Communications from Individuals Regarding Their Role in the History of the Coalbed Natural Gas Play in Eastern Kansas, circa 1990 to 2010

By

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FOREWORD

In 2010, K. David Newell (Kansas Geological Survey geologist) and Rolland L. Yoakum (consulting geologist, Liberty, MO) discussed geological, engineering, and drilling aspects of the coalbed natural gas play in eastern Kansas in an in-press publication:

Newell, K.D., and Yoakum, R.L., in press, Kansas Coalbed Methane Play, *in* Merriam, D.F. (ed.), New Plays and Ways: Kansas Geological Society (Wichita, KS), Kansas Oil and Gas Fields, v. VI.

CBM (i.e., coalbed methane, also known as *coalbed natural gas*) was intensively developed in eastern Kansas in the last decade of the 20th Century and the first decade of the 21st Century. Part of the above article consisted of a discussion of the long history of the play. For background information to this history, several individuals that were responsible for the development of this important gas play were contacted by the primary author, K.D. Newell. The replies by these individuals intrinsically compose a body of knowledge and experience that should not be lost to posterity and any future historians interested in the development of energy resources in the Mid-Continent. These primary data sources are therefore presented in this open-file report. All six individuals consented verbally or by email to the inclusion of their information in this summary document.

Several individuals were consulted. In alphabetical order, they are: Brian Cardott (Oklahoma Geological Survey, Norman, OK), Douglas Lamb (SEK Energy, Benedict, KS), Tom O'Neill (Dart Energy, Kingsport, TN), Jack Overstreet (Legacy International Group, Denver, CO), Ina Stoeckinger (widow of Bill Stoeckinger, consulting geologist, Tulsa, OK), and Larry Weis (consulting geologist, Denver, CO). Their communications were from emails, or documents attached to these emails. These electronic communications were sometimes supplemented, followed on, or preceded by telephone discussions with the author. Their emails and attached documents are listed in appendices that are in alphabetical order according to their last name. Within each appendix, emails or documents are presented chronologically.

Communications with Brian Cardott are included because he is a coal geologist with the Oklahoma Geological Survey and is the chief chronicler of CBM development in the state of Oklahoma. Cherokee Basin coals and strata in Kansas continue into northern Oklahoma. The structural feature Oklahoma geologists identify as the "Cherokee Platform" is essentially synonymous with what Kansas geologists call the Cherokee Basin in eastern Kansas.

Communications with Douglas Lamb are included because of his early involvement with Quest Resources, the biggest producer of CBM in Kansas. Contact with Lamb was recommended by George Jones (Stroud Oil), who was also a pioneer of Kansas CBM.

Communications with Tom O'Neill are included because he headed CBM exploration and development efforts of Dart Oil and Gas Corporation for southeastern Kansas. Dart is the 2nd most prolific producer of CBM in Kansas, as of date.

Communications from Jack Overstreet are included for he is responsible for the assembly of a vast acreage block that was eventually sold to Devon Energy, and then Quest Resources.

Quest (renamed PostRock Resources in 2010) is now the biggest producer of CBM in Kansas.

Communications with Ina Stoeckinger are included because her late husband, William T. Stoeckinger, was one of the early pioneers of CBM in eastern Kansas. Bill Stoeckinger is largely credited with being the major advocate responsible for starting the play in the late 1980s.

Communications with Larry Weis are included because of Weis's involvement with early acreage acquisitions. Jack Overstreet mentioned Weis as a prime mover in the initiation of his efforts to assemble acreage for CBM development in southeastern Kansas.

APPENDICES

Appendix 1. Communications from Brian Cardott *email* (April 21, 2010)

Appendix 2. Communications from Douglas Lamb

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Appendix 1. Communications from Brian Cardott

email (April 21, 2010)

Dear Dave,

Certainly the studies by the U.S. Bureau of Mines (summarized in Deul and Kim, 1988) and Gas Research Institute provided the early understanding of how gas is stored in coal and how to get the gas out. The IRS Section 29 Tax Credit was also instrumental in drilling the early CBM wells. Slide 6 in my AAPG Mid-Continent Section talk last year describes the tax credit (http://www.ogs.ou.edu/fossilfuels/pdf/2009AAPG_MC_CBM.pdf). I summarized these in my 2005 article in OGS Circular 110 (attached). You may also be interested in the article by Deul (2005). When I think of the start of the Oklahoma CBM industry, I think of Sam Friedman and the first wells by Bear Productions. Friedman (1982) described 3 areas in the Arkoma Basin where small municipalities could obtain gas from coals for their rural use. The owners of Bear Productions grew up around Kinta, OK and flared the gas from pipes into the Hartshorne coal as boys. Knowing that the gas was still venting after about 40 years, they realized the potential. They talked to Sam Friedman in the mid 1980s and learned about the success of CBM in the San Juan and Black Warrior Basins. The first CBM wells in Oklahoma were drilled to the Hartshorne coal near Kinta in 1988. Slide 7 in my AAPG presentation shows a history of the OK CBM wells. Notice the first peak in 1992 at the end of the first phase of the tax credit. The first CBM wells in northeast Oklahoma were not until 1994. One company in particular (TEC Resources) indicated to me that they were going after the second phase of the Section 29 tax credit (recomplete into wells drilled from 1980-1992 as long as the well is not deepened). TEC sold their interests by the end of the second phase (2002). The peak of 18.9 Bcf for the northeast Oklahoma shelf in 2006 is shown in slide 29. Note that my name is spelled Brian (not Bryan as on page 7 of your report). Therefore, the CBM industry in Oklahoma started in the Arkoma Basin. The CBM industry in Kansas was already established before the CBM industry in OK expanded to the Cherokee Basin in 1994. I attribute much of the interest in Kansas CBM to Bill Stoeckinger. The published articles by him that I am aware of are listed below. Please let me know if I am missing any of his references. For example, what is the second reference for 1990?

I recommend including a brief discussion of the importance of the USBM studies in your discussion on page 2. A good reference for your discussion on the Section 29 tax credit on page 4 is Sanderson and Berggren (1998).

Please let me know that you received this e-mail since the attachment is large.

Deul, M., and A.G. Kim, 1988, Methane control research: summary of results, 1964-1980: U.S. Bureau of Mines Bulletin 687, 174 p.

Deul, M., 2005, Methane from coalbeds: a reminiscence, in C.A. Sternbach, M.W. Downey, and G.M.

Friedman, eds., Discoverers of the 20th century: Perfecting the search: AAPG, p. 134-141.

Friedman, S.A., 1982, Determination of reserves of methane from coal beds for use in rural communities in eastern Oklahoma: OGS Special Publication 82-3, 32 p.

Sanderson, G.A., and L.W. Berggren, 1998, White paper: update on application of §29 tax credit to coal seam gas: U.S. Environmental Protection Agency, 16 p.

Stoeckinger, B.T., 1989, Coal-bed methane production in eastern Kansas: its potential and restraints (abstract): AAPG Bulletin, v. 73, p. 1051.

Stoeckinger, W.T., 1989, Methane from coal in southeast Kansas: the rebirth of an old industry: Proceedings of the 1989 Coalbed Methane Symposium, paper 8964, p. 211-224.

Stoeckinger, W.T., 1990, Kansas coalbed methane comes on stream: Oil & Gas Journal, v. 88, no. 23, p. 88-90.

Stoeckinger, W.T., 1991, Methods to measure directly the gas content of coals, in Midcontinent core workshop, integrated studies of petroleum reservoirs in the Midcontinent: Kansas Geological Survey Open-File Report 91-52, p. 111-124.

Stoeckinger, W.T., 1992, Coalbed methane production base established in southeast Kansas: Oil & Gas Journal, v. 90, no. 15, p. 90-91.

Best regards, Brian J. Cardott bcardott@ou.edu (405) 325-8065 Direct Oklahoma Geological Survey

Appendix 2. Communications from Douglas Lamb

letter attached to email (August 9, 2010) email (August 9, 2010) email (August 10, 2010)

Prelude To and History of Quest Resource Corporation Until Early 2005

By: Doug Lamb in August, 2010

Douglas L. Lamb came to SE Kansas in 1977 to help his father, Lawrence Lamb who operated L & L Oil Company and produced oil wells out of Benedict in Wilson County. Doug and his wife, Marsha, stayed on and took over the business in 1981 with the formation of Bonanza Energy Corporation. In the early 1980's Bonanza performed contract oilfield and pipeline construction services and gas marketing to supplement income from low oil and gas prices. The pipeline construction work and gas marketing activities led Doug to understand the need for more gas gathering pipelines to gather stranded gas in SE Kansas. Bonanza was able to acquire several gas pipeline systems and also took over operations of the American Fuel Transit Company pipeline and production between Altoona and Thayer which was unknown to Doug at the time as to how significant of a "fairway" this pipeline route would become in the upcoming resurgence of CBM activity.

Doug met Bill Stoeckinger in the mid-1980's who was consulting for several operators in Wilson and Montgomery Counties that were primarily focused on conventional gas reserves. Doug soon learned of Bill's passion for the potential of CBM in SE Kansas remembers Bill making the prophetic statement in the mid 1980's that CBM will eventually become the dominant hydrocarbon produced in the entire Cherokee Basin, which demonstrated Bill's keen vision for the CBM industry evolving into what it eventually became.

Bill encouraged Bonanza to workover some of its oil wells into coals and shales which was started in 1987 in the Clinesmith field. The first two wells were E. McCune #1 and Clinesmith #2-3 in Sec 3-T27-15. The initial CBM completions were a learning experience and we gave up way too soon on the Clinesmith #2-3 well due to not understanding the de-watering process. The E. McCune well was kept in production since it was already producing gas from the Bartlesville oil sand and as the sandstone gas depleted the CBM gas volume improved and this CBM discovery well has produced about 220,000 mcf over a 20 year period.

During the late 1980's and early 1990's Bonanza continued to convert oil wells into CBM wells in northern Wilson County and along the American Fuel Transit pipeline between Altoona and Thayer. It was a slow learning curve since many aspects of CBM production were so foreign to conventional gas production. CBM completions were in very skinny zones of a few feet that were previously thought of as just "marker" zones to orient drilling progress in relation to an oil zone target. We had to pump water which was a negative sign for conventional gas production where water usually indicated that the gas would eventually be overcome by the water volume. And we were reluctant to re-complete wells that were not structurally high which was a pre-requisite for conventional gas but not for CBM gas as we would later understand. However, we drilled a few CBM wells in the early 1990's and continued doing workovers of oil wells into CBM zones and kept moving up on the CBM learning curve with activity in the Clinesmith, Altoona and Thayer fields.

In 1995 Doug formed Quest Energy Service, Inc and Quest Oil and Gas Corporation and rolled the Bonanza assets into these entities. Doug began working closely with geologist Mike Ebers in an effort to learn more about the productivity of the various CBM zones in different regions of the Cherokee Basin. Mike established procedures for the desorption of gas from drill cuttings and subsequent calculation of gas content which was done on every well that Quest drilled from the late 1990's. During the 1990's the tax credits available to CBM production were an important subsidy to the low gas prices and Quest was able to sell these credits for some much needed supplemental income.

In 1998 Doug consolidated his numerous partners and his various oil and gas interests into an entity that was previously a publicly traded company but was dormant "shell" without assets at the time. This consolidation gave his partners the opportunity for increased liquidity and value appreciation with the assembly of all the assets onto one balance sheet that made the business more attractive for refinancing to fuel additional growth in the CBM arena now that Doug had much greater appreciation for the significance of the resource in the area of his operations. The shell entity was renamed Quest Resource Corporation with Quest Energy Service, Inc. and Quest Oil and Gas Corporation becoming wholly owned subsidiaries of the parent entity Quest Resource Corporation. Quest Resource achieved trading status on the bulletin board exchange in July, 1999 and also gained new financing from a local bank to propel acreage acquisition for CBM development.

There were several non-conventional aspects to this evolution of Quest as a publicly traded company. Doug funded this consolidation into the shell entity and the subsequent achievement of trading status on a shoestring budget while working with his local attorney and avoided the high cost of legal expertise normally required to "go public". He did not do an IPO with expensive investment bankers and raise significant funds by issuing stock but used the consolidation to refinance with a local bank. He also granted stock to the team of employees that had brought the company this far by sharing about 10% of the stock ownership with the employee force. This little publicly traded company continued to operate out of the modest double wide trailer home that had been the Bonanza office since the late 1980's.

Quest was finally able to start building some momentum in acreage acquisition to build a significant CBM company and had leased about 50,000 acres in Wilson and Neosho Counties, when the area was literally invaded with a swarm of landmen in 2000 that created a wild gold-rush mentality and drove the cost of lease acquisition significantly higher. In the meantime Quest had assembled an attractive acreage position between Fredonia and Thayer along with expanded holdings around its original acreage west of Buffalo. Under the guidance of Mike Ebers, a geology lab was set up in Chanute where gas desorption and gas content calculations were derived and catalogued.

Upon reaching the economic limit with local bank financing in late 2002 Doug agreed to acquire the CBM assets owned by Jerry Cash which was similar in economic value to the Quest assets so this was effectively a merger of the two companies into the Quest public vehicle. Along with this merger came

about \$30 million in financing from Wells Fargo which propelled additional drilling and lease acquisitions. In December, 2003 Quest was able to acquire the CBM assets owned by Devon for about \$125 million which catapulted Quest to become the largest producer of CBM gas in the Cherokee Basin. In 2004 the accounting and administration functions at Benedict were consolidated into the Oklahoma City office and Quest acquired the Chanute facility and much of the well completion equipment from Consolidated Oilwell Services which became the operations center for Quest. In early 2005 Doug Lamb left the company that he founded and reverted back to his roots as a small independent producer with about a dozen of his Quest employees by forming SEK Energy, LLC which still operates out of the double wide mobile home and maintenance shop in Benedict where Quest originated.

Key people in the evolution of Quest prior to 2003 are as follows: Lawrence and Marilyn Lamb, parents of Doug, who moved the family oil business to the Cherokee Basin in 1975; Bill Stoeckinger for sharing his vision for CBM with Doug Lamb; Hank Mogg who merged the American Fuel Transit Company assets into Quest and provided critical financial support in the mid 1990's; Mike Ebers who established the geology lab and standardized procedures for gas measurement that has led to the largest collection of CBM gas content data in the Cherokee Basin; Jim Cornish of Cornish Wireline Services who provided invaluable guidance to Quest and its predecessor companies in well completion decisions; and Doug's wife, Marsha Lamb, and his brother, Dennis Lamb, who worked tirelessly with Doug for 25 years through many difficult times to finally achieve success through the development and production of CBM resources.

In early August, 2010, K.D. Newell posed via email the following question to Douglas Lamb:

If you have any input why Great Eastern exited (the start of the process by which Dart entered the scene) please elaborate.

On August 9, 2010, the following email was received by K.D. Newell from Douglas Lamb in response to the above question:

Dave:

As for the exit of Great Eastern, it was run in Denver by a retired Air Force guy named Jim I believe, but I can't recall his last name. Anyway, Jim wanted to retire from his 2nd career and move to Texas and I believe they had previously sold the tax credits to Dart (not definite about this). The low gas prices at the time did not make this a very rewarding business and none of us in the industry at the time appreciated the magnitude of the CBM resource base so the Great Eastern management could not see or appreciate the potential of what they sold to Dart but they were ready to retire anyway.

Doug Lamb

On August 10, 2010, the following email was received by K.D. Newell from Douglas Lamb:

SUBJECT: Other CBM history notables Dave: There is one more CBM player that I recommend you contact who played an important role in its history. His name is Wayne Willhite who was partnered with Jim Perkins and they developed and acquired a large pipeline and CBM presence in the far western part of the Basin and I worked with them to acquire those assets for Quest in the Spring of 2003. They also conducted an extensive leasing effort in competition with Quest and Overstreet in 2000 which was sold to Devon in conjunction with the Overstreet sale.

I have revised the Quest history to include reference to the acquisition of the assets from Wayne and Jim which is attached, so please use this version for your records.

NOTE by K.D. Newell: Despite requests, Wayne Willhite did not send any subsequent communications outlining his role with eastern Kansas CBM. The Quest history referred to by Douglas Lamb is the first entry in this Appendix.

Appendix 3. Communications from Tom O'Neill

memorandum attached to email (April 9, 2010)

TO: Dave Newell FROM: Tom O'Neill

SUBJECT: Dart's entry into the Cherokee Basin

DATE: April 8, 2010

I was Chief Geologist at Equitable Resources in Kingsport, TN when we drilled the first non-mine related CBM well in the southern Appalachian basin in 1988 in the Nora field, Dickenson County, VA. Results were promising and we began development. On June 4, 1990 Bill Stoeckinger published "Kansas coalbed methane comes on stream" in the Oil and Gas Journal. I realized these were the same age coals which we were developing in the Nora field; however the Nora coals were low to medium vol with better gas contents. On the other hand, the Appalachian topography made the costs very high at Nora and I kept Kansas in the back of my mind thinking the economics might be similar.

Equitable's Nora field and CNX's adjacent Oakwood field stayed below the industry radar for years because our average thickness per producing seam was only 18 inches and this "didn't count" when the industry published CBM growth and activity leaving our fields out of the discussion (the industry didn't realize that these 2 fields would grow to be #59 and #27 in size of gas reserves in the US by 2008 per the EIA, at approx ½ BCF per well).

With Equitable's success in completing and producing multiple thin seams into the mid 90's, I was now VP Exploration and we followed the Appalachian thrust belt around to the Ouachita thrust belt and began looking at the thin coals in Oklahoma's Arkoma basin and Eastern shelf. In the late 90's we cut a deal with ECC in Dewey Oklahoma to spend 6 months drilling up to 15 wells on ECC's extensive acreage in Nowata, Rogers, and Washington Counties. We could apply our investment and buy 75% working interest after the test if we chose to. Thanks to the work of Matt Conrad, a senior geologist who worked for me, we drilled 11 wells and added some pipe and compression enhancement for existing Mulky wells, and we doubled ECC's production from 3mmcf/day to 6mmcf/day in 6 months. I also asked Matt to look at SE Kansas, and his report was promising, possibly the sweet spot of total coal thickness, and little activity.

In late 1999 Equitable's new CEO pulled the plug on all projects outside of its Appalachian core and closed down its Exploration arm in Kingsport. Basically the company decided to abandon exploration and just develop the vast CBM and Devonian shale reserves proven up by the Kingsport office.

In 2000, I began working for Dart part time in Appalachia, while trying to set up a business for CBM exploration in SE Kansas. Dart at the time wasn't interested in CBM, but I wasn't willing to give up the Kansas CBM idea. For a time I was trying to get the same 70,000 acre lease in Neosho County that Devon was finally able to buy from a Denver company. In 2001, Dart agreed to study CBM in Kansas; I joined them full time, and we opened the Dart Kingsport office.

I hired Matt Conrad to do a 9 county study centered on Montgomery and Wilson counties. Matt had gone on to Marshall Miller consulting who opened a Kingsport office for him to start a CBM and unconventional shale arm of the company. Matt's study pointed to Montgomery-Wilson as the sweet spot for overall coal thickness. Most of the CBM wells were single zone completions, and the economics looked good based on the results of the Stroud wells in Montgomery County. This looked like the ideal place to instigate multiple seam completions.

In early 2002, CB Pipeline in Lansing, Michigan was selling the old Great Eastern properties and the Sycamore field. After seeing the properties, within 3 days Dart made a pre-emptive offer to take the properties off the street and we closed in July 2002.

Dart bought 16,000 acres with pipe and 300 old well bores (40 wells were producing approx 700 mcf/day). We expanded to 160,000 acres, drilled 715 wells, and peaked production sales in excess of 27 mmcf/day.

Appendix 4. Communications from Jack Overstreet:

letter attached to email (April 5, 2010) email (April 6, 2010) email (August 10, 2010)

April 5, 2010

Mr. K. Dave Newell KANSAS GEOLOGICAL SURVEY RE: Legacy International, Inc. Role in Southeastern Kansas CBM Play

Dear Dave:

About July 15, 2000, I received a call from Scott Bowman, an executive at that time with Meagher Oil & Gas (which had brokered the sale of my previous coal bed methane project in the Powder River Basin of Wyoming in 1999). Scott said that Larry Weis, a Denver geologist, had visited Meagher's office to promote a CBM project in the Cherokee Basin of Southeast Kansas. I had lunch with Scott and saw the geology from Larry on the 17th, and then flew out to Kansas by July 20th.

Larry Weis was seeking a sponsor to lease his prospect covering only a few thousand acres in Wilson County near Fredonia, where several local operators and a Denver group (Rocky Mountain, I believe?) were having some success with drilling CBM wells. By July 24, I had collected all of the county plat books for every prospective county in the area, production maps from the KGS, and also the old AAPG article you mentioned in your email. What I noticed was that CBM was not only being produced from the Summit and Mulky in the Fredonia area, but also nearly thirty miles northeast of Fredonia (due north of Chanute), and I knew that there was some activity near Thayer (south of Chanute) as well. Most exciting to me was the existence of an old CBM well producing for years from the deeper Riverton coal – a few miles north of Parsons (Section 23-T30S-R19E), and approximately forty miles from the Fredonia exploration. I wasn't initially up to speed on the Nowata, Oklahoma efforts, but I felt like we had at least half a million prospective acres – essentially the same gas field – covering Wilson, Neosho, Montgomery, and Labette Counties.

Rather than be confined to Larry's original outline, we structured minority participation by Weis as well as several people with Meagher in a project intended to lease at least 100,000 acres. I was on the ground based in Chanute by mid-August, the money was raised in early fall, and I began adding field personnel to help with the leasing by September, 2000. We continued with geologic research as leases were acquired; in addition to Larry Weis, additional research on a broader area was done by one of my minority investors and field office workers, Richard Wilson of Tulsa. Even more important than conventional logs showing the coals were the old driller's logs and notes – statements like "big gas in Mulky – well burned down in fire" and other comments indicating direct evidence of gas were key to our confidence. The KGS library resources were key not only to this project – which we dubbed "Chetopa Creek" but which Devon later named "Fireside" (after the restaurant in Thayer, but naming it Big Ed's would have been just as appropriate!) – but also to the development of our later project near Paola in 2001-2003. We spoke with Bill Stoeckinger and other conceptual pioneers, and we simply could not talk ourselves out of the belief that the gas was significant and widespread.

Key personnel in buying the leases included Rob Ganger of Colorado, and local Chanute legend Mark Patton. In addition, we paid the mineral owners with checks instead of drafts, and we entered the play with a very landowner-friendly oil and gas lease form and surface damage agreement – those forms have provided surface owners with an unusual level of surface and royalty protection, as some on the operator side have learned. The fact that almost all surface owners still owned one hundred percent of the mineral rights was critically important in our ability to lease so much land so fast. Additionally, we capitalized on a little trick that, despite being poor petroleum land practice, saved us countless hours in lease preparation. In many cases, owners in Wilson and Neosho counties have parcels which are bounded by rivers and streams, so the "metes and bounds" full legal descriptions can go on for paragraphs and pages. Instead of dealing with those legals, we often described tracts by the perfectly accurate styling, for example, as "all that certain 86.98 acre parcel of land in the NW1/4 which is owned by Lessor". It worked!

Without some key landowner support, our project would have never succeeded. The first people to lease to us in September, 2000, were Bruce and Eileen McPherson west of Altoona. Allen Nunnenkamp and Don Mustain were early supporters. Satisfying the concerns of influential leaders Jarold Henry, Bill Triplett, and Corky Beachner, among others, were absolutely key to consolidating this land position. Our intention was always to make the project very large in order to attract the attention of a large independent operator – we ended up with possibly a trillion cubic feet of gas represented in our 153,000 net acres, so in June of 2001, Devon Energy bought the entire block. Key players in the negotiations and due diligence for Devon Energy were Jack Richards of their land department, and Ralph Gill, a contractor who supervised the transition. In addition, we negotiated the purchase by Devon of one of our key competitors in the play, Bruce Benson's Benson Mineral Group 60,000 net acres. When later, through Devon's acquisition of international player Ocean Energy, the company became too large for this type of project, Quest acquired the leases and has done a pretty aggressive job on the drilling side.

I believe that geologically, we simply connected the dots between interesting CBM well data points across a wide area. I think the two most important services we provided were a) consolidating the acreage into over 200,000 acres which could be under one operator for faster development, and b) using good forms for leases and surface contracts which provided the landowners important protections. Our royalty owners may eventually collect more than half a billion dollars in income. For our part, our investors and team members made a good return, and we probably had more fun in Kansas than on any projects since!

Jack Overstreet April 5, 2010

On April 6, 2010, the following email was received by K.D. Newell from Jack Overstreet:

Thanks, Dave – again, sorry for the delays. I know you will have to edit for length or what you think is relevant, and help yourself, but a couple of additional footnotes. I would be remiss if I did not mention Harley Gilbert of the Fredonia area – he is a self-taught driller and wellsite geologist (the best), and he was instrumental in the two wells I recall that we drilled before selling out to Devon. One well was on Ivan Fail, and the other was on LDH Farms. Also, to reiterate, we didn't know much about the OK side of the line when we started leasing, or what Patrick Petroleum was doing, etc., but I think we were well informed of their activities before we sold. I do remember that the old AAPG article was very helpful, but I think we created out "buy" outline based on connecting dots between existing wells and known coal gas shows.

Jack

In early August, 2010, K. D. Newell posed via email the following question to Jack Overstreet:

I was told by a fellow named Doug Lamb, who used to be with Quest, that Quest bought the Devon acreage for about \$125 million. Are you at liberty to divulge the approx. amount for which Devon bought the Legacy acreage? Or is any such comparison even valid to include in the text, since Devon may have added to their holdings between the time they acquired and sold their interests in Kansas?

On August 10, 2010, the following email was received by K.D. Newell from Jack Overstreet in response to a question posed by K.D. Newell regarding the price that Devon paid for the Legacy acreage block:

Devon paid 15 million to us for 150000 acres, then close to 6 million approx for about 60000 acres of Benson Mineral. Then Devon drilled a number of wells in addition to what we had drilled, so they had "improved" the raw leases before selling. I do not know what Quest paid for sure.

Best, Jack Sent from my Verizon Wireless BlackBerry

Appendix 5. Communications from Ina Stoeckinger

email (April 14, 2010) *email* (April 14, 2010)

On April 14, 2010, the following email was received by K.D. Newell from Ina Stoeckinger:

Hi, this is Ina Stoeckinger.

After talking with you earlier today, and as was trying to get rid of millions of files, I came across a letter from Great Eastern Energy dated Oct. 1989 addressed to my husband. This letter refreshed my memory a bit. While living in Denver, CO, Bill was consulting for a company called Zoandra Petroleum (incidentally the president of Zoandra had been a quarterback for the Broncos). Zoandra had leases near Chanute and also near Independence. Bill had also been working in Southeastern Kansas for a few years, involved with other groups, looking for conventional oil and gas reservoirs. It was at the time he was involved with Zoandra, still living in Denver, than I first heard him talking about the possibilities of methane-gas in Southeastern Kansas. He was exchanging ideas with other geologists working the San Juan Basin (I think). Zoandra Petroleum sold its properties to Great Eastern Energy and Bill was left out in the cold. We moved to Kansas. He mapped a coalbed methane project and took it to George Jones (I don't know how Bill met George Jones), who liked the idea and sought a group of investors. That's my recollection of how the coal-bed-methane gas industry started in Southeastern Kansas.

Best, Ina

On April 14, 2010, the following email was also received by K.D. Newell from Ina Stoeckinger after she reviewed the initial manuscript by Newell and Yoakum:

Hello, Dave

I read your article with great interest. It reads very easily and keeps the reader's interest going. There is one thing, which you can ignore, but, for your information, the largest project, and the one Bill said would be our retirement is with Layne Energy, thanks to which I'm able to buy a penthouse in Naples, FI (where I am right now), and have a healthy check every month. He kept a very small override, but the project is big, so it is given a very good income. So it was not only Larry Weis from CO, but also Bill Stoeckinger from Independence who was involved with Layne's properties. Thank you so much for sending the manuscript to me. I'm looking forward to seeing it published. Cheers, Ina Stoeckinger

Appendix 6. Communications from Larry Weis

email (April 8, 2010) *email* (April 9, 2010)

On April 8, 2010, the following email was received by K.D. Newell from Larry Weis regarding Weis's part in CBM acreage acquisition in southeastern Kansas.

Hey Dave,

Good to hear from you. Regarding the SE KS CBM play, I read early articles by Bill Stoekenger (I know I misspelled his name) and also Larry Brady regarding SE KS coals. Then I did a small consulting job in Wilson Co. on an oil field. At that time, about 1999, I noticed a lot of small local undercapitalized operators were completing a few scattered CBM gas wells in Neosho, Wilson, Montgomery, and Labette Counties. The more I looked at it the more interested I became in the possibility of putting a large prospect together and selling it to a company that was well capitalized and could achieve an economy of scale as well as connect to an interstate pipeline and have a good year round market. In the summer of 2000 I put together a prospect that included much of Wilson, Neosho, and part of Montgomery and Labette Counties and sold it to a group that included Jack Overstreet, Scott Bowman, and Matt Meagher. They leased about 150,000 acres and sold it to Devon. Devon had a very good engineer, Mike Lamascus, who worked with an excellent field man, Harley Gilbert, and they developed a frac design to complete all the coals at a relatively modest cost. Lamascus and Gilbert made the play work economically. The rest is history, to quote an old cliche.

Take care and let me know if I can do anything for you. Best Regards, Larry

On April 9, 2010, the following email was received by K.D. Newell from Larry Weis regarding a query by K.D. Newell to Weis about how Layne Energy got involved in Kansas CBM.

Dave,

I like your article a lot. It is well-written and factually correct to the best of my knowledge.

As to Layne, they originally drilled some wells with Osborne in I believe Miami County but it did not work out. I think this happened in spring of 2002. In the fall of 2000 I had mapped the Weir-Pitt Coal throughout Montgomery County and into western Wilson and southeastern Labette Counties just after I sold what became Fireside prospect to Overstreet and Meagher. I took the new prospect to Gary Nydegger and Tom Wheatley, oil and gas people I know, and we leased about 25,000 acres in what is the principal area of Layne's development in the spring and summer of 2001. In the spring of 2002 we sold the Montgomery-Wilson deal to Layne. I believe I met you on the Scott lease southeast of Independence when we cored one of the first wells in the summer of 2002. Layne leased additional leasehold in our prospect area and made some other acquisitions after that.