Award Winning

The Override

Every Landman Wants One!

Volume X, Issue V | November, 2016

LAAPL
Los Angeles Association of Professional Landmen

Presidents Message

John R. Billeaud, RPL
President
Freeport McMoRan Oil & Gas

Dear LAAPL members and friends,

I would like to start out by thanking the WCLI Committee for holding a successful event this year in Bakersfield. We all recognize the tremendous amount of work that goes into planning this event and your efforts are greatly appreciated. I would also like to thank Mr. Sanford Starman (LAAPL member since '68) for graciously donating a collection of AAPG books as additional speaker gifts. We hope our speakers do enjoy the book which is titled "Discoverers of the 20th Century: Perfecting the Search".

Inside This Issue:

~ Click on a topic to take you to that article ~

I find it hard to believe we're already in November and the election season that seemed like it was never-ending has finally concluded. As oil and gas industry workers, all we can do is hope that translates into a vigorous comeback for the industry next year and in the future, despite the fact OPEC is currently reporting record production levels – 33 million barrels per day!

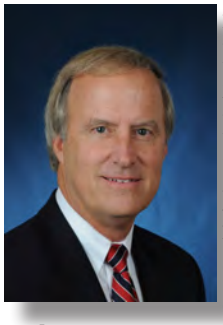
In other news, we are excited to report the LAAPL website is currently in the process of being revamped and we expect it will turn into a more modernized and user friendly website. And, I am pleased to announce Jason Downs has been appointed as Region VIII AAPL Director. Jason's commitment and dedication to LAAPL has been crucial to the association and we know he will do an outstanding job representing LAAPL on a national scale.

We hope you are able to attend our next luncheon being held at the Long Beach Petroleum Club on Thursday, November 17th which will feature our distinguished guest speaker, Dave Kilpatrick. I look forward to seeing all of you there this week.

Regards,

John R. Billeaud, RPL, President

Meeting Luncheon Speaker



To those in the California Oil Patch and beyond, Dave Kilpatrick needs no introduction. Nevertheless, Dave is President of Kilpatrick Energy Group, which provides strategic management consulting services and invests in oil and gas ventures. Dave is in the "board phase" of his career – involved with public company boards, private boards, non-profit boards, and *surfboards.* His career has included assignments with majors and independents in California, Texas, Alaska, and several foreign countries. He is active with many professional associations and serving as a board member with these organizations.

Dave received his Bachelor of Science in Petroleum Engineering from the University of Southern California and his Bachelor of Science in Physics from Whittier College.

Opinionated Corner

Joe Munsey, RPL
Director
Publications/Newsletter Co-Chair
Southern California Gas Company

Before we launch our annual November cheers, allow me a moment of pleasure to just bask in the thrill of gloating and reveling. In fact, the entire fossil fuel industry should breathe a collective sigh of relief to the thunderous and momentous news of the week. It is our turn to tell the "keep it in the ground" crowd to speak to the hand because the face is not listening. Going forward, all local, state and federal politicians, who are either openly pro oil or in the closet, will have legitimate cover to thwart the claims of the anti-fossil fuel industrial complex.

According to a landmark report by the Wyoming Department of Environmental Quality, there is no evidence that frac'ing contaminated groundwater in Pavillion, WY. Randy Hildreth, Colorado Director for Energy in Depth stated, "The report is a devastating blow for the national environmental activist campaign against fracking, which has made Pavillion a key talking point in its effort to shut down oil and gas development across the country. For years, anti-fracking activists have misrepresented and exaggerated the EPA's initial conclusions to support their calls for a nationwide fracking ban."

Really? The EPA is in business to drill, set pipe and operate wells? They are better known earlier this year for spilling toxic mining waste into the Colorado River; giving them the authority to control the drill bit with a joy stick and to set pipe is certainly not what President Nixon had in mind when he created them. Everyone worth two cents and familiar with the EPA's drilling operations and poorly drafted conclusions had immediately pointed out the flaws with their project. I get it, enough besmirching the drilling operations department at the EPA.

Meanwhile…..as of the date of writing this, you have 43 shopping days until Hanukkah, 44 days for Christmas and 71 days to the 58th Presidential Inauguration. Wow, counting the Electoral College votes on Election Day was real interesting to say the least.

Before we leave you for the remainder of the year, and we often repeat this, support our troops around the globe and keep them in your prayers. Enjoy your Thanksgiving and be thankful for this year's blessings. Bask in the joy of Christmas, or Hanukkah, and spread peace on earth towards all.

God Bless America!

LAAPL Appoints New AAPL Region VIII Director

Chapter President John R. "JR" Billeaud, RPL, has appointed Jason Downs, RPL, of Breitburn Management Company, as Region VIII Director for a two year term, which term will run from July 1, 2016 and end on June 30, 2018.

In addition to serving as Region VIII Director, Jason serves as Co-Chair of the LAAPL Golf Committee for 2016 – 2017.

LAAPL would to acknowledge the support of Breitburn Management Company for allowing Jason to handle the duties as Region VIII AAPL Director.

LAAPL and LABGS Hold Annual Joint Luncheon

The Los Angeles Association of Professional Landmen and the Los Angeles Basin Geological Society will hold its joint luncheon in January 2017. Please note the date of the luncheon is the fourth Thursday of January and the location is at the Grand at Willow Street Conference Center.

Lawyers' Joke of the Month

Jack Quirk, Esq.
Bright and Brown

There I was sitting at the bar, staring down at my drink, when a large, trouble-making biker edged in next to me, grabbed my drink, and downed it in one swig.

"Well, what are you gonna do about it?" he sneered menacingly, as I burst into tears. "Aw, come on, man," the biker laughed. "I didn't think you'd CRY. I can't stand to see a man crying."

"This is the worst day of my life," I cried. "I'm a complete failure. I was late to a meeting and my boss fired me. When I went to the parking lot, I found my car had been stolen, and I don't have any insurance. I left my wallet in the cab I took home. Then I found my wife with another man... and my own dog bit me.

"So I came here, to this bar, to work up the courage to put an end to it all. I bought that drink, and dropped the capsule in. I was just sitting here waiting and watching the poison dissolve; and then you show up and drink the whole damn thing!"

"But, enough about me. How are you doing?"

Ed. Comments: Jack is of the opinion Cliff Clement of Macpherson Energy Company is responsible for providing the Lawyer's Joke of the Month.

2015—2016 Officers & Board of Directors

President
John R. Billeaud, RPL
Freeport McMoRan Oil & Gas
661-395-5286

Vice President
Sarah Bobbe, CPL
Signal Hill Petroleum
562. 595.6440 ext. 5275

Past President
Ernest Guadiana, Esq.
Elkins Kalt Weintraub Reuben Gartside LLP
310-746-4425

Secretary
Brandi Decker
California Resources Corporation
(562) 283-2205

Treasurer
Suzy Husner
Independent
562-587-2402

Director
Joe Munsey, RPL
Southern California Gas Company
949-361-8036

Director
Randall Taylor, RPL
Taylor Land Service, Inc.
949-495-4372

Region VIII AAPL Director
Jason Downs, RPL
Breitburn Management Co.
213-225-0347

Newsletter/Publishing Chair
Joe Munsey, RPL, Co-Chair
Randall Taylor, RPL, Co-Chair

Communications/Website Chair
Suzy Husner
Independent
562-587-2402

Membership Chair
Cambria Rivard, J.D.
California Resources Corporation
562-495-9373

Education Chair
TBD

Legislative Affairs Chair
Mike Flores
Luna & Glushon
310-556-1444

Advertising/Hospitality Chairs
Chip Hoover, Independent
310-795-7300
Leah Hoover, Independent
310-795-2272

Nominations Chair
L. Rae Connet, Esq.
PetroLand Services
310-349-0051

Golf Chairs
Jason Downs, RPL
Chip Hoover
Leah Hoover

Chapter Board Meetings

Brandi Decker
California Resources Corporation
LAAPL Secretary

The LAAPL Board of Directors and Committee Members held their regular meeting on Thursday, September 15, 2016 led by President John R. Billeaud, RPL. The topics discussed at the meeting are as follows:

- Contacting America's Trophy Co. to purchase speaker gifts for 2016-2017.
- Sending receipts electronically for the September 15, 2016 luncheon.
- A motion was called and passed to discontinue our use of Dreamweaver software and convert to a Squarespace account for LAAPL's website. Squarespace is a more modern, user-friendly website that will allow the Board and Committee to update, improve and maintain the website on a regular basis.
- A motion was called and passed to create a LAAPL Google Docs Account to store important documents and make them accessible to the Board.

We encourage all members to attend our LAAPL Board Meetings which are typically held in the same room as the luncheon immediately after the luncheon meetings are adjourned.

Treasurer's Report

Suzy Husner
Treasurer
Independent

As of 9/1/2009, the LAAPL account showed a balance of	$26,227.62
Deposits	$1,010.00
Total Checks, Withdrawals, Transfers	$1,194.46
Balance as of 9/30/2016	**$26,043.16**
Merrill Lynch Money Account shows a total	Not available for this report

Scheduled LAAPL Luncheon Topics and Dates

November 17, 2016
David Kilpatrick
Kilpatrick Energy Group
"$100 Oil – Will it Matter?"

January 26, 2017
[4TH Thursday]
Annual Joint Meeting with
Los Angeles Basin Geological Society

March 16, 2017
George Paspal of of Brycon, LLC
"Environmental Due Diligence"

May 18, 2017
Wayne Rosenbaum, Esq., Partner, Opper & Varco, LLP
Jererny N. Jungreis, Esq., Rutan and Tucker
"Stormwater Regulations and Their Impacts on the Californina Oil and Gas Industry"
Officer Elections

New Members and Transfers

Cambria Rivard, JD
Membership Chair
California Resources Corporation

Welcome! As a Los Angeles Association of Professional Landmen member, you serve to further the education and broaden the scope of the petroleum landman and to promote effective communication between its members, government, community and industry on energy-related issues.

New Members

Brandi Decker
California Resources Corporation
111 W. Ocean Blvd.
Long Beach, CA 90802
(562) 283-2205
Brandi.Decker@crc.com

Brennan Guldner
Chevron USA Inc.
9525 Camino Media
Bakersfield, CA 93311
(661) 412-6251
BrennanGuldner@Chevron.com

Transfers

None to Report

Welcome Back [Reinstatement]

None to Report

Mickelson Golf Classic

The 12th Annual LAAPL Mickelson Golf Classic held at Angeles Nationals on Friday, September 16th was another major success to benefit the R.M. Pyles Boys Camp. “Pyles” has been a favored beneficiary of the LAAPL annual golf tournament for several years now.

Established in 1949 by Mr. Pyles, a Huntington Beach oilman, R. M. Pyles Boys Camp is dedicated to the task of building healthier and happier generations of productive young Americans, firmly endowed with the ideals and principles of this Nation. Pyles Boys Camp gives a new confidence in life through a high quality and challenging High Sierra wilderness camp experience. R.M. Pyles Boys Camp continues to follow up with year-round programs to support and reinforce values learned at camp.

With the generosity of those who supported the tournament through gifts and sponsorships, the Los Angeles Association of Professional Landmen is happy to announce that it will be contributing the entirety of the tournament net proceeds to Pyles in the amount of $2,742.93.

Angeles Nationals Golf Club, located in Sun Valley, California, was sunny and perfect weather this year. An estimated 28 LAAPL members and guests enjoyed the Mexican buffet dinner. The tournament committee rounded up a variety of raffle prizes (along with raffle contributions from several members) so most of those in attendance left with a special gift.

Our first place team was sponsored by Boulders Royalty, which included Gideon Powell, Judson Stafford, Ben Atkins and Evan Holtzman. Longest Drive was Bill Weldon of Breitburn. Closest to the pin were Gary Plotner of Maverick and Brit Reiner of CRC. Each carried off a new golf trophy to add to their already sizable collection.

Of course, the young men who attend the R.M. Pyles Boys Camp were the real winners of the day, thanks to the generous contributions of southern California’s professional landmen and their respective employers who sponsored this year’s LAAPL charity golf event. The LAAPL Membership and Golf Committee extend their sincere appreciation and gratitude to each and every sponsor, attendee, and volunteer for their support and generous contributions to this year’s fundraiser.

Educational Corner

AAPL's Home Study program allows members to earn continuing education credits at their own convenience and schedule. The courses cover the issues most relevant to today's landman and cost between $30 and $75 to complete.

To receive continuing education credits via a home study course:

- Download or print out the course (PDF format)
- Answer all questions completely
- Submit the answers as instructed along with the appropriate fee

If you have questions or would like more information, please contact AAPL's Director of Education Christopher Halaszynski at (817) 231-4557.

General Credit Courses:	
Environmental Awareness for Today's Land Professional Credits approved: 10 CPL/ESA/RPL/RL $75.00	#101 Due Diligence for Oil and Gas Properties Credits approved: 10 CPL/RPL/RL $75.00
#102 The Outer Continental Shelf Credits approved: 5 CPL/RPL/RL $37.50	#104 Of Teapot Dome, Wind River and Fort Chaffee: Federal Oil and Gas Resources Credits approved: 5 CPL/RPL/RL $37.50
#105 Historic Origins of the U.S. Mining Laws and Proposals for Change Credits approved: 4 CPL/RPL/RL $30.00	#106 Going Overseas: A Guide to Negotiating Energy Transactions with a Sovereign Credits approved: 4 CPL/RPL/RL $30.00
December 2016	
Oil and Gas Lease Fundamentals When: December 8, 2016 Where: Fort Worth, TX RL/RPL Continuing Education Credits: 6.0 CPL Recertification Credits: 6.0 Ethics Credits: 0.0	**Landman 2.0 Series: Advanced A&D** When: December 16, 2016 Where: Forth, TX RL/RPL Continuing Education Credits: 4.0 CPL Recertification Credits: 4.0 Ethics Credits: 0.0
Oil and Gas Contracts When: January 20, 2017 Where: Fort Worth, TX RL/RPL Continuing Education Credits: 4.0 CPL Recertification Credits: 4.0 Ethics Credits: 0.0	**Oil and Gas Land Review, RPL/CPL Exam** When: January 24, 25, 26 & 27, 2017 Where: Midland, OK RL/RPL Continuing Education Credits: 19.0 CPL Recertification Credits: 19.0 Ethics Credits: 1.0
Working Interest When: January 31, 2017 Where: Oklahoma City, OK RL/RPL Continuing Education Credits: 6.0 CPL Recertification Credits: 6.0 Ethics Credits: 1.0	
#108 Water Quality Issues: Safe Drinking Water Act (SDWA)/Clean Water Act (CWA)/Oil Pollution Act (OPA) Credits approved: 4 CPL/ESA/RPL/RL $30.00	#109 Common Law Environmental Issues and Liability for Unplugged Wells Credits approved: 4 CPL/ESA/RPL/RL $30.00
Ethics Credit Courses: Two ethics courses are available. Each course contains two essay questions. You may complete one or both of the questions per course depending on your ethics credits needs. Each question answered is worth one ethics continuing education credit.	
#103 Ethics Home Study (van Loon) – 1 or 2 questions Credits approved: 2 CPL/RPL/RL & 2 Ethics $15.00 per question	#107 Ethics Home Study (Sinex) – 1 or 2 questions Credits approved: 2 CPL/RPL/RL & 2 Ethics $15.00 per question

Case of the Month - Right of Way

Judge, Not Jury, Must Consider the Constitutionality of a Dedication Requirement and Whether it Qualifies as a "Project Effect"

Bernadette M. Duran-Brown, Partner &
Ricek E. Rayl, Esq., Partner
Law Firm of Nossaman LLP

One issue that can arise in eminent domain actions involving undeveloped (or under developed) property is whether the property being acquired is potentially subject to a dedication requirement. If the property's overall development would require the dedication of all or part of what is being condemned, just compensation can be affected. But deciding what impact, if any, a dedication requirement has on the amount of compensation awarded depends on a complex set of rules involving both federal constitutional principles and analysis of a hypothetical factual construct. If the dedication both passes constitutional muster and survives the hypothetical factual inquiry, the owner receives compensation for the property subject to the dedication at only its undeveloped value. This is because the owner could not realize any "higher," or more valuable, use of the overall property without dedicating that property and, consequently, receiving no value for it, as described in *City of Porterville v. Young.*

A decision last week by the California Supreme Court clarified whether the judge or jury must wrangle with these issues and added a new potential legal issue to the mix: whether the purported dedication qualifies as a "project influence."

In City of Perris v. Stamper, the Court held that the judge must determine whether a dedication requirement is constitutional. More specifically, the judge must consider, under *Nollan v. California Coastal Commission* and *Dolan v. City of Tigard*, whether (1) an "essential nexus" exists between the dedication requirement and the impact the owner's proposed development would have on public infrastructure, and (2) the dedication is "roughly proportional" to the impact of the proposed development at issue. If the judge concludes that the purported dedication satisfies Nollan and Dolan, the judge must decide whether the agency would have in fact imposed that dedication requirement if the owner had sought to develop the property.

Aside from these procedural issues, the Court also held that the Porterville doctrine is not applicable in "situations where it was probable at the time the dedication requirement was put into place that the property designated for public use was to be included in the project to which the property is being condemned." The Court explained that this clarification of Porterville comports with the requirement of California law that "project effects" be disregarded in establishing value.

Background

The property owned by the Stampers was vacant land zoned to allow light industrial development. In 2005, the City of Perris amended its general plan and revised circulation elements in the plan to allow for certain truck routes. Then in 2009, City sought to acquire a strip bisecting the Stamper property for a street realignment project to accommodate one of those truck routes. The City valued the property as undevelopable agricultural land because it claimed it would not have approved any development of the overall property unless the Stampers dedicated the property needed for the street realignment to the City, applying the Porterville doctrine. The Stampers argued that the dedication requirement should not be considered in determining compensation because (1) the dedication requirement was a "project effect" that had to be disregarded, and (2) the dedication requirement was, in any event, unconstitutional under Nollan and Dolan.

The trial court held that it was reasonably likely that the dedication requirement would have been imposed, and that the dedication requirement would have been constitutional. The Court of Appeal reversed, holding that the jury – not the judge – should have considered the dedication requirement issues, and that in any event, the trial court had made errors in its Nollan/Dolan analysis. The Supreme Court granted a Petition for Review to analyze both the question of whether these issues are properly for the judge or jury to decide, and to determine whether the "project effect" rule applies to dedication requirements.

Determining the Legality of Dedication Requirement

Nollan and Dolan set forth the analysis required to determine whether a dedication requirement is constitutional. Under Nollan, the dedication requirement must have an "essential nexus" to the public purpose that would be served by denying an owner's development permit. In the Nollan case, the Court held that it was unconstitutional for the state to require that a

Case - RoW
continued on page 8

AT PURPLE LAND MANAGEMENT, WE BELIEVE THERE'S A DIFFERENT WAY TO PROVIDE LAND SERVICES. A WAY THAT BUCKS INDUSTRY CONVENTIONS IN FAVOR OF NEW IDEAS THAT ACHIEVE BETTER RESULTS. A WAY THAT USES THE LATEST TECHNOLOGY TO DRIVE DOWN COSTS AND AMP UP EFFICIENCIES. A WAY THAT SEES OUR WORK AS PART OF A REVOLUTION DESIGNED TO MAKE OUR COMMUNITIES AND OUR COUNTRY BETTER. THIS WAY IS THE PURPLE WAY- AND IT'S THE HEART AND SOUL OF WHO WE ARE, WHAT WE DO AND HOW WE DO IT.

OUR SERVICES

- LEASE NEGOTIATION & ACQUISITION
- RIGHT-OF-WAY ACQUISITION
- TITLE SERVICES
- PROJECT MANAGEMENT
- GIS CONSULTING
- COMPLEX CURATIVE
- ACQUISITION DUE DILIGENCE
- MITIGATION BANKING

WWW.PURPLELANDMGMT.COM

PLM - WEST
BAKERSFIELD, CA

facebook.com/PurpleLandMgmt @PurpleLandMgmt @PurpleLandMgmt

Case - RoW
continued from page 6

property owner grant an easement across his property for public beach access as a condition of rebuilding his home because there was no "nexus" between the dedication requirement (a beach access trail) and the owner's plan (rebuilding a home). In Dolan, the Court held that any dedication requirement must be "proportional" to the impact of the property owner's planned project. For example, if an owner's proposed project would generate additional traffic burdens on public streets, the amount of the dedication must be "roughly proportional" to the amount of traffic the development will create.

Prior to Stamper, it was not clear whether the judge or the jury made the constitutional determinations under Nollan and Dolan. The Stamper Court first considered the jury's role and emphasized that its role is limited to "factually intensive questions directly related to compensation" and "not to any other issues that arise in the course of condemnation proceedings." The judge is to determine all other issues, whether they are questions of fact or mixed law and fact, including legal questions that affect compensation. The Court was also convinced that judges, not juries, are best equipped to consider whether legislative bodies are wielding their lawmaking powers appropriately.

The Court thus held that the Nollan and Dolan analyses qualify as mixed questions of law and fact which are for the judge to decide. The Court further held that the related question – whether the agency would in fact have imposed the purported dedication requirement if the owner had sought to develop the property – was similarly a question for the court, not the jury.

Project Effect Rule

The Court then turned to the project effect or project influence rule. Code of Civil Procedure section 1263.330 provides that the determination of fair market value shall not include any increase or decrease in value attributable to the proposed project, the eminent domain action, or any preliminary actions of the public agency to acquire the property. In other words, if the project itself raises the value of the property being taken, the owner does not get compensated at that higher value. Conversely, if the project diminishes the property's value, the agency cannot take advantage of that to pay the lower amount.

The Supreme Court agreed with the Stampers that a dedication requirement can qualify as a project effect and, if it does, the Porterville doctrine does not apply. The Court explained that Porterville applies when the agency can show the dedication

Case - RoW
continued on page 9

requirement reflects the agency's "original expectation that an improvement would occur as a result of development of adjacent properties in order to mitigate the impact of such development" and not "when a dedication requirement is put in place after it becomes probable that the property subject to the dedication will be included in a project and the agency subsequently seeks to condemn the property." In other words, if the project itself gives rise to the purported dedication requirement, the dedication is a project effect and must be disregarded, negating Porterville's application.

Conclusion

This opinion seems a little like a bait-and-switch because the Court went through a detailed analysis of all of the relevant principles and the law when considering the constitutionality of a dedication requirement, and a reader could be led to think it would render an opinion as to the constitutionality of the present dedication requirement. The Court, along with the dissent, even signals that there are serious questions about the constitutionality of the City's dedication requirement, but ultimately the Court simply remands the issue for further consideration by the trial court.

More specifically, the Court remanded the case to determine two issues: (1) whether it was reasonably probable that the Stamper property would have been included in the project at the time the city imposed the dedication requirement, and (2) whether the dedication requirement is constitutional given that it would comprise twenty percent of the property.

Last, while many of the articles on this case have focused on the role of the judge versus the jury, the ruling on the "project effect" doctrine may well turn out to be more significant. The Court's ruling on project effect is fairly straightforward and easy to understand, and is a huge win for property owners. But the practical effect of the ruling and how it will be implemented remains, for now, a mystery.

Ms Duran-Brown can be reached at bduran-brown@nossaman.com.

Mr. Rayl can be reached at rrayl@nossaman.com.

Brackish Water: A New Moneymaker For Texas Landowners?

Oil is Not the Only Multi-Horizon Resource Play in the Permian Basin

By ***Gabriel B. Collins, Esq.***

Mr. Collins is the Baker Botts Fellow in Energy & Environmental Regulatory Affairs at Rice University's Baker Institute for Public Policy and the Founder of Texas Water Intelligence.

Oil is not the only multi-horizon resource play in the Permian Basin. Brackish groundwater also increasingly offers landowners a chance to make money from water sales to the oilfield and other consumers while preserving the precious Ogallala Aquifer and other freshwater layers under their land. (1) Imagine the following scenario:

Dry conditions are hitting Sarah's ranch in Gaines County, TX hard. The drought has slashed cotton yields and forced her to sell half of her once formidable cattle herd. Compounding matters, the Ogallala Aquifer under her ranch is depleting fast, and many wells are becoming less productive and spit a bubbly, air-infused water. Sarah cannot bear the thought of selling a ranch that has been in the family for 100 years and must rapidly identify and monetize other assets the ranch might have. Her father sold the ranch's minerals long ago, but another asset located deep underground just might save the family's ranch: deep Santa Rosa brackish water for which oilfield users will pay her more than $0.25/barrel.

Brackish groundwater is rapidly becoming an important industrial commodity in the Permian Basin. It is abundant and using it avoids competition for scarce freshwater, thus enhancing the oil industry's social license to operate. Indeed, fracing a long-lateral well in core parts of the Permian Basin may require as much as 350,000 bbl of water, according to FracFocus data. Completing 400 of these wells uses nearly as much water as the City of Midland does in a year. And that figure would equal only a small portion of the more than 7,700 oil wells that were completed during 2015 in Texas RRC District 8, which covers many of the most productive areas of the Permian and Delaware Basins.

As is often the case, the law trails behind developments on the ground and industry participants have worried about the parameters of brackish water ownership in Texas, with one prominent executive noting that *"I caution people when they're planning on using a lot of brackish water and Santa Rosa-type water. Ownership will be an issue going forward. I think people are looking at who owns brackish water; it's a bit of a gray area right now."*

The caution of certain industry participants notwithstanding, brackish water ownership is in fact much clearer under Texas law than many potential users have thus far believed. **Based on existing statute and case law, as well as actual practical treatment of brackish water in deals done so far, there is in fact a robust brackish water estate under Texas law**. Being able to legally defend the existence of this estate is very important for two core reasons. First, it enables landowners to maximize the economic value of their tracts via lease or sale of brackish water without jeopardizing their ownership of the surface.

Second, courts needing to adjudicate disputes over a severable brackish water estate would be able to tap into a decades-old, richly developed body of split estate jurisprudence capable of providing guidance under numerous scenarios. This in turn would reinforce the water's economic value by increasing legal predictability and reducing a fundamental risk factor that might otherwise lead potential investors to unduly discount the resources' value.

Texas Law Supports Brackish Water Ownership

1. Legal Support for Surface Owner Ownership and a Brackish Water Estate

Texas law clearly affirms that groundwater is a form of real property that goes with the surface unless severed or otherwise reserved. *Edwards Aquifer Auth. v. Day*, 369 S.W.3d 814, 832 (Tex. 2012); Tex. Water Code Ann. § 36.002. As such, the core question is whether the law will also accord brackish water the same status. A step-by-step walkthrough strongly suggests that the answer is "yes", the law treats brackish groundwater the same as it views less saline water such as the Edwards Aquifer waters that Day was litigated over.

1. **Brackish water pumped from a well is groundwater**. The Legislature defines groundwater as meaning "water percolating below the surface of the earth." Water Code Ann. § 36.001. Texas courts have long held that underground water capable of being obtained via a well is "percolating." Texas Co. v. Burkett, 117 Tex. 16, 29, 296 S.W. 273, 278

Case - Oil & Gas
continued on page 12

(1927).

2. **Groundwater is owned as real property in Texas**. The Legislature "recognizes that a landowner owns the groundwater below the surface of the landowner's land as real property." Water Code Ann. § 36.002 (West). So brackish water in Texas—unless otherwise conveyed—goes with the surface and is owned by the surface owner as real property.

3. **Texas law does not distinguish between groundwater types based on salinity or depth**. Neither Day nor the Texas Legislature make any ownership distinction based on the salinity or potability of groundwater under a tract of land. To boot, none of the signature Texas groundwater cases leading up to Day—a case line more than 110 years old—distinguishes between "fresh" water and more saline waters.

The one Texas Supreme Court case that did focus on water salinity as a potential determinant of groundwater ownership delivered a clear message: salinity bore "no consequence upon ownership." Robinson v. Robbins Petroleum Corp., Inc., 501 S.W.2d 865, 867 (Tex. 1973). And in this case, the water in question was produced from a deep oil & gas bearing formation, a much more extreme end of the hydrogeological spectrum than the brackish aquifers found in many parts of Texas. Despite the fact that the water was produced from a converted oil well, the Court nonetheless determined that the water was "an incident of surface ownership in the absence of specific conveyancing language to the contrary." Id. The Robinson Court pointed out that in essence, highly saline produced water from a deep layer (even an oil & gas bearing one) was just another form of groundwater.

The bottom line is that brackish water appears to enjoy the same status as less-saline groundwater. This in turn broadly supports the idea that brackish water under a tract is part of the groundwater estate and should give comfort to those who might seek legal re-assurance that they can lease or sell brackish water from under their land.

1. **What Parties Are Doing in Practice With Brackish Groundwater**

Many parties have long assumed that they owned the brackish water under their tracts and operated accordingly. The author has reviewed multiple water lease and sale agreements from the Permian Basin and Panhandle that specifically reserved portions of the groundwater estate based on depth and/or potability. These agreements involved sophisticated sellers, including University Lands and a large independent cattle feeder. The contracts I reviewed date back as far as 1969, so the view that specific groundwater layers may be reserved (and are thus severable sub-portions of the groundwater estate) has decades' old historical roots.

More recently, STW Resources has leased Capitan Reef brackish water rights from the City of Fort Stockton and also reached royalty agreements with ranchers for the sale of brackish groundwater in Upton County. Recent developments in the Permian Basin—Texas's most active brackish water marketplace—illustrate the two fundamental pathways presently dominating brackish water use.

First, some E&P operators are investing in large-scale proprietary water supply systems that allow them to blend treated produced water, reclaimed water purchased from cities, and brackish water from the massive Santa Rosa Aquifer in order to conduct fracing

Case - Oil & Gas
continued on page 14

FREEPORT-MCMORAN OIL & GAS

PROUD SPONSOR OF LOS ANGELES ASSOCIATION OF PROFESSIONAL LANDMEN

San Joaquin Valley & Central Coast Office
1200 Discovery Drive, Suite 100
Bakersfield, CA 93309

Jennifer L. Cox
Land Manager
Phone: (661) 395-5276
Fax: (661) 395-5294
jcox@fmi.com

John R. Billeaud
Landman
Phone: (661) 395-5286
Fax: (661) 395-5294
jbilleau@fmi.com

Michelle Rauser
Land Technician
Phone: (661) 395-5519
Fax: (661) 395-5294
mrauser@fmi.com

Los Angeles Office
5640 S. Fairfax Ave, Los Angeles, CA 90056

Charlotte Hargett
Land Technician
Phone: (323) 298-2206
Fax: (323) 296-9375
chargett@fmi.com

Case - Oil & Gas
continued from page 12

operations without competing for scarce local freshwater supplies. Second, parties are selling brackish water to third-party vendor/treaters such as STW, who are contracting with local landowners to lease brackish groundwater rights and sell treated brackish water to oilfield customers.

My sense is that certain E&P operators who have built large proprietary water handling systems with excess capacity would, under the right conditions, consider selling access on their systems to third party suppliers and buyers. Low oil prices have obscured this possibility over the past 18 months, but it is one with real merit, since it offers infrastructure situated near potential sources of supply and consumers, would allow the E&Ps to monetize excess system capacity, and lower the capital barrier to entry for market participants who might otherwise not be able to fund system infrastructure footprints that cost tens of millions of dollars.

Brackish water has made deeper inroads into the Texas oilfield water supply picture in recent years. Concerns over drought and social license to operate are driving operators to find ways of weaning themselves off of freshwater, particularly in the arid Permian Basin, where intense oil & gas activity levels can strain relations with landowners and other parties who perceive industry as a competitor for water supplies.

Texas law strongly supports a severable brackish water estate and brackish water sales offer a potential windfall for ranchers and farmers in the Permian Basin who otherwise could not have made full use of the water in their agricultural operations (because they would have had to dilute it with freshwater) and also could not have sold it to cities without expensive desalination.

Greater oilfield needs, drought, technological advances, and better understanding of the industrial-scale groundwater resources underlying many parts of Texas are driving the growth of an increasingly dynamic market for brackish groundwater. The next analysis in this series will discuss the prices brackish groundwater is fetching in various transactions across Texas, which will help gives landowners a baseline sense as to what their resources could be worth.

Mr. Collins can be reached at *gabe.collins@rice.edu*.

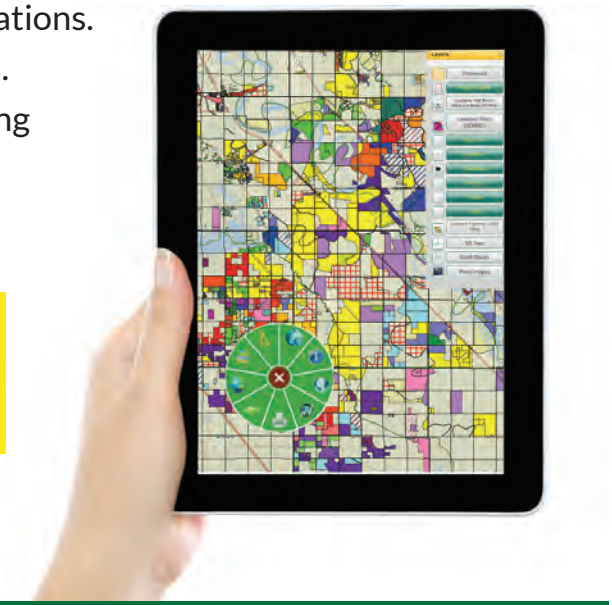
This analysis in no way, shape, or form, constitutes legal advice nor does it create any type of attorney-client relationship. Parties seeking legal advice or representation should contact the author directly.

(1) In Texas, brackish water is often defined as "water containing total dissolved solid (TDS) concentrations of between 1,000 and 10,000 milligrams per liter (mg/l)." For comparison, seawater typically has a TDS of at least 35,000 mg/l.

Lease management software for the modern E&P.

Get your E&P company on the right track with our powerful database system that automatically:

- Tracks lease expirations and extension payments.
- Schedules shut-in payments and drilling obligations.
- Monitors vertical and horizontal pugh clauses.
- Creates division orders and joint interest billing decks by unit, well, and depth.



Contact us today to schedule your free demonstration!

iLandMan™
INNOVATIVE LANDMAN SOLUTIONS

sales@ilandman.com
1-888-856-6579
www.ilandman.com

Legislative Update

by Mike Flores
Legislative Affairs
Luna & Glushon

Santa Barbara Supervisors Deny Orcutt Project

The Santa Barbara County Board of Supervisors voted to deny the appeal of the Pacific Coast Energy Company's Orcutt Hill project, after hours of public comment and discussion. With supervisors Peter Adam and Steve Lavagnino dissenting, the board voted 3-2 to deny the project, which was appealed after the Planning Commission voted against the project in July. PCEC submitted its application to double the number of oil wells at its 1555 Orcutt Hill Road facility, which has 96 wells now.

Monterey County Approves HR Ban

The Monterey County, Calif. residents approved a ballot measure to ban hydraulic fracturing on Election Day. The ban, dubbed Measure Z, received nearly 56 percent of the vote, meaning Monterey County is now the seventh county in California to ban fracking. It's the first county with a sizable oil sector to ban fracking.

Measure Z bans not only ban fracking, but also another oil production technique using acid to extract oil. The county's existing 1,200 existing oil wells will be allowed to continue operating.

Results of Elections Keep Dems in Control

Democrats maintained their majorities in both chambers. With all 80 Assembly seats up for election, Democrats gained three seats and Republicans lost three seats giving the Democrats a 55-25 majority. In the Senate, 20 of the 40 seats were up for election. Democrats lost one seat, but retain their majority 25-14. There is one seat that has still not been decided.

Los Angeles Adopts new Regs on Oil Operations in Wake of Lawsuit

The City of Los Angeles recently settled a lawsuit with anti-oil activists.

In the wake of the surprise settlement, the city also announced new regulations on oil operations in the city including:

- Creating different environmental assessment forms for oil operations than any other type of business in the city. Before this change, all businesses used the same environmental assessment form. The city has arbitrarily created a form for oil drilling, but every other type of use uses the same type.
- The indemnification requirements attempt to transfer an unprecedented amount of the city's legal liability to each oil operator. For instance, if the city is sued by a mineral owner because their regulations amount to a property rights taking, they attempt to make the operator liable for paying the damages.
- Raises fees significantly. Current fees are about $5,000 per well; the new fee structure ranges from $90,000 – 157,000 for a new well or modified well.

Legislative
continued on page 18

Legislative
continued from page 16

The legal publication, the Daily Journal, and the Los Angeles Business Journal have both written stories about this unprecedented legal maneuver. CIPA CEO Rock Zierman was quoted as saying, "Every development and business interest in the city that is impacted by (the California Environmental Quality Act) should be alarmed at this maneuver, as it sets a very dangerous precedent, and (is) an exertion of power beyond the city's authority. CIPA believes once the truth comes out, the court will invalidate the new regulations and preclude them from being implemented against stakeholders in the city."

The next legal steps in this case are up in the air. CIPA has filed a cross complaint against the city and plaintiffs challenging the settlement, but the City and Plaintiffs filed a Joint Notice of Removal, which would move the case from state to federal court.

Department of Water Resources Announces Public Meeting to Discuss Best Management Practices

The Department of Water Resources (DWR) Sustainable Groundwater Management Program has announced a series of public meetings to solicit input regarding Best Management Practices (BMPs) as well as other Groundwater Sustainability Plan (GSP) guidance information. The Sustainable Groundwater Management Act (SGMA) directs DWR to develop BMP's for the sustainable management of groundwater basins.

The meetings are an opportunity to discuss BMPs and GSP guidance information and to allow stakeholders an opportunity to provide feedback to DWR. The draft BMPs will be posted on DWR's website prior to the public meetings here.

Thursday, November 17, 2016
1:00 P.M.
Delhi Community Center, Ballroom
505 E. Central Avenue
Santa Ana, CA 92707

U.S. Chamber of Commerce Study Says Banning HF Will Cost Millions of Jobs

A ban on hydraulic fracturing would kill 14.8 million jobs and cost the average American family $4,000 dollars, according to a new report by the U.S. Chamber of Commerce.

Were environmentalists to successfully ban fracking next year, 3.9 million jobs would evaporate in 2017, rising to 14.8 million jobs lost by 2022, according to the report. Gasoline prices would almost double as would electricity prices. U.S. household incomes would fall by $873 billion.

"It's easy for politicians and activists to call for an end to hydraulic fracturing—but now we know what the consequences could be," Karen Harbert, president and CEO of the Chamber of Commerce's energy program, said in a press statement.

"Without fracking, the U.S. would surrender our status as a global energy superpower," Harbert said. Manufacturing and energy would be the industries most harmed by a fracking ban according to the report, which was conducted by economists

Legislative
continued on page 20

Legislative
continued frompage 18
from the Energy Institute. The states most impacted by such a ban would be Colorado, Ohio, Pennsylvania, and Texas, all of which would suffer hundreds of thousands of lost jobs.

Additionally, American foreign policy would also suffer as fracking triggers a boom which allowed the U.S. to pass Russia as the world's largest producer of both oil and natural gas.

Federal numbers back the report's claims. Cheap oil and natural gas provided by fracking lower the annual cost of living for the average American by almost $750, according to a report published in May by the federal Energy Information Administration (EIA). Fracking-produced cheap natural gas caused energy prices to drop by 41 percent over the course of 2015, according another EIA report published in January.

FED Regulators Propose New Safety Procedure for Underground Gas Storage

Federal regulators, responding to the Aliso Canyon gas leak, have proposed new safety procedures for all underground natural gas storage facilities in the nation.

The new procedures, developed by the U.S. Department of Energy, will be overseen by the Department of Transportation's Pipeline and Hazardous Materials Safety Administration when enacted.

In addition to Aliso Canyon, operated by Southern California Gas Co., which is the largest in the nation, California has another major underground gas storage facility at McDonald Island in San Joaquin County, which is operated by Pacific Gas & Electric Co.

"We wanted to take advantage of the lessons learned from Aliso Canyon and analyze how we could apply those lessons to the more than 400 underground natural gas storage facilities in the country," said Franklin Orr, an undersecretary at the U.S. Department.

Guest Article

You Will Never Look at Daily Oil and Gas Prices the Same Ever Again

By, David Melton, AAPL, NARO
Founder/ CEO Institute of Energy
Management, LLC

What is the daily price of oil? It is an hourly flash intermitted with the weather on a bank sign on Wall Street in downtown Midland. It is something people love to change to justify buying or selling projects. It is something people use to make or lose money in the stock and commodities market.

It's not something Veterans to the industry, who are more concerned about developing and exploring for oil and gas reserves rather than building stock values, pay that much attention to except as becoming a barometer for buying, drilling or selling opportunities. Daily prices make for great stories of how you should get in now from stock and commodity brokers. They have no bearing whatsoever in knowing how to calculate safe and predictable price points to assist you in investing into or selling oil and natural gas ventures.

Determining values of oil and gas reserves has nothing to do with investing into the oil and gas futures market; they are two totally different things. That rise and fall of DAILY prices is driven by a different set of circumstances, which do play a part of the overall process in the final analysis, as you'll see later.

Most younger people in our industry today do not know what it is like to experience extreme low oil and natural gas prices. Or, what it's like just trying to keep your head above water during such times, much less turning a profit. Food for thought: Do you have a basis to determine your break-even price point in today's world?

My "wish list" breakeven price point, today and in the past, has been $17.56 per barrel and $1.36 per mcf. That is ½ of the past 46 years' average price for both products. Yours may be slightly higher, depending on your circumstances, i.e. overhead costs.

What I have learned over the past 38 years of personally buying and selling interest in over 500 wells, drilling and operating prospects, and investing in and selling working interest in wells I drilled in Oklahoma, Texas and California is how to avoid costly misevaluations of projects and operating costs versus the proper value of daily production, recoverable reserves, and development of properties over a set period of time.

If you want to invest directly into oil wells or buy reserves and minerals, you need to use formulas such as the ones presented and discussed herein, to make an intelligent decision regarding purchase price points, break-even price points and return on investment values along with establishing price point risk analysis.

Knowing how to calculate these values in a predictable and safe manner will place you in a much better position than the vast majority of those in our industry today.

Every oil and gas interest comes with its own unique set of characteristics that play a vital role in the overall value of that interest. The purpose of the evaluation process is to develop an opportunity to make a fair and reasonable return on investment over a certain period of time.

Simply and quickly throwing out a price value is dangerous, especially those based on some multiple or some what-if process (i.e.; I think oil is going to go up because….), and rarely do they produce results which reflect your anticipated success level.

Though the purpose of the evaluation is easy enough the process is anything but. Identifying, gathering, processing, and evaluating the data required to estimate future cash flows is often tedious and laborious.

Most of the data gathered will often be used to prepare production decline curves and discounted cash flow analysis models, which represent the largest aspect of the evaluation process.

But, whatever the process is, it all boils down to the price and value you place on the oil and/or natural gas recoverable reserves, their life expectancy and price point risk evaluation. This article is designed to give you some insight as to how this valuation process works. It may be new and different, but it definitely works and should not be discounted.

Never Look at Oil Prices
continued on page 23

Never Look at Oil Prices
continued from page 22

Deciding whether to buy oil reserves, interest in producing wells, working interest in wells to be drilled, or producing and nonproducing minerals, is rarely a simple decision. From investment diversification requirements, risk tolerances or possibly immediate or future cash flow needs, your specific reasoning is likely to vary quite differently from someone else's reasoning. With that being said, please consider the following items.

The historical prices I used for both oil and natural gas discussed came from reliable sources, such as Henry Hub and NYMEX, but may vary slightly from other sources. If you are working in the land department of an oil company, you may not know or need to have access to this information, but being a landman and then an owner/operator, I had to understand this process and many other related issues to be able to accurately determine my true break-even price point and if there's an adequate amount available for my company's operational overhead and future development needs.

If you stop and think about it, you can't drive a car without looking in your review mirror. So, too, you shouldn't try to guess what oil and natural gas prices are going to do in the future without looking back at history. President Harry Truman was quoted as saying "there's nothing new in the world except the history you do not know". For me, I look for my upside value over the economic life of the project being based on yearly average oil prices from January 1975 to December 2015 and natural gas from January 1970 to December 2015. Anything above this is pure profit.

If I use these numbers over the life of the project, I can be confident they are achievable. Therefore I avoid falling into the trap of using or listening to the opinion or what-if method, which most people use. It is important to remember that there are always convincing arguments in these methods, just don't buy into them.

Oil prices started to increase sharply in 1975 after President Nixon put an end to the gold backed U.S. dollar system and created the 'petrodollar' system in 1973. In 1975 all of the OPEC nations had agreed to price their own oil supplies exclusively in U.S. dollars in exchange for weapons and military protection against certain countries, like Israel. By 1975 the OPEC nations agreed to price their own oil exclusively in U.S. dollars in exchange for our military protection. The volatile nature of this system started showing its ugly head in 1974 during what was called the 'Oil Embargo'. If you were there, you will remember it was horrible – no gasoline. If you are not familiar with petrodollar system, I strongly suggest you research it.

It is important to look at history before setting parameters in determining price points. So, consider the following: "You may be surprised to know that in 1859 oil was selling for around $20 per barrel, then dropped to $1 in one year and stayed around that price until 1945 when it started to steadily rise. Prices did not reach the $20 mark again until the late 1970's. The past 71-year average price of oil from 1945 to the end of 2015 is $21.64 per barrel. Yearly average oil prices over this time frame have seen lows below $2 and highs above $91. However, there have been months where oil was over $100 per barrel. The highest single yearly average price of oil from 1970 was $91.48 in 2008 and the lowest single yearly average was in 1998 when it was $11.91 per barrel."

157-year average = $11.22

71-year average = $21.64

41-year average = $35.13

36-year average = $37.79

31-year average = $38.63

26-year average = $42.51

21-year average = $48.11

16-year average = $57.87

11-year average = $75.00

The following was an article in the Daily Oklahoman dated April, 20 1999 by Mr. Bob Vandewater – Staff Writer. This is a flash back to the not so distance past and should be a forecast for the future. It states: "Posted prices for Oklahoma crude oil Monday rose above $15 a barrel for the first time since January 1998."

"Such major crude buyers as EOTT Energy and Sun Marketing and Refining, two of the state's

largest, increased their basic paying price for Oklahoma Sweet crude, the state's most plentiful grade of oil, by 50 cents per

Never Look at Oil Prices
continued on page 24

Never Look at Oil Prices
continued from page 23

42-gallon barrel. That brought the price to $15.25 per barrel, up from December's 1998 price of $8, which on an inflation-adjusted basis represented the lowest price since the 1980's."

"Many Oklahoma oil producers have said they need at least $14 to $15 a barrel for the wells to break even financially. Buyers Monday also raised their bids for Oklahoma Sour oil by 50 cents, bringing its price widely up to $12.25 per barrel, compared with a low of $5 in December 1998."

"Prices for domestic crude oil have been rising gradually thus, strengthened in part by an agreement last month by some major petroleum producing countries to trim their production in a move to improve values."

"Monday's (April 20, 1999) increases in posted oil prices in Oklahoma followed the close of trading on the New York Mercantile Exchange, where the futures contract for May deliveries of light domestic crude closed at $17.33 per barrel."

"That was up 46 cents for the day and marked the highest closing price since February 1996."

"Oil futures so far have made up more than 40 percent of their fall from $26.80 in December 1996 to a low of $10.35 in December of 1998." "Members of the Organization of Petroleum Exporting Countries and some key non-OPEC producers agreed in March 1999 to cut output by2.1 million barrels a day, effective April 1, 1999 on top of the more than 3 million barrels producers agreed to cut last year."

"Signs of implementation of the output cuts have been wearing down the agreements' naysayers, analysts said."

"In the last few weeks, OPEC members, including heavy hitters such as Saudi Arabia, Kuwait and Iran, have alerted customers that April and May oil sales will be reduced."

"The OPEC cuts are having an impact", said Jim Fletcher, senior vice president at energy futures' trader ED&F Man in New York.

"You may not have full compliance yet, but when you have refineries starting to be told there's less oil available the markets get nervous."

Flash forward to 2008, just 9 years later, Oklahoma Sweet crude sold for that year at an average price of $91.48 per barrel

Never Look at Oil Prices
continued on page 25

Never Look at Oil Prices
continued from page 24

- a 600% increase above the 1999 spot price of $15.25. What a difference just a few years make. The yearly average price per barrel of oil in 1998 was $11.91, which was very close to equaling the average yearly price from 1859 to 2016 of $11.22 per barrel.

You'll see in this article why I like starting with breakeven price points of $16.83 per barrel and $1.36 per mcf, and go from there.

Throughout our history, especially since 1975, every ten years or so we have a major price drop.

Anything can happen. You can't live in a fantasy world thinking that oil prices are going back up to those high levels anytime soon and stay there. If they do, that should be your windfall; not some predicted profit margin.

The year 2008 was a history making year in that the oil industry experienced the highest yearly average in its history, since 1859. However, just one year later, in 2009, oil dropped 58% for a yearly average price of $53.48 per barrel.

Then, yearly average prices started going back up to reach its second all time peak in 2013 when the yearly average price of oil reached $91.17 per barrel. However, this trend was short lived as well. Prices started dropping to reach $48.80 in 2015. This was a 53% drop in just 2 years.

Over the past 157 years the industry has only seen two years where the average price of oil was above $90 a barrel. If you look at a time frame from 1975 (turning point year) through 2015, oil has averaged $35.13 per barrel.

However, during that time period, from 1975 through 2015, oil prices were below that average price 69% of the time at $20.21 a barrel.

So, to put it into perspective, safe breakeven oil prices have always been considered to be in the $15 to $20 range, even today. And, they allow you to achieve a 2:1 as a minimum ROI.

There are a lot of deciding factors which will govern what you decide is your breakeven price point. Make 100% certain you know all of your numbers before investing!

Setting a purchase price for oil and gas drilling projects and/or production is a continual moving target and you have to look at price histories to be able to set the future values. As a reminder, you need to look at such things as recoverable reserves, the number of developmental wells, cost of development (CAPEX), producible formations behind pipe, production enhancement techniques, expiration dates on leases, royalties, lease operational expenses, admin/overhead costs, tax issues, insurance, and the big elephant in the room oil and gas prices. You must know and understand how to use these price histories in order to create a solid economic basis, i.e. valuation process.

Negotiating practices are becoming more and more difficult and require a wider range of viewpoints that didn't play a part until 2005. The reason for this is that in 2005 oil and natural gas prices started rising above levels never before seen in the previous 146 years of the oil and gas industry. NOTE: As in 1973 and 1975, 2005 oil prices were influenced by the middle east. They started a new regime in 2005, which was less amicable for the U.S. But, from 2005, oil prices started a history of making a record-setting upward trend to 2014. During that time, companies tasted the highest prices ever in the history of the oil industry. Even though prices have dropped since 2014 everyone now still believes that higher prices are just around the corner. So, if someone says "this is what I want" as a sales price you have to know if that price is feasible, achievable and how much room you have to negotiate to make the purchase price a safe one.

Before you can successfully negotiate the PSA you first have to determine the economic parameters:

1. The costs to develop and operate the property -What is the break-even value?
2. The economic life of the project and its hold backs for future abandonment issues.
3. The lifting costs, royalties and lease operating costs including insurance policies.
4. The AFE costs for future development.
5. Potential values for future development along with a development timeline strategy.
6. The Admin/Overhead costs and taxes associated with the economic life of the project.

If you focus on breaking even, the rest is pure profit. When purchasing production or leases to drill, you must know the economic life of the project. The key word is economic. As previously mentioned production declines, but unexpected

Never Look at Oil Prices
continued on page 26

Never Look at Oil Prices
continued from page 25

decline rates when prices are high can still extend the economic life of the well. In other words, production is still sufficient to be deemed economical. Obviously, the opposite is true when prices are down and you may not be able to afford to continue producing.

NOTE: Most private equity groups look for a minimum Rate of Return of 2:1 over a 10-year period. Although, since determining an Internal Rate of Return on a declining asset is difficult, you can use an overall Return on Investment within a certain time period to arrive at one.

Therefore, if you are purchasing existing production that has several proved undeveloped ("PUD") locations to drill, these future wells can and should be considered in the valuation process based on their recoverable economic reserves (not just the total). However, when placing a value on these additional developmental wells, you have to know how to determine the geological risks (channel sands vs structural plays) and know what the AFE costs and other costs, such as seismic, are estimated to be (as of the day you are looking at it) to be able to determine your break-even price point. If you are being shown formations that are considered proved - behind the pipe, it is not a good idea to place a high value on these because it may take some time before you can realize any value from them (the existing wells have to stop producing first unless comingling is approved).

Keep in mind; everyone has an opinion as to what oil and gas prices are going to do. History (since 1970) has shown that all of these types of predictions are meaningless. Again, the only thing you should look at to better determine your 'breakeven' point is price history, not current or daily prices. In addition, you need to establish a baseline and average price ranges. For example: A project for sale has an economic life span of 10 years. The Seller has used oil prices of $49.70 to determine the sales price. However, at the time, the current price of oil was $33 per barrel (2015).

So, what are some questions you should ask yourself and how would you use a historical look to determine a potential break-even price point? Would you buy into the argument that for the last 11 years oil has averaged over $70 per barrel and speculate it will go back up soon? If not, what price would you use? As they say, you have to take the good with the bad, so let's look at how the previous 10 years compared with history.

As previously stated, the average annual price of oil from 1859 (when the oil business started) through December 31, 2015 was $11.22 per barrel. However, there is a history of natural gas prices since 1970 (price records beyond this timeframe are not available) through 2015 which averaged $2.73 per mcf. In April 2016 (17 years after April 1999), the average oil and natural gas prices were $35.45 and $2.19 for the year, respectively.

From 1970 to 2015, oil and natural gas prices were below this 46 year average 69% of the time and were above it 31% of the time. If you don't observe this in trying to establish a breakeven price point, you could be in serious trouble without even knowing it. This was made clear as oil and natural gas prices dropped dramatically in 2015, thus causing many oil companies to file bankruptcy because their price of entry, operating costs and break-even points were too high along with their lifting costs. The past 41-year (1975 to 2015) average is $35.13 per barrel and represents that period of time during which the average oil price was above the 157-year 'Baseline' figure of $11.22 per barrel. The year 1945 marked the end of WWII and started the baby boomer generation - buying cars, houses, moving to the suburbs, things were on the move again in the U.S.

Oil prices started to slowly rise from 1945 never to fall back again to those previous low levels of around $2 to $3 per barrel. This time period (1945 to 2015) shows the yearly average price of oil was $21.64 per barrel.

It's easy to appreciate the significance of this historical picture and understand why I chose those time periods to use as several key starting points in creating critical yearly average price scenarios, which I use throughout this article and in my business.

When the oil embargo hit in 1974 and 1975 you can see that the price of oil climbed sharply above the 157-year average price of $11.22 per barrel and has stayed above it ever since. Although, it did come close in 1998 when that year's average price was $11.91 per barrel, but it didn't stay there long. Just two years later (from 1998 to 2000) oil had more than doubled in price and rose to $27.39 per barrel.

Can we say for certain that we are never going to see $11.91 oil prices again (especially covering a 10-year period)? I don't see how, but with all that is currently facing our country and its volatile financial future along with world events, who's to say? But this number is still significant in that it could represent an ultra-conservative break-even price point for your

Never Look at Oil Prices
continued on page 27

Never Look at Oil Prices
continued from page 26
company.

A wise old production engineer once told me that in order to maintain a company's operational capabilities, you need to at least replace every barrel of oil you produce with two barrels due to production declines. So, with that keeping that in mind, it is also a good idea to be able to continue to development even in downtimes, as well and have that calculated in your break-even price point.

Know how your company's annual overhead calculates into the different pricing scenarios along with the actual lifting costs and development costs of your project. How to do it: start with placing 1/3rd of your arrived break-even price point as a target to shoot for to cover your overhead costs, 1/3rd should be for LOE's and the remaining 1/3rd for AFE costs. Acreage costs come into the mix later.

The 157-year average price of $11.22 is not feasible, conceivable or even sustainable in today's economy, especially taking in consideration inflation, cost of money and current world conditions. However, I have used this 'baseline' price of $11.22 per barrel to help in arriving at several break-even price points.

When I operated in California, my break-even price (not including future development costs) was $4 per barrel. I not only survived 1998 but made a profit because my true break-even cost was under $9.

In order to have a more realistic view of this number, I divided it in half, then tripled it ($11.22 divided by 2 x 3 = $16.83 oil price) just to see how it eventually compared to my other break-even points. I recently looked at an Appalachian Basin project and our break-even price point for oil was $16.80 and $0.46 for gas. So, it is achievable.

So, as a recap, the first time period chosen was from 1945 to 2015 = $21.64 per barrel. Again, 1945 was the year that prices started to rise since 1859, never to fall back below that period's average price.

The next time period was from 1970 to 2015 (46 year period). This 46-year average price is $31.85 per barrel. The year 1970 helps set the stage for what prices have historically looked like from a practical viewpoint. Then, from 1975 through 2015 the yearly average prices were above the 157-year 'baseline' = $35.13 per barrel. Keep in mind; I like to use a project economic life of only 10 years as mentioned earlier. So, in order to look at a conservative picture it would be prudent to look at the different 10-year periods throughout the time frames from 1970 through 2015.

As stated, careful consideration should be given to the fact that oil prices were below this 46-year average price ($31.85) 69% of the time = $20.21 per barrel. So, to look on the conservative side, you should consider $20.21 (the average price during this 69% time period, which is close to the $21.64 mentioned above).

So, it is a good idea to create as many break-even scenarios as possible before arriving at your breakeven price point.

Always look for ways of adjusting items in order to obtain your break-even price goal such as negotiating lower lease costs along with trying to lower AFE costs.

Remember the upside that exists with each project are PUD's and behind-the-pipe reserves.

Another issue to consider is drilling a few wells to hold a large block of leases (HBP) and each of these wells will have to absorb the entire project's entry costs (lease and geological costs), thus making your initial breakeven points a little higher.

However, as you develop those HBP leases over time, the overall costs will be spread out over more wells, thus lowering your overall breakeven price points.

You have to be careful with valuing 'zones behind the pipe' due to the timing of their developed, thus creating a scenario of whether they actually add value to the project. In other words, you may never produce them while you own the prospect.

I had mentioned replacing every barrel of production with two barrels. This is so you can continue to keep up with your company's future operating income needs. Therefore, each project you buy or drill should have a good amount of PUD's with it to help you accomplish this. So, if you are looking to get into a drilling prospect, determine the fewest number of wells needed to hold the most leasehold for this future development. If you are looking to purchase production, be sure to look closely at the number of PUD's for future development potential, too.

If you need to expand your company's employee base (more overhead expense) to keep up with the addition of new production, just keep in mind the same price points I discuss as a goal to shoot for. If you want to take a look at something without creating different price scenarios, just to see where you "fit in a glance" you can use some fixed price such as

Never Look at Oil Prices
continued on page 28

Never Look at Oil Prices
continued from page 27

$15,000 per producing barrel. When seeing how close you can come to your conservative break-even number, you can use what I call a ”price point risk analysis” when you go over, which is based on the percentage of the higher price to your break-even price point.

To recap, when looking to initially set my breakeven price point for oil, I start with $16.83 per barrel (1/2 of $35.13) which allows me to have some room to move up without really affecting my “wish list” price of $17.65 per barrel. In addition, I start at $1.36 per mcf for natural gas. If you can reach these numbers, you would be doing very well.

I also use $20.24 per barrel and $2.12 per mcf as my maximum break-even price points for oil and natural gas, which is solely based on recoverable proved developed producing reserves. If the vast amount of value is based on some future CAPEX, I break my break-even price point down 1/3rd, 1/3rd and 1/3rd.

You may not be successful in investing into or acquiring oil and gas reserves every time by using the price points discussed herein. If you are not, you have to look hard at your price point risk analysis and if you have doubts, have the discipline to WALK AWAY.

A good rule of thumb is to fit your company’s needs into a pre-determined PRICE POINT, not the other way around. Think about it!

Mr. Melton can be reached at davidmelton@cox.net