 1998/99.
Bakersfield, CA

In a very succinct decision issued October 16, 2000 the Kern County AAB ruled that the property tax assessment on the Occidental property in the Elk Hills field should be reduced from the \$3.65 billion roll value to \$1.921 billion, resulting in an estimated reduction in annual tax of about \$17.4 million. This is the largest single property tax appeal ever heard in California. Aside from the sheer size of the dollars, there were several significant issues involved that echo far beyond this one case. While the issues and the arguments derive primarily from the arcana of California property tax law, the major issues should be of interest to appraisers for general application.

As you may recall, in 1996 the U.S. Government, represented by the Dept. of Energy, decided to sell the government interest in the Elk Hills field, also know as Naval Petroleum Reserve No. 1. The sale was conducted as a strict sealed-bid process. Bids were received on October 1, 1997 and Occidental won with a bid of \$3.65 billion. The sale closed in February, 1998 at \$3.52 billion. The Kern County Assessor enrolled the \$3.65 billion as the fair market value for the property and assessed taxes on that amount. Occidental appealed the assessment to the AAB and requested a reduction based on three primary points.

1. The transaction did not comply with the accepted definition of fair market value because the sealed bid procedure allowed no opportunity for negotiation. Under CA law, the assumption that purchase price equals FMV can be rebutted by other evidence of value.

2. Under California law the assessable value of an oil and gas property is based on the FMV of the income to be derived from the Proved reserves only. Probable and Possible reserves are not included. Representatives of, and consultants retained by, Kern County asserted that Probable and Possible reserves should be considered the equivalent of Proved reserves, and thereby become assessable, through the application of risk adjusted factors. Occidental had applied "chance of success" factors to Probable and Possible reserves.
3. Occidental assigned a value of \$1.844 billion to the Proved reserves.

The AAB agreed with Occidental on the first two points. In the hearing the \$1.844 billion value for Proved reserves was supported by the review of evaluations done by and for DOE prior to sale and by independent appraisals of the property prepared for Occidental. Using these appraisals the AAB determined that \$1.921 billion is the appropriate value.

Unlike most of the other property tax appeals in which I have participated, this one turned almost entirely on legal issues as opposed to appraisal issues; and in the end it was the agreement by the AAB with Occidental's arguments on the legal issues that counted. Once that was done, the AAB had only to select a value for the Proved reserves from the range contained in the appraisals.

There are some lessons here for general application. First, the limiting conditions in the fair market value definition are important and have to be considered when evaluating properties or reviewing transactions. Second, the limiting conditions in the definition of reserves (and particularly Proved reserves) are there for a reason, regardless of which definition is used, and must be considered. Third, the application of risk adjustment factors does not convert UnProved reserves to Proved. The use of such factors is a convenience for compiling income streams and does not replace proper classification of reserves based on geologic and engineering information.

LETTERS and OTHERWISE

Hey there Good Buddy;

Guess who has gone high-tech? Yes sir! Thanks to those nice folks at OPEC, the old Ima Tarball lease is economic again. I bought a new computer with all of Billy Gates' latest do-dads on it, including a game called "Lawyer Zapper 2000", and I have been learning to use it. This e-mail business is pretty spiffy - assuming, of course, this letter actually went to you and not some phone booth in Timbuktu. I have even been out on the Internet, but only on the frontage roads - no superhighway yet.

I have also been dabbling in macroeconomics - which I found out has nothing whatever to do with Big Mac's. As everyone has observed, oil prices are up and, while this is good news for those of us still in business (or too dumb to quit), it seems to be the cause of great national angst - sort of a collective BVD bunch-up - if you know what I mean. According to Slick Willie, Gov. Davis and the air-heads on TV, the increase in oil (read gasoline) prices is the result of malicious and unconscionable gouging by The Oil Companies and "Something Must Be Done!"

The richest country in the world complains about the price of gasoline at \$2.00/gal. including tax, while paying \$1.00 for 8 ounces of tap water dressed up in a "sports bottle." Ain't life fun? I had a hearty guffaw the other day reading our latest bill from FedEx which had a "Fuel Surcharge" added into the regular delivery cost. I gave them an A+ for nerve, but no money - I told them to offset it against my rebate for the months when gasoline was less than a \$1.00/gal. but delivery charges were not reduced. As I recall, just 2-3 years ago some of the same people who are now upset about high prices were getting real ornery and claiming that "The Oil Companies" were keeping oil prices artificially low so we could cheat royalty owners, like the MMS et al, and maybe sneak one past the tax assessor. Now there's a really bright idea - let's cut oil price to \$8/Bbl (that's bucks per Bible in the oil patch) and go broke so we can save a few cents on royalties and property taxes. Who says oil folks aren't "With it"?

By the way, there is an election going on and wouldn't ya know - your friend and mine Al "Bill Who?" Gore showed up here in suburban Blackwell's Corners the other day trying to convince folks that they should vote for him. He got to bragging about how he had been a champion of the environment, something about creating Heaven and Earth, and was also going to help those poor people in the Northeast get cheap heating fuel this winter by releasing 30 million Bbls of oil from the SPR (after they find bidders who actually have money). This piqued my curiosity, so I asked him, "Say Al. How much of that oil will go to heating fuel?" "Lots," he said. In good debate form I countered, "The New York Times said only 225,000 Bbls, that's not a lot, or is my math fuzzy?" "It's the spirit that counts." "Or maybe votes in NY?" "That, too." "When will all this relief be available?" "Well, refineries are a bit backed up right now - probably by March or April." "Won't that be a little bit late?" "No, no, the election is in November." "Uh-huh. Say Al - what's this talk about tax credits for wind power and bio-mass as alternative fuels? Haven't we been there - done that - got the T-shirt?" "Biomass is good - I invented bio-mass." "Well, you are certainly a leading contributor. I hear there is a chicken manure plant in Arkansas that has filed for a subsidy." "Yes and No - It has been moved to N.Y."

Still curious, I ventured another query. "One more question, Al - back in '93 you wrote that book that the tree-huggers like

so much-..." "Yes, *Earth in the Balance*. Good Book." "OK if you say so - but I seem to recall that you said that gas should be about \$2.50 a gallon. Changed your mind, have you?" "Well that's different - that would have been tax, not profit - Taxes are Good. Profits are Bad. Bad, Bad." "So I guess Earth is not in the balance anymore?" "Different balance - Bush is up by 4%".

Digitally Yours,

ROCKY

End Notes

I have a file that I keep labeled Newsletter Fodder where I dump things that may be of interest to readers and/or to fill blank space, not necessarily in that order.

Excerpted and edited from Science magazine, August 25, 2000. In other environmental news - a wildlife revolt of sorts in underway off the California Coast. It seems that the sea otters, those furry little guys who float about on their backs, flippers in the air, using rocks to crack open clams and oysters on their chests, will not stay on the reservation. These animals were once nearly extinct but became protected and are viable again largely because a portion of the coast north of Santa Barbara was set aside as a marine preserve to separate the otters from the fishing areas to the south. Apparently the otters compete with abalone fishing and other activities. This arrangement worked well for many years but now it seems that many otters have decided to find out if the abalone is better on the south side of the hill - so to speak - and have wandered down into the No Otter Zone. The U. S. Fish and Wildlife folks have been forced into the silly position of having to capture these border jumping rascals and haul them back north - with about as much success as the Border Patrol. One can only imagine the conversation of Sam and Max, two veterans of dodging La Migra, during a recon off Stearns Wharf. Following an afternoon of fouling fishing lines, stealing abalone from fisherman, and a bit of shopping on State Street, Sam turns to Max and says, "Well, Whatcha think?" To which Max replies, "Yeah, you betcha, this looks fine to me - let's go back and get the fellas."

Like my friend Rocky, I find e-mail and the Internet fascinating. I waste a couple of hours every day improving my efficiency using the Internet, downloading tons of stuff and then 2 days later trying to figure out why. E-mail is very useful - I check it just like my voice-mail - every Friday afternoon. Some of the best stuff comes anonymously, such as the following. For those unfamiliar with this art form, Haiku is a style of Japanese poetry that must be fifteen words or less.

Computer Error Messages in Haiku

A file that big?
It might be very useful.
But now it is gone.

The Web site you seek
cannot be located but
Endless others exist.

First snow, then silence.
This thousand dollar screen dies
so beautifully.

Yesterday it worked.
Today it is not working.
Windows is like that.

Three things are certain:
Death, taxes, and lost data.
Guess which has occurred.

The Tao that is seen
Is not the true Tao, until
You bring fresh toner.

Chaos reigns within.
Reflect, repent, and reboot.
Order shall return.

On November 7th
VOTE LIKE YOUR FUTURE DEPENDED ON IT

Appraising Oil and Gas Properties is a publication of the Petroleum Engineering and Appraisal consulting firm of Richard J. Miller & Associates, Inc. For further information, letters and comments, and/or additional copies, please write, call, or fax:

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