

APPRAISING OIL & GAS PROPERTIES

A Newsletter for Appraisal Professionals

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Vol.7 No.2 July, 2005

Well, here we are again. After many fits and starts, numerous topic changes, updates, edits, and one or two wholesale revisions I decided it was about time to get this issue in the mail before something else comes along demanding attention.

On the one hand some things are looking up. Since our last visit and despite predictions to the contrary; the world has not run out of oil (yet) See **Book Reviews**; the Antarctic ice cap has not melted, thereby sparing Miami and other coastal cities for another year; global temperature (so we are told) has only gone up a smidgen which probably explains all the snow and rain we had this year. At press time Kern River 13/is \$46.80/Bbl down from a high of \$48.60/Bbl in June but a long way from the low price of \$6.31/Bbl a few years ago. When most of us started in this business oil price was essentially fixed, due to proration, at \$2.50 plus or minus a few cents. Current projections are that a lot of old fields (Belridge, Midway-Sunset et al) could last another 30-40 years if these prices continue. On the other hand, the liberals on the U.S. Supreme Court has decided that your home and other real estate that you thought you owned is really not yours but in fact belongs to your local government (Aw shucks, why stop there!) or any other government entity that takes an interest. It is only yours to use and pay taxes upon until a bunch of greedy bureaucrats team up with an equally greedy bunch of “developers” (read: campaign contributors) such as Wal-mart or a condo-builder to expropriate your property for the benefit of said developer. That is essentially the result of *Kelo et al vs. City of New London*. See short article below.

Cabin News Locally things are relatively quiet. There is not much going on at the Pine Palace although I have heard rumors of a “redo the kitchen” project on the horizon. We got a lot of rain this year and a fair amount of snow. Our annual Christmas through New Year sojourn included four days without electric power amid a foot or two of snow. The snow was the heavy, wet variety so a lot of old, weak trees and parts thereof came down onto the power lines. The shortage of electricity convinced us of a few things, to wit: a full propane tank is good, we should probably install a backup generator, firewood should be stored closer to the house, and, perhaps most illuminating, reading by candlelight is not all it is cracked up to be - maybe that story of Abe Lincoln studying law by firelight (if true) explains why he was so grouchy later in life. The little creek down in the canyon is running again - first time since ‘98. I tried to convince our Boy Scout grandson to build us a modest waterwheel generator on the creek but all I got was a weird look.

The Old Ball Game The baseball season has started with D.C. taking another stand in the batter’s box. I wish the Nationals well but who knows. At least they are not the Senators. It is too bad that baseball has been damaged by Major League owners and players alike. I suppose this is true of many facets of American life but baseball, played on a warm summer afternoon, on real grass was, and still could be if we slowed down a bit, our national pastime. What a nice phrase - national pastime. Not sport, not business, but something you do, whether as a player or a spectator, when there is time in your day. What could be more pleasant than a good seat out along the first base line (with your trusty bass net) nursing a beer and a bag of peanuts, whilst enjoying that most beautiful of all athletic accomplishments, a well executed double play - Tinker to Evers to Chance - or - Russell to Lopes to Garvey - while Vin Scully describes the action in that Oh! so melodious voice. Could Abbott and Costello have done “Who’s on First?” about football or basketball. Maybe I will stroll over to the park and catch a Huntington Beach high school game - the Oilers are playing today. Baseball season means that the college football season cannot be far away; more on that later.

Canadian Touristas Here in California we get a lot of tourists and other folks. For the most part they stay awhile, drop some pesos, Loonies, drachmas, or shekels and then quietly leave for home. Not all. We do get a number who tend to overstay their welcome. Our Canadian neighbors do not usually fall into the latter category. Except for a few - nine to be exact. I may have mentioned in the past that our office building is a modest two-story affair, built in the 1960's, and surrounded by a large moat-like pond. There are wooden bridges and the ground floor (or pond floor) offices have decks. The pond does attract a lot of ducks, mostly mallards, with a few coots, and the odd heron, occasional pelican, and sometimes the grown up Easter gift that no one wanted to clean up after anymore. Anyhow, last year a pair of Canada geese decided to stop by on the way north and, like far too many other folks, decided California was the place-to-be; the water is always warm and people feed you - constantly. Sure enough these two hatched-up four more (three survived) and decided to make the pond a vacation residence. They took off for the winter but showed up again in March; all five of them. As I sit here on the deck Ma and Pa Goose are herding six more goslings around the pond while watching out for turtles, carp, and curious UPS guys.

Speaking of Canada, Madam and I have just returned from several very nice days in Quebec where we were attending the annual SPEE meeting and social extravaganza at the Chateau Frontenac. We had time to get around the old city, go fort crawling (my idea), try out several great restaurants, and practice a bit of par l'vous which needless to say brought chuckles. We also got to experience all four seasons in four days. The meeting was well attended and featured some exciting discussions on topics of interest to evaluation engineers - that is, after all, the excuse for the meeting. More on those discussions later.

Climate Change We, as South Californians, do not do rain very well. This is a desert after all and neither the landscape nor the dwellers thereon are accustomed to rain in large quantities. On the other hand, if not for the climate why would anyone live here? Of course, if it were not rain it would be something else. This year turned out to be nearly a record breaker, but on average we only get 10-20 inches and it is usually spread out over December through April. When it does get to be "rainy season" it takes several days for folks to (a) figure out what the wet stuff is and then (b) learn that one's oversized SUV does not stop well on slick streets. Eventually, after several inches, come the lessons in practical geology (or is it geomorphology) when some lucky homeowners find out why it is better to build houses and swimming pools on a "cut" lot rather than a "fill" lot. After a few more inches come the land slides and road closures as the unconsolidated sand piles that pass for mountains out here proceed to move from higher to lower evaluation. I fully expect that one winter the entire length of Interstate 5 will slide down to Bakersfield or Santa Clarita. Then we will have to detour through Arizona.

Football Did I mention the recent football season? I thought you would never ask. It is a tad late in the year I know but I see no reason to let a good gloating opportunity pass. I had planned a stirring recount of the entire undefeated season (although UCLA did put up a good scrap) and our Heisman trophy quarterback (who is returning for the coming season) embellished with quarter-by-quarter highlights (and there were many) of the so-called BCS Championship Game in the Orange Bowl on January 4 (a day that will live in history). However, I was reminded by my "maybe-you-should-not-say-that" editor that we may still have a few good friends in Oklahoma and, moreover, I might want to go back there someday. The score speaks for itself.

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Now, could we dispense with this BCS nonsense and get back to playing college football and bowl games for fun.

Politics as Usual? What would a newsletter be without a few political jabs here and there. Out here, the Governor is finding that governing is harder than campaigning and that folks like the Democrats in the Legislature and the public employee unions do not respond to one-liners in the same way as the bad guys in the movies. But just as Arnold is becoming old news, a fresh face has arrived on the political scene. I refer, of course, to Kinky Friedman, the stogie-wielding, musician-turned-mystery author who has announced (according to the LA Times and my other sources deep in the Lone Star state) that he is running for Governor of Texas. Mr. Friedman, who reportedly lost a 1986 race for JP in Kerrville is campaigning against the "wussification" of Texas - defined (I am told) as political correctness run amok. This is great! Why should CA have all the fun? Texans deserve some entertainment, too!

Not So Smart After All Remember back in 2001 when President Bush addressed the graduating class at his alma mater (Yale, a college on the East Coast with no football team) and shocked (I mean shocked) academia by directing some of his comments ".to all the C students out there.."? As it turns out he was including good old John Kerry in that group. Surely you remember John Kerry, Senator from MA, married to a billionaire ketchup queen, late Democrat candidate for President who campaigned as the choice of thoughtful people, lost to "W". Anyway, after stonewalling during the campaign Mr. Kerry finally released his medical and college records a few weeks ago and What Ho!, Surprise, surprise, surprise! It turns out that whilst at Yale, Mr. Kerry earned a 76 grade average with, count'em, 5 D's, one of which was in French. How was he going to palaver with Jacques Chirac when he only got a D in French? George W. Bush earned a 77 average with only one D. [Editors Note: Not to worry, George, I got a C+++ from Dr. Balk one semester.] Jefferson, Madison, and Wilson aside, being an intellectual giant is not a requirement for being President - being smart enough to know what needs to be done and having the nerve to try to do it would seem to be more useful.

Serious Stuff We have a lot of ground to cover in the next few pages starting with a review of the role of SEC reserves in the overall context of petroleum property evaluations. That discussion would be interesting enough but has been given new impetus by a significant report from CERA on the evolution of the SEC reserves reporting problem and by a rather bold proposal put forth by Deloitte Touche that advocates significant revamping of the SEC involvement in reporting of reserves. Both studies open the door to an approach that could be an end to the creeping takeover of the evaluation profession by government bureaucrats. We will also touch briefly on the professional accreditation effort. Lastly, we will take a look at the projection of product prices in property evaluations. Our good friend Rocky Stone has found time to send us a short contribution. Add in two book reviews, and we should all be tuckered out by day's end.

You, Me and the SEC

Faithful readers will know that chipping on the SEC and, more particularly, the peculiar regulations that apply to evaluations done for inclusion in annual reports and 10-K's, is an occasional pastime (there's that word again) of this newsletter. Indeed, since our little firm does not do so-called SEC evaluations, I have no compunction about making the occasional, well-considered comment. To use the analogy method so loved by those who have taken the SAT tests; SEC reserves reporting is to good oil and gas evaluation as golf is to a nice long walk in the park; they both tend to clutter up what is otherwise a worthwhile endeavor. (I do not play golf either.)

In my opinion SEC reserve reporting truncates an otherwise presumably good evaluation through the imposition of artificial constraints such as flat pricing and a 10% present worth factor. In the past we have been reluctant to engage in discussion of SEC reporting except for the occasional reference to such work as the regulatory tail that seems to wag the dog. This reluctance is motivated by a desire to give it as little recognition as possible with the hope that, if ignored, it will go away. Alas, that approach has not been successful. The level of occupation with SEC reporting among many evaluation engineers and within public companies creates a situation where the demands of the SEC have an overbearing influence on evaluation methodology. It is perhaps instructive that over the past few years SPEE has hosted three well-attended conferences regarding SEC evaluation where the consistent topic of the program and questions to the SEC authorities centered on interpretation of SEC regulations for reserves estimation. Unfortunately, there was not much in a way of answers. The need to attempt to comply with rules that may differ (or not, who knows?) from generally accepted practice creates the opportunity for the rules to displace accepted practice in the evaluation of oil properties.

Given our prior reluctance to discuss the subject, why bring it up now? One obvious reason might be all the attention that was given to SEC reserves last year following the Shell/ El Paso reserve debacle but that spasm seems to have diminished to a large extent. No, the reason that we are devoting most of this newsletter to the SEC issue is that the whole subject has become much more interesting; Someone has finally stood up and pointed out that the emperor seems to have no clothes.

Compliance versus Policy

In any regulated situation, two basic elements are required. The first is Policy; the second is Compliance. Policy is usually set by law (government), management directive (business), or "Because I said so!" (your Mother). Government passes a law directing some agency to do something (collect taxes, issue driving licenses). The favored agency then interprets the law to create regulations implementing the law. Once the regulations are in place, the agency sets up procedures to ensure

that there is compliance by those who are targeted by the regulations. It should be noted that, as history since the dawn of time has shown, (a) the agency's interpretation of the law may not be the same as that of the genius' who wrote the law and (b) the rationale for the policy will become obscured with time while the compliance efforts are continually expanded. The list of examples that could be employed here is mind-boggling.

SEC reserves reporting fits very neatly into this framework. Way back in the 1970's [Editor's Note: If there was ever in a decade that deserves to be eradicated from history, the '70s is it. From Vietnam through disco, leisure suits, and John Travolta to Jimmy Carter, the seventies are right up there with the medieval plague years] Congress, in a panic over the Arab oil embargo and amid the quest for Energy Independence, passed a number of new laws one of which required the collection of data about the oil and gas reserves held by U.S. companies. Congress failed to note, however, that their other creation, the Department of Energy (DOE), was not yet up to speed and could not be the collector of said data. Someone suggested, "I know! Let SEC do it.", and the rest is history. Talk about your unintended consequences. Of course, the SEC had already mastered the art of wringing superfluous data out of public companies and had some experience in the compliance end so they seemed a logical choice; not that the USGS or some other knowledgeable body would not have been better. However, here is where our agency interpretation problem comes in; because while the original intent was simply to collect data for setting energy policy goals, the SEC turned the policy into an investor protection scheme, started writing accounting- type rules and, after putting them in place in 1978, set about ensuring compliance with the rules. The policy has not changed in nearly 30 years and interpretation has been minimal BUT the compliance has gotten lots of attention. Over that time, the SEC, which has taken unto itself the job of riding herd on virtually every public oil and gas company in the world, has deployed legions of lawyers and accountants to ensure compliance efforts, but currently it has only two petroleum engineers and for long periods has had none. Now, two is twice as many as this firm employs and I do not pretend to check ExxonMobil's reserves. Enough history, on to the debate.

Restoring Confidence through Enhanced Compliance

For our purpose we will examine some of the effects set in motion by that most famous of all reserve write-downs - yes, Shell. The first effects from the Shell affair were predictable; stock analysts panic, investors claim to be betrayed, the financial media in a dither, the SEC pronouncing itself "very concerned," and various politicians expressing their "shock" in front of every available microphone. Oh, yes! and Shell's stock price declined. The next observable and predictable effect was the castigation of reserves estimates and estimators in general. Then came calls for greater scrutiny of reserves estimates to "restore confidence" by, in a Sarbanes-Oxy climate, requiring

greater “compliance.” In this context, compliance means requiring companies to ensure that their reserve estimates are accurate (whatever that means) and identifying someone to blame if changes to those reserves are found necessary. The “compliance” arguments generally consist of more rules, more regulations, more audits, more people signing more documents under penalty of perjury - all of which would have no benefit to so-called “investors” (read: analysts and the financial press) - but would expand bureaucratic controls and make more work for large auditing firms. The whole problem here is that, as a wise sage once said, “Oil and gas reserves are not cans of peas on a shelf,” and changes in reserves, even under the SEC rules, occur frequently due to production and economic fluctuations. Imposing new regulations would not solve anything. As another wise person once said, “If the dress is ugly, adding petticoats will not help.” Fortunately, as time has passed there have been no more large write-downs (probably as a result of increased prices), regulatory zeal has waned, and the people who gave us Sarbanes - Oxley are busy crafting an (here we go again) “energy policy”. This hiatus should allow folks who are interested in the issue to have the time to review the whole concept of reserves reporting and develop a program to respond to the SEC while avoiding, if possible, future large revisions of reserves. After all, if the purpose of reporting reserves is to benefit investors in public oil and gas companies, then rational debate should include a review of both the policy under which the reporting occurs and the compliance by companies with that policy.

Revision of SEC Reporting Policy

In February, 2005 two publications came out which, while not alone and not necessarily original in their observations and arguments, had sufficiently high profile that they gained immediate and wide spread attention. One is a report by Cambridge Energy Research Associates (CERA) entitled “*In Search of Reasonable Certainty: Oil and Gas Reserves Disclosures*”. The second is a paper published by Deloitte Touche titled, “*Presenting the full picture. Oil and gas: reserves measurement and reporting in the 21st Century*”. These publications would normally be reserved for our Book Review section, but for this discussion it is far more useful to include them in the main text. Please note that neither paper can be adequately described, excerpted, or paraphrased in our limited space so interested readers are encouraged to obtain copies.

Five conclusions seem apparent. First, the existing SEC reporting requirements are out of date. Second, the limited data being reported is not of much use to investors in gauging the value and/or performance of a company. Third, the existing policy is dominated by somewhat arbitrary rules rather than by sound evaluation principles. Fourth, simply adding more rules will not improve the system. Lastly, some radical changes are necessary if SEC reporting is to be of any use to investors.

The CERA Study We start with the CERA study because it is extremely informative and lays the groundwork for much of the discussion in the Deloitte Touche report. The CERA study is particularly useful in helping to understand how and why the current problems and issues have arisen by reminding us of how the SEC got into the reserves business in the first place. (See above) The Congressional demand for reserves information entailed a big job of data collection and since the focus was on large companies SEC seemed the logical choice since it was already collecting data from public companies. The problem was (and is) that the primary goal of the SEC is the protection of investors and the maintenance of orderly markets. What started out as an effort to obtain data to assist in formulating plans to improve “energy security” became an ill-defined accounting function. Reporting of oil and gas reserves came to be controlled by an agency whose primary responsibility is stocks and bonds and the rules are written by the Financial Accounting Standards Board (FASB) which employs even fewer engineers than the SEC. As noted by CERA, reporting regulations have not changed since 1978. In the meantime DOE has not only expanded but the Energy Information Agency (EIA) has become a widely recognized collector and reporter of massive volumes of oil and gas data including reserves information. EIA will not use SEC reserves data. Logic would suggest that the reserves reporting function would be moved from SEC to DOE which could then expand collection to non-public companies.

Most evaluation engineers are generally familiar with SEC reporting. The definitions of reserves used by SEC is almost identical to the SPE/WPC definition - almost - but the seemingly minor semantic differences create major issues. Only Proved reserves are reported - no Probable or Possible. Further, reserves and the so-called Standard Measure of Value (SMV) are based on projections of the product prices and costs that existed on December 31, or the last day of the fiscal year. While SEC/FASB occasionally issues modifications to the rules, as in a recent change applicable only to the deep water Gulf of Mexico, what started out as an exercise based on the industry state of knowledge has regressed to a rules-based procedure that distorts the true volume of reserves.

CERA makes the point that the SEC policy on reporting is out-of-date and fails to reflect the changes that have occurred in the petroleum industry including, but not limited to, the accumulation of Probable and Possible reserves and the increases in investment necessary to gain those reserves. As noted by CERA in the press release announcing the study, “*The 27-year-old U.S. system for measuring and reporting oil and gas reserves has failed to keep pace with a changing, increasingly global industry and, as a result, falls short of accurately describing industry and individual companies values, performance and strategies.*” and “*The system of reserve reporting in force in the United States is in urgent need of modernization...*” Further, “*...the SEC’s Congressionally mandated reporting system...*”

should be modernized through a joint governmental, industry, accounting, legal and investor consultants process that establishes a principles - based regulatory frame work..." The primary point of the suggested modernization is the need for a principles-based, rather than the existing rules-based, regulatory approach which is more suited to accounting for inventory than for estimating and reporting reserves of oil and gas. CERA also makes a point that over time the "... requirement for recognizing proved reserves has shifted in practice from 'reasonable certainty' toward 'absolute certainty'..." As examples, CERA cites the limitation of Proved (Undeveloped) reserves to those in direct contact with an existing well and the continuing use of the year end products price rather than a market defined projection as the basis for the estimated value of reserves.

CERA offers six areas of modernization which are suggested as ways to improve the SEC reporting system. Of these, two in particular are of greatest interest. First, the methods of estimating reserves reported to the SEC should reflect the way in which companies view their assets and make their decisions. In other words, if reserves are going to continue to be reported to the SEC then perhaps the volumes reported should be estimated in the same manner in which companies and individuals make investment decisions about those reserves. If internal reserves estimates are made using the SPE/WPC definitions and a price/cost projection that varies by product and with time, then the reserves reported to SEC should (a) use the same basis and (b) include Probable and Possible reserves if the company relies upon those reserves estimates - so long as the disclosure also notices the required investment and the risks associated with development of those reserves. Second, modernized reporting would be designed to help "... users of reserves disclosures to recognize inherent uncertainty in reserves estimates."

The CERA report is well-written, informative, and provocative in suggesting a break with the SEC's accustomed role of protection of unwary investors and a move toward a role where SEC (or some other agency?) collects and disseminates information that is useful to knowledgeable investors. The primary lesson to be gained from the CERA analysis is that it is the reporting policy that needs changing not an expansion of compliance efforts.

The Deloitte Touche Report The Deloitte Touche article, published internally and for its clients, has also received wide dissemination as news of its content became known. Deloitte takes the CERA analysis a few conceptual and practical steps further by suggesting that (a) the reporting of reserves and their "value" be removed from the footnotes and other parts of the financial report or 10-K filing and (b) that the content be expanded to provide information that is really useful to investors. Deloitte suggests that the appropriate place for the reserves disclosure is in the management discussion part of the annual report where the company can more freely discuss not only the reserves identified by the company but also the plans for

development of those reserves.

"Given the forward-looking nature of reserves disclosures we believe that such information should most properly be included within the narrative provided by the management accompanying the annual financial statements: for example in the 'Management Discussion and Analysis' (MD&A) in the US, or the "Operating and Financial Review" (OFR) in the UK." And,

"The scope and content of these sections of corporate annual reports have changed significantly in the years since disclosure standards were first introduced requiring oil & gas reserves to be included as unaudited accounting footnote information. Indeed most management teams already provide important commentary on their oil & gas reserves within the MD&A/OFR. We believe that the oil and gas reserves data disclosed is qualitatively very different from other information included within footnotes to the financial statements Combining the narrative and unaudited tabular quantitative disclosure within the MD&A/OFR would be much more appropriate and effective in communicating to investors and other users of annual reports."

Further, Deloitte suggests significant changes in the information actually reported including (a) replacement of the so-called SEC definition of reserves with the industry standard SPE/WPC definitions, (b) reporting of Probable and Proved reserves, (c) allowing the use of the same economic parameters used by the company in making investment decisions, and (d) expansion of the reported data to include projected production for a reasonable period. Deloitte incorporates some of those changes into the article through example tables. The basic idea is to get away from "standardized measures" and move toward a system that allows the company to more fully inform the potential or existing investor about the nature of the company's assets and the effect that the planned development and exploitation of those assets could have on the value of the company.

"In interpreting the term 'current economic conditions' the SEC/FASB have insisted on the application of prices prevailing exactly at the balance sheet date, both in estimating reserve quantities and then in computing the "standardized measure" of discounted future cash flows. The principle repeatedly emphasized by the SEC in arguing its position is that 'judgment' should be minimized in estimating proved oil and gas reserves for disclosure to investors." and "The SEC argues that ideally it would expect different engineers to arrive at essentially similar estimates of reserves given the same set of technical data."

Deloitte further notes, "Arguments for a less prescriptive approach have been put forward over the years, especially during periods of high short term price volatility, by many

companies, economists and other commentators. Even in relatively stable periods, the economic planning assumptions generally used within the industry internally rarely if ever coincide exactly with the price and costs levels prevailing at a balance sheet date....In our view it would be preferable to permit managements to select the economic assumptions that they believe to be most appropriate to the circumstances of their own companies. These should be clearly disclosed and explained within the disclosures related to their oil and gas reserve quantity estimates. Indeed, it is already quite common for executives to brief investors publicly as regards their corporate views on the development of oil and gas price curves into the medium term.... Such views underpin corporate strategy, budgets and longer range financial plans. It is proper in our view that they be used to estimate reserves, even though they reduce the consistency of estimates across different companies within the industry. We believe that coherence and consistency as between disclosures about a company's reserves and the other information about its strategy and plans are more important."

Toward a Fundamental Change

The confluence of the CERA and Deloitte discussions suggests a serious change in attitude and direction regarding SEC reporting and is also sharply at variance with the enhanced compliance and enforcement approach advocated by some. Suggestions for inclusion of reserves reports under Sarbanes-Oxley and/or requiring third-party auditing of reserves would do nothing to improve the information available to investors but would greatly enhance the income of accountants, lawyers, and large consulting firms. Requiring third-party audits of internal reserves evaluations (as advocated by one large consulting firm) would provide for some interesting and probably very stimulated debates among engineers but would not be particularly helpful to investors.

The Deloitte approach seems to offer a particularly good way of resolving what will otherwise be an ongoing but sterile debate about how to provide useful information to investors. Instead of some meaningless "standard measure" which communicates little or nothing of any real importance, why not allow management to explain to the shareholders and/or potential investors their plans for development of the assets of the company? This might very well include estimates of future prices for oil and gas, drilling schedules, project implementation, production estimates, expected capital expenditures, and the risks associated with all the above. If a company wants to discuss Unproven reserves let them do so. Of course, every page of the presentation should be bordered by a banner that says "None of this may ever occur" or something similar and it should not be in any way connected with the financial reporting. With that kind of information the serious investor should be able to determine whether one company is a better investment than another.

The fact is that the current system is not only useless but it is misleading. Oil company stock prices are a function of anticipated revenue which is directly related to the prices of oil and/or gas and the focus of the company in the production of one or the other. The fact that reserves may go up or down as prices rise or fall is an ancillary result. Returning to the Shell example, absent the "surprise" that was triggered by the write-downs, Shell's stock price should not have declined. Shell's near term production and revenue were unaffected by the write down of reserves from a project that was no-where-near being on stream and while there may have been some tax consequences to net income (due to DD&A adjustments) Shell's revenue for the next few years was virtually unchanged. So, you might fairly ask, what was the cause for panic, the loss of investor confidence, etc? You know the answer. When the term "investors" is used in this context it does not mean you or me or Grandma Bess' trust fund. It refers to Wall Street analysts, fund managers, and outfits like CalPers whose knowledge of our business is limited at best, who do not like surprises, and whose approach is to sell first and ask questions later. If the only information that is presented by companies is the reserves information in the financial statement then folks with a limited attention span (see above) will react poorly to sudden changes.

Implementation of the Deloitte approach would go a long way toward rectifying the SEC reserves problem without requiring more regulations. Aside from broad guidelines, the presentations in the Management section of the annual report should contain whatever information the company would like to provide to investors. No FASB rules, no auditors, no third party back seat driving! Investors could then do comparisons between companies based on real information. It would not take long to sort out the well-run companies with good potential from the ones who are faking it.

Seizing an Opportunity

Can a federal agency be changed? President Bush has nominated Rep. Christopher Cox (R) to head the SEC. Why he would want the job is beyond me and he will be a loss to the CA delegation, but he is an intelligent conservative Republican who may be open to the logic of the Deloitte approach. Whether or not the petroleum industry takes advantage of this opportunity is questionable. I gather that some of the other accounting firms are not too keen on the idea (at least in public) and the major oil companies are scared of their own public relations shadows, so do not expect much from that quarter. However, change may be possible and the evaluation profession may have to rise to the challenge. It seems to me that, as the people most knowledgeable about petroleum evaluation, we have a professional and ethical responsibility to point out the problems inherent in the current reporting scheme and to recommend appropriate changes including but not limited to the removal of reserves reporting to SEC altogether. Just my opinion, of course.

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"Presenting the full picture. Oil and gas: reserves measurement and reporting in the 21st century", Newman, Peter J. and Burk, Victor A., Deloitte & Touche LLP; February, 2005, www.Deloitte.com

Do We Then Need Certification?

In the August, 2004 newsletter, we discussed the issue of professional certification of evaluation engineers. Since that time formal accreditation has gained more momentum as the SPEE and AAPG have formed a Joint Exploratory Committee to, well, explore the issue. The recent HEES meeting in Dallas had certification as a sub-text to the reserves reporting issue. Both CERA and Deloitte Touche, among others, approach the subject in their reports and Deloitte in particular suggests that professional accreditation might be a good idea. This is a controversial topic that is subject to much mis-understanding and misinformation. It has unfortunately gotten entangled in the SEC reserves reporting discussion as part of the concern for enhanced compliance. When certification is included in the compliance argument it becomes just another one of those extra petticoats that does nothing to improve the look of the dress.

Accreditation is an issue that can (and should) stand on its own rather than be tied to regulatory compliance. There is not space here to iron out all the wrinkles in the ongoing debate so let us discuss only one or two. One argument against certification, and there are many, is that such a program would not have prevented the "Shell write down problem." That is true.

But that argument is valid only if certification is considered to be part of the SEC compliance requirement. If the Deloitte idea is pursued to its natural end and SEC is taken out of the picture altogether, the tie-in of certification and compliance is eliminated. There are many other purposes for conducting evaluations of petroleum properties that deserve at least as much if not more attention than SEC reporting. Take Aunt Ethel's death tax return, for instance; or the loan request from Fly-By-Night Energy, Inc. Having an evaluator signing the report with the designation of CPEE might add a level of comfort for Ethel's tax guy or the bank officer. If that certification also implies that the signer followed specific evaluation practices, provides appropriate disclosures, AND maintains documentation of the work that was done, so much the better. Of course, no one should expect that accreditation would ensure the quality of the evaluator or the report but in choosing between Mannie, Moe and Jack it could be a big help.

The recent SPEE Annual Meeting in Quebec included extensive discussion of the accreditation issue stimulated in part by a survey of SPEE members on the topic. It is apparent that this discussion will go on for some time and holds promise of generating far more light than heat. Whether certification in any formal sense ever comes about there is now heightened interest in continuing education and the development of generally accepted evaluation practices.

Projecting Product Prices

The evaluation of an oil and gas property (for whatever reason) consists of several major and a number of minor components and, further, requires considerable judgement in making decisions about such things as expected production rates, future investment, development schedules, etc. Whether using the deterministic or the probabilistic method (or both) for Proved properties, there is at least some degree of certainty about most of the parameters used in the evaluation. Absent a hedging program, the only input about which there is 100% certainty is that the product price projection, particularly the oil price projection, will be wrong. The reason is that the evaluator has no control over the product price - it is controlled, to the degree it is controlled at all, by a market that extends far beyond the subject property.

The role of the product price in an evaluation is difficult to overstate, especially in the first 10 years or so before the discount rate significantly reduces the income stream. The choice of an initial price and the projection of that price determines the economic viability of the project or property, influences the expenditure and scheduling of capital investments, and defines the economic limit. The importance of the price projection is underscored by the squabbles that center on the phraseology of reserves definitions that relate to product price; e.g. "current economic conditions," "prevailing price," "projected economic conditions." Each term can mean something different to the evaluator which can result in different projections of price and, therefore, estimates of reserves and values.

If we concentrate on oil prices first, the price projection decision can be broken down into three parts; an initial price, a near-term price, and a long-term price. The **initial price** should be relatively easy - most evaluations are being done as of a specific date whether it is December 31 or some other appropriate starting point. The initial price could be and probably should be the actual price paid and/or offered on that date (posted price) for crude oil from the subject property. On the other hand, in a time of volatile oil prices, a single day price is probably misleading so that an weighted average price for the week or month prior may be more appropriate. SPE refers to a six month period which should be long enough to minimize short term fluctuations.

The choice of an initial price may be influenced by the

plan for the near-term (5 years) projection. If one is planning to hold the initial price constant, as for an SEC evaluation, then using an initial price that is atypical of prior period prices might present a problem. A longer-term weighted average initial price might be more representative of actual local market conditions. Do not forget to account for gravity and/or sulfur corrections, short production periods, etc. If, however, the projection intends to recognize the observed history of changing oil prices, increasing and decreasing continuously with time and local market conditions, then the initial price can be derived from a specific date or a short-term (the prior week or month) average. The near term projection can adjust for an exceptionally high or low initial price.

Near-Term Projection

Assuming that the initial price is not to be held constant, now we need to come up with a near-term projection. Here the evaluator need not rely on his/her own wits - there are numerous helpful sources though not as many as there used to be. Once upon a time, the major oil companies and some financial institutions used to publish price projections. These are not so common today and even when available offer little detail. Consulting services still do oil price studies but only for clients. The occasional published article can be of some use. Government sources can also be helpful. The EIA publishes a lot of price research and develops documented short and long term projections of oil price (and gas price). The Texas Comptroller publishes a price projection that is for budgeting and property tax purposes but can provide some guidance. In each of these cases the projections are based on West Texas Intermediate (WTI) as a reference point. The actual price projections for your property must include an adjustment for the difference between WTI and the crude on the subject property. It is the trend that is useful.

My choice for most useful near-term price trend is the New York Mercantile Exchange (NYMEX) futures market. The NYMEX offers two great advantages to pouring through publications and trying to screen out corporate wishful thinking and government policy objectives. First, the information is published every market day in the newspaper and can be accessed online for current and historical data. Second, the prices on the NYMEX are real market-based prices for the purchase and sale of crude oil. The NYMEX treats crude oil as a commodity and provides a market place for buyers and sellers of crude oil for future delivery. The crude oil is sold in contracts for delivery of 1,000 Bbls on a given date; say September 30, 2005. The closing price of the contract on any given market day prior to delivery date is the market price for that crude oil. Not all futures contracts trade every day; but on those days when there is robust market activity, a listing of contract dates and current closing prices can be used to create a table of future crude oil prices which can also be expressed graphically. Thus, if one wants to track the market for crude oil price, the

accumulation of NYMEX data over a period of months or years is very helpful. Ordinarily, a list derived from NYMEX quotes would show monthly prices for the first two years followed by quarterly prices for the next few years, and annual prices after 5 years.

The NYMEX data can also be compared to spot price information to provide an almost daily track. Before galloping off to start plugging NYMEX prices into your next evaluation, a few cautions and caveats are necessary. First, the NYMEX price is only a reference price unless the property produces impeccable WTI crude oil. The useful part of the NYMEX data is the direction and shape of the curve, not necessarily the absolute prices. Second, to the extent that the crude oil on the subject property and the market for that crude differs from WTI, some adjustments may be necessary to accommodate the differences. Third, the relatively "reliability" of the NYMEX prices diminishes as the term of the contract increases. That is, the pricing data for the first 2-3 years should be reasonably good but the 5-10 years may be weak primarily because there is less trading in the longer term contracts. Finally, there is some debate whether the NYMEX is truly a "projection" of future prices or simply a collection of future prices for a traded commodity. I admit to having a difficult time with this last issue and tend to consign this debate to the "distinction without a difference" category. While a "projection" is normally thought of as being derived from a single source predicting the price for a series of specific future dates rather than a collection of separate transactions, this should not be a major concern. In the near term (2-3 years) the NYMEX represents a consensus of opinion on the future price of crude oil derived from folks who are actually placing bets, if you will, on that price. The fact that the "projection" changes over time should be expected.

NYMEX as a Reference Price

Since crude oil prices were deregulated, first by the end of proration and later by the end of price controls, the common denominator has been volatility. Oil prices have ranged from the low levels of 1986-87 and 1998-99 to the peaks of 1991 and the current extended high levels. With over 20 years of price data since deregulation and particularly since 1986, it is possible to detect at least one major trend in crude oil pricing which is that, in a volatile market, the price will attempt to find a rational clearing level that reduces peak prices and elevates low prices. This is supply and demand and even in an imperfect oil market the tendency for prices to attempt to reach a clearing level is readily apparent. A plot of WTI prices (daily weighted) over a 20-year period indicates that those prices tend to oscillate about a certain level and that the price trend through the entire period is flat or nearly so. The continuing high prices levels of the past 2-3 years may represent either an upward shift in the price trend and/or the oil market as a whole but on the other hand it might be only an extended anomaly. I am betting on the former but who knows. I can get used to \$2.40/gallon gasoline.

Analysis of NYMEX price trends over several years indicates the same central tendency for crude oil pricing. Recent work by Barry Evans and Tom Walker at Evans, Frey, & Walker has shown that NYMEX price trends, taken as the closing price on the last day of a quarter, tend toward a consensus level. The analysis shows that, in a period of high crude oil prices, the NYMEX contract prices decline from the current date over the next 2-3 years to a clearing level. Conversely, in a period of low prices, the near-term trend of contract prices is to increase over the first 2-3 years to a consensus level and then to continue at that level. It is of real interest that whether the price trend starts from a high point or a low point, the near-term trend line and price level are essentially the same. Given enough data (i.e., several years of end-of-quarter prices) a consistent trend line can be found.

This analysis coupled with the historical tendency for market equilibrium suggests that (1) the NYMEX trend can be used to construct price projections for use in property valuation, and (2) arbitrary use of use of flat line or continuously increasing/declining price trends are incorrect.

Adjusting the NYMEX for the Subject Property

Not all crude oil is light, sweet WTI crude oil. Different properties in different locations produce oil that can vary significantly from WTI. Not even all light, sweet WTI is created equal. Therefore, the use of the NYMEX or any other projection that is based on a benchmark grade of oil must be adjusted to account for any differences between the crude oil from the subject property, as defined by the applicable market for that crude, and the benchmark grade of oil. In some cases these differences may be so modest as to be negligible but in other instances they may be significant.

As an example, Kern River 13/API is not light or sweet or WTI crude oil. In addition to the differences in gravity and sulfur content there is a discount to most California crude due to market limitations. Depending on the data source, and the purpose of the analysis, Kern River 13/API has a 60-80% price differential to WTI. Other California crude may have a lesser differential while Santa Maria 8-11/API has an even greater differential. If the differential can be adequately defined and quantified and can be shown to be reasonably consistent, the NYMEX trend could then be applied to the appropriate initial price for the subject property without much worry. Note the operative term, "if". Unfortunately the differential is not uniform nor consistent with time. Preliminary analysis suggests that Kern River 13/API and other crude oil prices do not respond consistently to changes in WTI or any other benchmark crude price. Using a linear regression of Kern River vs. WTI prices over a several year period indicates a beta of less than 1.00 which suggests that Kern River 13/API prices tend to decline when WTI declines but does not recover as quickly when WTI price increases. Therefore, before applying the NYMEX trend

to the price projection for a particular property, a differential analysis should be done to define the appropriate price relationship between the NYMEX benchmark and the crude oil from the property.

Long Term Price Projections

The NYMEX data becomes a bit soft after the 3rd/4th year primarily because there are fewer contracts and there is not as much trade activity. These outer year data points can be used but some care should be taken possibly by comparing to other long term projections. Of those sources my tendency is toward the EIA projections - not necessarily because EIA is any more accurate but because the underlying support data and rationale is published and can be cited. This is useful when doing evaluations that you may have to defend in court.

Natural Gas Prices

The NYMEX also includes a market for natural gas futures which is essentially identical in operation to that for crude oil futures. The NYMEX trading activity can be used to project natural gas prices in the same way that it is used for crude oil. However, given the additional constraints on natural gas such as transportation limits and term contracts to certain buyers, additional adjustments may be warranted. This may be more work than simply projecting the initial price flat or at some constant rate decrease or increase but it is likely to be more defensible.

Using Judgement

All this wonderful data and analysis aside, the exercise of appropriate judgement is necessary. The NYMEX has never predicted major changes in oil and/or gas prices. While supply and demand remains the underlying control there is always the affect of an unexpected change in government policy some where or a politically inspired interruption in supply. The odds are that you cannot predict such changes either, but sometimes experience combined with hard work and a little luck pays off. Then there is hedging.

To Be Continued

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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A Courtly Southern Gentleman

“With his pointy gray beard, soft Southern accent and gentlemanly carriage, Shelby Foote seemed to have stepped right out of a Matthew Brady photograph.” So wrote AP reporter Woody Baird. Shelby Foote, who was a noted novelist but gained his place in Americana as a writer of history and as a storyteller, died June 27 in Memphis. He was 88. Mr. Foote was the author of a number of acclaimed works including “*Love in a Dry Season*” in 1951 and “*Jordan County*” in 1954 both written about his native Mississippi in a style reminiscent of, while distinct from, fellow Mississippian, William Faulkner. But unless you had tuned in to the Ken Burns’ 1990 “*Civil War*” series you probably would not know Shelby Foote or be aware that he is the author of “*The Civil War: A Narrative*”, a three-volume, 3000-page story of an event that effects us even today. Among those who are drawn to the War Between the States out of historical interest or shared heritage, the *Narrative* presents that heroic tragedy in a manner not found in dry, scholarly tomes. It was the measured, easy style of the *Narrative* that led Ken Burns to include Mr. Foote in the Civil War series where, according to Mr. Burns, he appeared 89 or more times providing stories and insight that brought the experience of the war to life for many viewers. In one segment in the series about the battle at Gettysburg, Mr. Foote relates a story that, just before the fateful attack on the third day, some of Pickett’s Virginians were lying in the woods waiting in the July afternoon heat for what they all knew would be a desperate effort when a rabbit jumped out of the bushes and ran to the rear away from the soldiers. As told by Mr. Foote, one fellow said, “Run ole hare - if I was a hare I’d run too.” The story is delivered in a soft drawl followed by a chuckle. I have no doubt that Shelby Foote has etched a place in the memories of many Americans. At a re-enactment last September, while waiting in the quiet of a humid Tennessee woods for our brigade to move up, the same quote came floating down the line and brought along a lot of smiles and nodding heads.

Letter From Rocky (at last)

Howdy Good Buddy!!

I know I promised you a full page or two to follow up on that epistle from last year but me and the boys are busier that a three-legged cat in a sandbox up here and I really only have time for a short note. I need to tell you I got in a lot of trouble over that last letter about offshore oil in California saying there was not much going to happen because, well, no point in rehashing that mistake. I got an ear full from some of the current offshore operators who have been working real hard to increase production and try to access new reserves from existing platforms. Thanks to extended reach drilling and horizontal completions, some areas of exiting tracts that had not been developed and even some previously undrilled tracts can be

accessed. Continued higher oil prices come in real handy, too. There is a lot of potential for development of new production, not to mention cashflow, particularly since we do not have to pony up for new structures. Should be a win-win for everybody, right! - more oil, more revenue, more royalties to the state and Feds, more taxes for schools, etc. You would think so - but then you would be forgettin’ where you are. However, perseverance and high oil price has produced a few successes.

Things up in our neck of the woods, as if there were any trees out here, are pretty good. You know we got that cappuccino/espresso machine for the doghouse last year and now all the boys are driving around the leases with their morning latte. Problem is they are driving slower so as not to spill any, so work takes a bit longer. What’s this business coming too? Grandpa Stone is laughing up a storm. The boys decided that showers alone for after work cleanup were “too pedestrian” and wanted to have a hot tub for soaking away the “stress of the day”. But - I put a short halter on making it a jacuzzi. This is the West Valley not West LA for Pete’s sake. One of the welders solved the aeration deficiency by running in a compressed air hose and got so much bubble action going that Cousin Virgil got blown clear out of the tub and just missed landing in the slop tank.

Oil price is over \$35 and we are taking advantage of our current good fortune to do some, shall we say, deferred maintenance hereabouts. Doing some well abandonments, repairing tanks and flow lines, and even looking into some redevelopment on the old Mom&Pop Stone lease.

Well, I got a lunch “meeting” down to the McKittrick Hotel so I better sign off. Come on out for a dip some time. Cousin Virgil is hinting about a plan to enhance our July 4th celebration using the hot tub and something about a natural gas bubble - Maybe I should find that insurance file?

ROCKY

Book Reviews

“*The Bottomless Well: The Twilight of Fuel, the Virtue of Waste, and Why we will Never run out of Energy*”, Huber, Peter W. and Mills, Mark P., 2005, Basic Books, New York, NY. 209 pages.

We have reviewed one of Mr. Huber’s books, “*Galileo’s Revenge: Junk Science in the Courtroom*”, in an earlier newsletter and found him to be both an informative and entertaining writer - not an easy combination. The premise of the current small but weighty work is that the so-called energy crisis, whether from peaking oil production, gas shortages, etc are myths. Despite all the attention give Hulbert’s curves and rising gasoline prices the demand for energy has not and, according to

the authors, will not go down; that building more efficient cars, engines, and light bulbs will not reduce demand but simply allow more efficient use of available energy thereby increasing productivity thereby increasing demand for more energy. More efficient energy use will allow the price of that energy to have a diminished effect on the expansion of the use of energy. As more efficient uses of energy are developed so will methods of obtaining and harnessing that energy. From the Preface of the book, page xxv:

“Energy” appears in the subtitle of this book because that’s how the issues we discussed are invariably framed. But in the strict, technical sense of the word, “energy” is completely irrelevant. This book is a chronicle of humanity’s struggle against the second law of thermodynamics, not in theory but in the real world, where engineers build practical engines that turn shafts, drive generators, propel cars, run microprocessors, replicate DNA, power heart defibrillators, and project beams of light, radio waves, and X-rays – and yes, of course, engines that also extract the raw fuels the fire the engines themselves. It is a story of ingenious valves and gates that flip open and closed, with just the right timing, to push energy up the thermodynamic hill, to structure our environment, and to add order to our lives.

This book sets out a vision, as well, of the dramatic changes that lie immediately ahead. Energy technology is now poised to evolve faster than at any time before in human history – faster than in 1765, when James Watt invented his steam engine; faster than 1876, when Nikolaus Otto invented the internal combustion engine; faster than 1879, when Thomas Edison patented his light bulb. The power of the new millennium is centered on semiconductors: the same materials that made possible digital information have emerged as the enabling materials of digital power. The new technologies of power exploit altogether new physical phenomena to process fantastically concentrated streams of electrons and photons, millions of times faster and far more efficiently than the old technologies they are rapidly displacing.

Over the long term, societies that expand and improve their energy supplies overwhelmed those that don’t. The paramount objective of U.S. energy policy should be to promote abundant supplies of cheap energy and to facilitate their distribution and consumption. Civilization, like life, is a Sisyphean flight from chaos. The chaos will prevail in the end, but it is our mission to postpone that day for as long as we can and to push things in the opposite direction with all the ingenuity and determination we can muster. Energy isn’t the problem. Energy is a solution.

Regarding oil production, pg. 172;

A paper published in Science in 1981 predicted that by the year 2000 it would require more than the barrel of oil’s worth of energy to extract a new barrel of oil from a U.S. well.

Returns would go to negative, and that would be that for the domestic oil economy... The projection assumed that we’d be drilling a lot more dry holes as years passed and supplies receded. But in fact we’re drilling fewer – the hit rate is six times better today than it was in the early 1980’s.

Once located, oil is now extracted far more efficiently, too – in the United States and elsewhere, as well. Operating as much as 5 miles below the surface of the sea, a remotely operated vehicle navigates, illuminates, senses, and searches by means of fiber-optic gyroscopes, ground penetrating sonar, acoustic imaging systems, low-light digital cameras, LED’s, and high-power scanning lasers. The vehicle finds and maps deep-water oil fields, inspects equipment, moves and connects gears, pulls and connects pipes, and actuates valves. It digs trenches and buries cables, aligns drills with bore holes, and performs maintenance.... Oil extracted today from beneath 2 miles of water and 4 miles of vertical rock, with 6 additional miles of horizontal drilling beyond that, costs less than the 60-foot oil Colonel Drake was extracting a century ago and about the same as one-mile oil cost in 1980. The pessimistic view, often expressed, is that we have to work harder and harder to find and extract our energy. And so we do. Happily, however, we have more and more highly ordered power at hand to do this work – very intelligently – for us. Energy begets more energy: this is the last and greatest heresy of all, and the most important. The more energy you have, the more you get.

“The Little Ice Age: How Climate Made History 1300-1850”; Fagan, Brian, 2000, Basic Books, New York, NY. 235 pages.

This is a fine little book by a noted professor of archaeology which, while not directed at the global warming (GW) issue, provides some useful insight into the GW discussion, particularly how natural occurrences accompanied by changes in land use and human behavior can effect and be affected by climate. Long-term charts of temperature in Europe for example (the center of focus of the book) indicated that there was a precipitous drop in temperature in the 1200-1300 AD period following a period of relative warmth; and that since the mid-1800’s, temperature has been climbing back to the pre-decline level (not above it).

*The Little Ice Age tells the story of the turbulent, unpredictable and often very cold years of modern European history, how this altered climate affected historical events, and what it means for today’s global warming. Building on research that has only a recently confirmed that the world endured a 500-year cold snap, renowned archaeologist Brian Fagan shows how the increasing cold influenced familiar events from Norse exploration to the settlement of North America to the Industrial Revolution. In viewing history through the lens of climate, **The Little Ice Age** brings together a huge range of sources, from the dates of long ago wine harvests and the business records of the*

14th century monasteries to the latest chemical analysis of ice cores. Fagan weaves this information into a story that will fascinate anyone interested in history, weather and how the two interact.

Read as history alone this is a good story that explains many events that do not ordinarily rate a second thought. Why, for instance, did Washington's men have to push ice away from their boats when crossing the Delaware in 1776; the Delaware does not freeze today? Or does it? Read in the context of the GW debate it suggests some caution before jumping on the "people did it" bandwagon.

Susette Kelo, et al vs. City of New London, Connecticut et al, June, 2005 U.S. Supreme Court

The Fifth Amendment to the Constitution states, in part, "[N]or shall private property be taken for public use, without just compensation." Under the concept of eminent domain, the king was acknowledged to own or control all the land of the realm and the those lower than the king were allowed the use of the land at the indulgence of the king. The "Takings Clause" of the Fifth Amendment, along with several other clauses in the Constitution and, particularly, the Bill of Rights were intended by those who wrote both documents, and who had recent experience with the arbitrary power of a king, to control predatory government impulses by requiring that any taking of private property not only require compensation to the owner BUT must meet a test of being necessary to a "public use". The

Takings Clause has been gradually eroded over time by expansion of the "public use" definition from such obvious things such as roads, forts, and harbors to include privately owned railroads, then "blighted" areas of cities, and finally to regulatory takings where the public takes the property without compensation. Well, thanks to the liberal members of the Supreme Court, the takings clause of the Fifth Amendment has been erased from the Bill of Rights.

Under the **Kelo** decision "public use" is redefined to mean any use that can be conjured up purporting to increase economic benefit to some portion of the "public" whether through increasing tax revenue or some other amenity. As noted by Justice O'Connor in her 13-page dissent, "*Under the banner of economic development all private property is now vulnerable to being taken and transferred to another private owner, so long as it might be upgraded - i.e., given to an owner who will use it in a way that the legislature deems more beneficial to the public - in the process. To reason, as the Court [majority] doesis to wash out any distinction between private and public use of property - and thereby effectively to delete the words "for public use" from the Takings Clause of the Fifth Amendment.*"

Justice O'Connor was appointed by President Reagan who once noted. **'Any government big enough to give you everything you want is strong enough to take away everything you have.'**

Cartoon by Michael Ramirez, LA Times, 6/28/05

RAMREZ

