

MINUTES OF THE SENATE NATURAL RESOURCES COMMITTEE

The meeting was called to order by Chairwoman Carolyn McGinn at 8:30 a.m. on March 10, 2010, in Room 144-S of the Capitol.

All members were present.

Committee staff present:

Kristen Kellems, Office of the Revisor of Statutes
Corey Carnahan, Kansas Legislative Research Department
Raney Gilliland, Kansas Legislative Research Department
Stanley Rasmussen, U.S. Army, Senate Fellow
Grace Greene, Committee Assistant

Conferees appearing before the Committee:

Dennis Hedke, Consulting Geologist and Geophysicist, Hedke-Saenger Geo-science Ltd.
Jeffery L. Carmichael, Morris, Laing, Evans, Brock & Kennedy Chartered, on behalf of KIOGA
Jerry Morris, President and CEO, Southern Star
Doug Louis, Kansas Corporation Commission
Mark Hewett, President, Northern Natural Gas
Karen Benson, Vice President, Pan Handle Energy
John Steffen, Kingman County Commissioner, land owner
Laurence Garrett, Colorado Interstate Gas Company
Wes Ashton, Black Hills Energy

Others attending:

See attached list.

Chairwoman McGinn brought the minutes from the meetings of February 17, 25, and 26 to the Committee for approval. Senator Teichman made a motion to approve the minutes. Senator Abrams seconded the motion. The motion carried.

Dennis Hedke, Consulting Geologist and Geophysicist, Hedke-Saenger Geo-science Ltd. (Attachment 1) addressed the Committee as a proponent of the bill. Mr. Hedke discoursed geology and natural gas storage. Specifically, Mr. Hedke addressed the Cunningham Natural Gas storage field and the migration of natural gas from that field. Mr. Hedke stated that when migration occurs, the mitigation and related expenses of the leakage, should be the responsibility of the facility.

Mr. Hedke took questions from the Committee.

Jeffery L. Carmichael, Morris, Laing, Evans, Brock & Kennedy Chartered on behalf of KIOGA (Attachment 2) addressed the Committee as a proponent of the bill. Mr. Carmichael discussed the rights of landowners and gas companies under current State law. Mr. Carmichael stated that Northern Natural Gas has attempted to use current law to enforce rights against gas wells that are miles away from the storage facility. Mr. Carmichael stated that **SB 553 - Recovering migrating natural gas** would clarify K.S.A. 55-1210 and would place the burden on the storage facility to finance such litigation, and would clarify that any gas that escapes beyond the adjoining property would be subject to the rule of capture.

Jerry Morris, President and CEO, Southern Star (Attachment 3) addressed the Committee as an opponent of the bill. Mr. Morris discussed the companies storage of gas and the migration of natural gas in storage fields. Mr. Morris stated that the proposed bill would remove all protections provided under current law. Mr. Morris stated that the natural gas companies are presently regulated by Federal Energy Regulatory Commission (FERC) under the Natural Gas Act and that this bill has potential devastating effects on the gas producers and consumers.

Doug Louis, Kansas Corporation Commission (KCC) (Attachment 4) addressed the Committee as an opponent of the bill. Mr. Louis discussed the various stakeholders who would be affected by the passage of **SB 553** and KCC's concerns with specifics of the bill. Mr. Louis stated that there are two issues pertinent to gas storage which should be considered. First, that Federal Energy Regulatory Commission (FERC), U.S.

Department of Transportation, and the KCC presently regulates gas storage. Secondly, Mr. Louis discussed a case concerning the Colorado Interstate Gas Company which awaits a court decision. Mr. Louis stated that KCC recommended the bill be considered in an interim study to allow thorough analysis.

Mark Hewett, President, Northern Natural Gas ([Attachment 5](#)) addressed the Committee as an opponent of the bill. Mr. Hewett stated that the Northern Natural Gas company is opposed for the following reasons: it is legally flawed and hostile proposed legislation, it represents bad public policy and would encourage the taking of other people's private property, and it will discourage ongoing storage development within Kansas. Mr. Hewett stated that **SB 553** will harm Northern Natural Gas Company, in addition to its employees costumers, and landowners with whom they do business. Furthermore, that the bill has drafting errors and presents constitutional issues and would interfere with pending litigation at the Federal and State level. Lastly, Mr. Hewett stated that the bill would legalize the "rule of capture" which was abolished in 1993.

Karen Benson, Vice President, Pan Handle Energy ([Attachment 6](#)) addressed the Committee as an opponent of the bill. Ms. Benson provided information about the company and stated the company is regulated by FERC. Ms. Benson stated reasons for opposition: that the bill would tie the hands of the KCC to deal with gas migration, impose untried burden of proof in requiring "clear and convincing" evidence is determining the title to strayed gas, propose new theories for punitive damages of "trespass, conversion and slander of title, impose an arbitrary limitation on storage field pressures, resurrect the "rule of capture" for all migrated gas beyond the new ½ mile zone, and would propose tax obligations which are unfair and unworkable.

John Steffen, Kingman County Commissioner and land owner ([Attachment 7](#)) addressed the Committee as an opponent of the bill. Mr. Steffen discussed potential consequences of the bill, including: loss of tax revenue, local jobs, and other community support which Northern Natural Gas company provides.

Laurence Garrett, Colorado Interstate Gas Company ([Attachment 8](#)) addressed the Committee as an opponent of the bill. Mr. Garrett stated that the bill is designed to help the producers, which he stated he does not believe is needed. In addition he stated that the bill is punitive to the storage owners. He discussed unintended consequences which would affect the producers, landowners, and consumers.

Mr. Carmichael took questions from the Committee.

The following provided written testimony:
Wes Ashton, Black Hills Energy ([Attachment 9](#))

The following provided additional information:
Gordon Stull, Haynesville Surface and Mineral Owners Association, Pratt County ([Attachment 10](#))

The next meeting is scheduled for March 11, 2010.

The meeting was adjourned at 9:30 a.m.

SENATE NATURAL RESOURCES COMMITTEE

Guest Roster

3-10-2010

Name	Representing
Justin Gilpin	KS Assoc. of Wheat Growers
John Donley	KS Livestock Assn
Jess Miller	CAPITOL STRATEGIES
John Steffen	Kingman Co. Comm.
Bob Stunken	Kingman Co
Kevin Scripsick	Northern Natural Gas
DENNIS HEDKE	HEDKE - SPENGLER GEOSCIENCE LTD
Jessie Huff	KCC
Leo Haynes	KCC
DANIEL FREDLUND	KCC
Tom Stratton	KCC
Doug Couss	KCC
Riane Pruitt	Hayneville Surface Mineral Owners Assoc.
Gary Geesling	Hayneville Surface & Min. Owners Assoc.
Elaine Geesling	Hayneville Surface Min. Assoc.
Ruth Meyer Urban	Haynesville Surface & Min. Assoc.
Stacy Geesling	Hayneville Surface Min. Assoc.
Sally A. Jensen	Haynesville Surface Min. Assoc.
Quinn Jensen	Hayneville Surface & Min. Assoc.
Jack Blantz	Parhandle Energy

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SENATE NATURAL RESOURCES COMMITTEE

Guest Roster

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3/10/2010

Name	Representing
Steve Johnson	ONEOK, INC.
Mark Boranyak	CAPITOL STRATEGISTS
DOUG SHATTAS	ATMOS ENERGY
D.J. Mc Murray	PRATT CO
Dayla Godfrey	Rice Co.
Jeff Carver	NASH OIL & GAS
Neil McCadden	Northern Natural Gas
TON WERWETTE	NORTHERN NATURAL GAS
Teresa James	Southern Star
Douglas Staab	
Sonya Staab	Haynesville
Ed Cross	KIOGA
Gordon Spull	Haynesville / Pr. Co.
Carol Still	
KAREN BENSON	PANHANDLE ENERGY
Melissa Wayne	KAC
Mark Hewett	Northern Nat. Gas
Jim Talcott	"
Randal M. Boush	William McCobb & Assoc. Inc.
Thomas A. Miltz	Northern Natural Gas

SENATE NATURAL RESOURCES COMMITTEE

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Guest Roster

8/10/2010

Name	Representing
MICHAEL T. LOEFFLER	Northern Natural Gas
Thomas Cook	Northern Natural Gas
John Peterson	Capital Strategy
Tom TUNWELL	KS ASSN OF ETHANOL PROCESSORS
Lawrence Garrett	Colorado Interstate Gas Co
Robert Bahnick	Southern Star Central Gas P/L
Terry Morris	Southern Star Central Gas P/L
Ron GACHES	Hunt Energy, El Paso, Southern Star
J. P. SMALL	Koch Industries, Inc.
Doug Wareham	Kansas Bankers Assn.
HARRY BEEG	MIDWEST ENERGY
John BEVERLY	HARRISVILLE SURFACE & MIN. OWNERS
BRAD HARRELSON	KFB
Mike O'Brien	Kansas Gas Serv

Kansas Senate
Natural Resources Committee
Honorable Carolyn McGinn, Chair

March 10, 2010

RE: SB 553, An act concerning natural gas storage; relating to recovery of migrating gas

I am Dennis Hedke, Consulting Geologist / Geophysicist, principal in the firm Hedke-Saenger Geoscience, Ltd, Wichita, Kansas. I am licensed to practice geology in the State of Kansas.

My purpose in testifying today is to support the general concepts as currently indicated in SB 553. While it is still in 'markup' and will most likely be modified further, it does contain language that speaks very directly to problems that bring us here today.

The subsurface geology of this state is far more complex than meets the eye at the surface. During those times when natural gas storage units were originally assembled and certificated, far less was known about the geological systems that currently contain these storage facilities.

One such facility known as the Cunningham Natural Gas Storage Field, located in Kingman County, presents a current case where significant migration of natural gas appears to have taken place. The science currently being deployed to gain a better understanding of how and where that gas is migrating is at this time raising far more questions than answers. I have been studying that situation at some length, and have offered previous testimony to the Federal Energy Regulatory Commission and as a result of that pending and ongoing investigation, see multiple points of research yet to be pursued before the science is anywhere close to settled.

That said, the issue today is focused on attempting to deal with migration in the general case. It is my opinion that when migration does occur, the proper mitigation of the leakage should be the responsibility of the facility manager, and that the means of so doing should be solely at the expense of that entity.

There is no logic that would support a notion of "eminent domain" or any such concept to expand a facility to capture leaked gases, and then to place a financial burden on mineral owners, or bona fide oil and gas operating entities.

If leakage of a significant magnitude has occurred at a facility, an attempt to reconstruct migration history, by means of detailed analytical technology, such as perhaps 4-dimensional seismic imaging (time lapsed 3-dimensional imaging), and other derivative technologies which are specifically designed to detect the presence and/or migration of natural gas, should be applied to properly characterize the geological system in the vicinity of that facility.

If a storage facility cannot operate with an acceptable minimum amount of leakage, due to reservoir dynamics, geological fracture systems, (which are abundant throughout the geologic record), or whatever range of causation, then measures should be taken first and foremost to protect the citizenry, and additionally to properly conserve the assets related to the storage facility.

My sense is that the language in the present bill attempts to address the issues related to responsibility if and when leakage does occur, and is moving in an appropriate direction as to the regulatory environment that will address the public welfare.

I reiterate my general support for the intent of the Bill, and hope this Committee passes it to the floor for a vote as soon as possible.

Respectfully Submitted,



Dennis E. Hedke

TESTIMONY AND SUPPORT OF SENATE BILL 553

Submitted by:

Jeffery L. Carmichael
Morris, Laing, Evans, Brock & Kennedy, Chartered
Wichita, Kansas

I wish that my trial schedule would have permitted me to be present to testify in person regarding this important Bill, unfortunately that was not possible. I am submitting the following testimony in support of Senate Bill 553 which I believe clarifies important mineral rights for land owners and producers in the State of Kansas relating to gas production.

Senate Bill 553 will have an impact in clarifying K.S.A. 55-1210 as it relates to the Underground Gas Storage Act. K.S.A. 55-1210 is currently being misused by Northern Natural Gas in litigation in which it initiated in the United States District Court, District of Kansas, Pratt County District Court and in FERC in an effort to expand their Kingman Storage Field which is located in Pratt and Kingman counties to the disadvantage of surrounding landowners and oil and gas producers.

To understand the purpose of K.S.A. 55-1210 and the related Underground Storage Act, you need an understanding of Kansas law and how it related to property owners and natural gas that may be placed into storage. In *Zinc Company v. Freeman*, 68 Kan. 691, 75 P. 995 (1904), the Kansas Supreme Court developed a line of Kansas law which held that when oil or gas escapes from under the land of another or comes under another's control, the title of the former owner is gone. Under this ownership in place theory, Kansas landowners owned a present estate in oil and gas that was in the ground.

In an effort to temper this rule of law, the Underground Storage Act was passed including K.S.A. 55-1210 which is designed to provide some degree of protection to companies which store gas in formations that are allegedly safe, secure and designed to contain those gases for future use. Under K.S.A. 55-1210, Subsection A begins with the basic proposition that once gas is reduced to possession and subsequently injected into an underground storage field, it should remain the property of the injector so long as it remains in the storage facility. Reading this provision in context with the rest of the statute, that provision means that when natural gas is injected and remains in the storage field, it always remains the property of the company which injected it.

In Subsection B of K.S.A. 55-1210, the statute addresses the issue of a landowner's rights relating to such storage fields, reservoirs or facilities. Subsection B states that the owner of the property has no interest or possessory right to any gas which is being stored in such an underground facility. The Section further clarifies that such storage would not affect the right of the owner of the surface to drill through the underground storage facility in a manner that would protect such fields, facilities or reservoirs where the gas was being stored.

Subsection C of K.S.A. 55-1210 then provides that if natural gas escapes to adjoining property which has not been condemned, then in that situation the injector shall not lose title if it could prove by preponderance of the evidence that the gas was originally injected into the underground storage facility. Nothing in this Act addresses issues of wells that are miles away from the storage facility. The term "adjoining" as defined in K.S.A. 55-1210 has been defined to mean "on an adjoining section of land" as that term would normally be used.

Northern Natural Gas, Inc. has attempted to use this statute to enforce rights against gas wells that are miles away from the storage facility claiming that it has a right to the gas that is located there. The clarification of the law in the immediate bill would place the burden on the storage facility to finance such litigation and would clarify that any gas that escapes beyond the adjoining property would be subject to the rule of capture. It is in the State's interest and in the interest of safety of all citizens that the underground storage of natural gas be done safely and the gas remain within the confines of the storage facility in which it was placed.

With the reasonable interpretation and application of K.S.A. 55-1210 contained in SB 553, companies like Northern Natural Gas will be precluded from utilizing K.S.A. 55-1210 to strong-arm landowners, producers and working interest owners in the State of Kansas to take away their hard-earned investments. Why would an operator or landowner 6 miles away from a storage field have any clue that the natural gas being produced from their lease would be claimed by the storage company. Nash Oil & Gas, Inc. and VAL Energy, Inc. whom I represent, have invested in oil and gas leases and have benefited both the landowners and the counties in which they were located with payment of royalties and taxes. The clarification contained in SB 553 of K.S.A. 55-1210 would benefit landowners, operators and the counties in which they are located by giving them the ability to search for and produce gas without fear of being sued by storage companies which seem to have unlimited resources.

Nash Oil & Gas, Inc. and VAL Energy, Inc. are good companies located in the state of Kansas but are not without limit on their resources and their ability to respond to Northern Natural Gas in litigation that has been pursued would tax any company's ability. On behalf of oil and gas operators and those who intend to pursue the development of gas in the state of Kansas, Senate Bill 553 is a good clarification of the law and to propose the amendment which I have added to the Bill would further clarify the issues which I believe to be important to the State of Kansas and its citizens.

Respectfully submitted,

MORRIS, LAING, EVANS, BROCK
& KENNEDY, CHARTERED

By


Jeffery L. Carmichael

Senate Natural Resources Committee
Testimony of Jerry Morris, President & CEO, Southern Star Central Gas Pipeline
In opposition to Senate Bill 553 – Underground Natural Gas Storage
Thursday, March 4, 2010

“The underground storage of natural gas, which promotes conservation thereof, which permits the building of reserves for orderly withdrawal in periods of peak demand, which makes more readily available our natural gas resources to the domestic, commercial and industrial consumers of this state, and which provides a better year-round market to the various gas fields, promotes the public interest and welfare of this state.” K.S.A. 55-1202

OVERVIEW OF TESTIMONY

Southern Star Central Gas Pipeline, Inc. (Southern Star) is an interstate natural gas pipeline, regulated by the Federal Energy Regulatory Commission (FERC), with facilities in Kansas, Missouri, Oklahoma, Nebraska, Colorado and Wyoming. Southern Star employs 233 people in Kansas with an annual Kansas payroll of \$15,937,114 and payroll taxes of \$65,139. Southern Star paid approximately \$9 million in property taxes in Kansas in 2009, and owns property in 67 counties in Kansas with a book value of \$339 million and an assessed value of \$70.7 million.

Southern Star operates 7 underground natural gas storage fields in Kansas, which provide a substantial and reliable supply of natural gas to approximately 300,000 Kansas households and more than 1,000,000 Kansas consumers every year. Indeed, approximately ½ of Southern Star’s peak day capacity is attributable to deliveries from our storage fields. Southern Star is the largest volume storage operator in the state of Kansas. We transport gas through our pipeline system and inject the gas underground into the storage fields, for withdrawal and delivery to customers when it is needed. Southern Star serves approximately 32 Kansas customers, including local distribution companies, municipalities, end-users and marketers, for a total peak day delivery obligation of 1.44 Bcf per day. 44% of Southern Star’s firm storage service is delivered in

Kansas. For example, we deliver significant volumes of gas to Kansas Gas Service Company, Atmos Energy, Black Hills Utility, Westar Energy and various municipal systems across Kansas.

We provide you this information to demonstrate the significant and potentially devastating impact even a short-term loss of, or interference with, Southern Star's gas storage operations could have upon Kansas gas consumers. Southern Star has grave concerns that SB 553, if enacted, would have a profound, detrimental effect upon gas storage operations in Kansas. For example, if SB 553 had been in effect in 2008 and forced Southern Star to shut in its Welda Storage Complex¹ during the pendency of the 3 FERC applications filed by Southern Star to address migration issues in those storage fields, Kansas customers could have experienced up to 200 MMcf per day of gas being curtailed on a peak day. Those FERC applications were pending anywhere from 5 months to 18 months (during which the storage fields likely would have been shut in had SB 553 been in effect at the time), before final orders were issued by the FERC allowing Southern Star to install the necessary facilities to address the migration issues and to acquire and compensate parties owning property interests FERC deemed necessary in order to insure the integrity of the Welda Complex.

The benefits of gas storage are well-established. As the Kansas legislature noted when it enacted K.S.A. 55-1202, gas storage permits the build up of gas reserves in storage for withdrawal during periods of peak demand, so that there is a readily available supply of natural gas year-round. Gas storage thus provides a stable supply of gas and helps to avoid the economic impact of spikes in gas prices during periods of peak demand, by providing customers the ability to purchase gas at times throughout the year when prices are not at their peak, for withdrawal and consumption when demand and prices are highest.

The proposed legislation would constitute a drastic departure, both legally and practically, from existing Kansas law – a move away from the current framework, which encourages gas storage operations in Kansas and acknowledges the philosophy of K.S.A. 55-1202 – that gas storage “promotes the public interest and welfare of this state.” Thus, Southern Star opposes SB 553, as discussed in greater detail below.

K.S.A. 55-1,115(b)(1) and (2): A REGULATORY “CATCH-22”

The proposed legislation would result in an uncanny, and presumably unintended, Catch-22 of unavoidable penalties and insurmountable regulatory hurdles for interstate natural gas

¹ Southern Star's “Welda Complex” consists of four storage fields, North Welda, South Welda, Colony and Piqua.

companies such as Southern Star, which are regulated by FERC under the Natural Gas Act. This is because under proposed K.S.A. 55-1,115(b)(1), the Kansas Corporation Commission (“KCC”) “shall not” amend or renew any gas storage permit if the gas utility/storage operator is “seeking a certificate of public convenience and necessity pursuant to 15 U.S.C. 715f, in order to recover migrating gas beyond the limitations as set forth in K.S.A. 12-1210.”² Yet, pursuant to FERC regulations, such companies must, and frequently do, seek certificates of public convenience and necessity or amendments to such certificates, in order to add facilities or redefine their boundaries to address and resolve gas migration issues. *See* the Natural Gas Act, and specifically, 15 U.S.C. 7171f. When, however, the gas utility/storage operator seeks to amend its certificate of public convenience and necessity to address and resolve the migration issues, then under the proposed legislation the KCC “shall” not amend or renew its gas storage permit. Then, under proposed K.S.A. 55-1,115(b)(2), the KCC “shall” assess a \$1000 penalty per day for so long as the gas utility/storage operator is in violation of unspecified “rules and regulations due to leaking or migrating gas.”

Of course, the gas utility/storage operator would be in violation of such rules and regulations for continuing to operate its gas storage field without a permit, thus subjecting the company to a \$1000 per day penalty, until approval could be obtained from FERC to take the steps necessary to address the migration issues, a process that could take more than a year to complete. The only way to avoid these penalties under the proposed legislation would be to shut-in the storage field, with the devastating consequences illustrated by the Welda Complex example discussed above.

THE INJUNCTION PROVISION OF K.S.A. 55-1,115(d) PUTS GAS STORAGE CUSTOMERS AT RISK OF STORAGE FIELD SHUT-INS

K.S.A. 55-1,115(d) interjects the explicit risk of injunctive relief that could result in a court-ordered shut-in of gas storage facilities. This proposed provision states that “any surface or mineral rights owner with title or an interest in an underground storage field, reservoir or facility or any area containing migrated and migrating gas,” among others, “shall have the right” to compel compliance with K.S.A. 55-1,115 “by injunction.” The provisions of this section are broad and a surface or mineral owner could conceivably seek an injunction to shut-in a storage

² Adding to the confusion of K.S.A. 55-1,115(b)(1) is the fact that both citations in the proposed statute appear to be inaccurate. 15 U.S.C. 715f relates to oil contraband and is totally unrelated to the proposed legislation. Likewise, K.S.A. 12-1210 is totally unrelated to the proposed legislation.

field or fields based upon the injunction provision of subsection (d). Although we would hope that no Kansas court would entertain such a request, the shutting in of any one of Southern Star's gas storage fields even for a brief period of time could be devastating. Again, the potential consequences of such an injunction are illustrated by the Welda Complex hypothetical example described above.

**THE PROPOSED LEGISLATION WOULD
ELIMINATE IMPORTANT PROTECTIONS AGAINST
UNSCRUPULOUS GAS PRODUCERS**

Proposed K.S.A. 55-1,115 (c)(5) states unequivocally that the storage injector "shall" lose title to and possession of migrated and migrating gas, if the injector knows or has reason to know of migration outside the certificated storage area and fails to give notice to specified parties within 30 days. This provision would result in the automatic loss of title to and possession of gas that migrates anywhere, even a very short distance, outside the certificated storage boundary (this provision is not limited to acreage beyond adjoining property (1/2 mile outside the boundary)), and would apply regardless of the cause or circumstances of the migration.

This provision would remove all protections provided the storage operator under existing law, for example, from unscrupulous gas producers who intentionally drill wells very close to the certificated storage boundary and along the perimeter of the storage field with the intent to draw down pressures and produce storage gas. This proposed provision would put storage facilities in Kansas at dramatically increased risks of theft/conversion of valuable storage gas.

We understand and appreciate there are those royalty owners who believe strongly that their property rights have been violated by a particular storage operator. However, regardless of those claims, there can be no justification for removing the protections available under existing law against those unscrupulous producers or operators who intentionally set out to produce (convert) storage gas owned by either the interstate gas pipeline company (base gas) or its customers (working gas).

**SB 553 TREATS ALL STORAGE OPERATORS
AS BAD ACTORS AND IGNORES THE REALITIES OF THE
GAS STORAGE BUSINESS/INDUSTRY**

Whereas existing law recognizes the benefits of underground storage, SB 553 would treat all incidents of alleged gas “migration” or “leaks,” regardless of the nature or cause, as if they were the result of the bad acts of the gas storage operator. This ignores the realities of underground gas storage. In fact, in many instances storage operators seek FERC approval to redefine their boundaries not because of actual migration, leaks, or improper storage practices,³ but instead because additional (modern) technical data shows that the storage reservoir actually extends beyond what was originally thought to be the reservoir boundary decades earlier when the gas storage facility was placed in operation.

This is perhaps best illustrated by the court’s discussion in *National Fuel Gas Supply Corp. v. 138 Acres*, 84 F.Supp. 2d 405 (W.D.N.Y. 2000), . . . In that case, National Fuel had established the gas storage facility at issue in the early 1900’s. By the late 1990’s National Fuel determined, based upon pressure and production history, gas analysis, and analysis of geological data obtained from then-recent drilling that “gas stored in the storage reservoir actually occupied a larger area . . . than was established decades ago when the . . . boundary was defined.” 84 F.Supp.2d at 407. In the FERC Order authorizing the redefinition of the storage boundary requested by National Fuel, FERC explained: “it is standard reservoir engineering practice to redefine the actual limits of the storage reservoir . . . using data obtained during later development and operation of the storage field.” 84 F.Supp. at 408. FERC concluded that the requested expansion of the certificated storage reservoir was “necessary to protect the storage reservoir from gas loss and to prevent other producers from drilling into the reservoir gas bubble.” *Id.*

**PROVISIONS PURPORTING TO AUTHORIZE CANCELLATION
OR NONRENEWAL OF STORAGE PERMITS ARE
PREEMPTED BY FEDERAL LAW**

³ The redefining of storage boundaries involves not only migration of gas horizontally under additional acreage, but also, vertically, as gas can migrate either upward into a strata above where the storage operator and technology indicated the “caprock” was located, or below into a zone beneath the storage “sand”. In Southern Star’s experience this vertical migration is often caused by producer activities such as fracing in a strata above the storage zone to enhance oil production or migration through improperly plugged and abandoned production wells.

As noted previously, Southern Star is an interstate natural gas company that is regulated by the FERC under the provisions of the Natural Gas Act. All of Southern Star's 7 Kansas gas storage fields were issued certificates of public convenience and necessity by the FERC many years ago. K.S.A. 55-1,115(b)(1) purports to require the KCC not to renew or not to allow amendment of a gas storage permit, if the gas storage operator seeks to obtain a certificate of public convenience and necessity from FERC. K.S.A. 55-1,115(b)(2) would require the KCC to impose a \$1000 per day penalty upon storage operators that violate rules and regulations regarding leaking or migrating gas, and states that the KCC may suspend or cancel gas storage permits under certain circumstances. K.S.A. 55-1,115(c) also provides that the storage operator "shall" lose title to and possession of injected gas if migration results because of pressure in the storage field or reservoir in excess of 75% of the fracture gradient of the field or reservoir, even though FERC regulates maximum storage field pressures. All of these provisions, and perhaps others contained in the proposed legislation, conflict with Southern Star's FERC certificated storage authority and are, therefore, preempted by federal law.

**THE CLEAR AND CONVINCING EVIDENCE
STANDARD IS CONTRARY TO THE
PUBLIC INTEREST IN GAS STORAGE**

The proposed legislation, K.S.A. 55-1,115(c)(2) would elevate the burden for proving that gas was originally injected into underground storage from a "preponderance of the evidence" to "clear and convincing evidence." None of the existing underground gas storage statutes (K.S.A. 55-1201, et seq.) contain a clear and convincing evidentiary standard. There is no legal basis or justification for such an elevated evidentiary standard here and, in fact, the public interest in underground gas storage would be better achieved by maintaining the current preponderance of the evidence standard. Moreover, a thorough review of Kansas statutes relating to real property reveals that the clear and convincing evidentiary standard is rarely applied. We were able to find only four Kansas statutes relating to real property, which apply the clear and convincing evidentiary standard (K.S.A. 58-2406; 58-709 and 711; 33-102; and 60-503), and none of them are even remotely similar to the gas storage property interests at issue here.

As noted above, the proposed legislation, without justification, treats all gas storage operators as bad actors. K.S.A. 55-1,115(c)(2) would then further that unfair treatment by

elevating the evidentiary standard for recovering migrating gas to “clear and convincing evidence,” a standard most often applied in criminal (not civil) statutes.**SB 553 WOULD IMPOSE VAGUE AND OVERLY BROAD ATTORNEY FEE OBLIGATIONS**

The treatment of gas storage operators as bad actors is also carried over into the new costs and attorney fees provision of proposed K.S.A. 55-1210(c)(3). Pursuant to that subsection landowners “shall” receive compensation, including attorney fees, from storage operators for an overly broad list of activities or occurrences. For example, regardless of whether there has been any legal dispute, this new provision would legislate even a right in landowners to recover their attorney fees associated with “the negotiating of lease agreements for the storage of natural gas.” Moreover, even though the proposed legislation is “an Act concerning natural gas storage; *relating to recovery of migrating gas*,” the overly broad attorney fees provision would extend to matters having nothing to do with gas migration, including “any proceedings before any state or federal agency having oversight of underground storage fields or the transportation of natural gas.”

THE PROPOSED LEGISLATION LACKS ANY PLAUSIBLE ENFORCEMENT MECHANISM

The proposed legislation purports to thrust many aspects of the enforcement of the new law upon the KCC – an unwilling participant in the process, as evidenced by its opposition to SB 553. The KCC is already overwhelmed and bogged down with the gas storage permitting process imposed pursuant to regulations placed in effect in July 2002. Although nearly 8 years have passed since those regulations were enacted, the KCC has been burdened with massive permit applications from all of the Kansas gas storage operators, with the result that only 3 storage fields have been granted permanent permits to date. We believe there are an additional 14 permanent permit applications yet to be processed. Yet, SB 553 would apparently impose significant, although undefined or poorly defined, additional enforcement responsibilities upon the KCC.

For the reasons discussed above, Southern Star respectfully requests that you not pass this Bill.

Senate Natural Resources Committee
Senate Bill 553
Comments by Doug Louis
Conservation Division, Kansas Corporation Commission
March 4, 2010

Good Morning Chair McGinn and committee members, I am Doug Louis, Director of the Conservation Division of the KCC. Thank you for this opportunity for me to present the KCC's recommendation on SB 553.

Background Information

Because of incidents at Yaggy Salt Cavern Gas Storage in 2000, Legislature saw a need to regulate the safety of gas storage in Kansas and enacted K.S.A. 55-1,115. This Statute gives the KCC authority to adopt regulations for porosity gas storage in Kansas.

KCC regulations K.A.R. 82-3-1000 through K.A.R. 82-3-1012, regulate gas storage in the state. The regulations cover permitting, inspecting and abandonment of gas storage facilities. The regulations are technically specific to operating pressure, valve size, down-hole testing requirements and reporting migrated gas outside a facility boundary.

There are currently eighteen active gas storage facilities in the state and one inactive facility in the process of being abandoned. These facilities are operated by nine gas storage operators.

Stakeholders

Senate Bill 553 will affect a number of interest groups, some of which have conflicting interests. The groups being affected are:

- (1) Storage facility customers are interested in the availability of gas storage, which allows them to meet peak demands. This serves to moderate prices, which end-use customers pay for gas.
- (2) Surface owners are interested in preserving their property rights.
- (3) Mineral owners are interested in maximizing the value of their mineral rights.

- (4) Oil and gas producers want to preserve their ability to produce oil and gas that they are legally entitled to produce.
- (5) Storage facility operators are interested in maintaining their facility in a safe, usable, economically viable manner and earning a fair return on their investment.
- (6) The State is interested in safe operation of a storage facility, without impairing water resources and without migration of storage gas in a manner, or to areas, that could cause danger to the public.

Other Issues

In addition to sorting out and weighing these various interests, the bill is complicated by two other issues, which should be fully considered.

The first issue is gas storage is not only regulated by the KCC, but also by the Federal Energy Regulatory Commission (FERC) and the U.S. Department of Transportation (DOT). FERC certifies the site, volume, operating pressure and abandonment of storage facilities under the Natural Gas Act of 1932. DOT regulates safety issues in gas storage facilities under its authority over pipelines.

The second issue is Colorado Interstate Gas Company v Thomas E. Wright, et al, U.S. District Court Case No. 09-CV-4031-SAC-JPO. This case challenges the jurisdiction of the KCC to regulate any aspect of gas storage, because it is already regulated by the Federal Government through FERC and DOT. The case has been fully briefed by both parties and we are waiting for a Court decision.

Senate Bill 553

The KCC also has concerns with specifics of the bill:

K.S.A. 55-1,115

1. (b)(1) Forced shut-in of the field may have an adverse effect on storage field customers and end-users, especially if shut-in is during the winter.
2. (b)(1) Cite to 15 U.S.C. 715f should be 15 U.S.C. 717f.
3. (b)(1) Cite to K.S.A. 12-1210 should be K.S.A. 55-1210.
4. (b)(1) Needs clarification of when KCC is precluded from renewing and amending permits.

5. (b)(2) Clarification of whether the specific penalty mentioned here supersede KCC's general penalty authority under KSA 55-164 (up to \$10,000 per day).
6. (b)(2) Currently our regulations require reporting of leaking or migrating gas. Clarification if the first sentence of (b)(2) intended to impose a stricter requirement on storage field operators.
7. (b)(2) Our regulation K.A.R. 82-3-1003(j) allows us to modify, suspend or cancel a permit for public safety and pollution. Staff is not sure what is being referred to, or covered by, the term "waste".

K.S.A. 55-1210

1. (c)(1) Clarification if "clear and convincing" standard apply only to civil proceeding and if it is intended to apply to administrative proceedings. Staff would also like clarification regarding whether or not the KCC would be expected to make findings about ownership of gas.
2. (c)(4) Exceeding 75% of fracture gradient may not be the cause of migration. There are other causes, such as excess storage volume pushing gas past geologic spill points.
3. (c)(5) Defining which owners are to be notified, i.e. surface owners, mineral owners. A gas storage operator may not be able to determine affected areas without extended study of the gas migration.
4. (c)(5) State emergency management must be notified, but define exactly what its role is.
5. (c)(6) Clarification whether the term "adjacent" is intended to be "adjoining", which is defined as within 1/2 mile of storage boundary. If not, "adjacent" needs to be defined.
6. (c)(7) Clarification if the storage operator is required to pay tax on lost production, if the production was storage gas.

General Concerns

KCC legal counsel has advised me:

1. Allowing attorney fees, even when a party doesn't prevail, is unprecedented.
2. There may be jurisdictional problems with the State authorizing attorney fees in Federal Court cases and FERC proceedings.

Comment

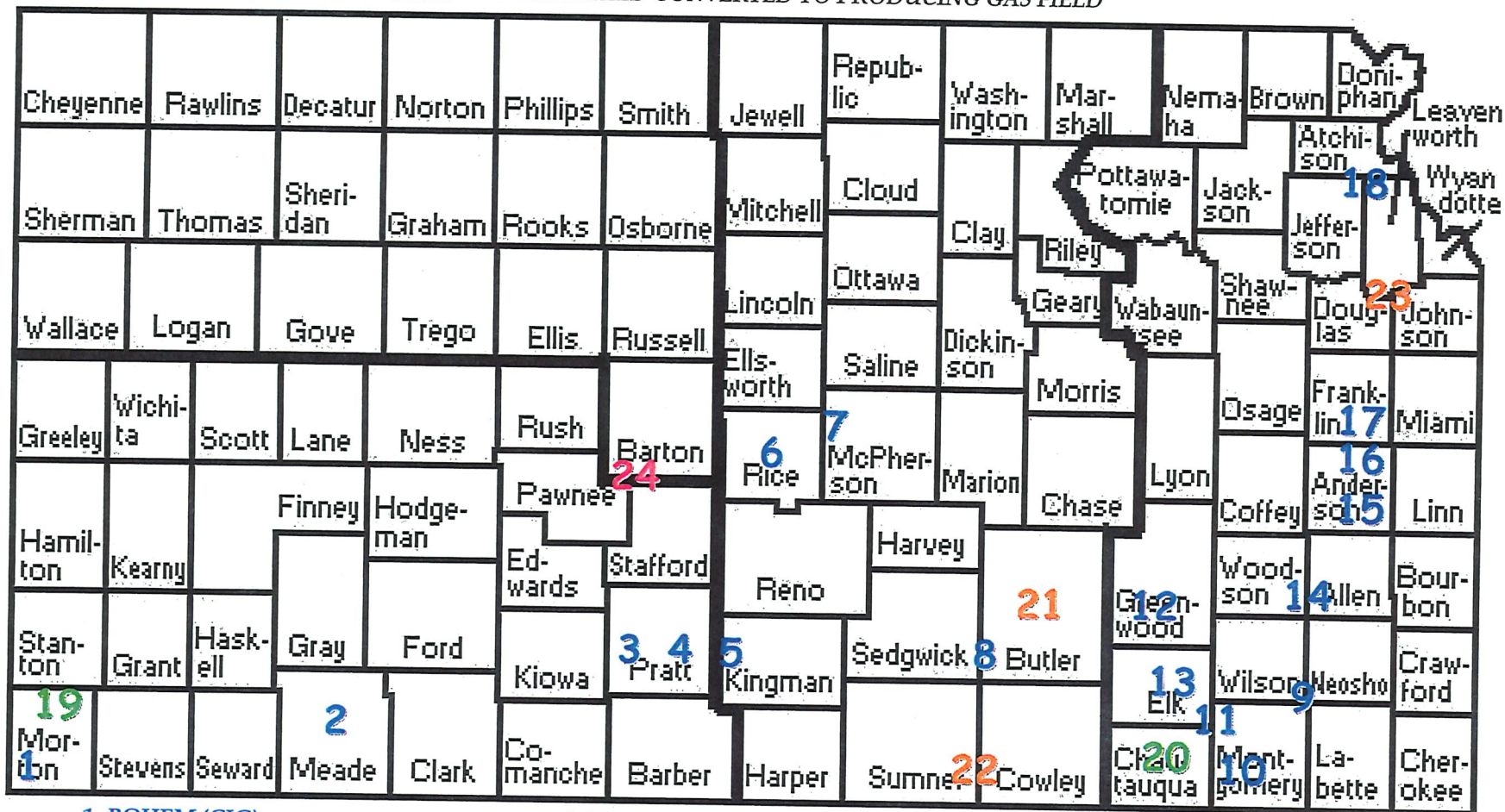
The KCC recommends the bill be referred for interim study. Doing so will allow time for all interest groups to evaluate the bill and an opportunity to express concerns. The KCC's specific concerns about Senate Bill 553 can be answered and worked out. The Federal vs. State jurisdictional issues may be decided.

If you have any questions, I and other KCC staff present, would be happy to answer them at this time.

Thank you.

BLUE= ACTIVE STORAGE FIELD/GREEN=FIELD IN DEPLETION/ORANGE=ABANDONED STORAGE FIELD/
 PINK= STORAGE FIELD CONVERTED TO PRODUCING GAS FIELD

4-5



- | | | |
|--------------------------------------|-------------------------------|------------------------------|
| 1- BOHEM (CIG) | 9- LIBERTY NORTH (Atmos) | 17- NORTH WELDA (SSC) |
| 2- BORCHERS N. (Pan Gas Storage Co.) | 10- LIBERTY SOUTH (Atmos) | 18- MCLOUTH (SSC) |
| 3- BREHM (OneOK) | 11- ELK CITY (SSC) | 19- RICHFIELD (Duke Energy) |
| 4- KONOLD EAST (OneOK) | 12- BUFFALO (Cherokee Wells) | 20- LONGTON (Quest Cherokee) |
| 5- CUNNINGHAM (NNG) | 13- FREDONIA (Cherokee Wells) | 21- BOYER (Williams) |
| 6- ALDEN (SSC) | 14- PIQUA (SSC) | 22- COLLINSON (Centerpoint) |
| 7- LYONS (NNG) | 15- COLONY (SSC) | 23- CRAIG (SSC) |
| 8- RAYTHEON AIRCRAFT (Raytheon) | 16- SOUTH WELDA (SSC) | 24- ADOLF (NA) |

TESTIMONY OF

MARK HEWETT

PRESIDENT, NORTHERN NATURAL GAS COMPANY

SENATE BILL 553

SENATE NATURAL RESOURCES COMMITTEE

MARCH 4, 2010

Good morning, my name is Mark Hewett and I am President of Northern Natural Gas Company. I am here this morning representing Northern, its employees and customers in opposition to Senate Bill 553. I have been personally involved in the issues surrounding Northern's underground gas storage fields in Kansas for over seven years and am pleased to have this opportunity to describe Northern's presence in the state of Kansas, to discuss the issues raised by Senate Bill 553 in a public forum and to communicate the impact of Senate Bill 553 on Northern, its employees and its customers.

Regulatory integrity is one of Northern's core business principles. This includes communicating openly and honestly with all of its regulators and public officials, including this committee. I reiterate my ongoing commitment to you that my team and I are available at any time to answer

any questions that you may have about this bill or Northern's operations in the state of Kansas.

Northern is a natural gas company regulated by the Federal Energy Regulatory Commission, or "FERC", in Washington, D.C. Northern is owned and operated by MidAmerican Energy Holdings Company. MidAmerican is a member of the Berkshire Hathaway group of companies. Together, Northern and MidAmerican conduct business in 31 states. Within that national scope and scale, I can tell you that Senate Bill 553 is some of the most hostile proposed business legislation we have ever seen. And, if passed, Senate Bill 553 would send a clear signal to everyone, including business, industry and private landowners, that due process and property rights will not be respected in the state of Kansas. Additionally, if this legislation is passed, there will be a rush of third-party drilling rigs to surround every underground storage facility in the state of Kansas in an attempt to siphon away the public utilities' storage gas. This result is contrary to the sound public policy of the state of Kansas expressed in K.S.A. 55-1202:

The underground storage of natural gas which promotes conservation thereof, which permits the building of reserves for orderly withdrawal in periods of peak demand, which makes more readily available our natural gas resources to the domestic, commercial and industrial consumers of this state, and which provides a better year-round

market to the various gas fields, promotes the public interest and welfare of this state.

This statute was passed nearly unanimously by the House (122-2) and the Senate (37-3) in 1993. Once fully understood, one can see that this bill completely reverses state policy and effectively legalizes the theft of storage gas. As I explain below, this bill is not about protecting landowner rights, safety or the environment, but rather the isolated interests of a small group who desire to legalize the taking of another's property.

Let me tell you a little bit about Northern and its operations in Kansas. Northern is headquartered in Omaha, Nebraska, and operates more than 15,200 miles of pipeline and associated facilities in 11 states. Northern provides gas transportation and storage services to 76 utility customers, including 32 communities in the state of Kansas. The following demonstrates our significant presence in Kansas:

- 119 employees work for Northern in Kansas with a payroll of \$10.3 million
- Northern operates approximately 1,800 miles of pipeline and related facilities in Kansas, including two storage facilities and seven compressor stations

- Northern has \$369 million in assets in Kansas. In 2009, Northern paid \$15.2 million in property taxes in the state of Kansas; \$3.6 million was paid to Pratt County, \$702,000 was paid to Kingman County and \$2.7 million was paid to Rice County (the counties where Northern has storage facilities).
- In addition to the Northern employees, MidAmerican employs 133 people in Kansas with an annual payroll of \$7.0 million; additionally, Reece and Nichols, Inc. , a real estate company of MidAmerican subsidiary HomeServices of America, Inc., has 1,489 Kansas-licensed agents here
- 15 Berkshire Hathaway companies employ nearly 3,000 people in Kansas, including Burlington Northern Santa Fe Railroad, Flight Safety International Inc. and Nebraska Furniture Mart

Northern operates underground natural gas storage facilities at Cunningham, Kansas, and at Lyons, Kansas. Northern began storage operations at the Cunningham field in 1978. The Cunningham field is a depleted oil and natural gas field located in Pratt and Kingman counties covering 28,000 certificated acres. Our customers' gas is injected into a field that previously produced native oil and gas until such native hydrocarbons were depleted. Natural gas is injected and stored at the Cunningham field in

formations that are approximately 4,000 feet below the surface of the earth. The Cunningham field certificated maximum inventory is 62 billion cubic feet (Bcf).

The Lyons facility covers 8,516 certificated acres and is located in Rice County, Kansas. The Lyons storage field was developed from a depleted oil and gas field in the Arbuckle formation. The average well depth is 3,300 feet below the surface. The Lyons field certificated maximum inventory is 24 Bcf.

Northern's storage facilities provide a valuable service to its customers. Northern's basic transportation rates contain a storage component, so all of Northern's customers have a financial interest in the storage services provided by Northern. Northern's five natural gas storage facilities, including the two in Kansas, provide a total firm and operational capacity of 73 Bcf. More than 200 customers purchase storage services from Northern, including Black Hills Corporation, Koch Energy Services, LLC, Flint Hills Resources, LP, DCP Midstream LP, and ONEOK Energy Services Company LP. These customers use storage as a tool against volatile natural gas prices, and to effectively manage supply reliability, supply diversity, peaking ability and balancing. The passage of Senate Bill 553 will negatively impact the ongoing operation of Northern's two Kansas

underground natural gas storage facilities, Northern's employees and customers, as well as the storage facilities, employees and customers of the other storage operators in the state of Kansas.

Now I would like to address Senate Bill 553. Because the Cunningham storage facility has been mentioned during the debate over this legislation, it is important to understand what is really happening at Cunningham. It is not seriously contested by any of the interested parties that Northern's storage gas at the Cunningham storage field is being siphoned away by third-party operators. As shown in Attachment 1, in the area north of the Cunningham storage field, there were 12 dry holes and no gas wells in 1982. Today, as shown in Attachment 2, this same area incredibly contains 33 of the best producing gas wells in the state of Kansas. In fact, four of the wells producing natural gas today were dry holes in 1978. Gas sampling and analyses from third-party wells, reservoir engineering studies and geologic data made available to regulators and the public is uncontroverted. Attachment 3 demonstrates the results of gas compositional analyses of gas samples taken from the Cunningham storage field and third-party wells. Clearly, there is no doubt as to the source of the gas. Further, production rates of the third-party wells belie any claim that they are producing native gas. Attachment 4 demonstrates that while the average

per-well production rate for all wells in the state of Kansas declines over time, the production rates for the wells north of the Cunningham field do not. You do not need to accept my word that third-party producers are confiscating Northern's customers' storage gas: the government agency with jurisdiction over the field, the Federal Energy Regulatory Commission, has recognized in two separate orders that the third-party producers' wells contain Northern's customers' storage gas, and the federal district court has recently recognized that Northern's evidence is compelling and uncontroverted.

Northern is the largest interstate pipeline in the United States and maintains an excellent relationship with a majority of the over 50, 000 landowners from whom Northern has obtained easements. Northern is prepared to properly compensate landowners and other interested parties for the acquisition of gas storage leases. In fact, Northern recently acquired storage leases on approximately 4,800 acres at the Cunningham storage field, including 3,000 acres in the extension area. However, there is no doubt Northern has had ongoing disputes with third parties in Pratt and Kingman counties that would siphon away and sell the storage gas that is the property of Northern and its customers under present Kansas law. In fact, there is a pending application before FERC and pending litigation between Northern

and the third-party producers involving these very same issues. Because third-parties have become addicted to the financial windfall from their unlawful actions, they have requested from the Kansas legislature a license to legalize this taking and prohibit Northern from seeking lawful measures to protect the integrity of its storage fields. Attachment 5 is intended to illustrate a representative distribution made for the month of January 2009, as a result of third-party production of Northern's customers' storage gas. Attachment 6 is intended to illustrate a representative distribution made for the same month on one well. As you can see, much is at stake. While we can empathize with the fact that the present economic crisis has placed financial strain on individuals as well as all levels of government, elected officials in Kansas should not authorize what amounts to a bailout of a small group of interested parties at the expense of our customers.

Many of the parties that support this bill have demonstrated a practice and pattern of concealment and delay for the sole purpose of continuing to siphon and produce Northern's customers' storage gas as long as possible. For example, in litigation with the third-party producers to determine the ownership of the gas, they were held in contempt of court because they refused to allow the testing and analysis of the gas ordered by the federal court. At FERC, the third-party producers were directed by FERC staff to

least several of their wells; they refused to comply with the lawful directive of this federal agency.

You will hear claims that the operation of a storage field raises safety and environmental concerns. Make no mistake: Northern has addressed all questions by regulators concerning the safety and environmental impact of its storage fields. At Cunningham, Northern stores gas in the Viola and Simpson formations approximately 4,000 feet below the surface of the earth. These formations are capped by the Kinderhook Shale, a geologic formation which consists of impermeable cap rock from 50 to more than 100 feet thick. As part of the KCC permitting process, Northern verified there is no evidence of vertical migration of storage gas through or above the Kinderhook Shale. Northern also researched public records to ensure abandoned wells were properly abandoned. In addition, FERC experts in natural gas storage have conducted complete environmental assessments in 2007 and in 2010 and concluded in each instance there was no impact to the environment, including a finding of no impact to fresh water aquifers. In contrast to the reckless and unsupported allegations of some that support this bill, Northern has a record of operating the Cunningham storage field in a safe and environmentally sound manner for more than 30 years.

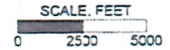
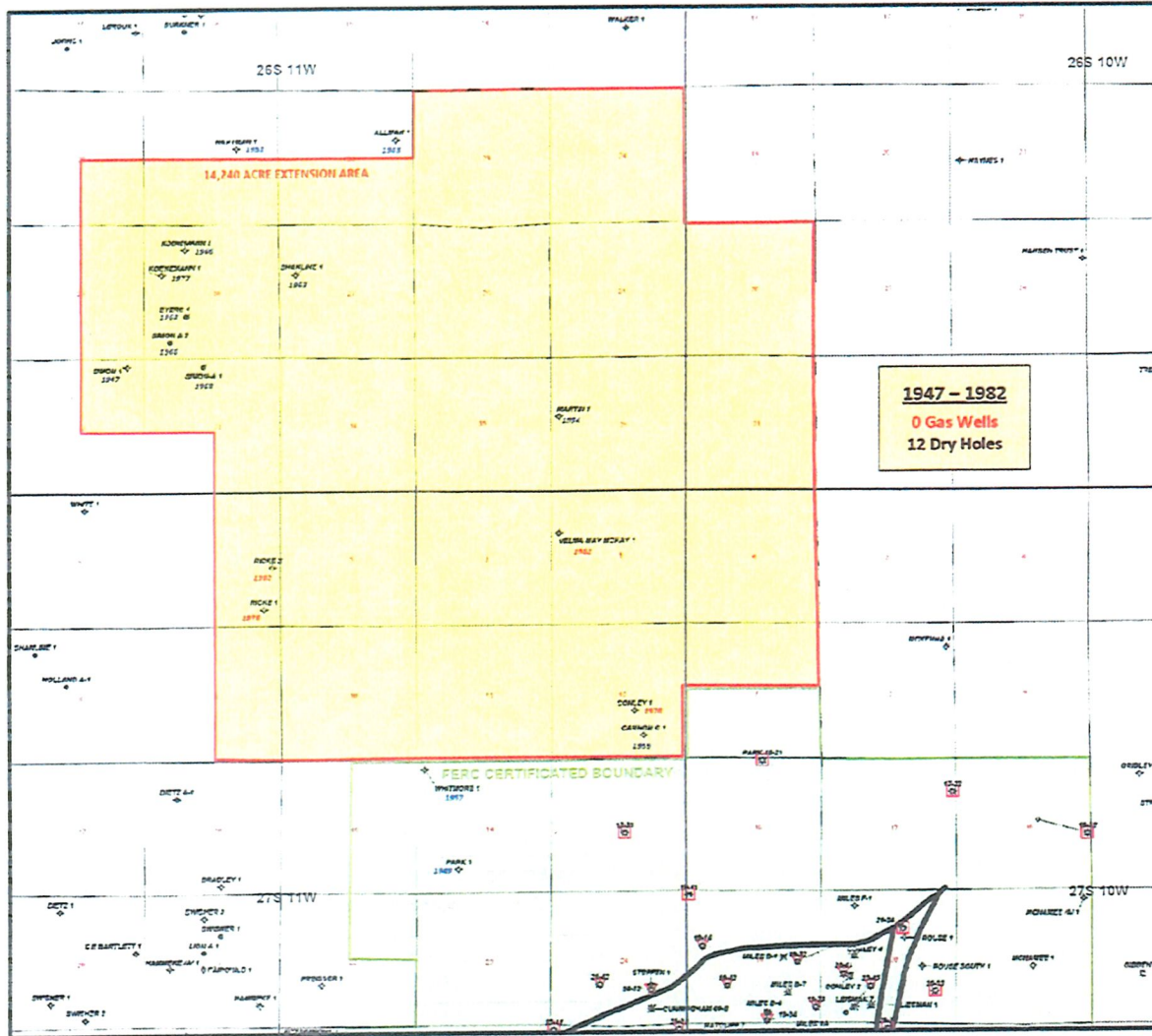
I will close with two observations. First, if passed, this legislation will have vast consequences for Northern, its employees and customers and the six other storage operators and their constituents in the state of Kansas, as well as the many Kansas companies who do business with Northern and the other storage operators. At Northern, at least 30 well-paid positions in central Kansas will be put at risk, not to mention a large portion of the \$7.0 million in property taxes paid annually to Pratt, Kingman and Rice counties. Second, I have been advised by counsel that this bill, if passed, would violate the United States constitution. For example, any thought that a state agency can shut down a privately-owned facility that is certificated by the Federal Energy Regulatory Commission under the Natural Gas Act, or fine the operator for seeking expansion of the certificated boundaries to protect the integrity of the storage field, is simply wrong. Attachment 7 sets forth a legal opinion for the benefit of the committee. Northern views the fact that the Kansas Corporation Commission does not support this legislation as compelling. The legislature should see this bill for what it really is: an affront to the federal regulatory system, an attempt to reverse law grounded in sound public policy established nearly unanimously by the Kansas Legislature in 1993, and a reward to a limited number of interested parties for their unlawful acts. I have made all of Northern's resources available to

explain Northern's position to this committee, the remainder of the Kansas Legislature, FERC, the KCC, the third-party producers, landowners, and any other interested party. I look forward to any questions that you may have.

5-12

Attachment 1

Third-Party Wells, 1947-1982



Base Map Data Source: P2ES, LP
 Tobin digital well and survey data
 SuperBase Version: 03.31.2009
 Datum: NAD 27
 Projection: State Plane Kansas South

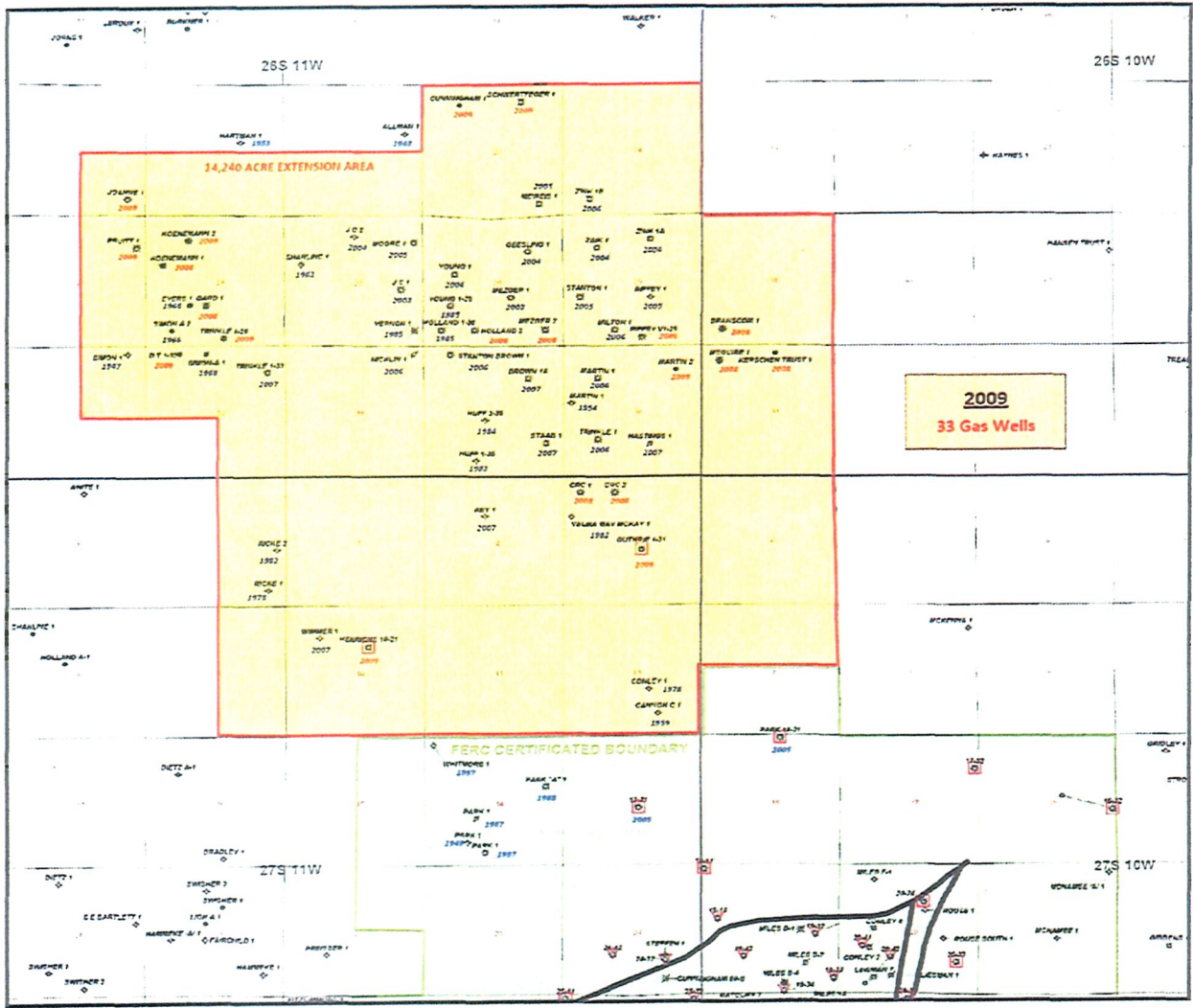
WELL SYMBOLS	
●	Proposed Location
○	Oil Well
✳	Gas Well
○	Oil and Gas Well
✳	Abandoned Oil Well
✳	Abandoned Gas Well
✳	Abandoned Oil and Gas Well
◇	Dry and Abandoned
⬇	Plugged and Abandoned
⊕	SWD well
⊕	Deviated Well - BH location
⊕	Observation Well
⊕	Gas Storage Well

Note: Only wells with TD greater than 4100' are plotted

NORTHERN NATURAL GAS COMPANY
CUNNINGHAM GAS STORAGE FIELD Kingman and Pratt Counties, Kansas
Well Date Map 1947-1982
Prepared by TW Cook & Associates, Tulsa, OK

Attachment 2

Proliferation of Third-Party Wells



SCALE, FEET
0 2500 5000

Base Map Data Source: P2ES, LP
Tobin digital well and survey data
SuperBase Version: 03.31.2009
Datum: NAD 27
Projection: State Plane Kansas South

WELL SYMBOLS

- Proposed Location
- Oil Well
- ⊗ Gas Well
- ⊗ Oil and Gas Well
- ⊗ Abandoned Oil Well
- ⊗ Abandoned Gas Well
- ⊗ Abandoned Oil and Gas Well
- ⊗ Dry and Abandoned
- ⊗ Plugged and Abandoned
- ⊗ SWD well
- Deviated Well - BH location
- ⊗ Observation Well
- ⊗ Gas Storage Well

2009
33 Gas Wells

Note: Only wells with TD greater than 4100' are plotted

NORTHERN NATURAL GAS COMPANY

CUNNINGHAM GAS STORAGE FIELD
Kingman and Pratt Counties, Kansas

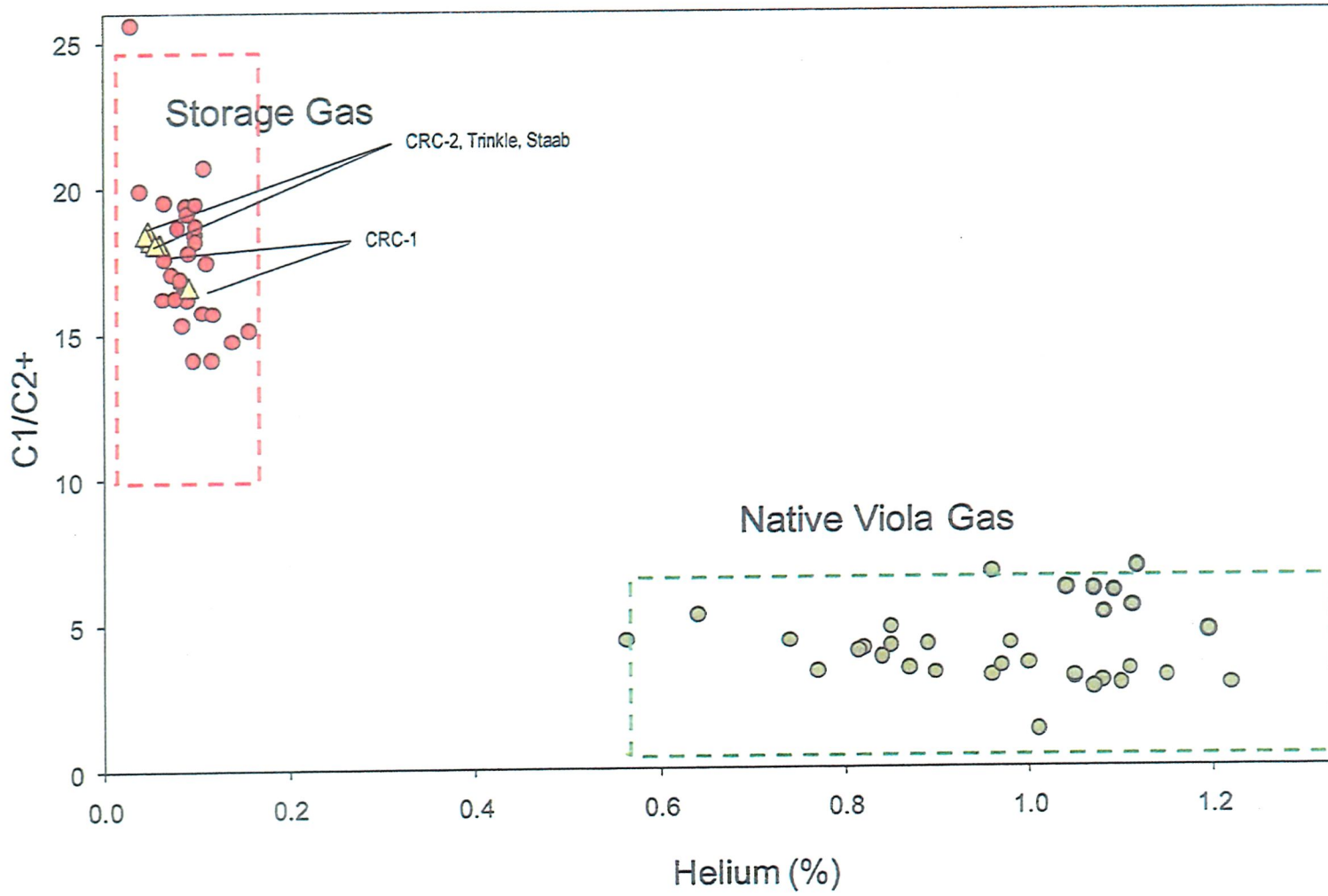
Well Date Map
2009

Prepared by TW Cook & Associates, Tulsa, OK

5-14

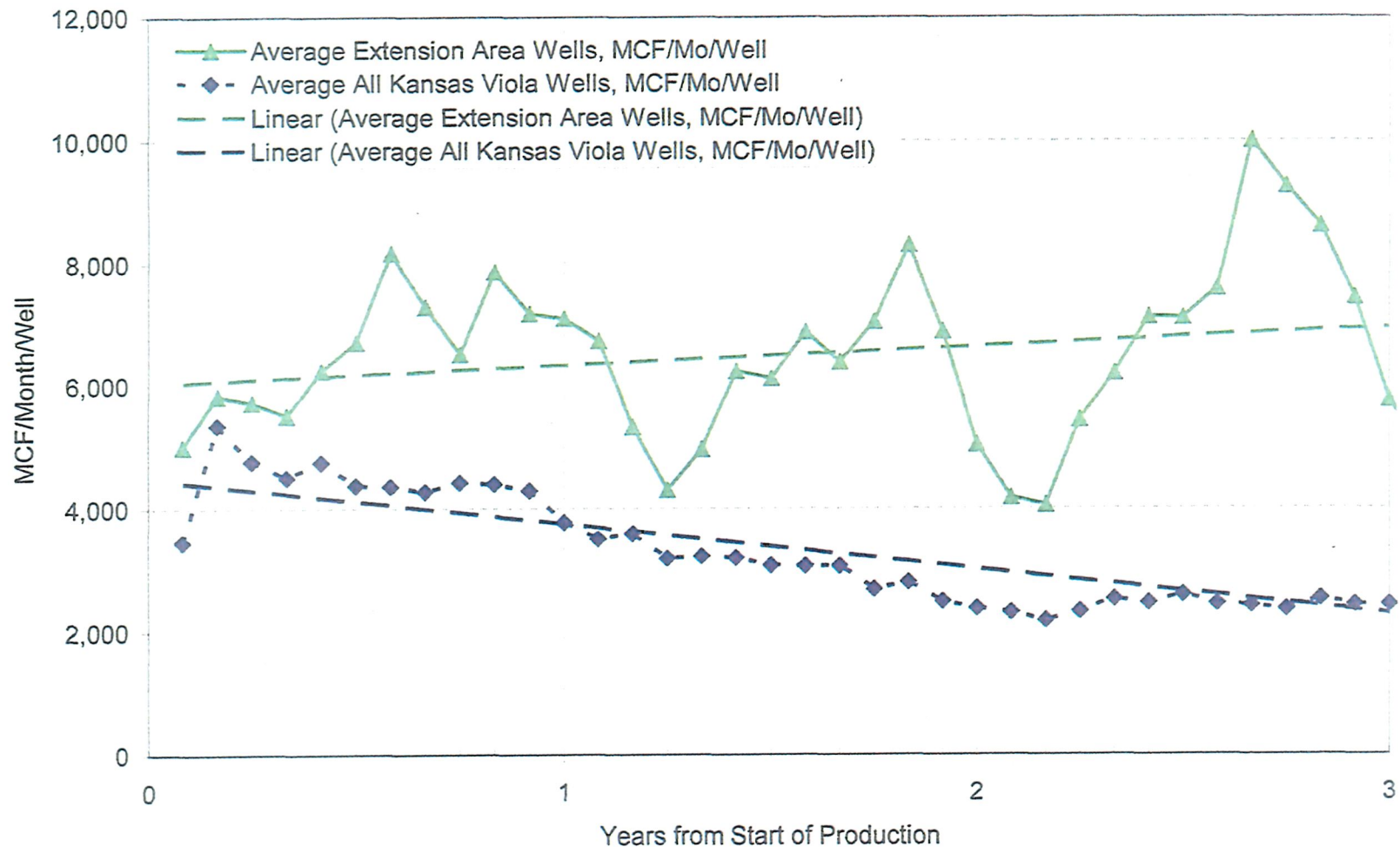
Attachment 3

June 2009 Gas Composition Data



Comparison of Third-Party Production to Average Kansas Production

Comparison of Average Per-Well Viola Production Rates: Kansas and Extension Area



Attachment 5

January 2009 Third-Party Producer Production

• Total Volume Produced	290,000 Mcf
• Gas Price	\$4.57/Mcf ¹
• January Total Production Value	\$1,325,300.00 ^{2,4}
• Third-Party Producers' Revenue	\$1,159,637.50 ²
• Typical 1/8 Royalty Interest	\$ 165,662.50 ²
• Total Ad Valorem Tax	\$ 66,238.49 ³
• Pratt County, Kansas, Tax	\$ 25,051.40 ³

¹ This is the spot price of gas according to the PE Pipeline Index for January 2009.

² Excludes costs, transportation and/or gathering fees.

³ This analysis assumed an appraised value equal to the total volumes produced times the spot price identified above; assumed an assessed value of 30% of appraised value, a mill levy of 0.1666, and/or assumed that Pratt County, Kansas, receives 37.82% of total tax assessed on production.

⁴ This value assumed all producers received the spot price above; all calculations herein are estimates based upon limited publicly-available information.

Attachment 6

Revenue Distribution from a Single Well¹

• Total Volume Produced January 2009	32,754 Mcf
• Gas Price	\$4.57/Mcf ²
• Total Value	\$149,685.78 ³
• Nash Oil & Gas, Inc. $\frac{7}{8}$ Working	\$130,975.06 ³
• Landowner $\frac{1}{8}$ Royalty	\$ 18,710.72 ³
• Total Ad Valorem Tax	\$ 7,481.29 ⁴
• Pratt County, Kansas, Tax	\$ 2,829.42 ⁴

¹ CRC No.2 Well – (NW/4, Sec 1, 27S, 11W).

² This is the spot price of gas according to the PE Pipeline Index for January 2009.

³ Excludes costs, transportation and/or gathering fees.

⁴ Assuming a 30% assessed value, a mill levy of 0.1666 and that Pratt County receives 37.82% of the total taxes assessed; all calculations herein are estimates based upon limited publicly-available information.

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March 3, 2010

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VIA HAND DELIVERY

Kansas Legislature
Senate Natural Resources Committee
c/o Mr. Mark Hewett, President
Northern Natural Gas Company
1111 South 103rd Street
Omaha, Nebraska 68124

Re: Opinion Letter: 2010 SB 553

To all Members of the Senate Natural Resources Committee:

Northern Natural Gas Company engaged Kutak Rock LLP for the limited purpose of providing a formal legal and/or constitutional analysis of Senate Bill 553, currently pending before the Senate Natural Resources Committee. Consistent with this engagement, we have, at Northern's specific request, identified several legal and constitutional problems with this bill were it to become law. Below is a brief summary of these issues. This discussion is not exhaustive. Rather, the analysis below represents our opinions of what are the most significant legal and constitutional problems with this bill.

First and foremost, Section 1 of the bill, as well as other sections, violates the Supremacy Clause, United States Constitution, Article VI, Clause 2, and unlawfully seeks to invade an area of law occupied by federal law because it seeks to punish a public utility for exercising its statutory rights under the federal Natural Gas Act, 15 U.S.C. § 717, *et seq.*, and fulfilling its congressionally-mandated duties to protect and preserve the underground storage field in the interest of the general public. *Dominion Transmission, Inc.*, 100 F.E.R.C. ¶ 61,168, 2002 WL 31975331 (2002) ("The most important consideration for proper storage operation is maintaining the long-term integrity of the storage field to prevent gas loss so the storage provider can meet...performance requirements...[FERC's] paramount concern here is to protect standing storage operations certificated by the [Natural Gas Act].")

In this same regard, the bill also violates 5th and 14th Amendment Equal Protection guarantees of the United States Constitution and Kansas Constitution, Bill of Rights, § 1 because it punishes one, and only one, class of citizens—public utilities that (1) exercise their statutory right under the Natural Gas Act; (2) have issues with migrating gas through no fault of their own;

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Page 2

(3) exercise statutory condemnation rights; (4) seek to protect their property through legal or administrative means; or (5) negotiate a private contract with a landowner for natural gas storage. Any claim challenging the bill on this basis would be subject to a rational basis standard of review, requiring the Kansas Legislature to articulate a rational or reasonable basis for the distinctions made. "For a statute to pass constitutional muster under the rational basis standard, it . . . must meet a two-part test: (1) [i]t must implicate legitimate goals, and (2) the means chosen by the legislature must bear a rational relationship to those goals." *Mudd v. Neosho Memorial Regional Med. Center*, 275 Kan. 187, 198, 62 P.3d 236 (2003) (discussing the rational basis test in terms of challenge to statute based on equal protection). A statute is only deemed to violate this test if "the statutory classification rests on grounds wholly irrelevant to the achievement of the State's legitimate objective." *Id.* (quoting *Injured Workers of Kansas v. Franklin*, 262 Kan. 840, 844, 942 P.2d 591 (1997)).

Punishing and penalizing a regulated entity, through withholding of permits and imposition of a daily fine, for complying with mandatory federal regulations cannot survive constitutional scrutiny. Moreover, we cannot fathom any rational basis or any legitimate public goal for fining, punishing, and taxing an entity for exercising its existing statutory rights, especially where, as here, the entity subject to such punishment is performing a service that the Kansas Legislature has already statutorily declared to be in the express interest of the Kansas public. K.S.A. 55-1202. This bill is akin to imposing a 50% tax on any Kansas resident who files a claim of discrimination with the EEOC or requiring the payment of a poll tax to vote. Such provisions, like this provision, would certainly be unable to survive rational basis scrutiny.

Additionally, the bill violates the First Amendment to the United States Constitution because it has a chilling effect on a public utility's right to redress grievances. The Open Access Clause of the First Amendment, provides citizens with the right to redress grievances and focuses on procedural impediments to the exercise of existing rights. *Bowman v. Niagara Machine and Tool Works, Inc.*, 832 F.2d 1052, 1054 (7th Cir. 1987) (constitution guarantees access). A public utility challenging this bill could likely demonstrate a "concrete and particularized" injury by showing: (1) it has in the past engaged in the type of speech affected by the statute; (2) it has a present desire to engage in the prohibited speech; and (3) it has no intention to actually engage in the prohibited speech because of the threat that the statute will be enforced. *Initiative & Referendum Institute v. Walker*, 450 F.3d 1082, 1089 (10th Cir. 2006). "The right to sue and defend in the courts is the alternative of force. In an organized society it is the right conservative of all other rights, and lies at the foundation of orderly government." *Chambers v. Baltimore & Ohio R.R.*, 207 U.S. 142, 148 (1907); see also *California Transport v. Trucking Unlimited*, 404 U.S. 508, 510 (1972).

This bill penalizes public utilities that exercise the rights afforded them under the Natural Gas Act and applicable FERC regulations. By penalizing public utilities that seek FERC certification to expand a certificated field pursuant to the Natural Gas Act, forcing public utilities to pay a landowners' (1) costs of litigation (whether the landowner wins or loses), (2) costs of

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negotiating storage leases, or (3) costs of protesting an administrative filing, this bill drastically and significantly restricts a public utility's constitutional guarantee of access to the government to redress its grievances. It would have a serious chilling effect on a public utility exercising its rights under the Natural Gas Act and applicable FERC regulations. It would, in our opinion, directly violate the First Amendment of the United States and Kansas Constitution and would be subject to such a challenge by any public utility operating a storage field in the State of Kansas.

The bill may also be an unconstitutional bill of attainder. A bill of attainder, is "a legislative act that inflicts punishment on named individuals or members of an easily ascertainable group without judicial trial", and is prohibited by Article 1, Section 10 of the United States Constitution. *State v. Thompson*, 221 Kan. 165, 173 (1976)). There are three elements of a bill of attainder: "(1) specificity in identification of individuals affected; (2) punishment; and (3) lack of judicial trial." *Battrick v. State*, 267 Kan. 389, 393-94 (1999) (citing *State v. Thompson*, 221 Kan. 165, 173 (1976)). Arguably, those elements are present here. First, there is an easily ascertainable group targeted by the statute—public utilities operating underground natural gas storage fields in Kansas. Presently, the number of entities subject to this bill is less than 10. The bill punishes this small class of individuals for exercising their statutory and regulatory rights and obligations within the confines of existing law, changes existing law to take away a vested property interest without just compensation, and provides no procedural due process. We believe this bill, or significant portions thereof, is an unconstitutional bill of attainder.

Many other provisions of the bill would likely be deemed by a court as void for vagueness. For instance, Section 1 does not define or describe what is meant by "violation of rules or regulations due to leaking or migrating gas." Section 3 of the bill (new statutory section (c)(5)) does not define or describe when a public utility knows or has reason to know that gas has migrated or is migrating. It does not define or describe what burden of proof a complaining party must show to demonstrate that a utility knew or had reason to know its gas had migrated or is migrating. It does not define what form the required notices must take, what information must be contained within the notices, or how those notices must be delivered and/or published. It does not define who are "other interested parties" which/who must receive notice.

In Kansas, the test for vagueness of a non-criminal statute is as follows:

A common-sense determination of fairness is the standard for determining whether a statute regulating business is unconstitutional for vagueness, i.e., can an ordinary person exercising common sense understand and comply with the statute?

Guardian Title Co. v. Bell, 248 Kan. 146, Syl. ¶¶ 3, 4. This bill is replete with examples of requirements that leave the reader guessing. We believe the entirety of this bill, or significant portions thereof, could be struck for vagueness.

KUTAK ROCK LLP

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March 3, 2010
Page 4

We also believe this bill violates the Takings Clause of the 5th Amendment to the United States Constitution. The bill strips public utilities of their vested personal property rights in injected storage gas. K.S.A. 55-1210 abolished the rule of capture with respect to migrated storage gas, without regard to where such gas migrates. Under existing statutory schemes, if a public utility condemns property for storage rights, it must compensate a landowner for all economically recoverable oil and native gas under the property. K.S.A. 55-1204. The utility is not required to pay the landowner for any storage gas because the utility already owns the storage gas. This bill strips the utility of its personal property interest in the utility's storage gas without any compensation. It gives the landowner a property interest in the utility's injected storage gas. Thus, in a condemnation proceeding, a utility could be required to compensate a landowner for all native gas under the property and could also be required to pay the landowner for any of the utility's own storage gas under the property. We believe this is a direct violation of the 5th Amendment's prohibition against takings without just compensation.

Finally, we believe the provision of the bill that would become new K.S.A. 55-1210(c)(7) cannot withstand legal or constitutional scrutiny. This portion of the bill, albeit extremely vague and ambiguous, appears to require a public utility that condemns property for storage to pay a county taxing authority for any lost ad valorem taxes the county would have received had the property not been condemned. This provision is replete with constitutional and legal problems. First, as set forth above, it violates the Supremacy Clause because it imposes a tax on an injector for exercising its rights and obligations under the Natural Gas Act and applicable FERC regulations. Second, it is likely void for vagueness. Third, it seeks to impose an ad valorem tax on a utility based on personal property—injected storage gas—that is not even subject to ad valorem taxation. As with other provisions of this bill, we do not believe the proposed subsection (c)(7) could withstand constitutional or legal scrutiny.

The opinions in this letter reflect the laws of the State of Kansas and the United States as of the date of this letter and are based solely on the facts and circumstances represented herein. Kutak Rock LLP undertakes no obligation to update or supplement our opinions to reflect any changes in such law at any date. The opinions expressed herein are furnished solely for the benefit and the use of Northern Natural Gas Company, its officers, directors, and agents. Only Northern Natural Gas Company and its officers, directors, and agents are entitled to rely on the opinions herein and all other persons and/or entities are prohibited from relying on the opinions herein unless otherwise consented to in writing by the undersigned.

Sincerely,

Kutak Rock LLP



Alan L. Rupe

TESTIMONY OF

KAREN BENSON

VICE PRESIDENT, PANHANDLE ENERGY

SENATE BILL 553

SENATE NATURAL RESOURCES COMMITTEE

MARCH 4, 2010

Good morning everyone, my name is Karen Benson and I am Vice President of Operations Services & Underground Storage for Panhandle Energy. I am here this morning to testify on behalf of Panhandle Energy in opposition to Senate Bill 553.

Panhandle Energy is a family of companies that includes Southwest Gas Storage Company, Panhandle Eastern Pipe Line Company, Trunkline Gas Company, Sea Robin Pipeline Company, Trunkline LNG Company and Florida Gas Transmission Company. We own or operate more than 15,000 miles of natural gas transmission pipeline extending from the deepwater Gulf of Mexico and Texas to the Midwest, Canada and southern tip of Florida. Our total certificated maximum reservoir gas content is 241.1 billion cubic feet ("Bcf") of natural gas stored in six underground storage porous reservoirs in five different states. In addition, we have 9.0 Bcf of

above ground liquid storage facilities in Louisiana. All the Panhandle Energy companies are natural gas companies regulated by the Federal Energy Regulatory Commission, or "FERC", in Washington, D.C.

Let me give you some background on the Kansas operations of one of the Panhandle Energy companies, Southwest Gas Storage Company ("Southwest"). Southwest serves the Panhandle Eastern Pipe Line ("Panhandle Eastern") system. Southwest operates an underground natural gas storage facility known as the Borchers North Storage Field in Meade County, Kansas. This field covers over 15,600 acres with a certificated maximum reservoir gas content of 70.1 Bcf of natural gas. We have been operating the storage field safely and efficiently for almost 30 years under the oversight of the Kansas Corporation Commission and the Federal Energy Regulatory Commission. As of the end of last year we had invested over \$200 million in this field in order to be able to provide reliable storage services.

Southwest and Panhandle Eastern have a significant and long standing presence in Kansas. For example:

- 133 employees work for Southwest and Panhandle Eastern in Kansas with a payroll of \$12.1 million;

- Panhandle Eastern owns and/or operates approximately 1,808.7 miles of pipeline and related facilities in Kansas, including 8 compressor stations; and
- Southwest and Panhandle Eastern paid Kansas property taxes in the sum of \$10.7 million in 2009.

There's little to like about Senate Bill 553 and much to dislike.

First, it ties the hands of the Kansas Corporation Commission in dealing with migration of natural gas. Assuming such a provision would withstand certain legal challenges, Section 1(b)(1) proscribes amending a storage permit if the operator pursues recovery of his strayed gas beyond a 1/2 mile radius of the field. See Section 2(g). Remember, this is gas that has already been produced and paid for, and has been injected into the storage field by the operator. Remember, too, that this gas is actually owned by distribution companies on behalf of end users, who are your constituents. The gas stored in Southwest's Borchers Field in Meade County, for example, is ultimately used by consumers in Kansas, in the K.C. area and across the country.

Second, it imposes an unfamiliar, onerous and untried burden of proof in requiring “clear and convincing” evidence in determining the title to strayed gas. See Section 3(c)(1).

Third, it proposes new theories for recovery of punitive damages of “trespass, conversion and slander of title”. See Section 3(c)(3). This language is a trial lawyer’s dream come true, particularly with the provision for recovery of plaintiff’s attorney fees, whether he wins or loses. Prolific litigation is encouraged and rewarded.

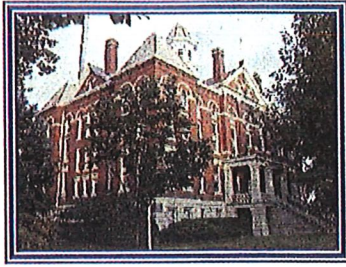
Fourth, it imposes an arbitrary limitation on storage field pressure that varies based on the geological characteristics of individual fields. See Section 3(c)(4). This bill fails to recognize that the characteristics of storage reservoirs are completely different from something like a refrigerator that was built under tightly controlled conditions in a factory. Mother Nature created storage reservoirs and, despite applying the best science, their behavior is not always predictable.

Fifth, and most importantly, it resurrects the “rule of capture” for all migrated gas beyond the new 1/2 mile zone. This is an antiquated, wasteful and anti-conservation concept that invites thievery of another’s property. Think about this concept in the situation where my neighbor's cow wanders

onto my property; the cow wanders at my neighbor's peril and my complete windfall.

Sixth, the proposed tax obligation for the lost gas presumably, even that taken under the "law of capture" is unfair and unworkable and would add to the litigation free-for-all at the expense of the true owners of the lost gas.

The fact that the Kansas Corporation Commission does not support this legislation is telling. The passage of Senate Bill 553 will adversely impact the ongoing operation of Panhandle Energy's underground natural gas storage facilities, our employees and customers, as well as the storage facilities, employees and customers of the other storage operators in the state of Kansas. Panhandle Energy joins in the opposition to this bill.



KINGMAN COUNTY COMMISSIONERS

130 North Spruce
Kingman, KS 67068
(620) 532-2521 Phone
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March 9, 2010

Honorable Carolyn McGinn, Chairperson
Senate Committee on Natural Resources
State House
Topeka, KS 66612

RE: Testimony of Kingman County Commissioner, John Steffen, relating to Senate Bill 553

Dear Chairperson McGinn and Members of the Senate Natural Resources Committee:

Thank you for the opportunity to provide testimony regarding Senate Bill 553. My name is John Steffen. I am a member of the Kingman County Board of County Commissioners. I appear, in part, as a representative of the Board of County Commissioners. The Kingman County Commissioners are concerned regarding the possible negative consequences to Kingman County which would result from the passage of Senate Bill 553.

The Board has received information relating to both sides of the issue of recovery of migrating natural gas addressed in the bill. We have been provided information from Northern Natural Gas relating to natural gas migration from the Cunningham, Kansas Storage Facility which, in part, lies within Kingman County. We understand their position to be that surrounding third party gas producers are, in effect, siphoning stored gas.

We have also received the written testimony of Dwight Adams of the Pratt County Commission given before your committee regarding their position that native Kansas gas is being taken from producers and landowners by the recovery of what is alleged to be migrating stored gas. We are not geologists or experts on this issue and do not know which position, if either, is accurate. We do know the following:

1. Northern Natural Gas has indicated that should the provisions contained in Senate Bill 553 become law, the likelihood is great that the Cunningham

SENATE NATURAL RESOURCES
3-10-10
Attachment 7 - /

- Storage Facility will be closed.
2. With the passage of recent legislation, Kingman County stands to lose substantial tax revenue from the taxation on the inventory contained in the Cunningham Storage Facility should it be closed.
 3. That Northern Natural Gas employs 17 individuals at the Cunningham Storage Facility. A portion of these employees reside in Kingman County.
 4. Closure of the Cunningham Storage Facility would likely result in a loss of tax base in Kingman County.

We encourage the committee to study the issues involving Senate Bill 553 extensively and come to a result which is based on fact. The overall interest of the region should be the overriding concern, not those of a corporation, gas producers, or landowners whose position is defined solely by their own economic interest. Neither side should profit from taking or siphoning gas, whether stored or native gas, of the other. Taxation of the gas whether stored as inventory or whether ad valorem property taxes on producing wells should be paid according to Kansas Law.

Thank you for this opportunity.


John Steffen
Kingman County Commissioner

JS/pag

Testimony of Colorado Interstate Gas Company
In Opposition to Senate Bill 553, An Act Concerning Natural Gas Storage; Relating to
the Recovery of Migrating Gas
Submitted to the Kansas Senate Natural Resources Committee
Presented by Laurence E. Garrett
Wednesday, March 10, 2010

Thank you, Chairwoman McGinn and members of the committee, for the opportunity to address the proposed Senate Bill 553 ("SB 553"). My name is Laurence E. Garrett. I am an attorney appearing today on behalf of Colorado Interstate Gas Company ("CIG"), located in Colorado Springs, Colorado. CIG owns and operates the Boehm Storage Facility, located in Morton County, Kansas.

The purpose of my testimony today is to oppose SB 553 on the grounds that 1) it purports to punish natural gas storage operators, not for intentional or reckless acts, but for acts that are most often beyond the storage operators' control; that 2) it creates a hostile business environment for storage operators in Kansas; that 3) it unnecessarily creates tension between the storage operators and landowners, producers and owners of mineral interests; that 4) it imposes sanctions through the loss of title to gas on storage operators who do not operate storage pressures in accordance with the approval of the Kansas Corporation Commission ("KCC"), despite the fact that the KCC has no jurisdiction over the operation and maintenance of interstate natural gas pipeline facilities; that 4) it unfairly requires storage operators to replace ad valorem taxes on property it does not own; and 5) this legislation is not necessary as Federal law adequately protects the interests of landowners, producers and owners of mineral interests.

SB 553 unfairly punishes storage operators when gas held in storage migrates. Migration of natural gas from a storage field is never the intended act of a storage operator, yet SB 553 penalizes a storage operator for the migration of gas regardless of the reason for the migration or the absence of an operator's actions. The integrity of a storage field can be compromised by many sources outside of the operator's control. To punish a party without the slightest evidence of scienter is simply unprecedented in American jurisprudence.

The business climate of a state is a very important factor gas storage operators consider when exploring possible locations for new business. The message contained in SB 553 is unmistakable. Kansas does not want or welcome the expansion of gas storage in the state.

SB 553 unnecessarily creates tension between the gas storage operators, producers, landowners and owners of mineral interests. Giving title to migrating storage gas to anyone who produces the gas will produce unintended results to the producer and the landowner. SB 553 will require the prudent interstate natural gas storage operator to petition the Federal Energy Regulatory Commission ("FERC") for permission to acquire buffer zones around storage fields far in excess of that which would otherwise be

required in the absence of SB 553. The punitive measures contained in SB 553 will serve to require a prudent operator to enlarge its buffer zones to protect its customer's gas from loss of title to the detriment of the landowner and producer. SB 553 will punish landowners, producers and local taxing jurisdictions. If a gas storage operator is required to enlarge its buffer zone or face the punitive measures of SB 553, the choice will be simple. The buffer zone will necessarily be enlarged and landowners will lose their land, production will be curtailed and revenue will be lost.

SB 553 imposes sanctions through the loss of title to gas of storage operators who do not operate storage pressures in accordance with the approval of the Kansas Corporation Commission ("KCC"), despite the fact that the KCC has no jurisdiction over the safety, operation and maintenance of interstate natural gas pipeline facilities. The siting, construction and operation (including the operating pressure of a storage field) of interstate natural gas pipeline facilities fall within the exclusive jurisdiction of and are determined by FERC. The safety of those facilities fall within the exclusive jurisdiction of the Secretary of the United States Department of Transportation ("DOT"). SB 553 would take title of migrating gas from the storage operators' customers and give it to producers if the storage field exceeded 75% of the fracture gradient as determined by tests approved by the KCC, notwithstanding any conflicting federal requirement to operate the field at a different pressure. There is a serious question under federal preemption whether Kansas may lawfully prescribe an operating pressure for a natural gas storage field certificated by FERC and regulated by DOT, and then punish an operator for following federal law.

SB 553 would attempt to require storage operators to replace ad valorem taxes on property it does not own. An interstate natural gas storage operator does not hold title to any of the gas held in storage except for the base gas necessary to operate the field. The storage field operator pays Kansas ad valorem taxes on the operational base gas it owns. Title to the storage gas remains in the customer. Storage gas customers pay Kansas ad valorem tax on the gas stored in Kansas. SB 553 would seem to require the storage operator who does not own the gas in storage to replace lost ad valorem taxes if a producer is prevented from producing migrating gas which the storage operator does not own in the first place. Kansas property tax law has never been extended in a manner like this to assess a property tax on a person who neither owns, nor could ever legally own the property being taxed. This concept necessarily raises some interesting constitutional questions.

SB 553 is not necessary because Federal law adequately protects the interests of landowners and owners of mineral interests. Under federal law, an applicant for a Certificate of Public Convenience and Necessity ("certificate") must provide notice of the project and FERC proceedings to all interested parties within the area of proposed new storage fields or proposed expansions of storage fields, including any applicable buffer zone. 18 C.F.R. 157.6(d)(iv). FERC is not only amenable to the concerns of potentially affected landowners and owners of mineral interests, FERC encourages early participation of the interested parties and strives to protect the interests of all parties.

If a landowner's property or the interest of a mineral owner is required for a FERC certificated facility, all property interests are guaranteed full protection under the United States Constitution. Property may not be appropriated and put to a public use without just compensation. This is a landowner's constitutional guarantee. The property owner is protected by federal law, assured of a fair and impartial proceeding and the receipt of just compensation whether an eminent domain proceeding is brought in state court or federal court. In both courts, the receipt of just compensation is constitutionally ensured.

The provisions of SB 553 will have serious implications and dire ramifications for gas storage operators, landowners, producers, owners of mineral interests, taxing authorities, regulators and the future energy economy of the State of Kansas.

Thank you for allowing me to present this testimony. I respectfully urge you to reject SB 553 for the reasons stated above. In the alternative, all interested parties should be given the opportunity to fully and fairly provide this Committee with important and informed information. Informed decisions should be founded upon facts and reason, not driven by speculation and emotions. To serve that end, CIG would respectfully request that SB 553 be held over for interim study.



Wes Ashton
Government Affairs for Kansas and Colorado
Wes.Ashton@BlackHillsCorp.com

**Legislative Testimony before the Senate Natural Resources Committee
Opposition to SB 553
March 10, 2010**

Thank you for the opportunity to offer written legislative testimony this morning in opposition to SB 553, which deals with migrating natural gas and storage. Black Hills Energy provides natural gas service to nearly 110,000 customers across the state of Kansas. We want to offer our comments today as we believe this may have a negative impact on our customers in the form of higher costs for their natural gas services.

We oppose SB 553 because it is likely to raise costs for our residential and commercial customers as the cost we are charged for storage of natural gas is likely to rise. Additionally, this legislation will likely limit the amount of natural gas storage in Kansas, which we believe would hinder our ability to acquire and then deliver enough natural gas to our customers during times of peak demand, typically on the coldest days of the year.

Black Hills Energy acquires our annual gas supply through several different means. There are two main supply sources that Black Hills Energy utilizes in its gas supply portfolio. The majority of gas is purchased from our suppliers, who deliver it into the interstate pipeline systems for transport to Black Hills Energy's city-gates. The second supply source is to withdraw gas that has been placed into storage. The natural gas we purchase, usually in off-peak periods (summer) at lower prices is accumulated and held in storage heading into the winter months. Without storage, the gas needed for winter demand would have to be purchased as it was needed, at peak usage times and at higher market prices. Gas in storage makes up about 22% of Black Hills Energy's gas supply portfolio.

Black Hills Energy has a long tradition of delivering a safe and reliable service to our customers across all of the communities where we serve. We are required and ensure that we are able to deliver natural gas to our customers throughout the winter months. Storage of natural gas is a necessity to meet our customer's needs in a reliable manner operationally and at, generally, lower prices than not using storage.

While we understand that there may need to be changes considered to address issues with the current system, we encourage this Committee to carefully review any changes to current law to avoid any unintended consequences. The current legislation will likely lead to costs increases for all of our customers and inhibit our ability to guarantee service on the days our customers need it the most.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Northern Natural Gas Company

)

Docket No. CP09-465-000

**THE KANSAS CORPORATION COMMISSION'S
COMMENTS ON THE ENVIRONMENTAL ASSESSMENT**

In the Notice of Intent to Prepare an Environmental Assessment for the Proposed Cunningham Storage Boundary Expansion Project and Request for Comments on Environmental Issues at 3, the Federal Energy Regulatory Commission ("FERC" or "Commission") stated that "[a] comment period will be allotted for review if the EA is published." As a formal comment period was not established, Rule 213(d)(2)(ii) of the Rules of Practice and Procedure of the FERC, 18 C.F.R. § 382.213(d)(2)(ii), governs comments on the Environmental Assessment. That period expires March 1, 2010. Despite Northern's objection to the opposition of the Kansas Corporation Commission ("KCC") to Northern's Motion for expedited approval of its certificate application on grounds that the KCC "had a full and fair opportunity to raise any environmental concerns," Northern's Answer at 3, the KCC has **not** had a full opportunity to raise its environmental concerns. The Commission stated that it would provide parties an opportunity to comment on the Environmental Assessment. The KCC is availing itself of that opportunity. Until the deficiencies in the Environmental Assessment are addressed it would be premature and contrary to the public interest to approve Northern's application. Accordingly, the KCC hereby timely submits its Comments on the Environmental Assessment issued in the above-captioned proceeding.

I. THE KINDERHOOK SHALE FORMATION

The KCC prefaces these comments by acknowledging that they are based on the assumption that Northern Natural Gas Company ("Northern") is correct about the migration of

storage gas into nearby producing areas. The KCC makes this assumption solely for the purpose of evaluating and responding to the Environmental Assessment's conclusion regarding the Kinderhook Shale Formation, *i.e.*, the KCC's comments should not be construed as supporting Northern's claim that storage gas is migrating.

The KCC believes it is reasonable to assume that if the certificated boundary of the Cunningham Storage Field is expanded the pressure in the expansion zone will increase due to the shutting-in of wells that previously produced storage gas. As a result of this increased pressure, the KCC is concerned that gas may migrate into fresh water aquifers. Staff evaluated this concern and concluded that

[b]ecause the aquifers in the project area are considerably shallower than the storage reservoir and are vertically separated from the Viola Formation by the impermeable Kinderhook Shale Formation, and by at least 3,000 feet of sediments, we believe that groundwater contamination of water wells by Northern's storage gas is unlikely to occur and is unlikely to have occurred in the past.

Environmental Assessment at 3. Staff's reliance on the existence of the impermeable Kinderhook Shale Formation is inadequate for three reasons.

First, there is absolutely no proof that the Kinderhook Shale Formation is impermeable. It was previously assumed that Northern's Cunningham Storage Field was impermeable but if Northern is to be believed that assumption has now been proven incorrect. It would be irresponsible based on the history of permeability in the surrounding Viola and Simpson formations to just assume that the Kinderhook Shale Formation is impermeable.

Second, due to the presence of wells in the area, the Kinderhook Shale Formation is only as impermeable as the leakiest well seal. Without evaluating the effectiveness of the well seals, the Commission cannot conclude that Kansas' drinking water is not threatened. The KCC recognizes that Northern does not currently have access to the wells and therefore cannot provide

the Commission with the requisite information to perform this analysis. Therefore, the Commission should either obtain the necessary information from the current well operators or condition Northern's certificate on Northern evaluating the effectiveness of the seals prior to taking any action under its certificate. If any seals fail to meet the requirements under KAR 82-3-104, Northern should be required to resolve the problem prior to taking action under the certificate.

Third, Staff does not address the migration potential arising from the faults in the area. As Northern points out in its application, the fault running along the northern side of the Cunningham Storage Field "is not, and never has been sealing." Northern's Application at 10. If the northern fault does not provide a horizontal seal, it is reasonable and logical to assume that it also does not provide a vertical seal, thus placing the aquifers at risk.

II. WATER WELL SURVEY

As additional support for its conclusion that it is unlikely that gas has migrated or that it will migrate, Staff relies on a water well survey previously conducted by Northern. In Docket No. CP07-107, Northern sent letters to affected landowners asking whether their well water had a gaseous odor or flavor. Northern did not receive any reports of contaminated water. This survey is far from conclusive and certainly is not scientific. It is possible that the landowners are using a shallow water zone and that the gas is currently migrating into deeper aquifers, thus going undetected. The Commission's environmental analysis should be based on a sample of the groundwater at all depths, not a survey of landowners.

III. CONTAINMENT

The Environmental Assessment has failed to adequately evaluate the alternatives to Northern's proposal. The only alternative discussed in the Environmental Assessment is no

action. The Environmental Assessment should have addressed the question of whether abandonment or reduced operating pressure and volume are superior alternatives.

A. Abandonment

Northern has yet to define the area where storage gas is migrating and accumulating and the geological and/or engineering factors that will contain this alleged storage gas migration within the expansion area. One example of Northern's failure to define the area where storage gas has migrated is the #10-1 Hendrich well. Tests of Northern's well #10-1 Hendrich show the presence of native gas indicating not all of the expansion area contains storage gas. Therefore, the area around and the structure associated with the #10-1 Hendrich well should be excluded from the expansion area. The specific area the KCC proposes be excluded is set forth in Exhibit A, which is a modified version of Northern's Exhibit 12 of Exhibit Z.

Northern has also failed to state, define or map the confining barriers or parameters in the critical north-northwest dip direction that would control containment of the storage gas Northern alleges has migrated into the expansion area. Northern's failure to define these containment parameters raises a question as to whether Northern's alleged gas migration can be contained in the north-northwest direction. Northern's structure map dated September 3, 2009 shows gas wells that Northern claims are producing storage gas down dip from structural closures which are both partially in and partially out of the expansion area (Secs: 14, 15, 22 & 23: T26S-R11W; Secs 18 & 19: T26S-R10W and Secs: 13 & 24 T26S-R11W; and Secs. 28, 32 & 33: T26S-R11W). *See* Exhibit B modified version of Northern's Exhibit 12 of Exhibit Z.

Additionally, some geological and pressure data and the interpretation of this data used by Northern in this proceeding appear to be inaccurate based on the following:

(a) **Original reservoir pressure:** Skelly Oil Company reported a significantly lower bottom hole shut-in pressure (BHP) for the #2D Krehbiel well than the derived pressure used by Northern. Skelly Oil Company reported a BHP of 1375 psig in a 1937 article about the field¹ and reported a BHP of 1350 psig on the completion card for the #2D Krehbiel.² Northern used a derived original BHP of 1695 psig, but did not provide a source or explanation for how it was calculated. The significant deviation in the actual original BHP reported by Skelly Oil Company and Northern's derived original BHP, call into question the validity of all of Northern's pressure calculations, i.e., changes in P_i/Z_i , migration model and simulation model.

(b) **Data for the #1 Steffen well:** Northern's reported well data for the #1 Steffen well and the completion records³ for that well also differ as follows:

Completion Well Records	Northern
Gas show of 100,000 CFG at 4135 feet	100,000 to 200,000 MCFG
Water recovered: Hole full of water (HFW)	No liquids reported
Calculated BHP with HFW at 4129 is 1877 psia	
Well plugged back at 4100 feet reported	
200,000 gas and salt water (SW) above a plugged back depth of 4100 feet (not from Viola)	

Based on the discrepancies in the data Northern used, the KCC believes Northern's conclusions cannot be relied upon without further investigation, which could be achieved through a Technical Conference.

¹ Richard B. Rutledge & Howard S. Bryant, *Cunningham Field, Kingman and Pratt Counties, Kansas*, 21 Bulletin of American Association of Petroleum Geologist 500 (April 1937), attached at Exhibit C.

² Completion card from Kansas Geological Walters Digital Library, attached at Exhibit D.

³ Completion cards from Kansas Geological Walters Digital Library and KCC staff library, attached as Exhibits E & F.

The underlying premise of Northern's argument that gas is migrating into the expansion area is that the migration pathway from the storage field to the expansion area is through a "non-sealing fault" on the north side of the storage field. Northern's characterization of this fault as "non-sealing" ignores pertinent well data. The data from the #2 Krehbiel well and the #1 Steffen well, which are located approximately one-half mile apart and on opposite sides of the fault, do not support Northern's conclusion that the fault is "non-sealing."

The #1 Steffen well had a BHP that the KCC calculates to be 1877 psia and a reported tested volume of gas equal to 100,000 CFG. The #2D Krehbiel well, located on the other side of the fault, had a reported BHP of 1350 psig and an initial potential of 55.15 MMCFG. The large pressure differential between the #1 Steffen well and the #2D Krehbiel well plus the differential in gas recovered from these two wells leads the KCC to the conclusion that the north fault is a "sealing fault" rather than a "non-sealing fault" as concluded by Northern. This calls into question Northern's understanding of the path and course of the migration of storage gas out of the storage area.

Lastly, Northern's conclusion that storage gas is migrating is not based on a containment monitoring program. Instead, Northern's concerns have arisen based on the actions of third parties. Northern has demonstrated a lack of monitoring for containment over the life of the Cunningham Storage Field. In 1984, 1985 and 1993, it was third party drilling in the Simpson formation, not Northern's own monitoring program, that led Northern to suspect a loss of containment from the Viola Storage formation. As a result of the third party drilling in the Simpson Formation, in 1996 Northern sought and received a certificate to expand the Cunningham Storage Facility to include the Simpson Formation. Likewise this time, it was again third party drilling, not a containment monitoring program, that led Northern to suspect

storage gas had migrated beyond its storage field boundary. If Northern's own containment monitoring program has not indicated storage gas migration, the Commission should thoroughly evaluate whether storage gas migration has actually occurred.

B. Reduced Operating Pressure

The Cunningham Storage Field is currently certificated for a maximum reservoir operating pressure of 1695 psig. This is over 300 psig greater than the reported original discovery pressure of 1350 psig. The KCC believes this excessive operating pressure may be the cause of, or at least a contributing factor to, the containment issues at the Cunningham Storage Field. The original maximum reservoir pressure allowed by FERC for the Cunningham Storage Field was 1575 psig. In 1996, FERC increased the maximum allowable reservoir pressure to the current 1695 psig. Northern's Exhibit 26 shows that stable operation of the storage field was lost after the increase in the maximum allowable reservoir pressure. Thus it appears that operating the field at the higher pressure may have caused storage gas to migrate past a storage field spill point and into the expansion area. Whether a reduction in the maximum allowable reservoir pressure--for example back to the 1575 psig originally approved--could restore the reservoir to its condition from 1985 to 1994, deserves to be fully investigated. The KCC requests the Commission review and if appropriate, reduce the certificated maximum operating pressure for the storage field.

Northern has taken no operational steps to stop or limit continuing migration of storage gas from its Cunningham Storage Field. Northern could have reduced its storage volume or operating pressure to mitigate the migration of gas but Northern chose to do the opposite by injecting the largest volume of gas during the 2009-2010 injection cycle. See Exhibit G.

Whether Northern should have mitigated the impact on its customers caused by storage gas migration by reducing storage volume or operating pressure, deserves to be fully investigated.

IV. JURISDICTIONAL CONCERNS

The KCC believes that even if Northern's certificate application is granted, the KCC will retain health and safety jurisdiction over the integrity of the certificated storage field. However, Colorado Interstate Gas Co. ("CIG") has challenged this very issue in litigation in the U.S. District Court in the District of Kansas. *Colorado Interstate Gas Co. v. Thomas E. Wright*, Docket No. 09CV4031-SAC-JPO. Therefore, the KCC requests that the Commission either condition Northern's certificate upon compliance with the regulations of the KCC and any future orders of the KCC relating to the operation of the storage fields limited to matters relating to health, safety and environmental protection⁴ or clarify that by virtue of issuing this certificate the Commission has not "occupied the field" for pre-emption purposes to the exclusion of KCC regulation of matters not regulated by the Commission. The KCC acknowledges that even if the Commission has not "occupied the field," the KCC will be pre-empted if its regulations conflict with the Commission's rules or orders or Northern's ability to fulfill its certificate obligations.

V. TECHNICAL CONFERENCE

The KCC respectfully requests the Commission convene a technical conference to address the environmental issues surrounding the expansion of the Cunningham Storage Field including the potential impact on aquifers and whether alternatives exist that make abandonment of the proposed expansion a superior alternative. Additionally, the KCC believes the underlying assumption on which the Environmental Assessment is based, how, why and where gas is

⁴ The KCC does not intend to suggest that such a condition would authorize the KCC to issue an order that conflicted with Northern's certificate obligations or any regulatory requirement of the FERC.

migrating beyond the current boundaries of the storage field, should also be examined in greater detail at the technical conference.

VI. CONCLUSION

Given the complexity of the geological issues in this proceeding, the Commission should convene a technical conference to evaluate the permeability of the Cunningham Storage Facility, the expansion area, the Kinderhook Shale Formation, and the northern fault.

Should the Commission decline to convene a technical conference, the Commission, nevertheless, must recognize that underground conditions will change upon Northern taking control of the expansion area. Given that conditions will change, the KCC believes there must be a system in place to both prevent and resolve any impact these changing conditions may have on the aquifers. In fact, the KCC believes that the public interest standard of section 7(c) of the Natural Gas Act requires such a system when the existence of potential problems is known at the time of certification.

Respectfully submitted,

KANSAS CORPORATION COMMISSION

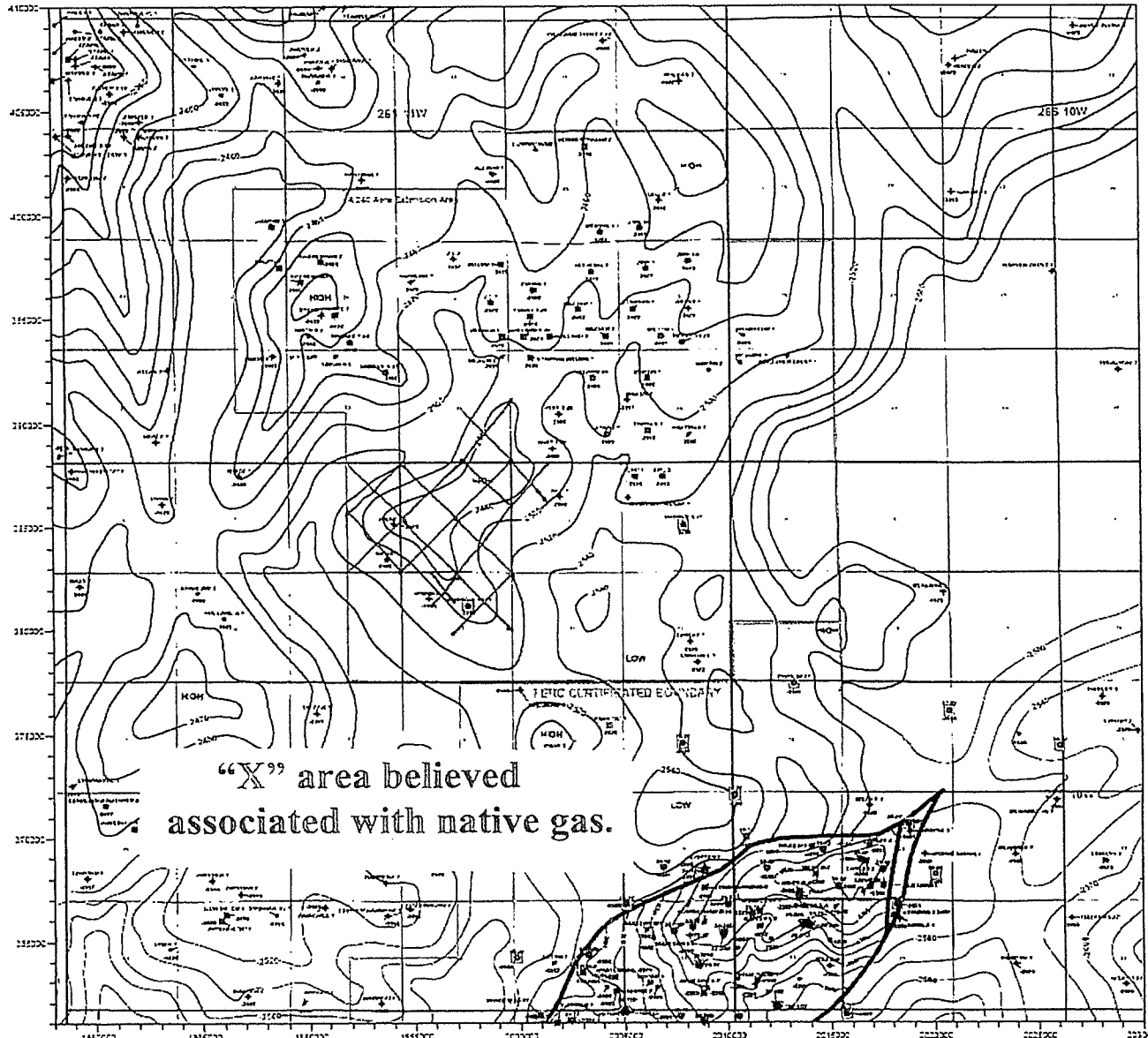
By: *Shannon P. Coleman*
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W. Thomas Stratton
Chief Litigation Counsel
The Kansas Corporation Commission
1500 S.W. Arrowhead Road
Topeka, Kansas 66604-4027

Dated: February 25, 2010

Counsel for the Kansas Corporation Commission

Ex.12: Map of Extension Area



"X" area believed associated with native gas.



SCALE, FEET
0 2500 5000

Base Map Data Source: P288 LP
Tobin digital we and survey data
SuperBase Version 02.31.2002
Datum: NAD 27
Projection: State Plane Kansas South

- WELL SYMBOLS**
- Propped Location
 - Well
 - * Gas Well
 - * O and Gas Well
 - * Abandoned Oil Well
 - * Abandoned Gas Well
 - * Dry and Abandoned
 - * Plugged and Abandoned
 - * SWD well
 - Devised Well - BH location
 - Observation Well
 - ⊞ Gas Storage Well

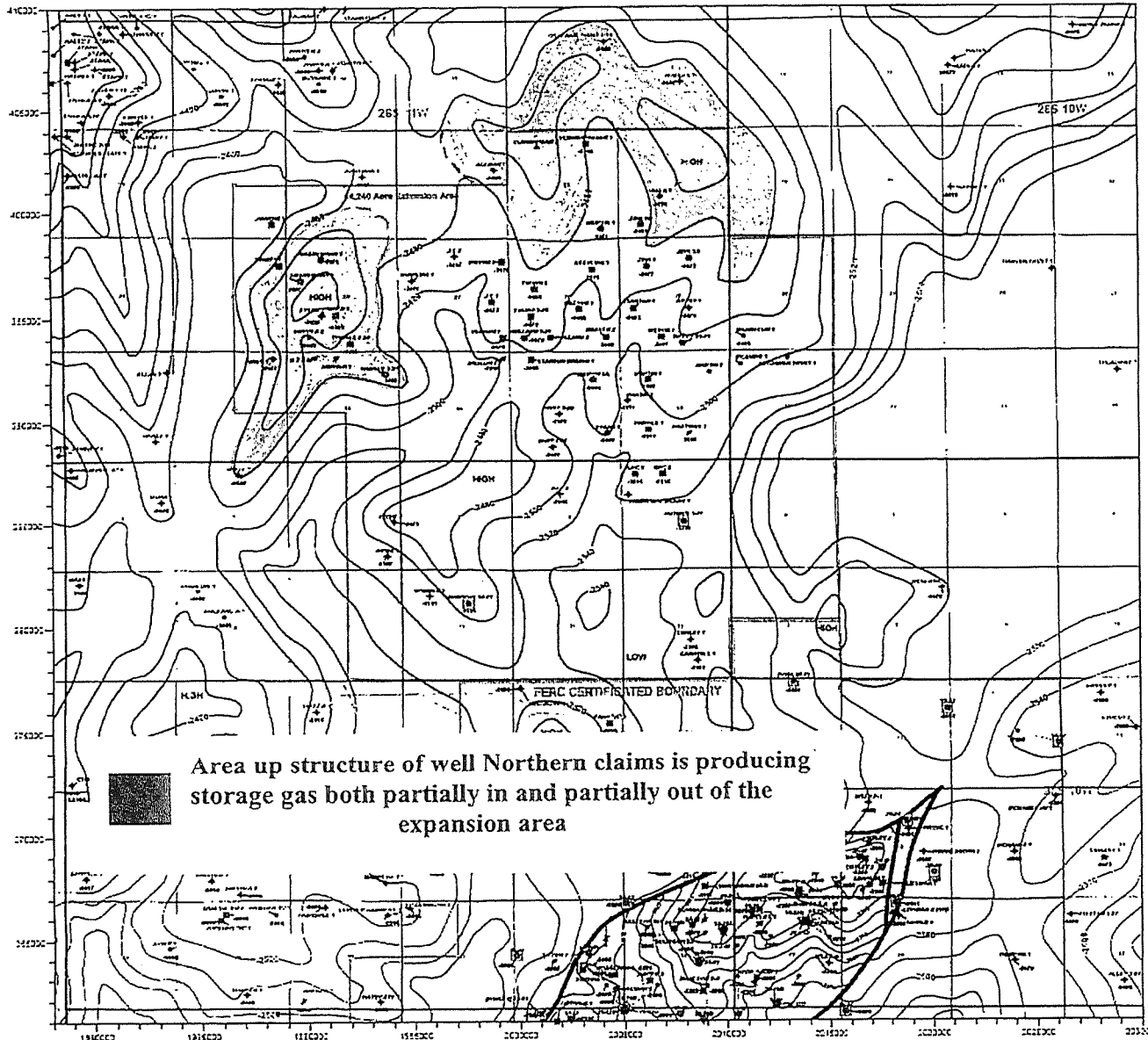
Note: Only wells with TD greater than 4100 are plotted

NORTHERN NATURAL GAS COMPANY
CUNNINGHAM GAS STORAGE FIELD Kingman and Pratt Counties, Kansas
Top Of Viola Formation September 2, 2009
Prepared by TTV Clark & Associates, Tulsa, OK

18-01

10-11

Ex.12: Map of Extension Area



Base Map Data Source: PZES, LP
 Tobin digital we and survey data
 SuperBase Version: 03.31.2006
 Datum: NAD 27
 Projection: State Plane Kansas South

WELL SYMBOLS	
●	Proposed Location
○	Oil Well
✳	Gas Well
○	Oil and Gas Well
✳	Abandoned Oil Well
✳	Abandoned Oil and Gas Well
✳	Dry and Abandoned
✳	Plugged and Abandoned
○	SWD well
○	Deviated Well - BH location
□	Observation Well
⊞	Gas Storage Well

Note: Only wells with TD greater than 4'00" are plotted

NORTHERN NATURAL GAS COMPANY
SUNNICHAN GAS STORAGE FIELD Kingman and Pratt Counties, Kansas
Top Of Viola Formation September 2, 2009
Prepared by: TWG & Associates, Tulsa, OK

10-11

BULLETIN OF THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS
VOL. 21, NO. 4 (APRIL, 1937), PP. 500-524, 5 FIGS

CUNNINGHAM FIELD, KINGMAN AND
PRATT COUNTIES, KANSAS¹

RICHARD B. RUTLEDGE AND HOWARD S. BRYANT²
Tulsa, Oklahoma, and Wichita, Kansas

ABSTRACT

The discovery well, drilled in the NE. cor. of Sec. 30, T. 27 S., R. 10 W., to test a core-drill structure, found production at 3,360-3,468 feet in the Pennsylvanian Lansing limestone—"Oswald pay"—of western Kansas. Gradual development has resulted in 33 Lansing wells, one Ordovician gas well, one Permian gas well, and two Ordovician dry holes.

The Lansing pay horizons are numerous and variable thin porous streaks, many oolitic, in the upper 170 feet of that limestone formation. The Ordovician gas horizons are the cherty Viola dolomitic limestone, the sands of the upper Simpson and the "Siliceous lime." Oil is present in the "Siliceous lime" below the gas.

The structure had its beginning in post-Mississippian and pre-Marmaton deformation, and its growth continued at intervals in Pennsylvanian and Permian time. It shows increasing steepness and westward shifting with depth.

Production data and production practices are discussed.

I. INTRODUCTION

The development of oil production from the Pennsylvanian limestones of western Kansas began late in 1923 with the discovery of the Fairport field in Russell County.³ The discovery of Fairport led to considerable prospecting, most of which was confined to the broad, flat Central Kansas uplift,⁴ but the results were not very encouraging previous to 1928. During 1928, new discoveries were made in Rooks, Russell, McPherson, and Sedgwick counties, and since that time oil and gas have been produced from the Pennsylvanian, Mississippian, Siluro-Devonian, and Ordovician rocks, and in a few instances from Cambrian and pre-Cambrian rocks where they are in contact locally with overlying Pennsylvanian formations. However, of the oil pools discovered to date, which are productive from the Pennsylvanian limestones, the Fairport field appears to be the greatest in areal extent and the most prolific. The Cunningham field is the next in order of importance.

¹ Read before the Association at Tulsa, March 21, 1936. Manuscript received, February 6, 1937.

² Skelly Oil Company.

³ Thos. H. Allan and M. M. Valerius, "Fairport Oil Field, Russell County, Kansas," *Structures of Typical American Oil Fields*, Vol. I (Amer. Assoc. Petrol. Geol., 1929), p. 35.

⁴ Edward A. Koester, "Geology of Central Kansas Uplift," *Bull. Amer. Assoc. Petrol. Geol.*, Vol. 19, No. 10 (October, 1935), pp. 1405-26.

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CUNNINGHAM FIELD, TEXAS

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the "Siliceous lime" in Leisman No. 1 Ordovician test is given in Table II.

TABLE II

	<i>Viola Limestone</i> <i>Gas From 3,022-3,933 Feet</i>	<i>"Siliceous Lime"</i> <i>Gas From 4,093-4,195 Feet</i>
Amount of gas	56,251,000 cubic feet per day	27,000,000 cubic feet per day
Rock pressure (S.I.)	1,375 pounds per square inch	1,385 pounds per square inch
Oxygen	0.0%	0.9%
Carbon dioxide	0.2	0.4
Ethane	18.7	21.2
Methane	71.7	59.3
Residue	9.4	18.2
Total	100.0%	100.0%
Heat value	1,048 B.T.U.	919 B.T.U.
Gross value	30° at 60°F.	30° at 60°F.
Sample taken	July 2, 1932	August 25, 1932

EQUIPMENT USED

After completion of a well the derrick is moved away. As all wells flow, no pumping equipment is necessary. Equipment at the well-head consists of only a bradenhead between the 12½-inch surface pipe and the 7-inch oil string, a tubing head equipped with a blow-out preventer, two high-pressure gates used to flow the well either through the casing or tubing, and a choke valve elevated approximately 3 feet above the tubing head.

All wells are equipped with 2-inch, 4¾-pound seamless tubing run to a point just below the bottom of the last oil- and gas-producing zone drilled in the particular well.

All high-pressure wells flow through a separator which is located on the lease tank battery. In case of low-pressure wells, each flows into its own elevated separator located at the well. The standard tank battery erected on each lease is made up of one 210-barrel receiving tank and four 250-barrel stock tanks.

LIFTING PRACTICE

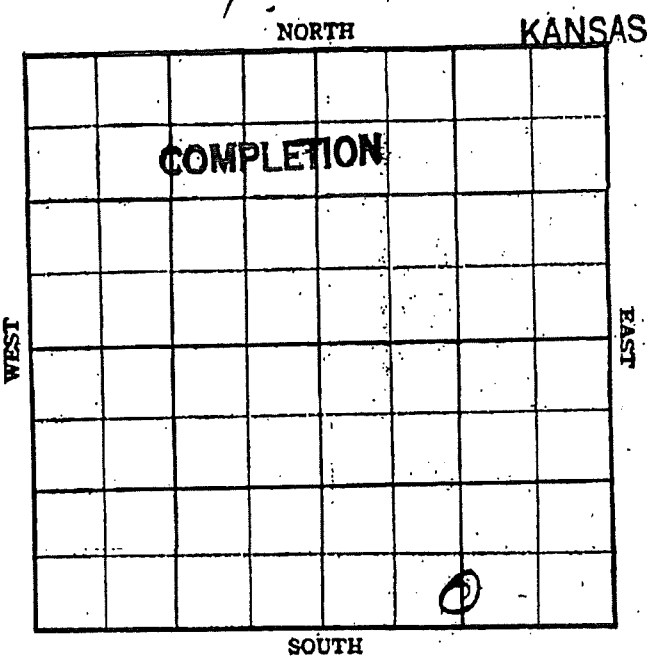
All Cunningham field wells flow naturally under back pressure, although some have to be "kicked off" by gas from the field gas system which uses the excess gas from the other Lansing wells. Various top-hole chokes are used. They range in size from ¼ inch to ¾ inch, and the average choke used is ⅝ inch.

Bottom-hole chokes were tried on several wells in the early development of the pool. It was found that in reducing the bottom-hole choke to ⅜ inch or less, the choke invariably clogged with fine

Operator	Name	Type	DRTH MAKEOON	SKELLY OIL CO	PRATT	S2 SE S 3701	330 F O&A
County - App	Drivers Log Of	DL	TEMBELA	SKELLY OIL CO <td>PRATT <td>S2 SE S 3510 <td>330 F O&A</td> </td></td>	PRATT <td>S2 SE S 3510 <td>330 F O&A</td> </td>	S2 SE S 3510 <td>330 F O&A</td>	330 F O&A
Section 24	DrillTime Sheets Of	DT TYP	TEMBELA	SKELLY OIL CO <td>PRATT <td>S2 SW N 2519 <td>2970 F O&A</td> </td></td>	PRATT <td>S2 SW N 2519 <td>2970 F O&A</td> </td>	S2 SW N 2519 <td>2970 F O&A</td>	2970 F O&A
Township 27S	SC-INDEPENDENT 14	SC-IND	12 STEFFEN OWEN	NORTHERN NAT	PRATT <td>S W SW 4315</td> <td>1430 F GAS II</td>	S W SW 4315	1430 F GAS II
Range 11W	SC-MARATHON LI	SC-MAR	EFFEN	S A SPRINGER	PRATT <td>S2 N2 S 4145</td> <td>1650 F O&A</td>	S2 N2 S 4145	1650 F O&A
Search	SC-SHELL LI	SC-SHL					
	SC-SKELLY 2 TIF	SC-SKL2					
	ShelLoc 100	SL					

This well was
 at depth of
 4,260,000 gals
 at 4014 TD
 12,872,000 Cu ft
 1000 Acid thru Cap
 55,150,000 Cu ft
 Pressure 1350#
 11-1-39
 Scout

MAP NO. 1314 SEC. 24 TWP. 27S R. 11W
 WELL NO. 2 Tembela FARM
Skelly Oil Co COMPANY



LOCATION	RECORD
RIG UP	CASINO _____ IN., _____ FT.
DRILLING AND REMARKS:	SAND _____
<i>Trala & 5 1/2" 4003'</i>	GAS _____
<i>at 4014 gaged</i>	OIL _____
<i>4,260,000 gals.</i>	TOTAL DEPTH <u>4019</u>
<i>at 4019 TD</i>	PRODUCTION
<i>12,872,000 Cu ft</i>	1ST 24 HRS. NAT. _____
<i>1000 Acid thru Cap</i>	1ST 24 HRS. AFTER SHOT _____
<i>55,150,000 Cu ft</i>	GAS _____ CU. FT.
<i>Pressure 1350#</i>	DRY HOLE _____
DATE <u>11-1-39</u>	ABANDONED _____
SCOUT TICKET	SCOUT

Well Search

Operator	Well Name	Type	Direction	County	Locality	TD	Depth	Status
STEFEN	SHELLY OIL CO	DRILLING	PRATT	S2 SE 2	T201	330 FT	DLA	
	SHENELA	DRILLING	PRATT	S2 SE 2	T210	330 FT	DL	
	SHENELA	DRILLING	PRATT	S2 SW 2	T210	290 FT	DL	
	SHENELA	DRILLING	PRATT	S2 SE 4	T210	401 FT	DL	
	STEFEN OIL CO	DRILLING	PRATT	DW 2	T210	4315 FT	GAS P	

MAP NO. 1314-24-228-11W

WELL NO. 1

S. A. Springer

NORTH KANSAS

WEST EAST

SOUTH

LOCATION

HOLE NO. *1412*

100,000 gal

2.74, 10.05-24.28

AB 41

W: AB 3550

5000 BWT

75 BWT

RECORD

DATE *SEP 24 1941*

SCOUT TICKET *6417-128 6141*



Form 179

Map Pratt Well I
 Sec. 24 Twp. 27 Range. 11W
 Rose Spring
 S. A. Sprague Company
 Staffen Farm
 c. c. S. L. N. 1/2 SE

		3475		Date	8260
		1719			5" 137
	4128	1756			10" 450
	1719				11" 1150
	3475				2010
					13475
					TV 4128
					33TD
					5 1/2" 4129

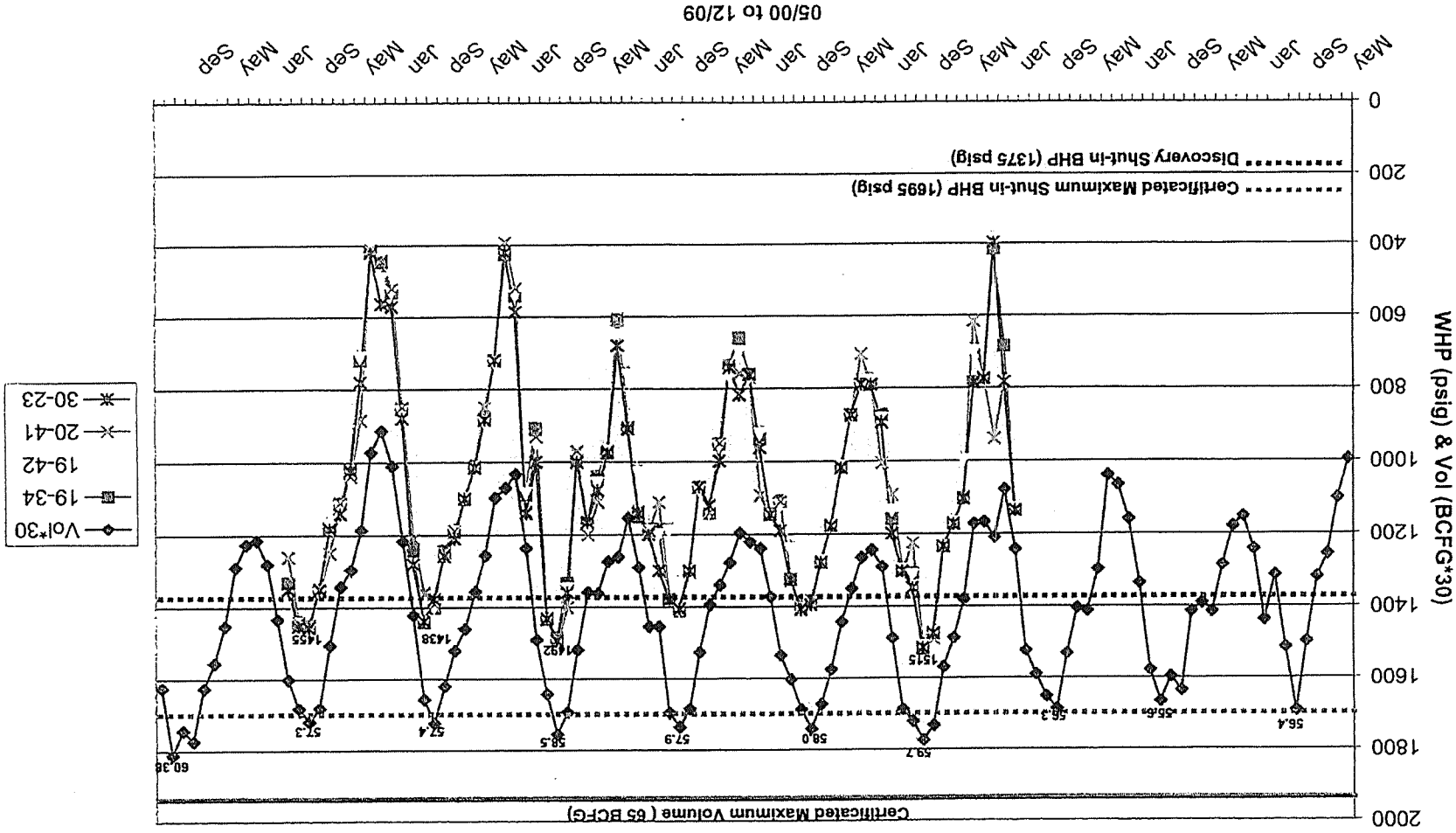
Date WOC
 D.D. 88 4144 TD
 100,000 gas \$135-
 HE# TD 4144 PB \$400-
 4100
 PB 4100. Est 200,000
 gas - show wtr. PB 3550
 shot 43 shots 3518-40. 50
 3532-38.

Date	
WATER	5000 A 500 2000'
	fluid same wtr
TEST	No Test
DEPT	TD 3550 P-100 BW-25B
	OPD - 12 hrs.
WATER	SD.
DEPT	DEA
	TL 3475 TV 4128
	TD 4144 wtr. PB 4100
	Est 200,000 gas, show wtr. PB
	3550. Per Sorate 3518-40
	5000 A. P100 BW-25B0'
	DEA

10-15

10-16

Cunningham Gas Storage Field
 Pressure and Volume 1/03 to 12/09
M/Cunningham/LOC/Max Vol PSI



01-01

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in these proceedings.

Dated at Washington, D.C., this 25th day of February 2010.

Sarah Vail
Sarah Vail