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Coalbed Methane Development in the
Intermountain West (April 4-5)

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CBM Development on the Southern Ute Reservation

Bob Zahradnik

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Bob Zahradnik, *CBM Development on the Southern Ute Reservation, in COALBED METHANE DEVELOPMENT IN THE INTERMOUNTAIN WEST* (Natural Res. Law Ctr., Univ. of Colo. Sch. of Law 2002).

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Here is a very important point from our testing program so far. All the isotopic results in water wells that are greater than two milligrams per liter have been biogenic or from shallow naturally occurring sources of methane and not associated with coalbed methane development. What I want to point out is that the isotopic analysis needs to look not just at methane, but also the carbon component of the CO₂ since it will provide additional information about the source of the methane. Using isotopes allows "fingerprinting" to identify thermogenic methane vs. biogenic methane. This is something that has proven to be very valuable.

In summary, I think one of the things that should be pursued is public education about hydrology and how water wells function. That was done in La Plata County last year. A copy of the booklet that was handed out at the public information sessions last year in La Plata County is here and I would be glad to share these with anybody who wants one. This pamphlet was put together

by two local consultants with input from five different agencies located in La Plata County. It's called, "How Well Do You Know Your Water Well?" It's pretty neat. Our third party water contractor delivers this informative pamphlet to the water well owners and reviews the water well testing procedure with them.

Another summary item is proper wellbore construction techniques. Something that will continue to be emphasized is continuing the use of the best techniques for wellbore construction and monitoring. This will ensure that wellbore integrity stands the test of time. We will also continue to baseline and post-test water wells that are selected for sampling as required under the infill order. And finally, isotopes are extremely valuable in terms of understanding what the source of gas is in water wells where it exists.

Thank you.

CBM DEVELOPMENT ON THE SOUTHERN UTE RESERVATION

BOB ZAHRADNIK, *Southern Ute Growth Fund*

The Southern Ute Indian Tribe is a small tribe. They have approximately 1,000 square miles, about 700,000 acres. It's a 70 by 15 mile strip on the Colorado/New Mexico border here. Just to put this in perspective, the original deal with the Federal Court would be one million acres. It's been reduced to about 700,000.

The tribe controls about half of that. The land is a victim of something called the Allotment Act, which was put into place by the Federal Court and the people of southwestern Colorado. The tribe is hung up within the exterior boundaries of the reservation. The red here is tribal acreage, so you see it has extremely interesting jurisdictional problems and a lot of government.

The red part is basically desert. This part is a waterless plateau. This part, where we have another big tract of land, is extremely rugged, mountainous terrain. So the tribe was left with this. Until 1982, development of energy on Indian land was controlled completely by the Federal government. After that, the tribe was then actually allowed to talk to oil companies about development on their land. They weren't allowed to negotiate before

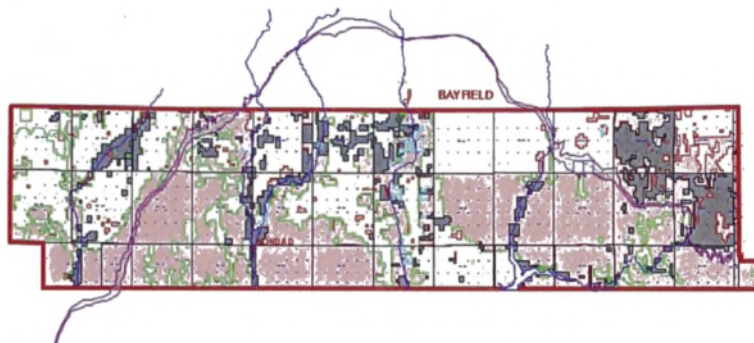


then. Leasing on these lands began in 1949 and then basically we stopped in the 50s. And the tribes, therefore, had very little to do with that process. And the tribe in the 70s was faced with the prospect of living with deals the Federal government had cut.

So they were handed this situation they had to deal with. However, the tribe did support this in 1951 the



Southern Ute Indian Reservation Mineral Ownership



first gas was found on the reservation. The tribe was going out to hold a dance on this location because they were so desperate for cash and were an extremely poor tribe. And were very hopeful they would find something. But in 1966, field gas production peaked at 38 million cubic feet per year, and you'll see later, in about 2001, the coalbed methane production peaked at 400 million cubic feet of gas per year. So all these sands and things left us with a resource with ten times our productive capacity.

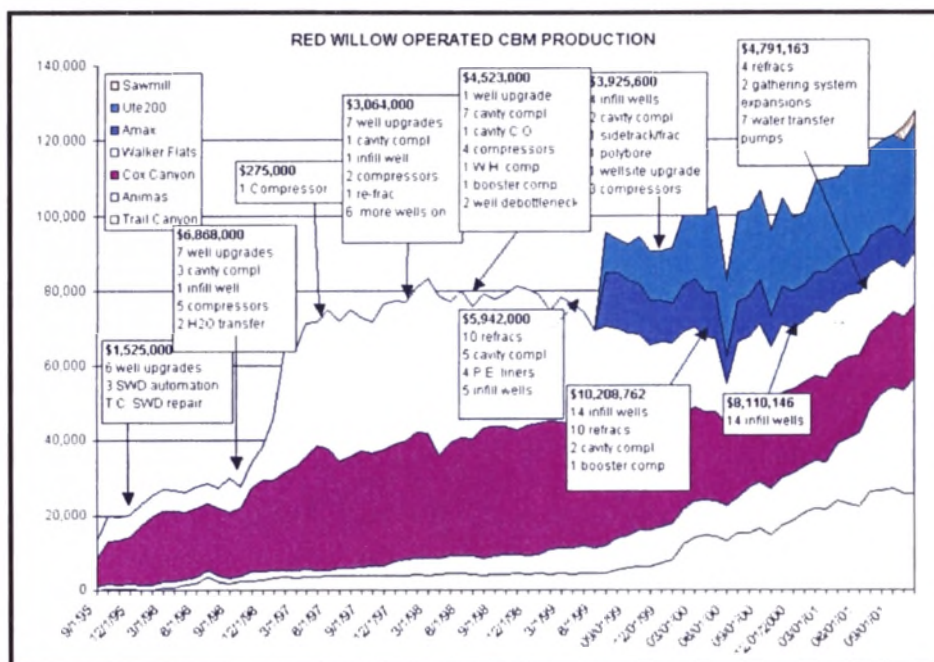
In the mid 1970s, the tribe took the first step in taking control of its resources by auditing the USGS to see that they were living up to the lease agreements. Not surprisingly, they were doing an awful job. In 1980, they hired their own technical people to start taking control of that process and issued a severance tax. In 1984, the Energy Division was reorganized. In 1987, we cut our first agreement, which was the first time the tribe was able to negotiate, and closed the agreement with an energy company. Up till then, it was always handled by the Bureau of Indian affairs.

1991 marks a paradigm shift for the tribe. They were directed towards being a better governmental manager. We were now making sure oil companies lived up to their deal, and we educated ourselves so we could understand what was going on on the tribe's reservoir. In 1991, we went out and attempted to buy some wells that were for sale. That was the first time we really thought seriously about doing that. We were unsuccessful. We also filed a suit which led to about a nine-year odyssey,

and we signed some MOUs with the state BLM and the BIA to make the checkerboarded jurisdictional map manageable. And to make sure of that, we've worked very cooperatively with the state since then. From 1991 to '93, we negotiated various coalbed methane ownership settlements. In '92, the council approved the Red Willow business plan for a acquiring acreage and acquiring leases and construction. We bought 18 wells from Conoco for \$3.1 million.

In 1994, we were very active. We completed a trade with ARCO for wells. We hired an operation staff. In 1994, we got our butts kicked. We bought a little gathering company from the Public Service Company of Colorado. It's now called Red Cedar. And we have a joint venture with a company called Stephens. In 1994, we reached 130 billion cubic feet of gas per year. So we're already at four or five times what we were producing.

In 1995, we sold our Royalty Section 29 tax credits to allow negotiations to buy out a bankrupt company. We spent 18 months in Federal Court. We took over McKenzie construction in about nine months. In 1995, we signed an agreement with El Paso and KN Energy to build a treating station out on the extreme western portion of the reservation. We entered into a joint venture with McKenzie, and we stepped up our ownership in the gathering company of Red Cedar to 40 percent. Red Willow has exceeded 80 million cubic feet per day. The Tenth Circuit Court reverses the Federal District Court's decision on coalbed methane ownership, and we contracted



for a second plan in our agreement with El Paso and KN Energy.

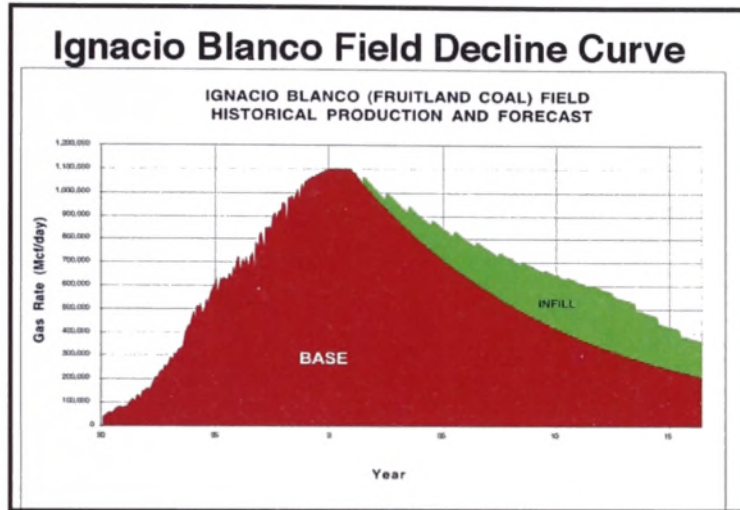
In 1998, by this point, ownership with Red Cedar had increased to 51 percent. Red Cedar's output and was exceeding 600 million cubic feet of gas per day, four times what it was when we bought the company. In 1999, the Growth Fund from the tribe was established. This is the business fund of the tribe in assets and cash. The point is to go out and aggressively return on the tribe's money. There's a parallel fund, which is essentially an endowment that provides the income that runs the tribal government. There was an out-of-court settlement regarding coalbed methane ownership with Amoco and others, and the Supreme Court ruled against us. So it was fortunate timing that we worked it in that order.

In 1999, we dealt with our interest in the settlement wells. We purchased Cedar Ridge there for \$53 million for additional coalbed methane wells on the reservation. We drilled five infill wells in Trail Canyon in 1999. The interesting thing about this is how conservative the tribe's business plan was for this well. We started the plan in February of '92. We acquired 18 wells in January of '93. We did not drill a well till 1999. We sold the tax credits for Red Cedar to El Paso. When El Paso left the reservation, we rolled that into Red Cedar. Production now exceeded 100 million cubic feet of gas per day. We continued to optimize and expand the production of the wells. We continued to produce over 10 million cubic

feet per day in a drilling program with a public company. And we beat all our goals. We continued to buy back the leases that the BIA issued in the 50s and parts of those leases were within the exterior Ute.

We acquired interest in the Williston and small gas plans in Paradox Basin, and we began talking about working with other tribes so we could share some of our capital, which we now had in abundance. In 2002, we sold our South Texas investments and implemented a 140,000 seismic option with the Indian tribe. And we were going to be starting operations there in the immediate future. We continued to acquire interests on the reservation. Yesterday, we closed our first Canadian acquisition. This shows the Ignacio Blanco field curve design. This is what we're looking at here. As you can see, prior to 1990, there was virtually no production, but at this point in 2001, 2002, production peaks at a little over 1.1 million cubic feet per year. The decline starts here. The declines flatten a little bit here, and this is what we're projecting for the 160 acre joint program. To show you how important this was to the tribe, the level of business at this time—we're getting a lot of money from the coalbed methane development besides just the additional royalty that comes from things we've bought. We've discounted the present value of that infill to the right. That infill property is \$600 million.

This is an interesting slide. The yellow line is the conventional gas, which is the northern portion of the

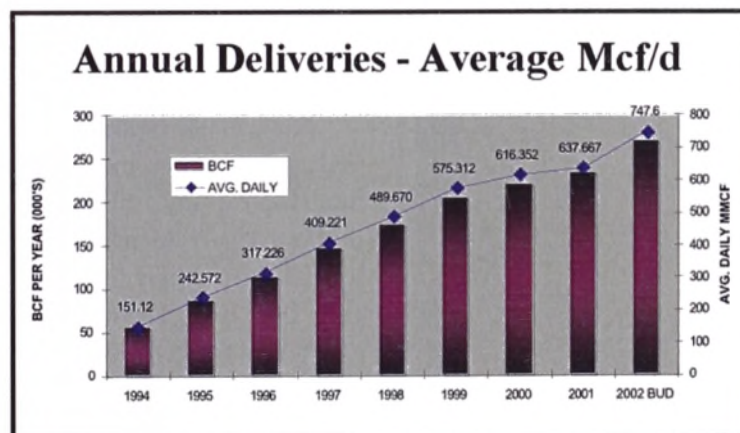


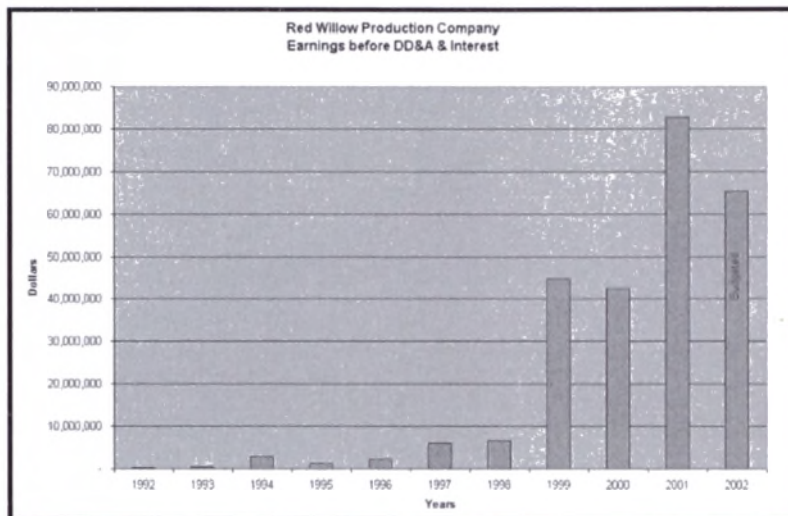
San Juan Basin. It was just bouncing along. People were drilling wells and finding new things for years and years. In 1988, '89, coalbed methane gas started being found. And you can see how it's changed the field. In '89, the tribe, with farsighted leadership and reserve, was finally bringing in money. Excluding the tribe's trust asset, the tribe's net worth was \$1.2 billion. They're now a tribe that is more financially secure than any other Indian tribe throughout the Rockies.

We find the Ute situation unique, that they are financially secure. Other tribes are pretty much living from hand to mouth. Even tribes with billions of dollars of resources under their reservations do not have this kind of financial security. The reason for this is: This tribe has a very rational system of government, and the tribal mem-

bership is elected by very progressive, farsighted leaders that were willing to stay with the course of these resources for the tribe's benefit. They invested \$8 million in an energy company in 1992. That was about a year's revenue for the tribe, and it was a big risk that they took. But they took that are risk, and they stayed with it. The tribal government has been very patient and this is the rule.

Red Willow expanded its business in our original Conoco acquisition. This is a well count slide, and the red is the number of wells that we operate. A little over 600 today. We have interest in wells we don't operate of about 400 wells. These are the results in the data: Last year, we brought in the \$83 billion with Red Willow alone. The tribes had a very aggressive capital expansion program to do that. Look at the programs here in 1999:





Asset Comparison 1994 versus 2001

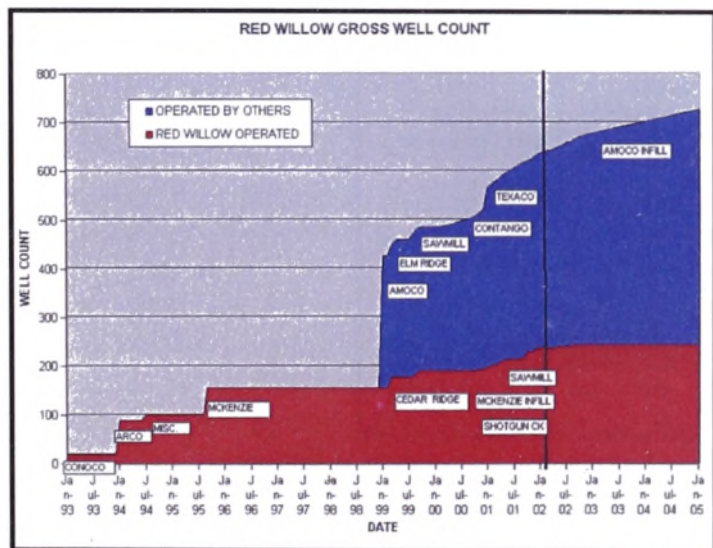
	1994	2000
Miles of Pipe	220	725
Compressor Stations	3 Stations	20 Stations
Compressor Units	6 Units	56 Units
Installed Horsepower	21,000 HP	> 70,000 HP
Arkansas Loop Field	13,200 HP	13,200 HP
	7,800 HP	61,500 HP
CO2 Processing Plants		
Arkansas Loop Capote	+100,000 MCFD	260,000 MCFD
	0 MCFD	70,000 MCFD
Wells Connected	>300	> 700
Total Gas on System	>130,000 MCFD	> 700,000 MCF/D

4 million, 3 million, 5 million. The tribe has very, very aggressively attacked this resource. They managed—we feel we managed that reservoir about as well as anybody

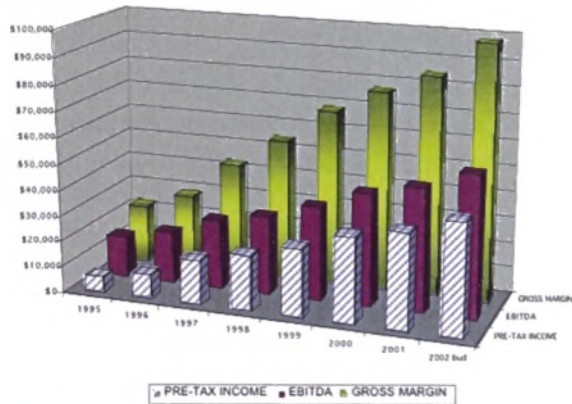
in the basin. The tribe now owns 51 percent of the company. In '94, it was a joint venture with Stephens. In 1996, ownership was up to 40 percent and gradually stepped up to 51 percent. As you can see, it's a success story. 151 million a day to 747. One percent of the U.S. gas supply flows through our pipe.

Now, major capital expenses. Of the profits from Red Cedar—we're back into Red Cedar—and these are the results in earnings. EBITA this year is projected at \$65 million. The tribe made clear early on that we would have to work very diligently if they intended to be there 500 years from now. They've been there for 500 years.

We've worked with several governmental committees, including helping accounting provide technical support of the Pine River investigative team. In '96, we started the largest EIS ever completed on an Indian reservation. In '99, we were one of the founding members of the 3M study and provided funding to the reservoir. From



Revenue – EBITDA – Net Income



'95 to date, we've been very active in seep monitoring of the outcrop along 22 miles of outcrop within the reservation. Bottom line for the tribe is: We've spent close to \$10 million on monitoring, studying, simulating,

and trying to ensure that there's no impact to the environment.

The tribe's got a higher credit rating than Canada, Colorado, or Denver. What does that mean to the membership? The day a tribal member turns 60, he receives money from the Elder's Pension. Each and every tribal member receives this. Ten percent of the profits in the growth are distributed between 26 and 59-year-olds. Any tribal member that wants to go to college gets a full scholarship plus a substantial allowance for living expenses. The tribe got tired of fighting with the schools and finally said, well, we'll start our own school, and they built it. So, by aggressively managing this, the benefit to the tribe is maximized to be financially secure forever.

That's the bottom line. And that's a result, again, of farsighted and extremely competent leadership on the part of the tribe.

CBM DEVELOPMENT FROM THE COUNTY PERSPECTIVE

JOSH JOSWICK, *Commissioner, LaPlata County*

I'm going to give a virtual power point presentation, which some of you may recognize as just a regular old talk. I'm Josh Joswick. Some of you I know, and some of you I don't. I want to tell to you a little something about the job of County Commissioner and about La Plata County and give another view of coalbed methane development in our area.

In La Plata County, we have three county commissioners, and primarily our job is to administer the county's budget. And that means we fund everything from our sheriff's department to the fairgrounds, social services to our planning department. This is my tenth year as County Commissioner, and in that time I have developed a very strong respect for local government.

And I realize now that most of all, my real job is to fix things, and that is, if I can, to make things right for people who come to me with problems. And that happens on a daily basis. La Plata County is the home of 44,000 extremely well-governed people. We're situated in southwest Colorado, as you've seen repeatedly in here.

We're located about 330 miles from Denver. As we have heard, it sits atop the northern boundary of the

Fruitland Formation, perhaps the largest repository for coalbed methane in the United States. Now, these two facts are the basis for La Plata County's concerns and how the county government became involved in dealing with coalbed methane development.

One premise I'd like you to remember is that La Plata County maintains that land use is a matter of local control, and the surface aspects of coalbed methane development falls within its purview. The first coalbed methane development began back in the mid to late 1980's at 320 acre spacing, and we were at ground zero when the coalbed methane experiment came out of the laboratory and hit the real world.

Nobody was really sure what would happen when production began. La Plata County is where they found out. Coalbed methane development began because of the tax credits. At that time, coalbed methane was classified as an unconventional fuel and thereby qualified for the tax credits. The consequences of this act would not be simple; in fact, they would be downright confusing.

Although it was federal action that spurred the development, development would not occur on just