
2010

COMMITTEE ON NATURAL RESOURCES

NEBRASKA LEGISLATURE

LR 435

Interim Study Report

**Interim Study to Examine Issues Relating to Oil
and Natural Gas Pipelines in the State of
Nebraska**

ONE HUNDRED-FIRST LEGISLATURE

SECOND SESSION

NATURAL RESOURCES COMMITTEE MEMBERS

Senator Chris Langemeier, Chairman
Senator Annette Dubas, Vice-Chairwoman
Senator Tom Carlson
Senator Tanya Cook
Senator Deb Fischer
Senator Ken Haar
Senator Beau McCoy
Senator Ken Schilz

LR 435

NATURAL RESOURCES COMMITTEE
DECEMBER, 2010

- I. LEGISLATIVE RESOLUTION 435
- II. MEMORANDUM, SENATOR CHRIS LANGEMEIER,
CHAIRMAN
 - a. STATE MATERIAL: NEBRASKA
 - b. OTHER STATES' INFORMATION
 - c. FEDERAL MATERIAL
 - d. LIST OF NEWS ARTICLES
- III. HEARING TRANSCRIPT
- IV. UNIVERSITY OF NEBRASKA PROFESSORS ANALYSIS
- V. NATURAL GAS
- VI. CORRESPONDENCE

MEMORANDUM

TO: NATURAL RESOURCES COMMITTEE MEMBERS
FROM: SEN. CHRIS LANGEMEIER, CHAIRMAN
DATE: DECEMBER, 2010
SUBJECT: LR 435

The Natural Resources Committee studied issues related to pipelines placed within Nebraska. Committee staff, and staff from Sen. Annette Dubas's and Sen. Kate Sullivan's offices gathered information on the current status of pipelines and for proposed pipelines going through the state. Research included state and federal legal/statutory authority and regulations related to pipelines; content of public safety measures related to pipelines; adherence to legal obligations and other standards of care and stewardship by pipeline companies; the extent to which Nebraska state government entities are affected or involved in pipeline matters; extent to which other states' government entities are affected or involved in pipeline matters and; consequences to and concerns of landowners.

The committee also worked with the University of Nebraska's Water Center through which several professors who are experts in various natural resources sciences were identified as resources for our technical questions. The professors provided the committee with a wealth of information regarding various aspects of the state's sandhills and the High Plains/Ogallala Aquifer. In addition to the professors' testimonies that can be found in the hearing transcript, a document containing detailed answers to questions asked by the committee is included in this report.

The purpose of this study was to gather as much state-related information on pipelines running through Nebraska as possible and to provide the research to the public. A great deal has been said about federal preemption and the absence of state oversight authority. The study was conducted and this report compiled to provide the state's citizens with specific information on these topics from the State Legislature's perspective. As such, though we have worked together on this issue, the research conducted by our congressional representatives is not included.

Last, a few words about our findings. Disagreement among interests will remain on whether and to what extent the state may legislate on pipelines. In response to the concerns of Nebraskans, it is likely that legislation will be introduced in the 2011 session to address safety and protection of our natural resources and to ensure that landowners have access to unbiased information regarding use of their property. Such a bill will provide the Legislature with the opportunity to continue researching and learning about pipeline matters, and provide the public with the opportunity to again voice their concerns.

Keystone XL Pipeline Project¹

State Permit, License, and Consultation Requirements

	<i>Nebraska</i>	<i>Kansas</i>	<i>Montana</i>	<i>Oklahoma</i>	<i>South Dakota</i>	<i>Texas</i>
Historical Society/Preservation	X Section 106 NHPA ² consultation	X Historical resources review	X Section 106 consultation	X Section 106 consultation, NHPA	X Section 106 consultation, NHPA	X Section 106 NHPA consultation
Environmental Quality- (some states include both water and air)	X Section 401, CWA ³ , Water Quality Certification; Excavation Dewatering and Hydrostatic Testing Permit, Dewatering and	X Hydrostatic Testing Permit, water withdrawal permit	X Environmental Policy Act permit and Major Facility Siting Act compliance; Ground Water Pollution Control System and Nondegradation review; Standard 318-pipeline crossings ⁴ ;	X Section 401, CWA, Water quality certification; excavation dewatering and hydrostatic testing permit		X Section 401, CWA, Water quality certification

¹ Federal agency permit, license and consultation requirements include Department of State; Bureau of Land Management; US Corps of Engineers (Omaha, Tulsa, Fort Worth, and Galveston Districts); US Fish and Wildlife Service; Federal Highway Administration; Office of Pipeline Safety; US Environmental Protection Agency (Regions VI, VII, and VIII); US Department of Treasury-Bureau of Alcohol, Tobacco, and Firearms; National Oceanic and Atmospheric Administration-National Marine Fisheries Service.

² Section 106 of the [National Historic Preservation Act of 1966 \(NHPA\)](#) requires Federal agencies to take into account the effects of their undertakings on historic properties, and afford the [Advisory Council on Historic Preservation](#) a reasonable opportunity to comment.

³ State/Tribal Authority under Section 401 Under Section 401, States and Tribes can review and approve, condition, or deny all Federal permits or licenses that might result in a discharge to State or Tribal waters, including wetlands. The major Federal licenses and permits subject to Section 401 are Section 402 and 404 permits (in nondelegated States), Federal Energy Regulatory Commission (FERC) hydropower licenses, and Rivers and Harbors Act Section 9 and 10 permits.

	Relocation forms; NE Administrative Code Title 129 Construction Permit		310 joint application ⁵ ; Pollutant Discharge Elimination System			
Natural Resources	X Groundwater and surface water appropriations		X Water Appropriation permit or water wells drilling/alteration		X Section 401, CWA, Water Quality Certification; Hydrostatic Testing/Dewatering and temporary water use permit	
Water Resources			X Navigable rivers-land use license or easement			
Trust Land Management/General Land			X ROW ⁶ permanent easement, land use license for			X Coastal zone management program; state-

⁴ F. Short-term Water Quality Standard for Turbidity (318 Authorization): To provide a short term water quality turbidity standard for construction activities. Activities must be carried out in accordance with conditions prescribed by the Department of Environmental Quality.

⁵ Natural Streambed and Land Preservation Act (310 Permit) To minimize soil erosion and sedimentation. To protect and preserve streams and rivers in their natural or existing state.

⁶ Right-of-way.

			construction corridor, MEPA ⁷ compliance on state land			owned lands
Wildlife/Parks	X Game and Parks consultation	X Non-game and endangered species action permit	X SPA 124 ⁸ permit and consultation	X Consultation	X Consultation	X Consultation
Transportation	X Crossing permits		X State and highway crossing permit for pipeline and access roads that encroach state highway ROW	X Crossing permits	X Crossing permits	X Crossing permits
County	X Roads-Crossing permits; pump station zoning approvals, special or conditional use permits	X Pump station zoning approvals; special or conditional use permits	X Crossing permits; floodplain permitting; pump station zoning approvals, special or conditional use permits	X Crossing permits, pump station zoning approvals; special or conditional use permits	X Crossing permits; pump station zoning approvals; special or conditional use permits	X Crossing permits; pump station zoning approvals; special or conditional use permits
Public Service/Utilities					X Energy Conversion and Transmission	

⁷ Montana Environmental Policy Act (MEPA).

⁸ B. Montana Stream Protection Act (SPA 124 Permit): To protect and preserve fish and wildlife resources. To maintain streams and rivers in their natural or existing state.

					Facilities Act	
Railroads						X Lead on oil and gas projects; excavation dewatering and hydrostatic testing permit

Office of Pipeline Safety Information

From: Barrett, David (PHMSA)
Sent: Wednesday, October 06, 2010 10:26 AM
To: Klinger, Patricia (PHMSA)
Cc: Winnie, Harold (PHMSA)
Subject: FW: Nebraska legislative conference call

Pat,

Following the conversation with the Nebraska legislative contingent at 1:30 PM CT on Tuesday 9-21-2010, we were left with four to do items.

- 1) Intrastate Certificate program for Hazardous Liquid See Section 60105 part A and B for reference (highlighted below and attached file of statute) on how to become an intrastate certificated program.
- 2) How to become Interstate Agent Programs for Liquid and/or Natural Gas See Section 60106 part B for reference (highlighted below and attached file of statute) on how to become an interstate agent after becoming an intrastate certificated program
- 3) Definitions of HCA's High consequence area means:
 - (1) A commercially navigable waterway, which means a waterway where a substantial likelihood of commercial navigation exists;
 - (2) A high population area, which means an urbanized area, as defined and delineated by the Census Bureau, that contains 50,000 or more people and has a population density of at least 1,000 people per square mile;
 - (3) An other populated area, which means a place, as defined and delineated by the Census Bureau, that contains a concentrated population, such as an incorporated or unincorporated city, town, village, or other designated residential or commercial area;
 - (4) An unusually sensitive area, as defined in §195.6. see attached file for reference.
- 4) Are the Sand hills and the Ogallala Aquifer HCA's? PHMSA is checking whether the Sand Hills and Ogallala Aquifer are HCAs.

Federal Pipeline Safety Statute

49 USC Sec. 60105

01/05/2009

TITLE 49 - TRANSPORTATION
SUBTITLE VIII - PIPELINES
CHAPTER 601 - SAFETY

Sec. 60105. State pipeline safety program certifications

(a) General Requirements and Submission. - Except as provided in this section and sections 60114 and 60121 of this title, the Secretary of Transportation may not prescribe or enforce safety standards and practices for an intrastate pipeline facility or intrastate pipeline transportation to the extent that the safety standards and practices are regulated by a State authority (including a municipality if the standards and practices apply to

intrastate gas pipeline transportation) that submits to the Secretary annually a certification for the facilities and transportation that complies with subsections (b) and (c) of this section.

(b) Contents. - Each certification submitted under subsection (a) of this section shall state that the State authority -

(1) has regulatory jurisdiction over the standards and practices to which the certification applies;

(2) has adopted, by the date of certification, each applicable standard prescribed under this chapter or, if a standard under this chapter was prescribed not later than 120 days before certification, is taking steps to adopt that standard;

(3) is enforcing each adopted standard through ways that include inspections conducted by State employees meeting the qualifications the Secretary prescribes under section 60107(d)(1)(C) of this title;

(4) is encouraging and promoting the establishment of a program designed to prevent damage by demolition, excavation, tunneling, or construction activity to the pipeline facilities to which the certification applies that subjects persons who violate the applicable requirements of that program to civil penalties and other enforcement actions that are substantially the same as are provided under this chapter, and addresses the elements in section 60134(b);

(5) may require record maintenance, reporting, and inspection substantially the same as provided under section 60117 of this title;

(6) may require that plans for inspection and maintenance under section 60108 (a) and (b) of this title be filed for approval; and

(7) may enforce safety standards of the authority under a law of the State by injunctive relief and civil penalties substantially the same as provided under sections 60120 and 60122(a)(1) and (b)-(f) of this title.

(c) Reports. - (1) Each certification submitted under subsection (a) of this section shall include a report that contains -

(A) the name and address of each person to whom the certification applies that is subject to the safety jurisdiction of the State authority;

(B) each accident or incident reported during the prior 12 months by that person involving a fatality, personal injury requiring hospitalization, or property damage or loss of more than an amount the Secretary establishes (even if the person sustaining the fatality, personal injury, or property damage or loss is not subject to the safety jurisdiction of the authority), any other accident the authority considers significant, and a summary of the investigation by the authority of the cause and circumstances surrounding the accident or incident;

(C) the record maintenance, reporting, and inspection practices conducted by the authority to enforce compliance with safety standards prescribed under this chapter to which the certification applies, including the number of inspections of pipeline facilities the authority made during the prior 12 months; and

(D) any other information the Secretary requires.

(2) The report included in the first certification submitted under subsection (a) of this section is only required to state information available at the time of certification.

(d) Application. - A certification in effect under this section does not apply to safety standards prescribed under this chapter after the date of certification. This chapter applies to each applicable safety standard prescribed after the date of certification until the State authority adopts the standard and submits the appropriate certification to the Secretary under subsection (a) of this section.

(e) Monitoring. - The Secretary may monitor a safety program established under this section to ensure that the program complies with the certification. A State authority shall cooperate with the Secretary under this subsection.

(f) Rejections of Certification. - If after receiving a certification the Secretary decides the State authority is not enforcing satisfactorily compliance with applicable safety standards prescribed under this chapter, the Secretary may reject the certification, assert United States Government jurisdiction, or take other appropriate action to achieve adequate enforcement. The Secretary shall give the authority notice and an opportunity for a hearing before taking final action under this subsection. When notice is given, the burden of proof is on the authority to demonstrate that it is enforcing satisfactorily compliance with the prescribed standards.

-SOURCE-

(Pub. L. 103-272, Sec. 1(e), July 5, 1994, 108 Stat. 1309; Pub. L. 104-304, Sec. 20(a), Oct. 12, 1996, 110 Stat. 3804; Pub. L. 109-468, Sec. 2(b)(1), Dec. 29, 2006, 120 Stat. 3487.)

HISTORICAL AND REVISION NOTES

Revised Section	Source (U.S. Code)	Source (Statutes at Large)
60105(a)	49 App.:1674(a) (1st sentence words before "that such State agency").	Aug. 12, 1968, Pub. L. 90-481, Sec. 5(a), 82 Stat. 722; Aug. 22, 1972, Pub. L. 92-401, Sec. 1, 86 Stat. 616; Oct. 11, 1976, Pub. L. 94-477, Sec. 5(a), 90 Stat. 2073; Nov. 30, 1979, Pub.L. 96-129, Secs. 101(b), 103(a), (b)(3), 109(g), (h)(1), 93 Stat. 990, 991, 996; Jan. 14, 1983, Pub. L. 97-468, Sec. 104, 96 Stat. 2543; Oct. 31, 1988, Pub.L. 100-561, Secs. 103, 303(b)(1), 102 Stat. 2807, 2816; Oct. 24, 1992, Pub.L. 102-508, Secs. 110(a), 111, 106 Stat. 3295.
	49 App.:2004(a)	Nov. 30, 1979, Pub. L.

	(1st sentence words before "that such State agency").	96-129, Sec. 205(a), 93 Stat. 1006; Oct. 31, 1988, Pub. L. 100-561, Sec. 203, 102 Stat. 2810; Oct. 24, 1992, Pub. L. 102-508, Secs. 209(a), 210, 106 Stat. 3304.
60105(b)	49 App.:1674(a) (1st sentence words after "an annual certification"). 49 App.:2004(a) (1st sentence words after "an annual certification").	
60105(c)	49 App.:1674(a) (2d, 3d sentences). 49 App.:2004(a) (2d, last sentences).	
60105(d)	49 App.:1674(e). 49 App.:2004(e).	Aug. 12, 1968, Pub. L. 90-481, Sec. 5(e), 82 Stat. 724; Oct. 11, 1976, Pub. L. 94-477, Sec. 5(c), 90 Stat. 2074; Nov. 30, 1979, Pub. L. 96-129, Sec. 103(b)(2)(B), 93 Stat. 991. Nov. 30, 1979, Pub. L. 96-129, Sec. 205(c) related
	to certification), (e), (f),	93 Stat. 1007, 1008.
60105(e)	49 App.:1674(c) (related to certification). 49 App.:2004(c) (related to certification).	Aug. 12, 1968, Pub. L. 90-481, 82 Stat. 720, Sec. 5(c) (related to certification); added Nov. 30, 1979, Pub. L. 96-129, Sec. 103(b)(2)(C), 93 Stat. 991.
60105(f)	49 App.:1674(a) (4th, last sentences). 49 App.:2004(f).	

In subsection (a), the words "applicable to same" are omitted as surplus. The words "for the facilities and transportation that complies with subsections (b) and (c) of this section" are added for clarity.

In subsections (b) and (c), the words "to which the certification applies" and "to whom the certification applies" are added because of the restatement.

In subsection (b)(2), the words "Federal safety" and "pursuant to State law" are omitted as surplus.

In subsection (b)(7), the words "injunctive relief and civil

penalties" are substituted for "injunctive and monetary sanctions" for clarity and consistency.

In subsection (c)(1), before clause (A), the word "annual" is omitted as surplus. The words "in such form as the Secretary may by regulation provide" are omitted as surplus because of 49:322(a). In clause (B), the words "or loss" are added for consistency in the revised title and with other titles of the United States Code. In clause (C), the words "a detail of" are omitted as surplus.

In subsection (d), the words "with respect" and "new or amended Federal" are omitted as surplus.

In subsection (e), the words "conduct whatever . . . may be necessary" and "fully" are omitted as surplus. The words "with the Secretary" are substituted for "in any monitoring of their programs" for clarity.

In subsection (f), the words "prescribed under this chapter" are added for clarity. The word "reasonable" is omitted as surplus.

AMENDMENTS

2006 - Subsec. (b)(4). Pub. L. 109-468 amended par. (4) generally. Prior to amendment, par. (4) read as follows: "is encouraging and promoting programs designed to prevent damage by demolition, excavation, tunneling, or construction activity to the pipeline facilities to which the certification applies;".

1996 - Pub. L. 104-304 substituted "State pipeline safety program certifications" for "State certifications" in section catchline.

49 USC Sec. 60106

01/05/2009

TITLE 49 - TRANSPORTATION

SUBTITLE VIII - PIPELINES

CHAPTER 601 - SAFETY

Sec. 60106. State pipeline safety agreements

(a) Agreements Without Certification. - If the Secretary of Transportation does not receive a certification under section 60105 of this title, the Secretary may make an agreement with a State authority (including a municipality if the agreement applies to intrastate gas pipeline transportation) authorizing it to take necessary action. Each agreement shall -

(1) establish an adequate program for record maintenance, reporting, and inspection designed to assist compliance with applicable safety standards prescribed under this chapter; and

(2) prescribe procedures for approval of plans of inspection and maintenance substantially the same as required under section 60108 (a) and (b) of this title.

(b) Agreements With Certification. -

(1) In general. - If the Secretary accepts a certification under section 60105 and makes the determination required under this subsection, the Secretary may make an agreement with a State authority authorizing it to participate in the oversight of interstate pipeline transportation. Each such agreement shall include a plan for the State authority to participate in special investigations involving incidents or new construction and allow the State authority to participate in other activities overseeing interstate pipeline transportation or to assume additional inspection or investigatory duties. Nothing in this section

modifies section 60104(c) or authorizes the Secretary to delegate the enforcement of safety standards for interstate pipeline facilities prescribed under this chapter to a State authority.

(2) Determinations required. - The Secretary may not enter into an agreement under this subsection, unless the Secretary determines in writing that -

(A) the agreement allowing participation of the State authority is consistent with the Secretary's program for inspection and consistent with the safety policies and provisions provided under this chapter;

(B) the interstate participation agreement would not adversely affect the oversight responsibilities of intrastate pipeline transportation by the State authority;

(C) the State is carrying out a program demonstrated to promote preparedness and risk prevention activities that enable communities to live safely with pipelines;

(D) the State meets the minimum standards for State one-call notification set forth in chapter 61; and

(E) the actions planned under the agreement would not impede interstate commerce or jeopardize public safety.

Harold Winnie
Community Assistance and Technical Services
Project Manager
816-329-3836

Also see:

49 USC CHAPTER 601 - <http://uscode.house.gov/download/pls/49C601.txt>

§195.6 Unusually Sensitive Areas (USAs)

As used in this part, a USA means a drinking water or ecological resource area that is unusually sensitive to environmental damage from a hazardous liquid pipeline release.

(a) An USA drinking water resource is:

(1) The water intake for a Community Water System (CWS) or a Non-transient Non-community Water System (NTNCWS) that obtains its water supply primarily from a surface water source and does not have an adequate alternative drinking water source;

(2) The Source Water Protection Area (SWPA) for a CWS or a NTNCWS that obtains its water supply from a Class I or Class IIA aquifer and does not have an adequate alternative drinking water source. Where a state has not yet identified the SWPA, the Wellhead Protection Area (WHPA) will be used until the state has identified the SWPA; or

(3) The sole source aquifer recharge area where the sole source aquifer is a karst aquifer in nature.

(b) An USA ecological resource is:

(1) An area containing a critically imperiled species or ecological community;

(2) A multi-species assemblage area;

(3) A migratory waterbird concentration area;

(4) An area containing an imperiled species, threatened or endangered species, depleted marine mammal species, or an imperiled ecological community where the species or community is aquatic, aquatic dependent, or terrestrial with a limited range; or

(5) An area containing an imperiled species, threatened or endangered species, depleted marine mammal species, or imperiled ecological community where the species or community occurrence is considered to be one of the most viable, highest quality, or in the best condition, as identified by an element occurrence ranking (EORANK) of A (excellent quality) or B (good quality).

(c) As used in this part--

Adequate Alternative Drinking Water Source means a source of water that currently exists, can be used almost immediately with a minimal amount of effort and cost, involves no decline in water quality, and will meet the consumptive, hygiene, and fire fighting requirements of the existing population of impacted customers for at least one month for a surface water source of water and at least six months for a groundwater source.

Aquatic or Aquatic Dependent Species or Community means a species or community that primarily occurs in aquatic, marine, or wetland habitats, as well as species that may use terrestrial habitats during all or some portion of their life cycle, but that are still closely associated with or dependent upon aquatic, marine, or wetland habitats for some critical component or portion of their life-history (i.e., reproduction, rearing and development, feeding, etc).

Class I Aquifer means an aquifer that is surficial or shallow, permeable, and is highly vulnerable to contamination. Class I aquifers include:

(1) Unconsolidated Aquifers (Class Ia) that consist of surficial, unconsolidated, and permeable alluvial, terrace, outwash, beach, dune and other similar deposits. These aquifers generally contain layers of sand and gravel that, commonly, are interbedded to some degree with silt and clay. Not all Class Ia aquifers are important water-bearing units, but they are likely to be both permeable and vulnerable. The only natural protection of these aquifers is the thickness of the unsaturated zone and the presence of fine-grained material;

(2) Soluble and Fractured Bedrock Aquifers (Class Ib). Lithologies in this class include limestone, dolomite, and, locally, evaporitic units that contain documented karst features or solution channels, regardless of size. Generally these aquifers have a wide range of permeability. Also included in this class are sedimentary strata, and metamorphic and igneous (intrusive and extrusive) rocks that are significantly faulted, fractured, or jointed. In all cases groundwater movement is largely controlled by secondary openings. Well yields range widely, but the important feature is the potential for rapid vertical and lateral ground water movement along preferred pathways, which result in a high degree of vulnerability;

(3) Semiconsolidated Aquifers (Class Ic) that generally contain poorly to moderately indurated sand and gravel that is interbedded with clay and silt. This group is intermediate to the unconsolidated and consolidated end members. These systems are common in the Tertiary age rocks that are exposed throughout the Gulf and Atlantic coastal states. Semiconsolidated conditions also arise from the presence of intercalated clay and caliche within primarily unconsolidated to poorly consolidated units, such as occurs in parts of the High Plains Aquifer; or

(4) Covered Aquifers (Class Id) that are any Class I aquifer overlain by less than 50 feet of low permeability, unconsolidated material, such as glacial till, lacustrine, and loess deposits.

Class IIa aquifer means a Higher Yield Bedrock Aquifer that is consolidated and is moderately vulnerable to contamination. These aquifers generally consist of fairly permeable sandstone or conglomerate that contain lesser amounts of interbedded fine grained clastics (shale, siltstone, mudstone) and occasionally carbonate units. In general, well yields must exceed 50 gallons per minute to be included in this class. Local fracturing may contribute to the dominant primary porosity and permeability of these systems.

Community Water System (CWS) means a public water system that serves at least 15 service connections used by year-round residents of the area or regularly serves at least 25 year-round residents.

Critically imperiled species or ecological community (habitat) means an animal or plant species or an ecological community of extreme rarity, based on The Nature Conservancy's Global Conservation Status Rank. There are generally 5 or fewer occurrences, or very few remaining individuals (less than 1,000) or acres (less than 2,000). These species and ecological communities are extremely vulnerable to extinction due to some natural or man-made factor.

Depleted marine mammal species means a species that has been identified and is protected under the Marine Mammal Protection Act of 1972, as amended (MMPA) (16 U.S.C. 1361 et seq.). The term "depleted" refers to marine mammal species that are listed as threatened or endangered, or are below their optimum sustainable populations (16 U.S.C. 1362). The term "marine mammal" means "any mammal which is morphologically adapted to the marine environment (including sea otters and members of the orders Sirenia, Pinnipedia, and Cetacea), or primarily inhabits the marine environment (such as the polar bear)" (16 U.S.C. 1362). The order Sirenia includes manatees, the order Pinnipedia includes seals, sea lions, and walruses, and the order Cetacea includes dolphins, porpoises, and whales.

Ecological community means an interacting assemblage of plants and animals that recur under similar environmental conditions across the landscape.

Element occurrence rank (EORANK) means the condition or viability of a species or ecological community occurrence, based on a population's size, condition, and landscape context. EORANKs are assigned by the Natural Heritage Programs. An EORANK of A means an excellent quality and an EORANK of B means good quality.

Imperiled species or ecological community (habitat) means a rare species or ecological community, based on The Nature Conservancy's Global Conservation Status Rank. There are generally 6 to 20 occurrences, or few remaining individuals (1,000 to 3,000) or acres (2,000 to 10,000). These species and ecological communities are vulnerable to extinction due to some natural or man-made factor.

Karst aquifer means an aquifer that is composed of limestone or dolomite where the porosity is derived from connected solution cavities. Karst aquifers are often cavernous with high rates of flow. Migratory waterbird concentration area means a designated Ramsar site or a Western Hemisphere Shorebird Reserve Network site.

Multi-species assemblage area means an area where three or more different critically imperiled or imperiled species or ecological communities, threatened or endangered species, depleted marine mammals, or migratory waterbird concentrations co-occur.

Non-transient Non-community Water System (NTNCWS) means a public water system that regularly serves at least 25 of the same persons over six months per year. Examples of these systems include schools, factories, and hospitals that have their own water supplies.

Public Water System (PWS) means a system that provides the public water for human consumption through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. These systems include the sources of the water supplies--i.e., surface or ground. PWS can be community, non-transient non-community, or transient non-community systems.

Ramsar site means a site that has been designated under The Convention on Wetlands of International Importance Especially as Waterfowl Habitat program. Ramsar sites are globally critical wetland areas that support migratory waterfowl. These include wetland areas that regularly support 20,000 waterfowl; wetland areas that regularly support substantial numbers of individuals from particular groups of waterfowl, indicative of wetland values, productivity, or diversity; and wetland areas that regularly support 1% of the individuals in a population of one species or subspecies of waterfowl.

Sole source aquifer (SSA) means an area designated by the U.S. Environmental Protection Agency under the Sole Source Aquifer program as the "sole or principal" source of drinking water for an area. Such designations are made if the aquifer's ground water supplies 50% or more of the drinking water for an area, and if that aquifer were to become contaminated, it would pose a public health hazard. A sole source aquifer that is karst in nature is one composed of limestone where the porosity is derived from connected solution cavities. They are often cavernous, with high rates of flow.

Source Water Protection Area (SWPA) means the area delineated by the state for a public water supply system (PWS) or including numerous PWSs, whether the source is ground water or surface water or both, as part of the state source water assessment program (SWAP) approved by EPA under section 1453 of the Safe Drinking Water Act.

Species means species, subspecies, population stocks, or distinct vertebrate populations.

Terrestrial ecological community with a limited range means a non-aquatic or non-aquatic dependent ecological community that covers less than five (5) acres.

Terrestrial species with a limited range means a non-aquatic or non-aquatic dependent animal or plant species that has a range of no more than five (5) acres.

Threatened and endangered species (T&E) means an animal or plant species that has been listed and is protected under the Endangered Species Act of 1973, as amended (ESA73) (16 U.S.C. 1531 et seq.). "Endangered species" is defined as "any species which is in danger of extinction throughout all or a significant portion of its range" (16 U.S.C. 1532). "Threatened species" is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" (16 U.S.C. 1532).

Transient Non-community Water System (TNCWS) means a public water system that does not regularly serve at least 25 of the same persons over six months per year. This type of water system serves a transient population found at rest stops, campgrounds, restaurants, and parks with their own source of water.

Wellhead Protection Area (WHPA) means the surface and subsurface area surrounding a well or well field that supplies a public water system through which contaminants are likely to pass and eventually reach the water well or well field.

Western Hemisphere Shorebird Reserve Network (WHSRN) site means an area that contains migratory shorebird concentrations and has been designated as a hemispheric reserve, international reserve, regional reserve, or endangered species reserve. Hemispheric reserves host at least 500,000 shorebirds annually or 30% of a species flyway population. International reserves host 100,000 shorebirds annually or 15% of a species flyway population. Regional reserves host 20,000 shorebirds annually or 5% of a species flyway population. Endangered species reserves are critical to the survival of endangered species and no minimum number of birds is required.

2010 Pipeline News Articles

- 19 January [Lincoln Journal Star](#)
"Oil in pipeline will reach Nebraska in next few weeks"
- 12 March [TransCanada Media Advisory](#)
"TransCanada Receives South Dakota PUC Approval"
- 17 April [Lincoln Journal Star](#)
"Aquifer gets scant attention in Keystone analysis"
- 22 April [Lincoln Journal Star](#)
"Pipeline plan reason for worry"
- 7 June [wordpress.com](#)
"Concern About Keystone XL Pipeline Is Increasing"
- 13 June [The Wall Street Journal](#)
"Chevron Pipeline Leaks Crude Into Utah Creek"
- 13 June [Lincoln Journal Star](#)
"Ranchers warily eye a pipeline in the sand"
- 24 June [nebraskawatchdog.org](#)
"Exclusive: Big Oil Has Pipeline into Nebraska Campaigns"
- 25 June [Omaha World Herald](#)
"TransCanada pipeline plan threatens the Sand Hills"
- 27 June [Omaha World Herald](#)
"Johanns, Smith wary of pipeline"
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Sandhills Geology

Response by Professor James Goeke

Providing a short, succinct description of the sandhills geology is a difficult and nebulous request. The sandhills themselves are primarily eolian deposits that cover almost 20,000 square miles. They were created mostly over the last 10,000 years with time periods when they were stable and relatively unchanging and time periods that of reactivation and change. For a complete description, refer to pp. 29-56 of Attachment A, *An Atlas of the Sand Hills*, the chapter written by Jim Swinehart and Bob Diffendal.

A complete geologic history of the sandhills could go back almost 100 million years to a time when what we know today as Nebraska was overlain by an ocean. Numerous marine sediments accumulated on the ocean bottoms and along the ocean shorelines. Then, about 65 million years ago, the Rocky Mountain uplift began. The Rockies rose higher, the ocean withdrew, and ever since, meandering streams and rivers moving eastward have carried the sediments from the eroding mountains to create Nebraska.

It took about 38 million years for the coalescing alluvial fans from these river deposits to build their way continually eastward into what is now Nebraska. During this time the exposed ocean sediments were weathered and eroded. Then, as the streams and rivers dropped their loads onto that older landscape, a variety of layered deposits was built up, each with its own distinctive mix of sediments. About 37 million years ago the Chadron Formation was deposited; it is predominately a clay-claystone type rock.

From about 32 million to 28 million years ago the Brule Formation was deposited. The Brule is mostly a siltstone-claystone. It is considered part of the High Plains aquifer because it can develop cracks and secondary permeability that can support high capacity wells in places like Sidney. Most often however the Brule does not have cracks and acts more like the base of the High Plains aquifer. Next is the Arikaree Formation, deposited from 28 million years ago to 19 million years ago. It is mostly a silty sandstone and is a better aquifer unit than the Brule.

Then, from 19 million years ago to 5 million years ago, the Ogallala Formation was created by streams meandering across the vast plain of earlier sediments from the Rocky Mountains. The Ogallala is heterogeneous and anisotropic which simply means that its composition can vary significantly in short distances both horizontally and vertically. It can be composed of sands, sandstones, sand and gravels, silts, siltstones, clays and claystones. In some locations, the Ogallala Formation can be poorly consolidated with porosities that allow groundwater to move through it easily; in other locations, it is extensively cemented and therefore a poor host for groundwater.

The Ogallala is the primary aquifer unit in the High Plains aquifer and underlies about 77% of the High Plains, or roughly 174,000 square miles. In some fortunate locations, the Ogallala is overlain by the sands and gravels of the Broadwater Formation deposited by re-energized streams coming from the mountains. These Broadwater sands and gravels in many places are in turn overlain by thick deposits of stream deposited sands which have in turn been covered by the sandy dunes of the Sandhills during the last 10,000 years.

While any and all these formations can comprise the High Plains aquifer, often they are not all present in the same location. However, imagine if they were all present, you'd have, from oldest to youngest, the Brule, Arikaree, Ogallala, Broadwater, alluvial sands, and wind blown sands that, if they were all saturated, would comprise the maximum extent of the High Plains aquifer.

I've gone into this extended discussion about Nebraska's geology and aquifers in order to clarify the scientific terminology. As it turns out, a good portion of the pipeline is not in the Sandhills and doesn't overlie the Ogallala Formation itself. For more information, see the attached maps.

Sandhills Vegetation

Will heat from the pipeline affect the growth of vegetation?

What we know – response by Professor Jerry Volesky – For soils and plants only, my interpretation is that for reclaimed Sandhills rangeland is that those linear sites may experience a slightly long growing season - later freeze-down and early initiation of plant growth. –

What we don't know – response by Professor Jerry Volesky – A couple of things that have peaked my interest are what might be the effects of increased soil temperature on soil moisture content and what are the differences in heat conductivity between soil type (eg. sand vs. a silt loam). For the latter, I plan to do some simple experiments here in the lab. As far as grass/herbage yield; I would not expect any short-term effect on yield unless soil moisture was significantly affected.

Will the Sandhills vegetation grow back after the pipeline is constructed?

What we know – response by Professor Jerry Volesky – I would be confident that re-vegetation to native plant species is possible for the Sandhills sites; however, this would be more expensive and difficult compared to other soil types. Key vegetation reclamation variables include topsoil replacement, topographical shaping, grass and cover crop seed establishment, mulching and matting, and subsequent fencing and grazing management. There would likely be some areas that need follow-up work. Rainfall patterns and other climate variables will have a significant influence on degree of initial success.

What we know – response by Professor David Wedin – I agree with Jerry Volesky's perspective; revegetation following disturbance in the Sandhills will be MUCH more difficult than normally encountered by projects like this, but it is doable with adequate planning, resources and effort (including physical sand stabilization). Relative to spills, groundwater and aquifer issues, revegetation problems on the pipeline will be at discreet locations. If surrounding pastures are in good shape, they won't inherently spread and can be addressed. According to Jerry, the company seems to understand the challenge presented by revegetation in the Sandhills. The proof, of course, will be in the details.

The Wedin research group conducted a revegetation experiment this spring and summer (2010) on about six acres of bare-sand at UNL's Barta Brothers Ranch. Except for a few small test plots, where erosion control blankets were used as part of the planting, most of the experiment was done without physically stabilizing the dunes. Native grasses and shrubs were planted with both warm-season and cool-season cover crops. In the absence of erosion control blankets physically stabilizing the sand surface, almost all of the grass seeding failed. Erosion was monitored at over 200 locations. Transplanted two-year old native shrubs (wild rose, sand cherry, yucca) had good survival rates (< 50%), but did little to stop erosion in the first year.

Here is a summary of the erosion we observed during April and May (the windiest time of the year). Erosion over 8 weeks at the two locations ranged from 22 inches of sand lost to 17 inches of sand gained (deposited). 25% of the locations lost more than 5 inches of sand, and 50% of locations more than 2 inches of sand. The average erosion for the entire experiment was 1.8 inches lost, but this averages over sand removed from some locations and sand deposited on other locations within the 6 acres of the experiment. When you consider that recommended planting depths for native grasses are always less than two inches, it is easy to see why the grass planting failed – the seed either blew away with the sand or was buried. Analysis of wind speeds and wind erosion potential for spring 2010 indicate that it was a typical (windy!) spring. I'm well experienced planting native grasses outside the Sandhills, but that experience was largely irrelevant dealing with bare sand and an unstable soil surface.

Response by Professor James Goeke – From observation of areas in the Sandhills that have been farmed and allowed to go back to a semblance of original vegetation, many would tell you that re-vegetation in the Sandhills is never complete.



From Professor Wedin – “an interesting photo from yesterday (10/19/10) at Barta Brothers. We tried planting grasses in this plot three times this spring and early summer with two different cover crops, but spring winds (as usual) were brutal. The only success was where we used erosion blankets.”

Crops

Would the heat of an oil pipeline buried 4 feet underground affect ground or surface water temperature or the roots of typical Nebraska crops like corn, soybeans, alfalfa? Would crop yield likely be affected?

Response by Professor Timothy Arkebauer – In most cropland situations in Nebraska most of the plant roots are close to the surface (say within a couple of feet); but a few roots do reach deeper, especially in non-irrigated fields. The effects of a heated pipe near these deep roots could very well have an effect - undoubtedly so if the pipe affected the temperature of the roots. If the pipe were to increase temperatures throughout the rooting zone (from the surface to, say, 4-5 feet deep) then, yes, there would most likely be effects on crop plant physiology. Respiration rates (loss of CO₂ by plant tissues) is a strong function of temperature and, in general, the higher the temperature the higher the respiration rates. This means that heating the roots will cause them to lose carbon faster than they otherwise would. This has the likely effect of decreasing the amount of biomass in the belowground parts of the crop plant or decreasing the growth rate of the belowground biomass. Whether or not this increased loss of carbon would affect crop yields is a very difficult question to answer - but it probably depends on how much the temperature increased and the timing of the temperature increase as well as its duration. In addition, I suppose it is possible that increased soil temperatures could affect crop plant phenology - how long it takes to move from one growth stage to another; but, again, specific effects are hard to anticipate without knowing more details about the system. The lateral extent of these effects would depend on the distribution of increased soil temperatures caused by a heated pipe.

Water

Will heat from the pipeline affect groundwater and surface water?

Response by Professor James Goeke – The temperature of a pipeline buried 4 feet would probably affect surface water temperatures. Any effect on groundwater temperatures would depend on the depth to water at any given area. In some places the pipeline might be quite near the water table and in others it could be 50-100 feet above the water table and have no effect.

Response by Associate Professor Wayne Woldt – Depending on proximity of the pipeline to groundwater and/or surface water, the heat of the pipeline can affect the temperature of said resource. For example, if the pipeline is buried in an area of shallow “depth to seasonal high groundwater”, perhaps an area with a depth to groundwater of 2 feet, then yes, the high temperature of the pipeline would raise the temperature of the surrounding environment, including groundwater and potentially surface water. The extent to which this would occur, and the implications of this in terms of maintaining thawed conditions in what would otherwise be frozen, is something that I am not aware of. Modeling could be used to predict the “thermal footprint”, and subsequent impacts (ie, ecosystem) may be inferred from this information. –

What methods are used to detect oil pollution in groundwater?

What we know – response by Professor James Goeke – To detect oil pollution in groundwater usually requires monitoring wells in the unsaturated zone and saturated zone in the area of the leakage. Direct cores are a possibility with a geoprobe and there are probably geophysical techniques that could be employed. We have been exploring the application of Heliborne Electro-Magnetics (HEM) and techniques like this may have application for monitoring spills.

What we know – response by Assistant Professor John Gates – Chemical analyses of water collected from wells, springs and other discharge points are usually used to detect oil pollution in groundwater. Using modern techniques, various hydrocarbon compounds can be detected even at very low concentrations (e.g. parts per billion). Contaminant plumes are routinely monitored in this way. Chemical analyses of soil vapor plumes can also be done by sampling gases in the unsaturated zone.

What we don't know – response by Professor James Goeke – Is TransCanada planning any aerial thermal infrared mapping of the pipeline as a way to check for leaks?

Do you have any specific concerns regarding oil or natural gas pipelines with regard to ground or surface water?

Response by Professor James Goeke – My concerns are many. It is my hope that the future of this pipeline is decided upon good science and the conscientious application of the best technology available. Just as I wanted to see how the proposed route of the pipeline interacted with our base maps (see Attachment B, *Nebraska's Natural Resources with Pipeline* series of maps), so would I want to know the location of pumping plants and control valves.

I'm not sure what Federal regulations are and what agencies are available to implement any Federal oversight. If something does go wrong, even beyond a leak, what assurances are there that problems will be dealt with in the next 20-50 years? What role does the Nebraska Department of Environmental Quality play and what is the interaction with Nebraska's NRD's? When there is a spill, what is the remediation plan and anticipated response drill?

I would like to know specific physics related to leaks in different materials. Have there been pipelines in areas of sandy soils and high water tables, and if so how were they handled? These are a few of my concerns.

Response by Assistant Professor John Gates – I have specific concerns that pertain to water quality in the event of an oil pipeline release. Please note the following two points for context. First, the chances of oil reaching groundwater would be high in the event of an oil pipeline release in the Sand Hills. This is because shallow water tables are common, and soils are typically sandy. Second, within the aquifer, oil and related compounds would be expected to move no faster than groundwater itself, which is slow compared with surface waters.

With this in mind, my main concerns are listed below. In each case, detailed risk assessment would need to take into account 1) oil leak volumes that are possible and 2) the specific chemical composition of the oil (including additives). To my knowledge, this information is not publicly available.

a) *The potential for contaminated groundwater to discharge to surface water.* It is known that surface waters in the Sand Hills region, including rivers, wetlands and lakes, are extensively fed by groundwater. According to water research using chemical tracer techniques and river gauge records, the time scale of flow from shallow groundwater to surface water can be very short in the Sand Hills. Under these conditions, an oil release to groundwater that is near to a surface water body would be difficult to remediate before it is transmitted to surface water. My understanding is that distances from the proposed pipeline route to water supply wells have been analyzed. I would recommend a similar analysis of distances to lakes and wetlands.

b) *The difficulty of full remediation.* Crude oil in aquifers can be remediated by dredging and skimming, and similar approaches. Crude oil also deteriorates naturally because of microbial biodegradation. However, these processes do not completely remove hydrocarbon contamination on short timescales. For example, extensive studies by the US Geological Survey of a crude oil hydrocarbon plume in Minnesota (Bemidji Site) have documented that “a considerable volume of oil remains in the subsurface today despite 30 years of natural attenuation and 5 years of pump-and-skim remediation” (Essaid et al 2009, writing in the technical journal *Ground Water*). These chemical effects would likely be localized (because plumes are slow-moving) but very long-lasting.

c) *The potential for secondary water quality effects.* Organic carbon compounds can play an important chemical role in the way that groundwater weathers the minerals that it comes into contact with in the aquifer sediments (organic carbon is a reductant, e.g. an electron donor in redox reactions). Several potentially harmful constituents that naturally occur in Nebraska aquifer sediments (arsenic, selenium, etc) have the potential to be affected by the presence of hydrocarbons. Again, this would be a fairly localized impact, and the degree to which it might occur is not clear.

Response by Associate Professor Wayne Woldt – My sense is that we are not well prepared to deal with a leak/spill, should one occur along the pipeline (perhaps a small spill would be “tractable”, but then again we would need to define small, medium and large in terms of volume, areal extent, area impacted, resources damaged, etc.). Given the significance of the northern High Plains (Ogallala) Aquifer, and extent to which it is a “national treasure”, one idea might be to develop a research center that has a focus on “Risk reduction through a better understanding of environmental fate and transport, and remediation of surface and subsurface settings that have been adversely impacted by a leak/spill from liquids that are likely to be transported through the pipeline.” Such a center should be geared toward a greater understanding of the various risks, and methods to clean up any leaks/spills, and may be able to operate from a position of confidentiality. This type of approach has the potential to look toward the “long term” view, with the idea that should a large leak occur, and a portion of the Ogallala aquifer be adversely impacted, there is sufficient knowledge and expertise to address “what to do next”. This should have further consideration.

One added concern that I have is related to property values, should a leak occur. I suspect that it is possible to find another water source, or treat the drinking water for consumption, from a technical perspective (and with finances), however, one factor that I have not found mentioned is the “tainted” view that people tend to have of a contaminated property. Even if the drinking water is “fine”, people hold perceptions of contaminated property that tend to influence market pricing. In addition, property that has been contaminated may be difficult to sell due to liability reasons. This thought would take more time to develop in terms of research on the adverse market impact of contaminated property.

Leaks

What are the potential impacts of a leak?

- a) To the aquifer,
- b) To drinking water wells and irrigation wells,
- c) In the sandhills geology,
- d) In the Platte River valley geology,
- e) In southern Nebraska’s geology,
- f) To vegetation,
- g) To wildlife,
- h) Immediate v. Long-term,
- i) Compared to the existing pollution in the sandhills region,
- j) Financially (How much would remediation cost?).

Response by Professor James Goeke – This 10-part question is also very difficult to answer succinctly. As I answer these questions, I struggle with not knowing just what a leak would amount to. The impact would depend on the amount of the leak and the nature of the product. How much of what are we talking about? It is my guess that a leak from this pipeline would not be a great amount and would be localized to an area of 10's to 100's of feet around the pipeline and would be vertically more minimal. Again, this would depend on the location of the spill, be it from the top, sides, or bottom of the pipeline, and it raises the question of what valves would be in the line to stop the flow in case of a leak, and what monitoring programs would be in use.

- a) The impact of a spill to the aquifer would depend on a number of factors and where the leak occurred. We would need to know the soils in the area, the depth to water, the composition of the unsaturated zone, the composition of the aquifer, and the direction of groundwater flow. The leak could occur in an area where the depth to water might be 50-100 ft and the spill would never make it to the water table. Conversely a spill could occur in an area where the pipeline might be only a few feet above the water table.
- b) The impact of a spill on drinking water wells and irrigation wells would depend on the proximity of the wells to the spill and the nature of the aquifer at that site. Again, the depth to water would factor in as would the construction details of the wells, i.e. the screened interval and what kind of cone of influence might be associated with each well.

Proximity would also include whether the leak would be upgradient or downgradient from the wells in question.

- c) The impact on the Sandhills geology would depend on the section of geology in the vicinity of the leak. This would again include an understanding of the composition of the unsaturated zone at the site. Temperature gradients would probably have an impact because the product leaked would be much warmer than the surrounding materials and would probably congeal to some extent as it cooled limiting its mobility. It's my understanding that the product in the pipeline will vary and the variation of product would factor into the impact of the leak.
- d) The impact of a leak on the geology of the Platte River should also include a similar concern for the impact of a leak on the geology of the other rivers the pipeline would have to go under. It would appear from the pipeline alignment that it would go under that Niobrara at a depth where it would go through the Pierre shale, a thick relatively impermeable unit. Under the Platte, it would probably go through the Niobrara Formation, another impermeable unit that can have limey-limestone areas. Under the Loup I don't know if it would be cut into the Niobrara or not.
- e) The impact of a leak in the Blue River basin, south of the Platte River could be as much of a problem as a leak to the north. In this area the pipeline would overlie a loess plain where the saturated zone is deeper, from 50-200ft. This area is underlain by excellent Pleistocene aquifers of sand and gravel and there will probably be more high capacity wells in the vicinity of the pipeline.
- f) For impacts on vegetation and wildlife, I would start with Wedin on vegetation.
- g) For impacts on vegetation and wildlife, I would start with Wedin on vegetation.
- h) Immediate versus long term impacts are, like most of these impacts, dependent on the location of the leak, monitoring programs, control valves, and remediation timing and efficiency. A concern here might be whether there are bonds in place to insure whatever the future of the pipeline might be that 25-50 years in the future a leak would still have a guarantee for proper attention.
- i) I am not aware of anything more than leaking underground storage tanks in the Sandhills.
- j) I have no idea what leak remediation would cost. Of course it would depend on location, volumes, and details of the site of the spill.

Response by Associate Professor Wayne Woldt – In the event of an underground crude oil (from tar sands) pipeline leak, please explain the impact:

To the aquifer - At this time, my understanding of “our understanding” of the nature of impact to an aquifer is not well understood. There are many reasons for this. Some of the complexities include: nature of the pollutant (this is not well described in the risk assessment and is presented as a proprietary mix, however it is generally recognized as an LNAPL or Light Non-Aqueous Phase Liquid, which are quite complex in terms of understand the “fate and transport” within the subsurface environment due to thermal effects, viscosity changes, multi-phase characteristics, etc.), nature of the leak (large and fast vs. small and slow, high temperature, proximity to groundwater, etc.), and nature of the aquifer (hydraulic conductivity, sands, gravels, organic fraction, anisotropy, heterogeneity, unsaturated zone thickness, interaction with surface water, etc.). In general, an approach to gain greater understanding of the impact of a threat to an aquifer is to complete “scenario” modeling in order to predict the fate and transport of a given type of

threat. This information then provides insight into the associated risk, and data for an “exposure assessment”, leading to a more complete picture of risk when combined with Consequence Assessment. My review of the risk assessment in Appendix P, leads me to conclude that a minimal amount of effort has been allocated to completion of a quantitative risk assessment for the subsurface/groundwater/drinking water. Further consideration and evaluation of this area of concern may be helpful in placing various dimensions of risk into perspective. For example, estimates of “volume of aquifer contaminated” at various contamination levels, under different leak scenarios and different aquifer characteristics lead to a better characterization of leak impacts.

To drinking water wells and irrigation wells –

The risk assessment discusses High Consequence Areas (HCA). While it does include public water supply systems, there has been no attention to irrigation wells and more importantly, private water supply wells. It is important to note that private water supply wells are not regulated by the state or EPA, and are not required to meet the MCL conditions discussed in the risk assessment as related to public wells. My initial thoughts are that this may be an oversight, and I would like to give this further consideration.

In addition, my understanding is that the pipeline is a “transport service” that is rated for hazardous materials, and will be required, by law, to transport any fluid that it is legally able to transport, assuming the entity wishing to transport the fluid is willing/able to pay the price for transport. Again, my understanding is that the type of fluid being transported can be “changed” in “real time”. In other words, a “divider” is placed in the pipeline, and the new fluid is introduced for transport. This leads to the question in my mind, “If a leak/spill were to occur, how would one know the type of liquid that has leaked/spilled, given the potential for changes in the type of liquid along the pipeline. Further, once one knows the type of liquid, what is the best emergency/remediation response, and has a response plan been developed for all the potential different liquids that may be transported in the pipeline?” Again, it might be a good idea to give this further consideration.

In the sandhills geology, Platte River valley geology, southern Nebraska’s geology - addressed somewhat in sandhills geology section.


Immediate v. Long-term - This is a good question, and again, based on my review of the risk assessment, I am not sure that it has been considered to the extent that it should be. There is some mention of “natural attenuation” as a remediation method. My experience is that this can take many, many years, and in fact can be more expensive than a focused remediation approach, due to the long term monitoring and documentation of progress that is necessary under a natural attenuation approach. Again, this is a topic that I think needs further evaluation and consideration.

Compared to the existing pollution in the sandhills region - would need added time to address this question.


Financially (how much would remediation cost?) - would need added time to address this question.

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<i>Research Interests</i>	Research involves geochemical and isotopic approaches to investigating water cycling and water quality, particularly in groundwater and the unsaturated zone. These tools are applied to a wide range of topics, including paleohydrology, groundwater/lake interaction, agricultural hydrochemical cycles and others. One ongoing research interest has been climatic and land use impacts on groundwater recharge. He has active projects on these topics in the High Plains (Ogallala) Aquifer and in northern China (Loess Plateau and North China Plain). Recent water quality studies have involved nitrate cycling in phreatic groundwater and thick unsaturated zones; naturally occurring arsenic and uranium in sedimentary aquifers; and groundwater salinity in arid inland basins.
<i>Phone</i>	(402) 472-2612
<i>E-Mail</i>	jgates2unl.edu




Professor James Goeke	
<i>Unit</i>	School of Natural Resources
<i>Web Page</i>	http://snr.unl.edu/aboutus/who/people/faculty-member.asp?pid=41
<i>Expertise</i>	Hydrogeology
<i>Research Interests</i>	Regional groundwater studies; stream/aquifer relationships; meadow hydrology; Sandhills history; and stream evolution.
<i>Phone</i>	(308) 696-6704
<i>E-Mail</i>	jgoeke1@unl.edu
<i>Additional Information</i>	I have been employed as a research hydrogeologist by the Conservation and Survey Division of UNL since 1970. The C&SD was created in 1921 and charged with the responsibility to inventory the resources of Nebraska,



	<p>interpret those inventories, and share the insights with the citizens of Nebraska. We call the sharing of research results "scholarly service." Responding to this request on behalf of the legislature is certainly in that category. Because of my forty years spent investigating the High Plains Aquifer, I have detailed information that may be helpful to you and the Senators.</p> <p>The Keystone pipeline people contacted me several months ago to ask about the underlying geology. I have talked to them frequently to answer their questions and to ask about their various safety measures. For my own edification, I have also spoken with an Exxon petroleum geologist who has extensive experience in pipelines. Keystone has provided me their detailed map of the proposed pipeline alignment. Working with my colleagues in the CSD graphics department, I have prepared several new maps that show how the pipeline relates to our CSD basic data about what underlies the proposed route. We are happy to share those maps with any member of the public who wishes. I will send several sets of those maps to use for the use of the Senators.</p>	
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<i>Name</i>	Volesky, Jerry	
<i>Position</i>	Extension Range and Forage Specialist	
<i>Unit</i>	Extension, West Central Research and Extension Center	
<i>Web Page</i>	http://www.agronomy.unl.edu/welcome/directory/volesky.html	
<i>Expertise</i>	Forage and Pasture Management; Grazing	
<i>Research Interests</i>	Conduct grazing management and systems research at the Gudmundsen Sandhills Laboratory and other locations. Specific interests and projects include livestock and plant responses to management practices on upland range and subirrigated meadow vegetation types.	
<i>Outreach Emphasis</i>	Development and implementation of range and forage management programming for both youth and adult clientele in the West Central District.	
<i>Phone</i>	(308) 532-3611	
<i>E-Mail</i>	jvolesky1@unl.edu	

<i>Name</i>	Wedin, Dave	
<i>Position</i>	Professor	
<i>Unit</i>	School of Natural Resources	
<i>Web Page</i>	http://snr.unl.edu/aboutus/who/people/faculty-member.asp?pid=128	
<i>Expertise</i>	Plant and Ecosystem Ecology	
<i>Research Interests</i>	My research interests include grassland and savanna ecology, carbon and nitrogen cycling in terrestrial ecosystems, biodiversity and ecosystem functioning, landscape ecology and fire ecology. They also include nitrogen-use-efficiency and resource allocation in plants and stable isotope studies of plant-soil feedbacks.	
<i>Phone</i>	402-472-9608	
<i>E-Mail</i>	dwedin1@unl.edu	

<i>Name</i>	Woldt, Wayne E.
<i>Position</i>	Associate Professor
<i>Unit</i>	Biological Systems Engineering
<i>Web Page</i>	http://www.engineering.unl.edu/academicunits/civil/faculty/woldt.shtml
<i>Expertise</i>	Water Resources and Environmental Engineering
<i>Research Interests</i>	Adaptive infrastructure management for environmental and water resources systems, model-based control systems for water environment infrastructure, simulation modeling of watershed systems with emphasis on surface/groundwater interaction, watershed simulation using high performance computing, multi-scale modeling of water environment systems.
<i>Phone</i>	(402) 472-8656
<i>E-Mail</i>	wwoldt1@unl.edu



Nebraska Public Service Commission
LR 435: Crude Oil and Natural Gas Pipeline Interim Study

The following information is provided in response to a July 6, 2010 letter from Senators Annette Dubas and Kate Sullivan.

Legal Obligations and Jurisdiction for an Oil or Gas Pipeline

The Nebraska Public Service Commission (PSC) has no jurisdiction over the Keystone Pipeline Project because it is an interstate and international project. Under Nebraska Revised Statute § 75-501, the PSC's jurisdiction is confined to common carriers engaged in intrastate commerce within Nebraska:

Any person who transports, transmits, conveys, or stores liquid or gas by pipeline for hire in Nebraska intrastate commerce shall be a common carrier subject to commission regulation. The commission shall adopt, promulgate, and enforce reasonable rules and regulations establishing minimum state safety standards for the design, construction, maintenance, and operation of pipelines which transport liquefied petroleum gas or anhydrous ammonia in intrastate commerce by common carriers. Such rules and regulations, and the interpretations thereof, shall conform with the rules, regulations, and interpretations of the appropriate federal agencies with authority to regulate pipeline common carriers in interstate commerce. Any person may determine the validity of any such rule or regulation in such manner as provided by law.

No such intrastate pipelines are presently in operation in Nebraska. In 2008, the PSC certified one potential intrastate natural gas pipeline, Nebraska Resources Company, but a pipeline has not yet been put into service.

PSC Certification or Consultation for Keystone XL

None performed or required by law.

Authority in Pipeline Approval Process

For a natural gas intrastate pipeline, the PSC has authority to certificate and regulate a pipeline as it would a jurisdictional utility (investor-owned natural gas utility). In order to obtain a certificate, the PSC must evaluate the public convenience of the proposed natural gas pipeline.¹ The applicant must demonstrate financial stability, technical ability

¹ Neb. Rev. Stat. sec. 66-1853.

to provide the service, assurance that all safety considerations are addressed, and a showing that efforts have been made to comply with environmental regulations.²

Communication with Pipeline Company

Regarding the initial Keystone pipeline expansion, during the year 2005, representatives of TransCanada arranged a meeting advise the PSC of the project, provide contact information and answer any questions. Commissioners and staff stay abreast of developments, receive occasional questions from the public and media, and follow up with TransCanada representatives as needed.

Pipeline Failures

PSC Role After a Failure: For natural gas interstate pipelines, federal regulations require notification of State PSCs in the event of a service interruption or particular types of damage.³ Examples include a mechanical failure potentially affecting service, lightning strike, and excavation damage by a landowner. The PSC is notified, but has no role in addressing the failure. Depending on the nature of the reported interruption, PSC staff may contact the pipeline for more information. The PSC receives no notification and has no role in an oil pipeline failure.

Incidents in Nebraska: Annually, the Commission receives approximately two to eight reports regarding a natural gas pipeline service interruption.

Eminent Domain

State law authorizes oil and gas pipeline companies to exercise the power of eminent domain. Nebraska Revised Statute § 57-1101 sets forth the authority of eminent domain for oil and gas pipelines if a land use agreement cannot be reached with the landowner and if the use of that land is “reasonably necessary for the laying, relaying operation and maintenance” of the pipeline or necessary equipment. The provision also requires conformance with property condemnation procedures established in state law.

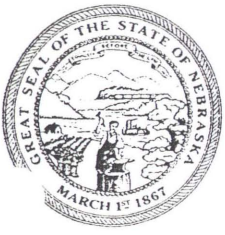
Possible Alternatives

If the Legislature wants to pursue a more definitive role for Nebraska, one solution may be to adopt a law directing the Attorney General to represent the State’s interests in federal certification proceedings for projects like Keystone. The legislation could be tailored to the features of Keystone (international, proximity to groundwater, of a certain magnitude, etc.). Further research would be necessary to evaluate this option.

² Final Order of the Nebraska Public Service Commission in Docket No. NG-0053, *In the Matter of Nebraska Resources, LLC, seeking a Certificate of Public Convenience and Necessity authorizing it to operate as a jurisdictional utility in Nebraska and approval of tariff*, entered September 9, 2008, p. 5.

³ Code of Federal Regulations, Title 18, Chapter 1, sec. 260.9.

Another state senator has considered legislation requiring a construction bond or other legal remedy for resulting environmental damage, but a bill was not introduced due to concerns about federal preemption and bond costs.



Dave Heineman
Governor

July 23, 2010

STATE OF NEBRASKA

DEPARTMENT OF REVENUE

Douglas A. Ewald, Tax Commissioner

P.O. Box 94818 • Lincoln, Nebraska 68509-4818

Phone: (402) 471-5729 • www.revenue.ne.gov

Senator Annette Dubas
Senator Katè Sullivan
1018 State Capitol
P.O. Box 94604
Lincoln, NE 68509-4604

Dear Senators Dubas and Sullivan:

This letter is in response to your letter of July 6, 2010, in which you requested information regarding the legal obligations and jurisdiction of the Department of Revenue (Department) related to an oil or gas pipeline.

The Department has no authority over the pipeline approval process. The authority the Department does have is to oversee the assessment and taxation of the pipeline company. Pursuant to Neb. Rev. Stat. §77-801, the Property Tax Administrator must determine the total taxable value of the public service entity, including the franchise value of all operating property owned or leased that contributes to a public service entity's function. Neb. Rev. Stat. §77-801.01 provides that public service entities include pipelines used for the transmission of oil, heat, steam, or any substance used for lighting, heating, or power, and pipelines used for the transmission of articles by pneumatic or other power and all other similar or like entities. TransCanada, Ltd. ("TransCanada") is the company that owns and operates the Keystone and Keystone XL Pipelines. TransCanada is a public service entity and is subject to state assessment for property tax purposes. Neb. Rev. Stat. §77-801 requires that all public service entities annually file information with the Property Tax Administrator on or before April 15 of each year.

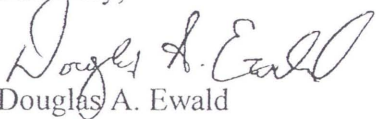
TransCanada corresponded with the Department inquiring as to filing dates, filing requirements, and assessment procedures with regard to property taxes. The Department provided appropriate responses to the inquiries. Representatives from the Department attended "open houses" hosted by the company for the Keystone XL Pipeline in 2008. TransCanada presented estimated property tax impacts at these open houses. These estimates were developed and presented by TransCanada; the Department was not contacted prior to the open houses with regard to the estimated property taxes presented at the open houses.

The Department has no authority or responsibilities in the event of a pipeline failure.

The current statutory assessment and taxation structure for pipeline property provides the Department with the appropriate laws to ensure the uniform and proportionate valuation of the real and personal pipeline property.

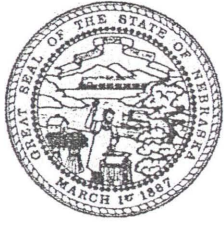
Should you have any further questions, please do not hesitate to contact me.

Sincerely,


Douglas A. Ewald
Tax Commissioner

DAE:jw:mra

STATE OF NEBRASKA



Dave Heineman
Governor



STATE FIRE MARSHAL
John Falgione
Fire Marshal

July 21, 2010

Senator Annette M. Dubas
State Capitol
P. O. Box 94604
Lincoln, NE 68509-4604

Senator Kate Sullivan
State Capitol
P. O. Box 94604
Lincoln, NE 68509-4604

Dear Senators Dubas and Sullivan,

Thank you for the opportunity to explain the role of the State Fire Marshal Agency in this particular project. I have chosen to answer each of your bullet points of inquiry in a separate attachment. I first listed your inquiry and then followed with our response.

In the third paragraph of your letter you stated that a state agency in another affected state having the same subject matter jurisdiction as our agency was asked to provide certification or consultation with the Keystone XL Pipeline Project builder on matters related to that agency. I cannot comment on what may have occurred in another state, but as you will see in the attachment the Nebraska State Fire Marshal Agency has no record of such a request being made within our state. I have included a list that to my knowledge includes the only states that do have the authority over interstate liquid pipelines. Perhaps the state you referenced is in that group, but as you can see it is a very small list of only six states.

In regard to pipeline issues the Nebraska State Fire Marshal Agency only has the authority granted to it in the Nebraska Natural Gas Pipeline Safety Act. Please keep in mind that this project, the Keystone XL Pipeline is an interstate **liquid** pipeline. Except for a very few states interstate liquid pipelines are under federal control in all phases from planning through final inspection and being operational.

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DISTRICT B
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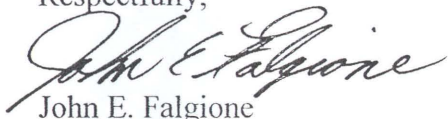
DISTRICT C
200 South Silber
North Platte, NE 69101-4219
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Fuels Division
 FLST Pipeline
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Lincoln, NE 68508-1804
(402) 471-9465

TRAINING DIVISION
2410 North Wheeler Avenue
Suite 112
Grand Island, NE 68801-2376
(308) 385-6892

If I can be of further assistance please call, as you know I am always available and if needed I will be happy to discuss our role in whatever setting you chose.

Respectfully,



John E. Falgione
Director
State Fire Marshal

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Response to Bullet Points of Inquiry

Your agency's legal obligations and jurisdiction (including citations) related to an oil or gas pipeline;

We do not have authority to regulate Intel "State pipelines or Liquid pipelines. Keystone XL falls under both Interstate and Liquid. We only have statutory authority under 81-542 for Intrastate GAS pipelines.

Nebraska Natural Gas Pipeline Safety Act

81-542. Terms, defined. For purposes of the Nebraska Natural Gas Pipeline Safety Act of 1969 unless the context otherwise requires:

(1) The Natural Gas Pipeline Safety Act of 1968 of the United States shall mean Public Law 90-481, 82 Stat. 720, 90th Congress, S I 166, enacted August 12, 1968;

(2) State Fire Marshal shall mean the officer appointed pursuant to section 81-501.01;

(3) Person shall mean any individual, firm, joint venture, partnership, limited liability company, corporation, association, municipality, cooperative association, or joint-stock association, and includes any trustee, receiver, assignee, or personal representative thereof;

(4) Gas shall mean natural gas, flammable gas, or gas which is toxic or corrosive and which is transported in a gaseous form and not in a liquid form;

(5) Transportation of gas shall mean the gathering, transmission, or distribution of gas by pipeline or its storage, except that it shall not include any such transportation of gas which is subject to the jurisdiction of the Federal Power Commission under the Natural Gas Act of the United States or the Interstate Commerce Commission under the Interstate Commerce Act or the gathering of gas in those rural locations which lie outside the limits of any incorporated or unincorporated city, village, or any other designated residential or commercial area such as a subdivision, a business or shopping center, a community development, or any similar populated area which the State Fire Marshal may define as a non rural area; and

(6) Pipeline facilities shall include, without limitation, new and existing pipe rights-of-way and any equipment facility or building used in the transportation of gas or the treatment of gas during the course of transportation but rights-of-way as used in the Nebraska Natural Gas Pipeline Safety Act of 1969 does not authorize the State Fire Marshal to prescribe the location or routing of any pipeline facility. Pipeline facilities shall not include any facilities subject to the jurisdiction of the Federal Power Commission under the Natural Gas Act of the United States or the Interstate Commerce Commission under the Interstate Commerce Act, Source: Laws 1969, c. 763, I 1, p. 2884; Laws 1993, LB 121, I 527. Effective date September 9, 1993.

• A description of the certification or consultation your agency provided for the Keystone XL Pipeline Project;

We have provided no "certification" or "consultation" for this project.

• The extent or reach of your agency's authority in the pipeline approval process, including an explanation of the consequences of failing to achieve compliance;

See above. Our agency has no authority to provide "approval" for this project.

<input type="checkbox"/> MAIN OFFICE	<input type="checkbox"/> DISTRICT B	<input type="checkbox"/> DISTRICT C	Fuels Division	<input type="checkbox"/> TRAINING DIVISION
<input type="checkbox"/> DISTRICT A	438 West Market	200 South Silber	<input type="checkbox"/> FLST <input type="checkbox"/> Pipeline	2410 North Wheeler Avenue
246 South 14 th Street	Albion, NE 68620-1241	North Platte, NE 69101-4219	246 South 14 th Street	Suite 112
Lincoln, NE 68508-1804	(402) 395-2164	(308) 535-8181	Lincoln, NE 68508-1804	Grand Island, NE 68801-2376
(402) 471- 2027			(402) 471-9465	(308) 385-6892

How your agency's official duties in the pipeline approval process differ from those of the corresponding agencies of other states, and explanations for any differences,

Our duties are very similar to most other states, which is to say that most State programs only regulate "Intrastate" natural gas pipelines. 50 States have similar (Intra-state) programs to Nebraska but nine (9) States are authorized as Inter-state Gas pipelines and they include:

- Arizona, Michigan, Ohio, Connecticut, Minnesota, Washington, Iowa, New York, and West Virginia.
- There are 14 States authorized to regulate Intra-state Liquid pipelines, but only 6 are authorized for Inter-state Liquid and they include: Arizona, Minnesota, Virginia, California (Fire Marshall), New York, and Washington.

The extent of your agency's communication with the pipeline company during and after construction and an explanation of your participation in the process to be used should there be a pipeline failure;

We have had no communication with this pipeline company at all.

The details of any pipeline failure incidents in Nebraska of which you are aware and the effect on your agency; and

There have been several failures of all pipelines throughout the years but since Inter-state pipelines are not jurisdictional to our office we would have no details of those incidents.

That information would be available from the Federal agency.

- Whether Nebraska Statutes provide your agency with the tools needed to adequately address the concerns of your subject matter (to the extent allowed under federal law).

The Nebraska Natural Gas Pipeline Safety Act is adequate to address the State Fire Marshal's concerns.

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STATE OF NEBRASKA

OIL AND GAS CONSERVATION COMMISSION

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SIDNEY, NEBRASKA 69162-0399
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JAMES R. GOHL
COMMISSIONER

PERRY VAN NEWKIRK
COMMISSIONER

THOMAS M. SONNTAG
COMMISSIONER

WILLIAM H. SYDOW
DIRECTOR

July 22, 2010

The Honorable Annette Dubas
P.O. Box 94604
Lincoln, NE 68509-4604

Pipeline Jurisdiction Oil and Gas Conservation Commission

Dear Senator Dubas:

This letter provides brief responses to your questions as outlined in your letter of 6 July 2010. Our answers follow the order of your questions.

1. Our Commission has not been involved with TCPL's XL project.
2. Our Commission only has jurisdiction in the areas of exploration and production of oil and gas. In-field flow-lines and gathering lines do fall under our jurisdiction should there be a leak but interstate transmissions lines are outside of our jurisdiction.
3. We have had no formal contact with either TCPL employees or their agents regarding their project.
4. Since we have no jurisdiction over interstate oil or natural gas lines, we have no authority to involve ourselves.
5. Our statutory duties are strictly related to exploration and development of our oil and gas resources. States such as Texas, Oklahoma, and Kansas have commissions that have various divisions which may be involved in both interstate and intrastate pipelines.
6. To my knowledge, I am not aware of any leaks on a major pipeline system in Nebraska. The Platte Pipeline which traverses our state is probably close to 50 years old. I

July 22, 2010
Senator Dubas
Pipeline Jurisdiction

6. do not believe this pipeline has ever had an incident. Additionally, the Platte Pipeline has been carrying Alberta crude oil since 1997 when the Express pipeline from Alberta to Casper, WY, was completed.
7. Nebraska statutes provide no law that would allow our agency to be involved in any oil or gas transmission line.

If I am able, I will make every effort to personally attend your meeting to answer questions that you may have and to add pertinent personal comments.

Sincerely,

NEBRASKA OIL AND GAS CONSERVATION COMMISSION

William H. Sydow
Director

PC: Commissioners Gohl, Sonntag, Van Newkirk



Dave Heineman
Governor

STATE OF NEBRASKA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Michael J. Linder

Director

Suite 400, The Atrium

1200 'N' Street

P.O. Box 98922

Lincoln, Nebraska 68509-8922

Phone (402) 471-2186

FAX (402) 471-2909

website: www.deq.state.ne.us

July 27, 2010

Senator Annette M. Dubas
District 34
Room 1018 -State Capitol Building
Lincoln, Nebraska 68509

Senator Kate Sullivan
District 41
Room 1019 -State Capitol Building
Lincoln, Nebraska 68509

RE: LR 435 – Interim Study on Crude Oil and Natural Gas Pipelines in Nebraska

Dear Senators Dubas and Sullivan:

In response to your letter of July 6, 2010 we provide the following responses to your questions:

- **DEQ's legal obligations and jurisdiction (including citations) related to an oil or gas pipeline**

Statutory Citations:

- 81-1504 Department; powers; duties
- 81-1506 Unlawful acts
- 81-1507 Director; violations; hearings; orders
- 81-1508 Violations of the Environmental Protection Act, Integrated Solid Waste Management Act, or Livestock Waste Management Act; civil penalties; injunctions

Regulatory Citations:

- Title 125--Rules and Regulations Pertaining to the Management of Waste
 - Requires anyone responsible for a release of oil or hazardous substance underground or a release that impacts or threatens waters of the state or public health and welfare to notify the department.
- Title 118—Groundwater Quality Standards and Use Classification
 - Determines the appropriate manner for clean-up of a release.

- **A description of the certification or consultation DEQ provided for the Keystone XL Pipeline Project**

DEQ staff did participate in the original Keystone Pipeline project scoping meeting with several state agencies and TransCanada in December 2005; also conducted a National Environmental

July 26, 2010

Senator Annette Dubas

Senator Kate Sullivan

Protection Act (NEPA) review submitting information (in letters dated 2007 & 2008) detailing state DEQ permits necessary for company to acquire should federal permitting be approved.

Subsequently, DEQ did issue TransCanada the applicable certifications and permits for the Keystone Pipeline project based upon applications received.

DEQ has not provided state permit information for the scoping process in the federal permitting for the Keystone Pipeline XL project. The draft EIS for the Keystone XL project correctly identifies the necessary permitting information relevant to DEQ.

- **The extent or reach of DEQ's authority in the pipeline approval process, including an explanation of the consequences of failing to achieve compliance**

DEQ has no role in the federal permitting process for the pipeline.

- **How DEQ's official duties in the pipeline approval process differ from those of the corresponding agencies of other states, and explanations for any differences**

Based on a cursory review of the Keystone Pipeline and Keystone Pipeline XL EIS documents, our regulatory requirements and permits are similar.

- **The extent of DEQ's communication with the pipeline company during and after construction and an explanation of your participation in the process to be used should there be a pipeline failure**

After a company would receive its required state permits, agency interaction would be specific to a complaint or response to a release or spill.

- **The details of any pipeline failure incidents in Nebraska of which DEQ is aware and the effect on the agency**

There have been some incidents over the years. The most recent by way of example is when DEQ provided emergency response and remediation support for an Omaha gasoline spill. On June 30, 2010 the Magellan Company notified DEQ there was a gasoline pipeline leak between 17th Street, and Carter and Ames Streets in Omaha. At least 8 families/houses were evacuated during the day and relocated for safety reasons. Omaha Fire Stations also provided support. DEQ staff continues to maintain contact with Magellan and its contractor as they remediate the contamination. This oversight will continue as long as necessary.

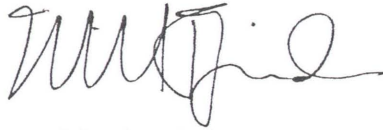
- **Whether Nebraska Statutes provide your agency with the tools needed to adequately address the concerns of your subject matter (to the extent allowed under federal law)**

The current law does provide DEQ adequate authority to regulate and permit typical environmental activities for these types of facilities. The statutes also provide authority for DEQ to respond to spills/leaks and require remediation as described in the recent Omaha example.

July 26, 2010
Senator Annette Dubas
Senator Kate Sullivan

We look forward to meeting with you on August 5th. If you should have any questions, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael J. Linder". The signature is fluid and cursive, with a prominent initial "M" and a long, sweeping underline.

Michael J. Linder
Director



July 20, 2010

Senator Annette Dubas
District 34
Senator Kate Sullivan
District 41
State Capitol
PO Box 94604
Lincoln, NE 68509-4604

Re. Your Inquiry Pert. To LR 435 Re. The Keystone XL Pipeline

Dear Senators Dubas and Sullivan:

The Nebraska State Historical Society (NSHS) is pleased to provide information in response to your July 6, 2010, letter on the above referenced subject.

Per provisions of Nebraska Revised Statutes 82-118, the NSHS is designated the state agency for matters pertaining to historic preservation and the federal National Historic Preservation Act of 1966 (PL89-665). Pursuant to the Governor's appointment, I serve as State Historic Preservation Officer (SHPO). L. Robert Puschendorf serves as Deputy SHPO and as manager of our Historic Preservation Program.

The Keystone XL Pipeline is a significant federal undertaking and the United States Department of State (DOS) has been designated as the lead federal agency on the project with responsibilities for environmental, archeological and historical review and consultation with States and Indian Tribes per the provisions of Section 106 of the National Historic Preservation Act of 1966 (as amended) and implementing regulations of 36CFR Part 800. The lead federal agency is responsible for the identification of historic and archeological resources involved in the Keystone XL Pipeline project and for developing options to avoid or mitigate harm to those listed on or eligible for the National Register of Historic Places as compiled by the US Department of the Interior. The NSHS participates in the process under the roles and responsibilities delegated to the States by the National Historic Preservation Act including reviewing identified historic and archeological resources, advocating for their protection or, if that is not possible, for mitigation of damage to or destruction of those cultural resources. In this process, Tribal governments are included as the process addresses Tribes whose cultural heritage lies within a project's area of impact. For the Keystone XL Pipeline project in Nebraska, the Ponca and Pawnee Tribes have interests.

Beginning in April 2008, my office has been involved in consultation with the DOS and with cultural resources contractors retained by the pipeline company. Our consultation is confined to the identification and protection of cultural resources, not with pipeline design, construction or operating procedures. We continue to be in communication with the DOS, and have the option of concurring or not concurring with its findings as to the impact of the project on the cultural resources of the people of Nebraska.

1500 R Street
PO Box 82554
Lincoln, NE 68501-2554
p: (800) 833-6747
(402) 471-3270
f: (402) 471-3100
www.nebraskahistory.org

Senator Annette Dubas
Senator Kate Sullivan
July 20, 2010
Page 2.

To respond to the bulleted points in your July 6th letter:

- Oil and gas pipelines that constitute a “federal undertaking” as provided for in the National Historic Preservation Act of 1966 are subject to a review under the provisions of Section 106 of that act and, in Nebraska, involve my office.
- Our first involvement in the Keystone XL Pipeline was in April 2008 when we were contacted by the American Resources Group (ARG), an archeological contractor from Illinois in regard to their work on behalf of the project. Our staff met with ARG on April 17, 2008. ARG submitted a research design for survey of historic and archeological resources along preliminary project routes; we found that the research design met current federal and state standards for such work. On March 17, 2009, we reviewed and commented on the preliminary research results and report submitted by ARG.

On November 16, 2009, my office reviewed three addendums to the preliminary research report as submitted by the DOS and we concurred with the report. Subsequently, my office has reviewed three additional documents, namely a draft programmatic agreement pertaining to the project, a Draft Environmental Impact Statement (DEIS) and a Tribal Monitoring Plan, each submitted by the DOS.

On July 16, 2010, the DOS submitted to my office a request for our concurrence for the “Determination of Eligibility for the National Register of Historic Places and Determination of Project Effects (to date) for the Keystone XL Pipeline Project in Keya Paha, Rock, Holt, Garfield, Wheeler, Greeley, Boone, Nance, Merrick, Hamilton, York, Fillmore, Saline and Jefferson Counties, Nebraska”. As of this date, our review of that document continues and we have not responded to the DOS’s July 16th request.

- In any Section 106 Review, our role is that of consultation, seeking first to ensure the project does not have an adverse impact on significant cultural resources as on or eligible for the National Register of Historic Places, and if such avoidance of an adverse impact is not possible in the sole determination of the lead federal agency, then negotiating a Memorandum of Agreement in which all parties stipulate steps to be taken in mitigating such adverse impact on the cultural resource(s). My office has no authority in this process to stop, deny or otherwise make a decision that would terminate the project should the lead federal agency, here the DOS, determine that the project will go forward.
- The Section 106 review process applies uniformly to all federal agencies and to all states and territories of the United States.
- My office would be involved in the actual construction of the Keystone XL Pipeline only in ensuring that monitoring or mitigation steps as agreed on prior to the initiation construction are indeed carried out by the pipeline company and its contractors and consultants, as for example, in archeologically testing a known archeological site or in monitoring construction and ceasing activity should burials be

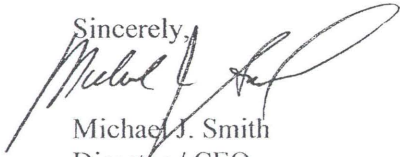
Senator Annette Dubas
Senator Kate Sullivan
July 20, 2010
Page 3.

discovered. A future pipeline failure requiring construction or other activity that might impinge on cultural resources would be of interest to us, but repairs or modifications might not be determined to be "a federal undertaking" in the opinion of federal agencies and thus not trigger a Section 106 review. For this reason it is essential that all cultural resources be identified and assessed as to their importance before the initial construction is undertaken. To repeat, my office has no purview over actual pipeline design, construction or operating procedures.

- My office has not had experience with an oil or gas pipeline failure.
- We are of the opinion that Nebraska statutes do provide the authority we need to fulfill our responsibilities under the provisions of Section 106 of the National Historic Preservation Act.

Mr. Puschendorf and I will appear as requested on Thursday, August 5, 2010, at 1:30 PM. In the meantime, please let us know if we might provide additional information or clarify what is contained in this letter.

Sincerely,



Michael J. Smith
Director / CEO
State Historic Preservation Officer

Cc. L. R. Puschendorf
Cheryl Clark, President, NSHS

BOARD OF EDUCATIONAL LANDS AND FUNDS

RICHARD R. ENDACOTT
CEO / Executive Secretary

A. B. BAHR-FREW
Minerals Administrator



ROXANNE E. SUESZ
CINDY S.H. KEHLING
Executive Assistants

www.belf.nebraska.gov

July 19, 2010

Senator Annette M. Dubas
State Capitol, P.O. Box 94604
Lincoln, NE 68509-4604

Senator Kate Sullivan
State Capitol, P.O. Box 94604
Lincoln, NE 68509-4604

RE: Response to Letter Dated July 6, 2010 Re Keystone Pipeline

Dear Senators Debas and Sullivan:

This is in response to the above letter which was directed to our agency.

I would begin by saying that our agency has no regulatory authority over pipelines that may cross Nebraska. And we have had only preliminary contact from the pipeline company regarding this project.

I will attempt to answer the questions set out on page 2 of your letter.

1. I am aware of no legal obligations or jurisdiction of our agency regarding an oil and gas pipeline across the State.
2. Although we have received correspondence from the companies involved, we have provided no certification or consultation regarding the Keystone XL Pipeline Project. We have been consulted by the developers regarding access (see enclosed letter dated June 22, 2009). Our file also indicates phone contact regarding access.
3. We are aware of no agency authority that we have regarding the pipeline approval process.

4. Since we have no official duties regarding the pipeline approval process, we have no idea how the pipeline approval process differs from those of agencies in other states.
5. Enclosed are copies of the correspondence we have received from the pipeline developers. We do not feel that our agency would be appropriately involved in the event of pipeline failure.
6. We are not aware of any pipeline failures in Nebraska which have affected our agency.
7. Nebraska statutes do not provide our agency with any tools to address the concerns of the State in the event of a pipeline failure.

I apologize for not being more helpful in my answers to your questions, but we have had no contact with this type of problem, and are probably not the appropriate agency to provide the safeguards that may well be necessary in this situation.

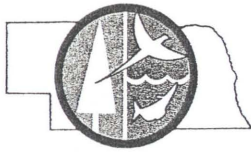
However, I have placed the meeting time and place on my calendar and will plan to attend.

Best regards,

A handwritten signature in black ink, reading "Richard R. Endacott", with a long horizontal line extending to the right.

Richard R. Endacott
CEO/Executive Secretary

RRE/ap
Enc.



Nebraska Game and Parks Commission

2200 N. 33rd St. / P.O. Box 30370 / Lincoln, NE 68503-0370

Phone: 402-471-0641 / Fax: 402-471-5528 / www.OutdoorNebraska.org

July 23, 2010

Senator Annette Dubas
State Capitol
P.O. Box 94604
Lincoln, NE 68509-4604

Senator Kate Sullivan
State Capitol
P.O. Box 94604
Lincoln, NE 68509-4604

Dear Senator Dubas and Senator Sullivan:

We are writing in regard to the letter you sent, dated July 6, 2010, requesting information about the Nebraska Game and Parks Commission's responsibilities relative to the Keystone XL Pipeline project. We have prepared the following information to provide an understanding of the role of the Nebraska Game and Parks Commission with this project. We have formatted the following information such that the questions posed in your letter are re-stated below and then followed by our response.

Your agency's legal obligations and jurisdiction (including citations) related to an oil or gas pipeline;

- The Nebraska Game and Parks Commission has no legal obligations or jurisdiction with regard to an oil or gas pipeline. We have no permitting or authorization requirements for these types of projects. However, because the Keystone XL Pipeline requires a Presidential Permit to cross the border between Canada and the United States, the Nebraska Game and Parks Commission receives an opportunity to review the project pursuant to the National Environmental Policy Act (NEPA). The Presidential Permit for the project is to be granted by the U.S. Department of State. The Department of State then becomes the lead federal agency and has prepared a Draft Environmental Impact Statement (EIS) pursuant to NEPA. Under NEPA, the lead federal agency is required to coordinate with affected federal, state, and local agencies. The Nebraska Game and Parks Commission is responsible for the stewardship of the State's fish, wildlife, and parkland resources and thus, we have provided information to the lead federal agency regarding the natural resources under our purview.

Construction of the pipeline may require permits or authorization from other Nebraska State agencies, such as surface water or ground water permits from the Nebraska Department of Natural Resources, and 401 Water Quality Certification (Clean Water Act) and National Pollutant Discharge Elimination System (NPDES) permits from the Nebraska Department of Environmental Quality. These actions, which are individual parts of the larger project, require consultation between the State agency and the

Nebraska Game and Parks Commission as stated in Neb. Rev. Stat. § 37-807(3) of the Nebraska Nongame and Endangered Species Conservation Act. This consultation is separate from NEPA.

A description of the certification or consultation your agency provided for the Keystone XL Pipeline project;

- Nebraska Game and Parks Commission staff has provided written comments to the Department of State on the Keystone XL Pipeline project during the scoping period for the EIS, and after review of a Draft copy of the EIS. See attached letters dated March 13, 2009 and July 6, 2010 respectively. Nebraska Game and Parks Commission staff also met with the pipeline company consultant on two occasions, May 5, 2008 and February 19, 2009, to discuss specific measures in relation to state-listed threatened and endangered species. Nebraska Game and Parks Commission staff will also have an opportunity to review the Final EIS when it is made available.

The extent or reach of your agency's authority in the pipeline approval process, including an explanation of the consequences of failing to achieve compliance;

- The Nebraska Game and Parks Commission has no authority in the final approval process for the project.

Should the lead federal agency not adequately address project impacts on state-listed threatened and endangered species and should the pipeline construction result in a take, as defined in Neb. Rev. Stat. §37-802(6), of listed wildlife species, the pipeline company could be in violation of the Nebraska Nongame and Endangered Species Conservation Act (Neb. Rev. Stat. § 37-801 to 37-811).

How your agency's official duties in the pipeline approval process differ from those of the corresponding agencies of other states, and explanations for any differences;

- The South Dakota Game, Fish, and Parks, and the Oklahoma Department of Wildlife Conservation are involved in a coordination capacity similar to the Nebraska Game and Parks Commission. The Kansas Department of Wildlife and Parks has a Non-game and Endangered Species Action Permit, if applicable, and reviews new pump station locations. Montana Fish, Wildlife, and Parks is not involved. Texas Parks and Wildlife Department is involved in a coordination capacity and also considers issuance of stream crossing permits. (This information was obtained from Chapter 1 of the Draft EIS)

The extent of your agency's communication with the pipeline company during and after construction and an explanation of your participation in the process to be used should there be a pipeline failure;

- Nebraska Game and Parks Commission staff may communicate with the pipeline company consultant during construction regarding those measures incorporated to avoid impacts to state-listed threatened and endangered species. Communication after

construction would likely be minimal. As a part of the EIS process, a Spill Prevention, Control, and Countermeasure Plan is developed. Nebraska Game and Parks Commission staff has had an opportunity to review the Plan. The Plan identifies the appropriate agency contact for a spill in Nebraska as the Nebraska Department of Environmental Quality. It is not specifically identified in the Plan, but the Nebraska Game and Parks Commission Fisheries Division may be contacted if a pipeline failure results in a fish kill.

The details of any pipeline failure incidents in Nebraska of which you are aware and the effects on your agency;

- Not aware of any pipeline failure incidents. The Nebraska Department of Environmental Quality may have more information on recorded incidents.

Whether Nebraska Statutes provide your agency with the tools needed to adequately address the concerns of your subject matter (to the extent allowed under federal law);

- State Statutes allow the Nebraska Game and Parks Commission to address our concerns for state-listed threatened and endangered species. We do rely on federal policy, such as NEPA, to address our concerns for other fish and wildlife resource impacts, and habitat and natural community impacts.

If there are any questions regarding the information provided in this letter, please feel free to contact Carey Grell of my staff, at (402) 471-5423 or carey.grell@nebraska.gov. Ms. Grell will be the future point of contact on this issue so please be in contact with her regarding the proposed upcoming meeting.

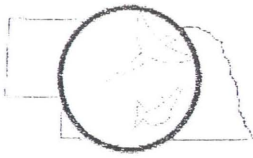
Sincerely,



Rex Amack
Director

Attachments (2)

cc: Carey Grell



Nebraska Game and Parks Commission

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Phone: 402-471-0641 / Fax: 402-471-5528 / www.OutdoorNebraska.org

March 13, 2009

Elizabeth Orlando
OES/ENV Room 2657
U.S. Department of State
Washington, D.C. 20520

**RE: Scoping comments regarding the Environmental Impact Statement (EIS) for the
TransCanada Keystone XL Pipeline Project**

Dear Ms. Orlando:

Nebraska Game and Parks Commission (NGPC) staff members have reviewed the information for the proposal identified above. The project involves the construction and operation of a 1,702-mile, 36-inch diameter, crude oil transmission pipeline from Alberta, Canada to destinations in the southern United States. The U.S. portion of the project would consist of 1,375 miles of new pipeline from Phillips County, Montana, to terminals and refineries in Texas. The new pipeline would enter Nebraska in Keya Paha County and extend southeasterly to Jefferson County. The pipeline would be constructed within a temporary 110-foot wide construction right-of-way. After construction, 50-foot of permanent right-of-way would remain. The pipeline would be placed in service in phases. Based on the information provided, we offer the following preliminary scoping comments.

In general, we have concerns for impacts to wetland and stream resources, as they provide valuable habitat to many fish and wildlife species. Because the proposed pipeline is a lengthy, linear project, we acknowledge that it would be impossible to completely avoid impacting stream and wetland resources. However, we encourage that impacts to these resources be avoided and minimized to the extent possible, and that mitigation be considered for unavoidable impacts, as necessary. Based on the information provided, the pipeline will include many individual stream/river crossings, and it will also traverse a major wetland complex area in the state. This wetland complex is identified as the Rainwater Basin and would be traversed by the proposed pipeline in Hamilton, York, Fillmore, and Saline counties. The entire wetland complex crosses a 17 county area in south-central Nebraska. The "Guide to Nebraska's Wetlands and their conservation needs" (LaGrange 2005), states that the Rainwater basin is a complex made up of playa wetlands, which are wind-formed depressions in the landscape underlain by a clay layer in the soil, which helps to capture precipitation and slows water from seeping into the ground. This wetland complex has many functions and values, most notably, it is internationally known for providing habitat for millions of spring migrating waterfowl and shorebirds. There are some concerns that if the clay layer in the soil is disrupted in a rainwater basin wetland, that the water holding capability of the wetland may be compromised allowing faster drainage of water into the ground thus impacting the function of the wetland.

A region of north-central Nebraska, known as the Sandhills, also is an area with a tremendous amount of wetland resources. The wetlands there are formed in depressions in the landscape where groundwater intercepts the surface of the land. The Sandhills encompasses approximately 20,000 square miles and over 1 million acres of wetlands. Extensive groundwater aquifers lie below the Sandhills and the high water table provides the water source for the wetlands at the ground surface. Several unique and rare wetland types are found in the Sandhills. One type is known as a fen, which has a peat soil that is under

groundwater saturated conditions, and they are known to support several rare plant species. Wetland drainage and groundwater contamination would be concerns in this region.

As mentioned above, the pipeline will also involve many stream-river crossings. Of the major crossings, the pipeline will cross the Niobrara River, headwaters of the Elkhorn River, Cedar River, Loup River, Platte River, Big Blue River, and the West Fork of the Big Blue River. The Niobrara, the South Fork of the North Fork of the Elkhorn River, Cedar River, Loup River, and the West Fork of the Big Blue River, at the point of crossing, are ranked as highest-valued or high priority fishery resources (top two rankings) based on the Stream Evaluation Map for the State of Nebraska, 1978. The classifications were based on the stream resource providing habitat that maintains outstanding populations of species of high interest and high value to the state, potentially including state or federal endangered or threatened species.

If techniques, such as underground directional boring, would be used to install the pipeline when crossing stream and wetland areas, impacts to these resources could be avoided and minimized. If any fill material will be placed into wetlands or streams as a result of this project, the U.S. Army Corps of Engineers should be contacted to determine if a 404 permit is needed. Any construction activities that would have the potential to directly impact water resources should include appropriate erosion control methods established during construction to prevent increased sediment input into the aquatic system in order to avoid impacting aquatic species and habitat. The EIS should evaluate the potential for impacts to the riparian corridor, such as tree and shrub loss, as a result of pipeline construction at stream crossings.

A majority of the Sandhills region, as mentioned above, remains in a relatively natural state, and contains a variety of native plant communities. The region is an area with poorly developed sandy soils with high infiltration rates. It is one of the largest grass-stabilized dune regions in the world, and nearly 700 native plant species have been documented in the Sandhills, as well as 500 species of birds, 55 species of mammals, and 75 species of fish. Overall, this is a region with high biological diversity. Today, approximately 95% of the Sandhills are maintained as native grasslands primarily by ranching for livestock production (Schneider et al 2005).

Outside of the Sandhills, the proposed pipeline would cross other natural communities in Nebraska as it also traverses the mixed-grass prairie and tallgrass prairie ecoregions. Due to the nature of the project, we recognize that it would be impossible to avoid disturbance to natural communities. Measures to address impacts to natural communities should be evaluated in the EIS. We would request that every effort be made to restore these communities to near original condition after construction is completed. With regard to vegetation restoration, we would recommend using native species that would be found in the area. We would encourage the use of a diverse seed mixture, and that the seed mixture be composed of seed collected in the vicinity of the impact site to maintain local genotypes. Using appropriate, native species would also help to stabilize the soils and reduce the potential for erosion in restored areas along the pipeline. It would be important to avoid the introduction of exotic species during restoration efforts, as they can compete with native species and threaten natural communities.

In Nebraska, the proposed pipeline would occur in suitable habitat for, and within in the range of the following state-listed threatened or endangered species. Potential impacts and measures to address potential impacts to these species should be addressed in the EIS.

- Whooping crane (*Grus americana*), state listed endangered
- Invertebrate form (*Saxonia monticola*), state listed endangered
- Piping plover (*Charadrius mexicanus*), state listed threatened
- American burying beetle (*Necrophorus americanus*), state listed endangered
- River otter (*Lutra canadensis*), state listed threatened
- Western prairie ringed owl (*Elanoides forficatus*), state listed threatened
- Small white lady's slipper (*Cypripedium candidum*), state listed threatened

Massasauga (*Sistrurus carolinensis*), state listed threatened
Blacknose shiner (*Xenotops heterleptus*), state listed endangered
Northern redbelly dace (*Phoxinotus eos*), state listed threatened
Finescale dace (*Phoxinotus neogaeus*), state listed threatened

The whooping crane uses shallow, sparsely vegetated wetlands, wet meadows, streams, and rivers, and sometimes crop fields, to feed and roost during migration. In Nebraska, the spring migration occurs typically from April 1 through May 15, and fall migration occurs between September 25 and November 15. Migrating whooping cranes could be utilizing areas near the proposed project location, and they typically spend from one to several days at a site during migration.

The least tern and piping plover are birds that nest in colonies on sandbars in medium to large rivers. In Nebraska, their nesting season is between April 15 and August 15. These species may be found where the proposed pipeline would cross the Niobrara River, the Loup River, and the Platte River.

The American burying beetle is the largest member of the carrion beetle family. In Nebraska, this species has been found in mesic areas such as wet meadows and wetlands in association with relatively undisturbed semi-arid, sandhill and loam grasslands. Such areas have been observed to have a thick stand of grassland vegetation with some woody vegetation. The proposed pipeline crosses potential habitat for this species in Keya Paha, Rock, Holt, Garfield, Wheeler, and Greeley counties.

The river otter utilizes aquatic and riparian habitats, such as riverbanks, wetlands, sloughs, and backwaters associated with the main channel of medium to large rivers. While they can be highly mobile during the denning season they may be tied to a particular den site. This species may be found where the proposed pipeline would cross the Niobrara River, North Branch Elkhorn River, Elkhorn River, South Fork Elkhorn River, Cedar River, Loup River, and Platte River.

The Western prairie fringed orchid is a plant that occurs in native mesic and wet-mesic tallgrass prairies and in wet meadows. The orchid blooms from mid-June to late July. The proposed pipeline crosses potential habitat for this species throughout all counties along the entire length of the project in Nebraska.

The small white lady's slipper orchid is a plant that occurs in native wet-mesic tallgrass prairies and wet meadows. This plant blooms from mid-May through the end of June. The proposed pipeline crosses potential habitat for this species in Keya Paha, Rock, Holt, Garfield, Wheeler, Greeley, Boone, Nance, Merrick, Hamilton, and York counties.

The massasauga is a rattlesnake that is found in wetlands, wet meadows, and associated upland tallgrass prairies in southeast Nebraska. The massasauga hibernates in crayfish burrows in the winter, and is active above ground from April through October. Summer habitat includes wet meadows and upland tallgrass prairie that are dominated by native species. The proposed pipeline would go through the massasauga's range in Jefferson county.

The Northern redbelly dace, the finescale dace, and the blacknose shiner are fish species are often found in association with relatively pristine, small, cool, clear streams that are undisturbed by humans. The stream banks are usually dominated by dense, overhanging vegetation such as willows and cottonwoods that shade the stream to help maintain its cool temperature. The proposed pipeline crosses small streams that may be potential habitat for these species in Keya Paha, Rock and Holt counties.

The bald eagle (*Haliaeetus leucocephalus*) was recently removed from the state list of threatened and endangered species, however protection for the species remains through the Bald and Golden Eagle

Protection Act. In Nebraska, this species is found along major rivers and lakes during the nesting season and near areas with open water during the winter.

The EIS should also evaluate potential impacts to migratory birds. Under the Migratory Bird Treaty Act (MRTA) (16 U.S.C. 703-712; CH 128 as amended) construction activities in grassland, wetland, stream, and woodland habitats that would otherwise result in the taking of migratory birds, eggs, young, and or active nests should be avoided.

Thank you for the opportunity to provide scoping comments on the proposed project. If you have any questions, or would like any additional information, please contact me. I can be reached at (402) 471-5423 or by email at carey.greif@nebraska.gov. We look forward to reviewing a draft copy of the Environmental Impact Statement when it becomes available.

Sincerely,



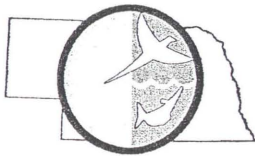
Carey Greff

Environmental Analysis
Realty and Environmental Services Division

cc: Rick Schneider, NGPC

References:

Schneider, R., M. Humper, K. Stoner, G. Steinauer, 2005. *The Nebraska Natural Legacy: A Comprehensive Wildlife Conservation Strategy*. Nebraska Game and Parks Commission, Lincoln, Nebraska.



Nebraska Game and Parks Commission

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July 6, 2010

Elizabeth Orlando
Keystone XL Project Manager
US Department of State
OES/ENV Room 2657
Washington, DC 20520

RE: Keystone XL Pipeline Draft Environmental Impact Statement

Dear Ms. Orlando:

Nebraska Game and Parks Commission (NGPC) staff members have reviewed the Draft Environmental Impact Statement (EIS) for the proposed Keystone XL pipeline project. The project would involve construction and operation of a 1,702 mile, 36-inch diameter, crude oil transmission pipeline from Alberta, Canada to destinations in the southern United States. The U.S. portion of the pipeline would consist of 1,375 miles of pipeline from Phillips County, Montana to terminals and refineries in Texas. The new pipeline would enter Nebraska in Keya Paha county and extend southeast to Jefferson county. The pipeline would be constructed within a temporary 110-foot wide easement. After construction, 50-foot permanent easements would remain. The pipeline would be placed in service in phases. Based on our review of the Draft EIS, we offer the following comments.

As we understand, the proposed pipeline is currently routed to avoid impacting properties owned or managed by the Nebraska Game and Parks Commission. We could not find a map with adequate detail within the Draft EIS to confirm this, and we want to ensure that this is indeed still a current statement. If changes are proposed for the route that would result in impacts to NGPC properties, we recommend that you notify us immediately.

Page 3.8-23 of the Draft EIS discusses electrical distribution lines associated with the pipeline and that they are a potential collision hazard to migrant whooping cranes, which is a state-listed endangered species in Nebraska. The document also states that an analysis of suitable migration stop-over habitat in relation to proposed transmission lines found 74 locations within the primary migration corridor for the whooping crane where transmission lines could potentially increase collision hazard to migrating whooping cranes, and it goes on to say that there is no indication that any of these locations have been used by whooping cranes. A lack of documented occurrences in a particular area within the migration corridor for this species does not mean that these locations are not used by whooping cranes. We want to ensure that this analysis included not only those lines near riverine roosting habitats, but also those near wetland habitats within the migration corridor that may be used for roosting and/or feeding by whooping cranes.

Whooping cranes can also be adversely impacted by transmission lines while flying between roost sites and nearby feeding sites. We would recommend that the document provide additional information on the identified locations of concern, and on the specific types of measures that would be implemented to reduce the potential for collisions of whooping cranes with electrical distribution lines.

Page 3.8-31 states that critical habitat for the Topeka shiner in Nebraska includes 6 miles of the Elkhorn river in Madison County. This should be corrected to read that critical habitat for the Topeka shiner in Nebraska includes 6 miles of Taylor Creek, in the Elkhorn River watershed, in Madison County.

Page 3.8-32 begins discussion regarding the American burying beetle, which is a state-listed endangered species in Nebraska. The document references presence/absence surveys that were completed for this species in Nebraska in 2009, for which no American burying beetles were captured. However, since construction of the proposed project will not begin until 2011 at the earliest, presence/absence surveys in Nebraska would need to be conducted again in areas identified as suitable habitat prior to construction, as survey results are only considered valid for a year from the date of survey. Please contact us if clarification is needed on survey protocol. Further, the document states that it is likely that all direct impacts to the American burying beetle may not be avoided by construction of the project. We would also be available for further discussions regarding the development of conservation measures to avoid and minimize adverse impacts to this species, and compensatory mitigation to offset the habitat losses in Nebraska.

Page 3.8-37 discusses the Western Prairie Fringed orchid, which is a state-listed threatened species in Nebraska. The document identifies that surveys conducted in 2009 observed this species along the proposed pipeline right-of-way at mile post 662 in Holt County, Nebraska. What options are being considered for ways to avoid impacting the known population along the right-of-way? The document should provide more detail regarding whether re-routing of the pipeline was considered as a way to avoid impacts to the Western prairie fringed orchid at mile post 662, or if other specific methods will be considered at this location.

Table 3.8.3-2 lists state protected animals and plants potentially occurring along the pipeline route. The information contained in the "proposed conservation measures" column for the finescale dace (a state-listed threatened species) in Nebraska states that no specific measures are needed for this species. This is incorrect, as we do have concern for potential impacts to the finescale dace in Nebraska. The "proposed conservation measures" identified in the Table for the northern redbelly dace are also applicable to the finescale dace and the Table should be updated to reflect the appropriate conservation measures for finescale dace in Nebraska. We recommend surveys for these species in tributaries of the Niobrara river and South Fork of the Elkhorn river, as well as in all small streams that would be crossed by the project in Rock County. The Table also includes conservation measures for the pearl dace in Nebraska, however, we have no requirements for pearl dace as it is no longer a state-listed species. The notation in the Table to surveys for pearl dace in Nebraska should be removed.

Page 3.8-74 discusses Conservation Measures for the Massasauga, which is a state-listed threatened species in Nebraska. The first conservation measure should be elaborated to state that

suitable habitat surveys will not only clear areas where massasauga would not be of concern, but they will also identify areas of concern for the species that will need additional monitoring during construction to ensure that impacts are avoided.

Thank you for the opportunity to review the Draft EIS. Please contact me if you have any questions regarding these comments, at 402-471-5423 or carey.grell@nebraska.gov.

Sincerely,

A handwritten signature in cursive script that reads "Carey Grell". The signature is written in black ink and is positioned to the right of the word "Sincerely,".

Carey Grell
Environmental Analyst
Realty and Environmental Services Division



Dave Heineman
Governor

STATE OF NEBRASKA

DEPARTMENT OF NATURAL RESOURCES
Brian P. Dunnigan, P.E.
Director

July 23, 2010

IN REPLY TO:

Senator Annette Dubas
District #34, State Capitol
P.O. Box 94604
Lincoln, NE 68509

Senator Kate Sullivan
District #41, State Capitol
P.O. Box 94604
Lincoln, NE 68509

Dear Senators Dubas and Sullivan:

In answer to your request, the Department of Natural Resources (Department) provides the following:

Agency's legal obligations and jurisdiction (including citations) related to an oil or gas pipeline.

The Department does not have any authorities regarding approval or certification of pipelines that cross Nebraska.

The Department does often receive calls from companies that are proposing or are in the process of constructing pipelines. The Department has two areas of authority that cause such contact.

The first area of authority is under our Floodplain/Dam Safety Division. Questions are often asked regarding the pipeline crossing streams and rivers. Our floodplain authorities are to assist local governments who have floodplain regulatory authorities. Contacts regarding this area are referred to the correct local agency and to the persons handling U.S. Army Corps of Engineers' 404 permits.

The second area of authority is granting permits to use water. Water is used during pipeline construction for purposes of dust control, compaction, and hydrostatic testing of the pipeline once it is constructed. If the water proposed to be used is surface water, a permit is required from the Department. If the water proposed to be used is groundwater, we refer them to the local natural resources district. In addition, if the groundwater use includes a transfer that is under the authority of the Department, an application for a permit to transfer water may be required from the Department or a transfer notice may be required to be filed in the Department.

Description of the certification or consultation agency provided for the Keystone XL Pipeline Project.

The Department is not aware of any certification or consultation provided for the Keystone XL Pipeline Project. We have had contacts regarding surface water use and have received applications for permits for surface water use and notices of transfer for ground water use for the Keystone project (a project of Keystone LP).

Extent or reach of agency's authority in the pipeline approval process, including an explanation of the consequences of failing to achieve compliance.

Authority is described above. Failure to achieve compliance with a surface water permit or groundwater transfer permit would be a criminal misdemeanor act. The Department can also refuse in certain situations to allow them to divert water for the purposes of the permit.

How the Department's official duties in the pipeline approval process differ from those of the corresponding agencies of other states, and explanations for any differences.

We are not aware of any differences for those agencies that deal mainly in water quantity. We have enclosed some documents that we have downloaded off of other state's websites.

The extent of the Department's communication with the pipeline company during and after construction and an explanation of your participation in the process to be used should there be a pipeline failure.

Most of the surface water appropriations granted for use during construction of a pipeline are temporary permits and Department staff often checks on the operation during the use of the permit to be sure that they are in compliance with their permit. Pipeline failures would not initiate any authorities of the Department, but if such a failure caused problems in a stream, we would work with the Nebraska Emergency Management Agency (NEMA) and the Department of Environmental Quality (DEQ) to provide information to downstream surface water users who might be affected.

The details of any pipeline failure incidents in Nebraska of which you are aware and the effect on your agency.

The Department is not aware of any pipeline failure that affected our agency.

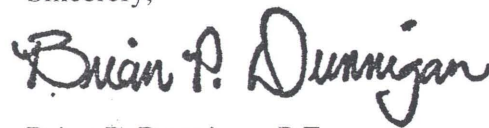
Whether Nebraska Statutes provide your agency with the tools needed to adequately address the concerns of your subject matter (to the extent allowed under federal law).

Senators Dubas and Sullivan
July 23, 2010
Page 3

The current statutes are sufficient for the Department's current authorities in this area.

Please let me know if you have any other questions regarding this matter.

Sincerely,

A handwritten signature in black ink that reads "Brian P. Dunnigan". The signature is written in a cursive style with a large, prominent "B" and "D".

Brian P. Dunnigan, P.E.
Director

Enclosures (4)

cc: Mark Matulka, Policy Research Office, w/enclosures

Handwritten signature or text in a cursive script, possibly in Urdu or Persian, located at the bottom center of the page.

HIGH PLAINS R. A. S. A. STUDY AREA



HIGH PLAINS AQUIFER GEOLOGIC UNITS



EXPLANATION

QUATERNARY

- UNDIVIDED
- DUNE SAND

TERTIARY

- OGALLALA FORMATION
- ARIKAREE FORMATION
- BRULE FORMATION









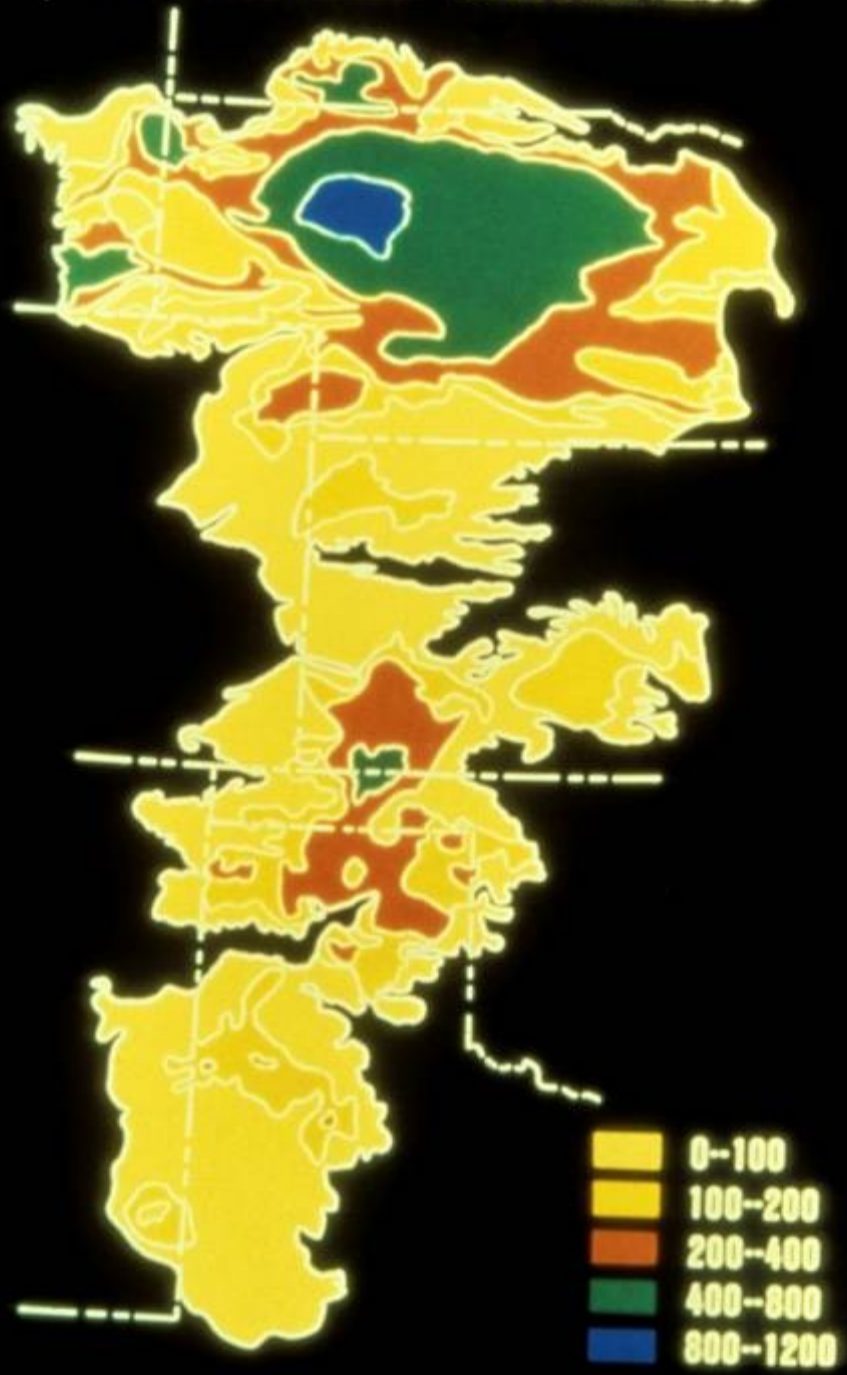


Table 3-1. Generalized lithostratigraphic classification of geologic units referred to in atlas.

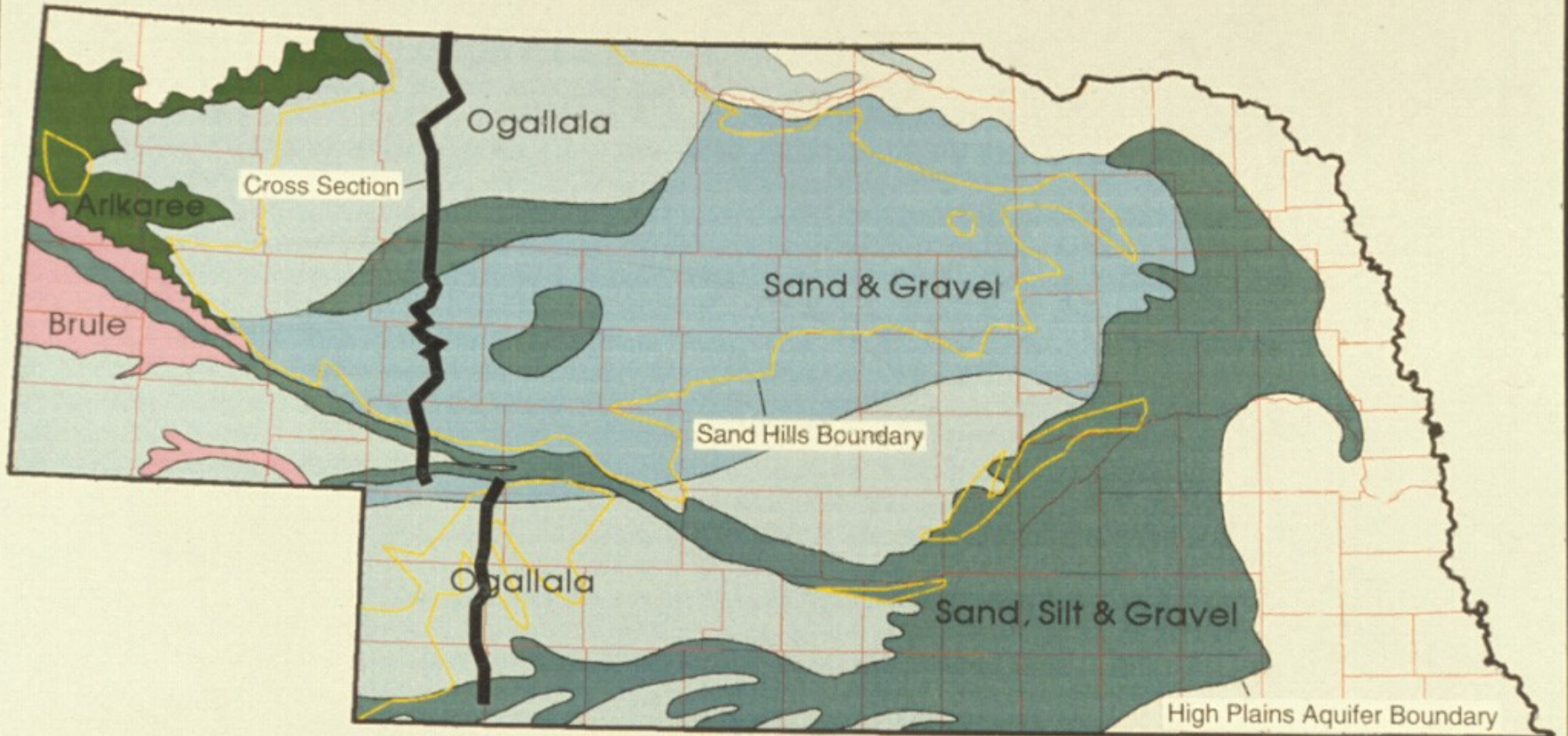
ERA	PERIOD	EPOCH	GROUP	FORMATION	ENVIRONMENTS OF DEPOSITION	
Cenozoic	Quaternary	Holocene — 0.01 —		Unnamed	Eolian, alluvial	
		Pleistocene — 1.6 —		Unnamed	Alluvial, eolian	
		Pliocene — 5 —		Broadwater/ Long Pine	Alluvial, lacustrine	
	Tertiary	Miocene		Ogallala	Ash Hollow	Alluvial
					Valentine	
					Runningwater	
		Oligocene	— 19 —	Arikaree	Upper Harrison beds	Eolian, alluvial
					Monroe Creek-Harrison	
			— 24 —		Gering	
	Oligocene	— 28 —	White River	Brule	Eolian, alluvial	
				Chadron	Alluvial, eolian	
		— 37 —				
		Eocene-Paleocene — 38 — — 65 —	Rocks of this age not known to occur under the Sand Hills.		Soil developed on older rocks	
Mesozoic	Cretaceous	Late	Montana	Pierre Shale	Marine	
			Colorado	Benton		Niobrara
						Carlile
						Greenhorn
						Graneros
						— 98 —
	Early — 144 —					
Jurassic			Morrison			

Note: Approximate age of boundaries given in millions of years

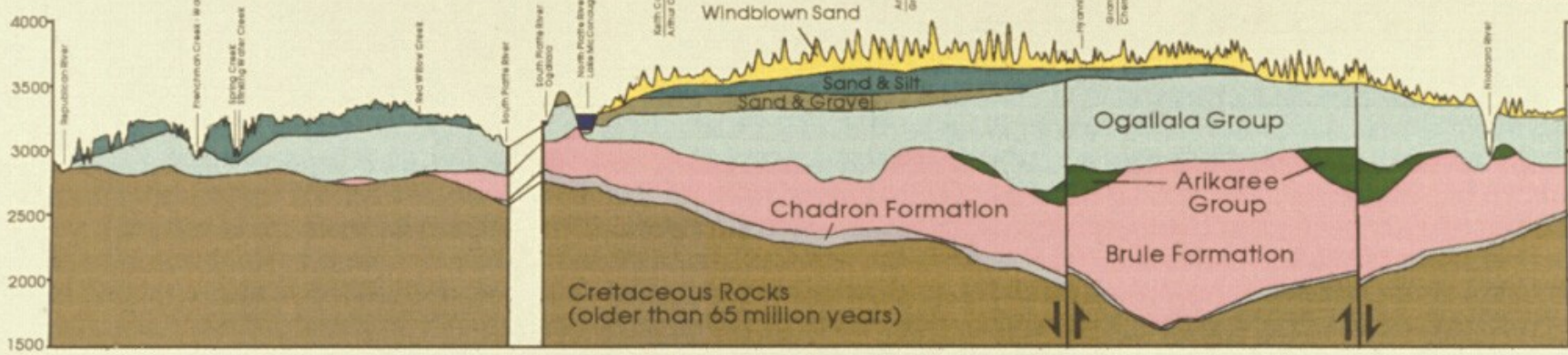
SATURATED THICKNESS



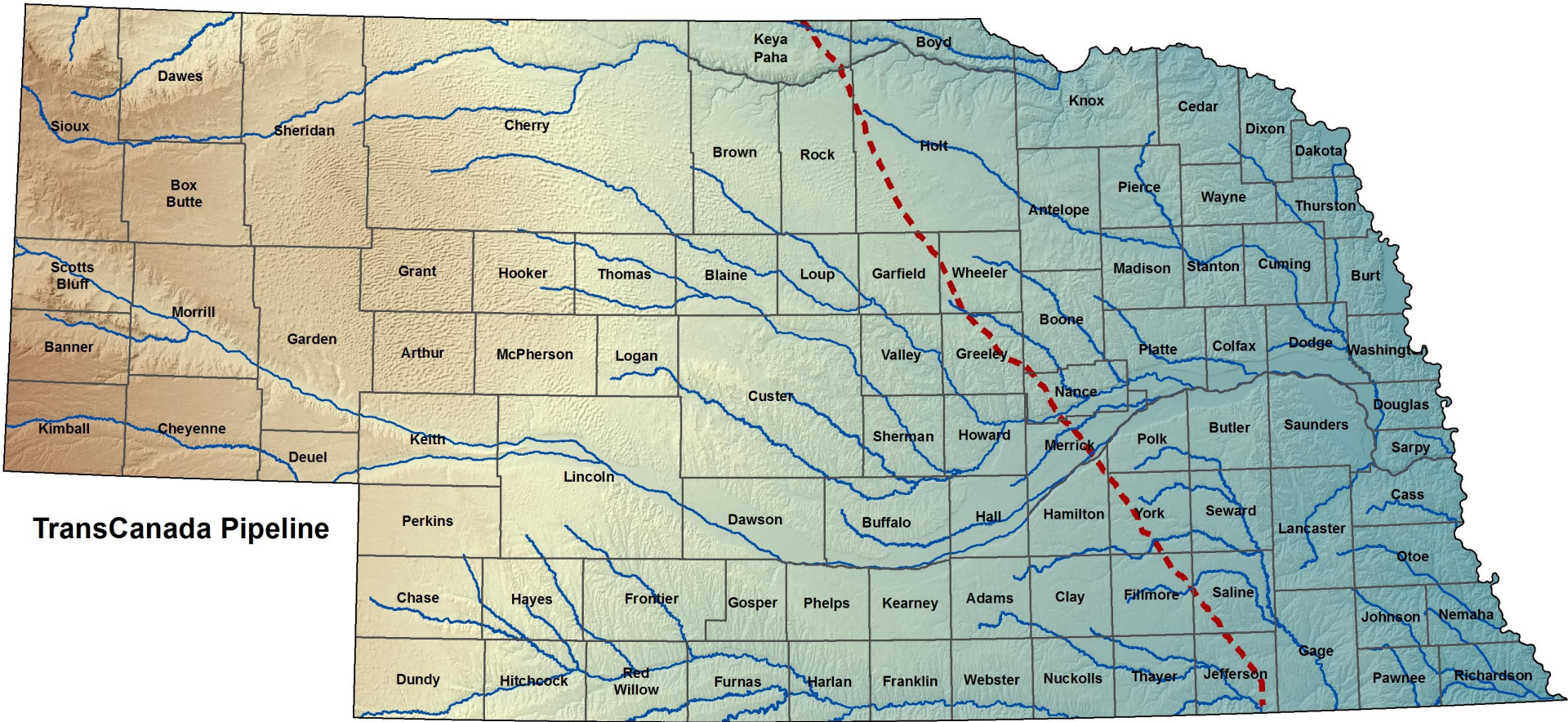
Geologic Map of the High Plains Aquifer



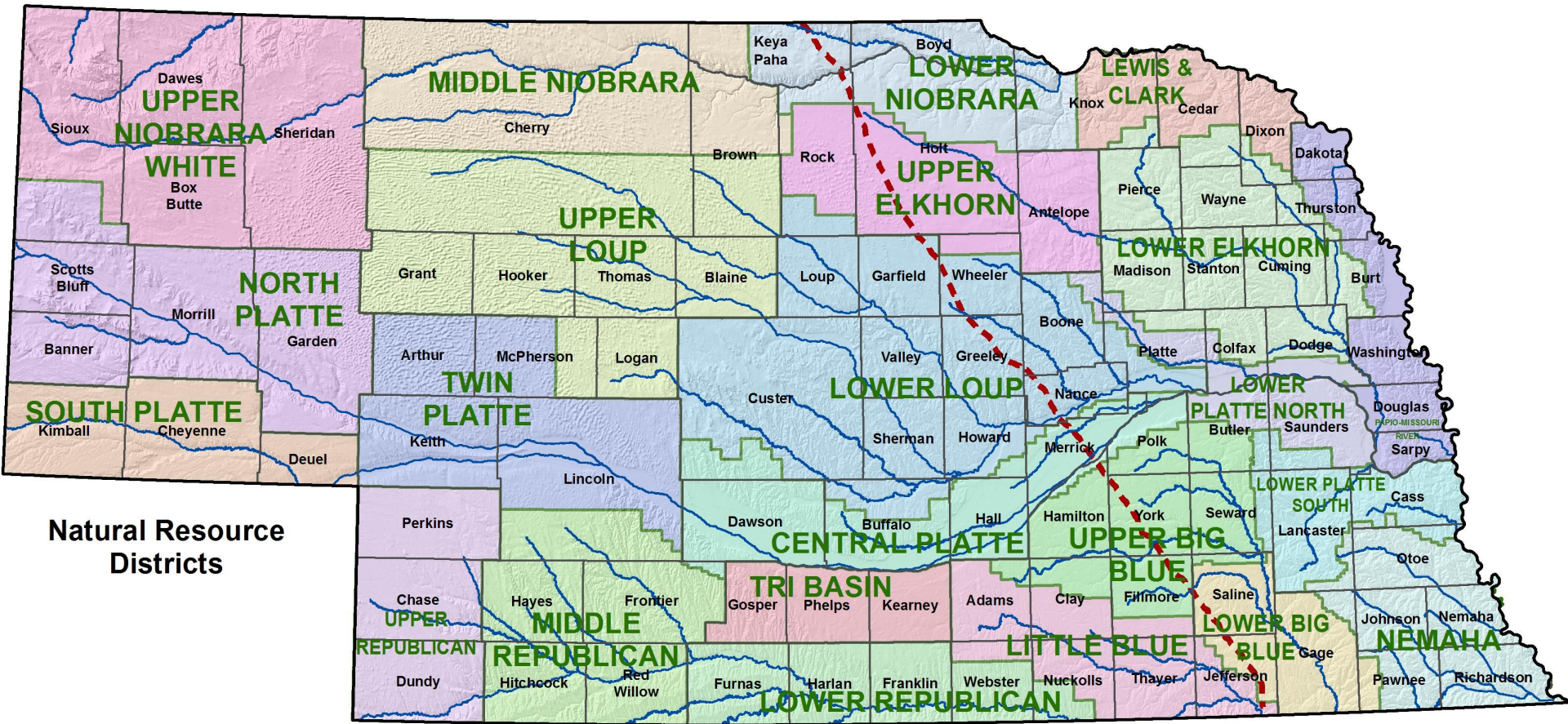
South



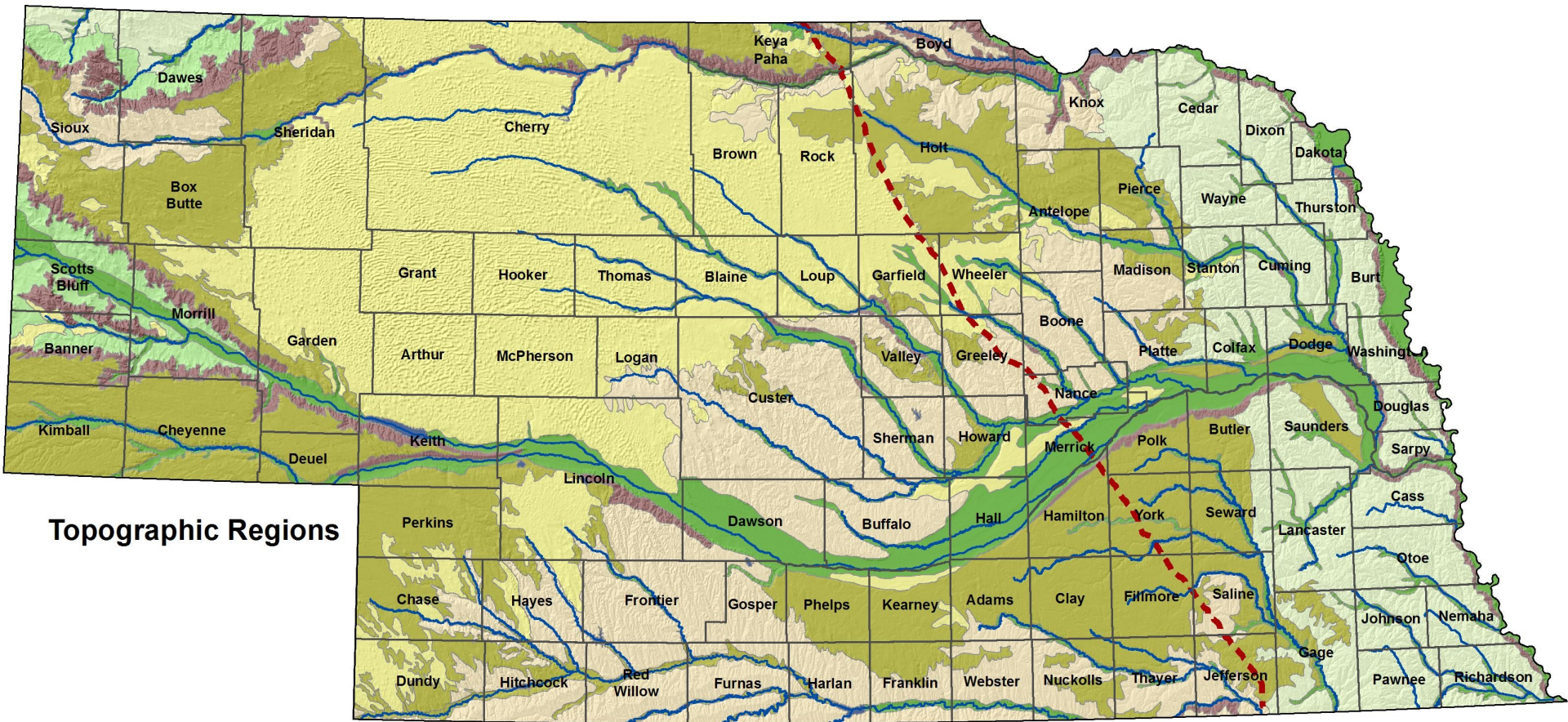
North



TransCanada Pipeline

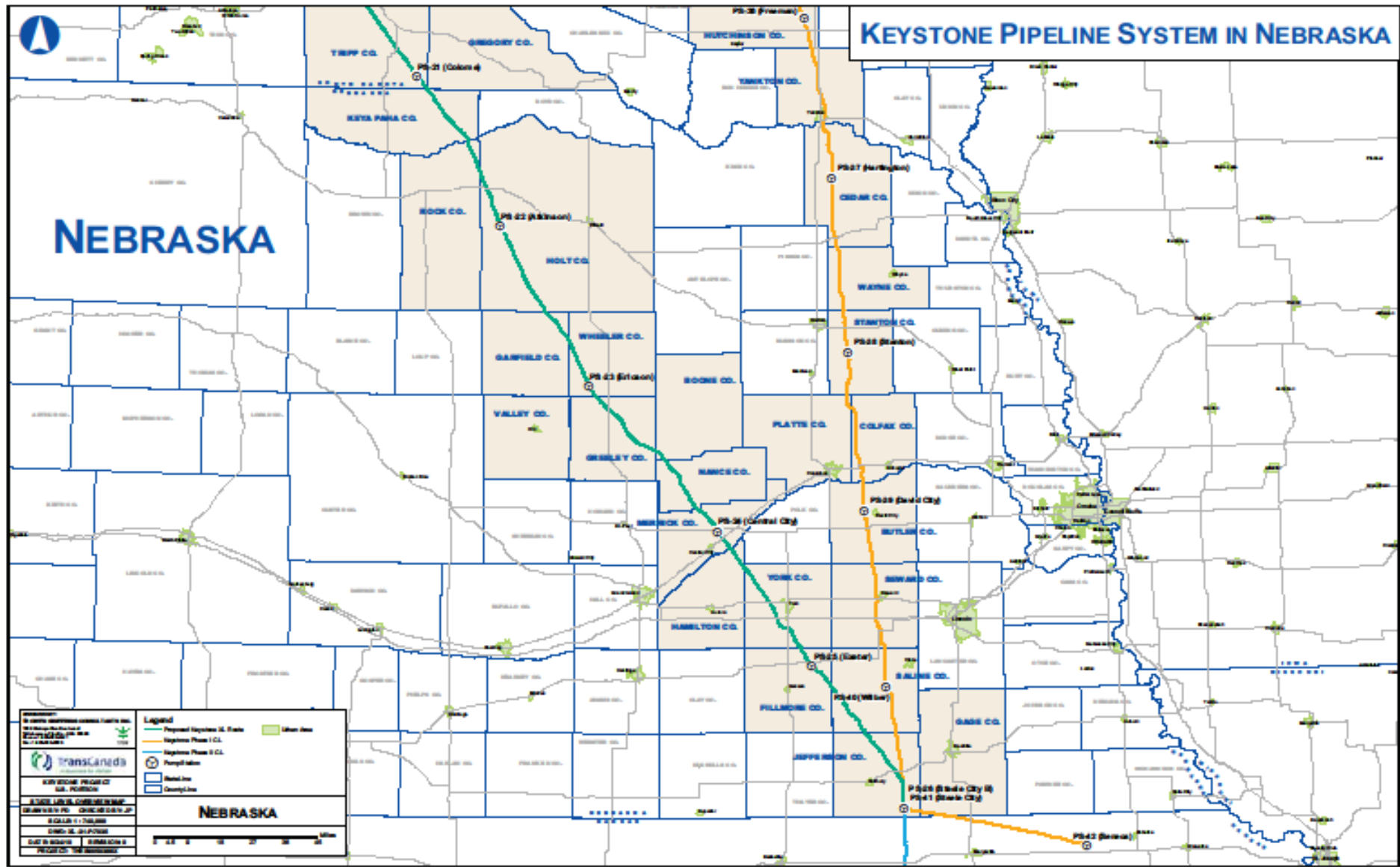


Natural Resource Districts



Topographic Regions

- | | | | |
|--|---|---|--|
| Sandhills | Valleys | Valley-side Slopes | Bluffs and Escarpments |
| Plains | Rolling Hills | Dissected Plains | Large Reservoirs |



KEYSTONE PIPELINE SYSTEM IN NEBRASKA

NEBRASKA

- Legend**
- Proposed Keystone II, Phase I
 - Proposed Keystone II, Phase II
 - Proposed Keystone II, Phase III
 - Pumping Station
 - State Line
 - County Line
 - Water Line

NEBRASKA

0 10 20 30 Miles

TRANSCANADA ENERGY SERVICES

 10000 WEST 100TH AVENUE, SUITE 1000

 DENVER, CO 80231

 TEL: 303.770.1000

 WWW.TRANSCANADA.COM

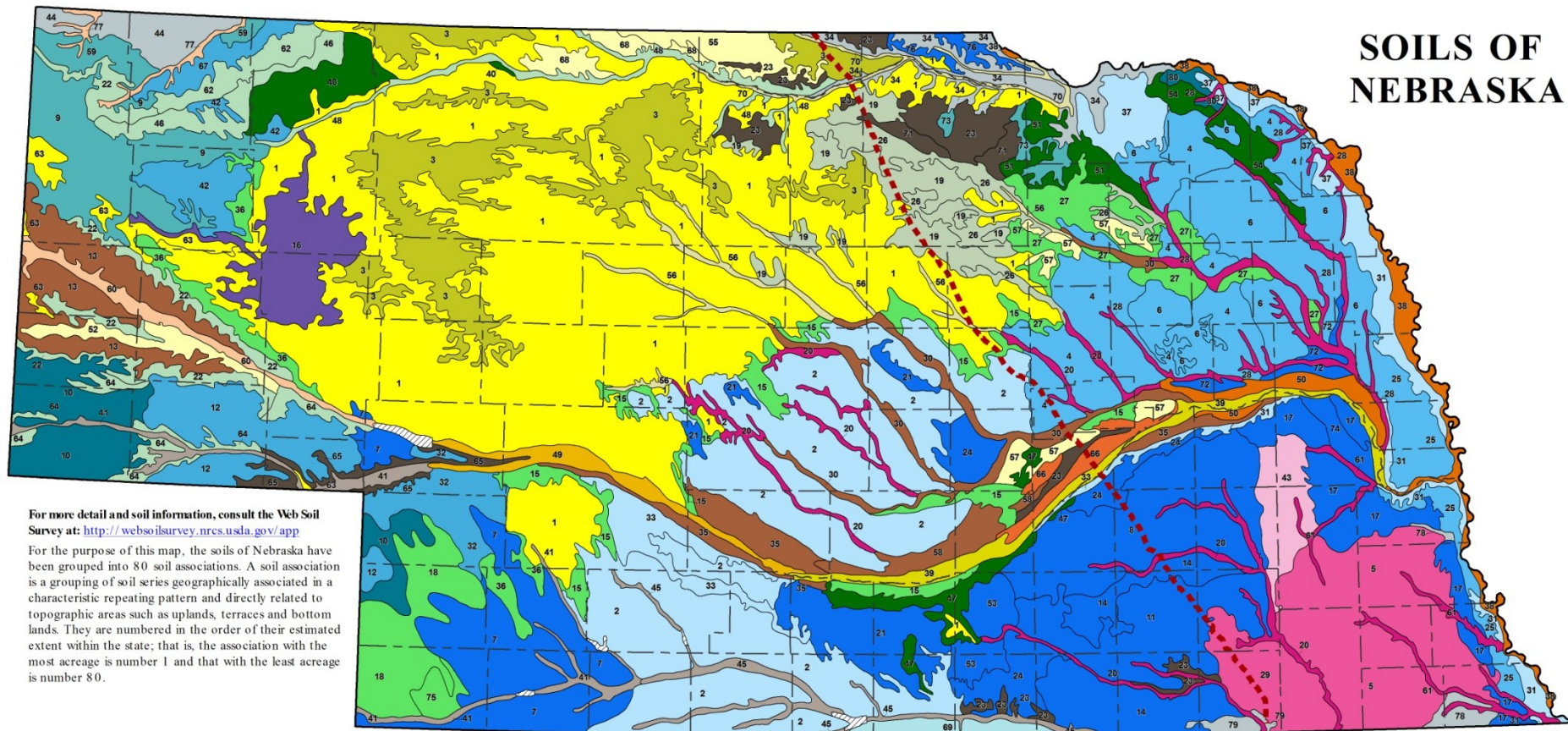
ENVIRONMENTAL IMPACT STATEMENT

 SUPPLEMENTAL INFORMATION

 APPENDIX A

 PIPELINE ROUTE MAP

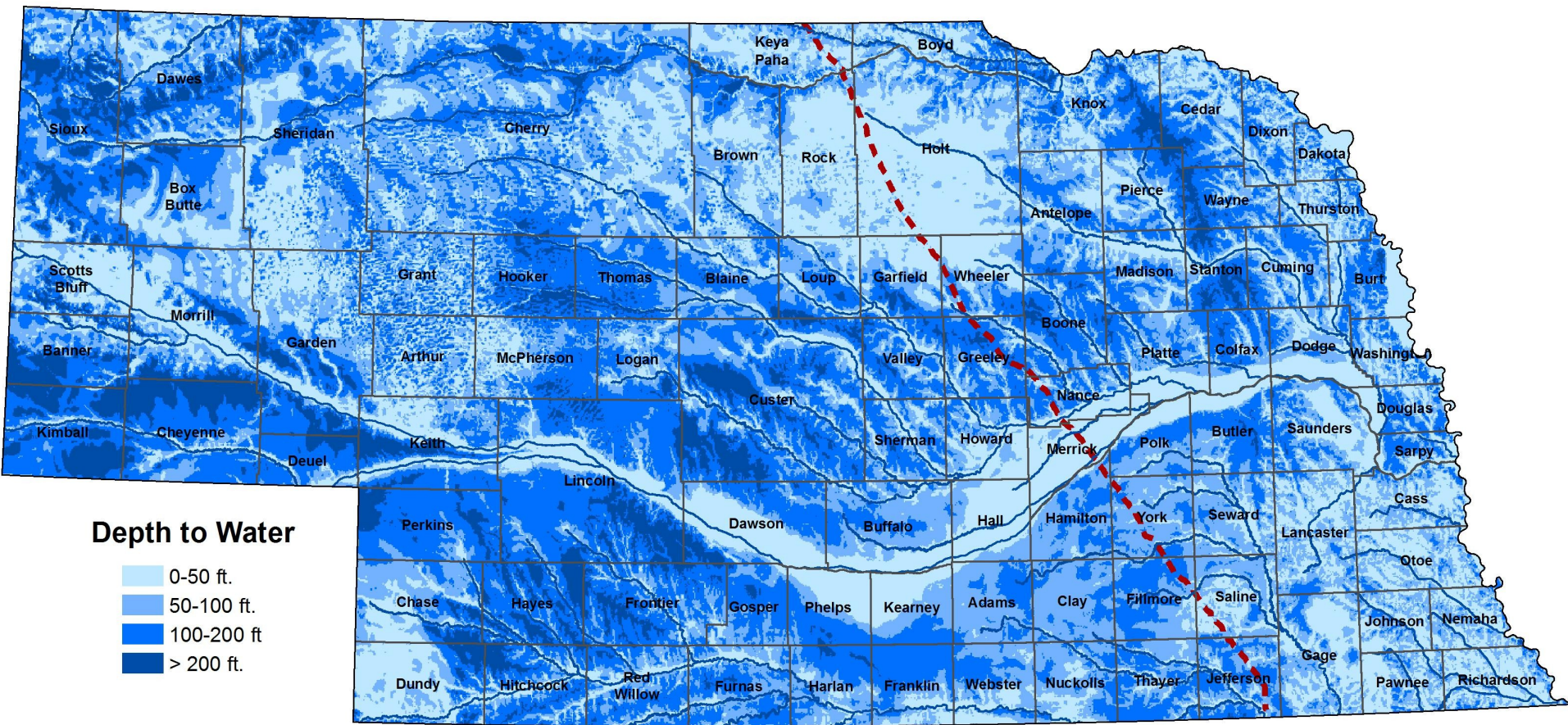
SOILS OF NEBRASKA

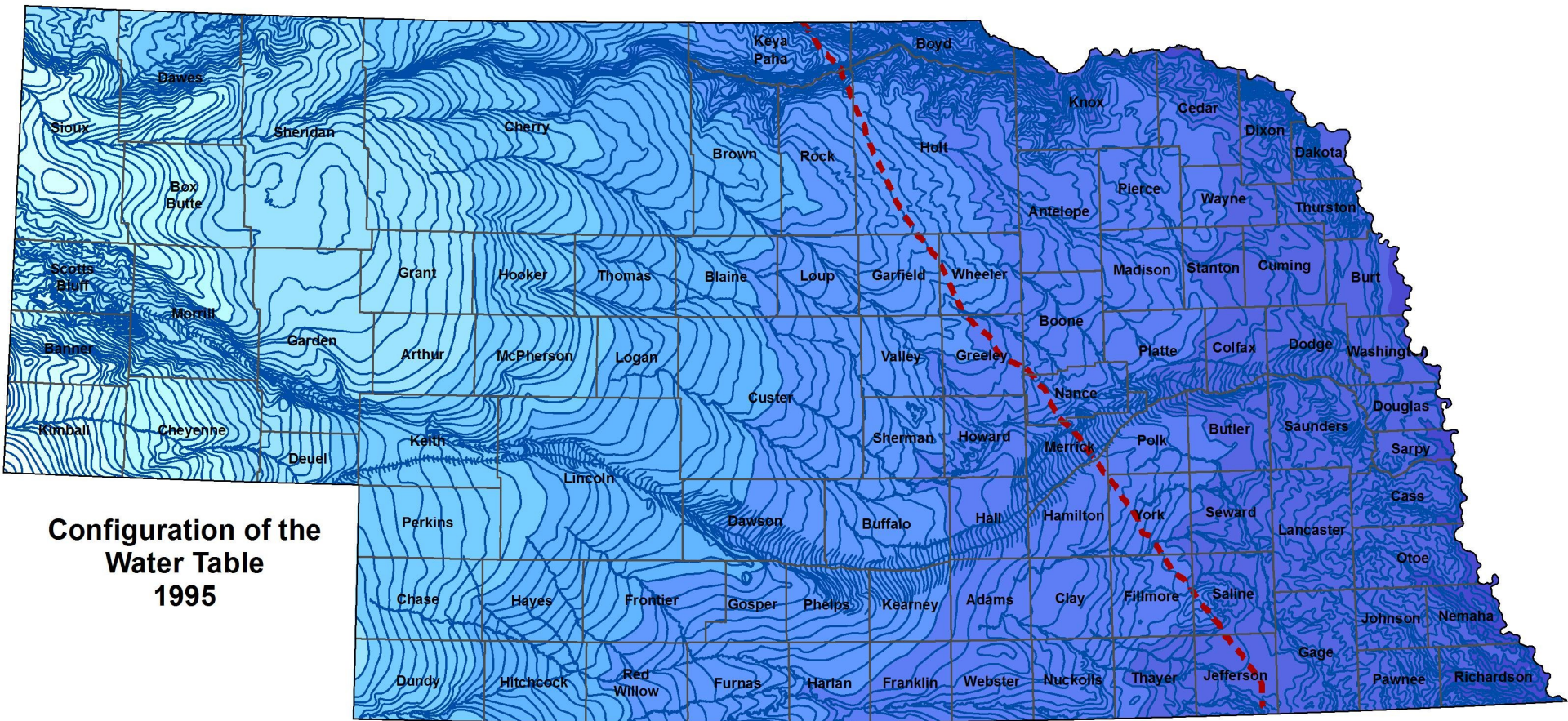


For more detail and soil information, consult the Web Soil Survey at: <http://websoilsurvey.nrcs.usda.gov/app>

For the purpose of this map, the soils of Nebraska have been grouped into 80 soil associations. A soil association is a grouping of soil series geographically associated in a characteristic repeating pattern and directly related to topographic areas such as uplands, terraces and bottom lands. They are numbered in the order of their estimated extent within the state; that is, the association with the most acreage is number 1 and that with the least acreage is number 80.

- | | | | | | | |
|-----------------------------|--------------------------------|-----------------------------|---|-----------------------------|---------------------------------|------------------------------|
| 1. VALENTINE | 13. TRIPP-MITCHELL-ALICE | 25. MARSHALL-PONCA | 37. CROFTON-ALCESTER-NORA | 49. LAWET-GOTHENBURG-PLATTE | 61. KENNEBEC-NODAWAY-ZOOK | 73. BRUNSWICK-PAKA-SIMEON |
| 2. COLY-ULY-HOLDREGE | 14. HASTINGS-CRETE-FILLMORE | 26. ELSMERE-IPAGE-LOUP | 38. ALBATON-HAYNIE-SARPY | 50. GIBBON-ZOOK | 62. CANYON-BRIDGET-UGLALA | 74. SHARPSBURG-FILLMORE |
| 3. VALENTINE-ELSMERE-TRYON | 15. HERSH-VALENTINE | 27. THURMAN-BOELUS-NORA | 39. GIBBON-GOTHENBURG-PLATTE | 51. BAZILE-THURMAN-BOELUS | 63. VALENT | 75. JAYEM-KEITH |
| 4. NORA-CROFTON-MOODY | 16. VALENTINE-ELS-WILDHORSE | 28. SHELL-MUIR-HOBBS | 40. SATANTA-JAYEM-CANYON | 52. VALENT-SARBEN-OTERO | 64. CANYON-ROSEBUD-ROCK OUTCROP | 76. ONITA-RELIANCE-REE |
| 5. WYMORE-PAWNEE-BURCHARD | 17. SHARPSBURG | 29. CRETE-MAYBERRY-BURCHARD | 41. BRIDGET-TRIPP-McCOOK | 53. HASTINGS-HOLDER | 65. DIX-ALTVAN-COLBY | 77. HAVERSON-TRIPP-GLENBURG |
| 6. NORA-MOODY-JUDSON | 18. VALENT-WOODLY-JAYEM | 30. HORD-COZAD-BOEL | 42. KEITH-ALLIANCE-ROSEBUD | 54. MOODY-THURMAN | 66. GIBBON-WANN | 78. KIPSON-SOQN-WYMORE |
| 7. KUMA-KEITH-COLBY | 19. ELS-VALENTINE-IPAGE | 31. MONONA-IDA | 43. SHARPSBURG-PAWNEE-STEINAUER | 55. VALENTINE-TASSEL | 67. KADOKA-KEITH-MITCHELL | 79. LANCASTER-BENFIELD-CRETE |
| 8. HASTINGS-FILLMORE | 20. HOBBS-HORD | 32. KUMA-SATANTA-ROSEBUD | 44. PIERRE-SAMSIL-KYLE | 56. ALMERIA-BOLENT-CALAMUS | 68. VALENTINE-HENNINGS-RONSON | 80. LORETTO-REDSTOE-GAVINS |
| 9. BUSHER-SARBEN-TASSEL | 21. HOLDREGE-ULY-COLY | 33. COLY-ULY | 45. HORD-McCOOK-INAVALÉ | 57. VALENTINE-THURMAN | 69. NUCKOLLS-HOLDREGE-CAMPUS | 100. Water |
| 10. ROSEBUD-ALLIANCE-CANYON | 22. TASSEL-BUSHER-ROCK OUTCROP | 34. LABU-BRISTOW-SANSARC | 46. CANYON-ALLIANCE-ROSEBUD ASSOCIATION | 58. HORD-HALL | 70. INAVALE-BOEL-BARNEY | |
| 11. CRETE-HASTINGS-BUTLER | 23. JANSSEN-O'NEILL-MEADIN | 35. COZAD-HORD | 47. KENESAW-HERSH | 59. BUFTON-ORELLA-NORREST | 71. DUNDAY-PIVOT | |
| 12. ALLIANCE-ROSEBUD-KUMA | 24. HOLDER-ULY-COLY | 36. JAYEM-SARBEN-VALENT | 48. TASSEL-MCKELVIE-ROCK OUTCROP | 60. GOTHENBURG-PLATTE-LAWET | 72. MOODY-FILLMORE | |





**Configuration of the
Water Table
1995**

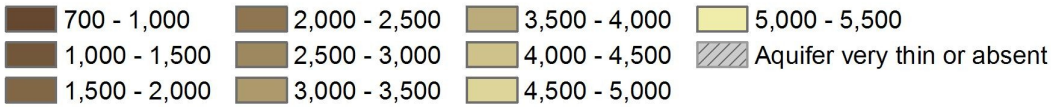
Elevation in feet

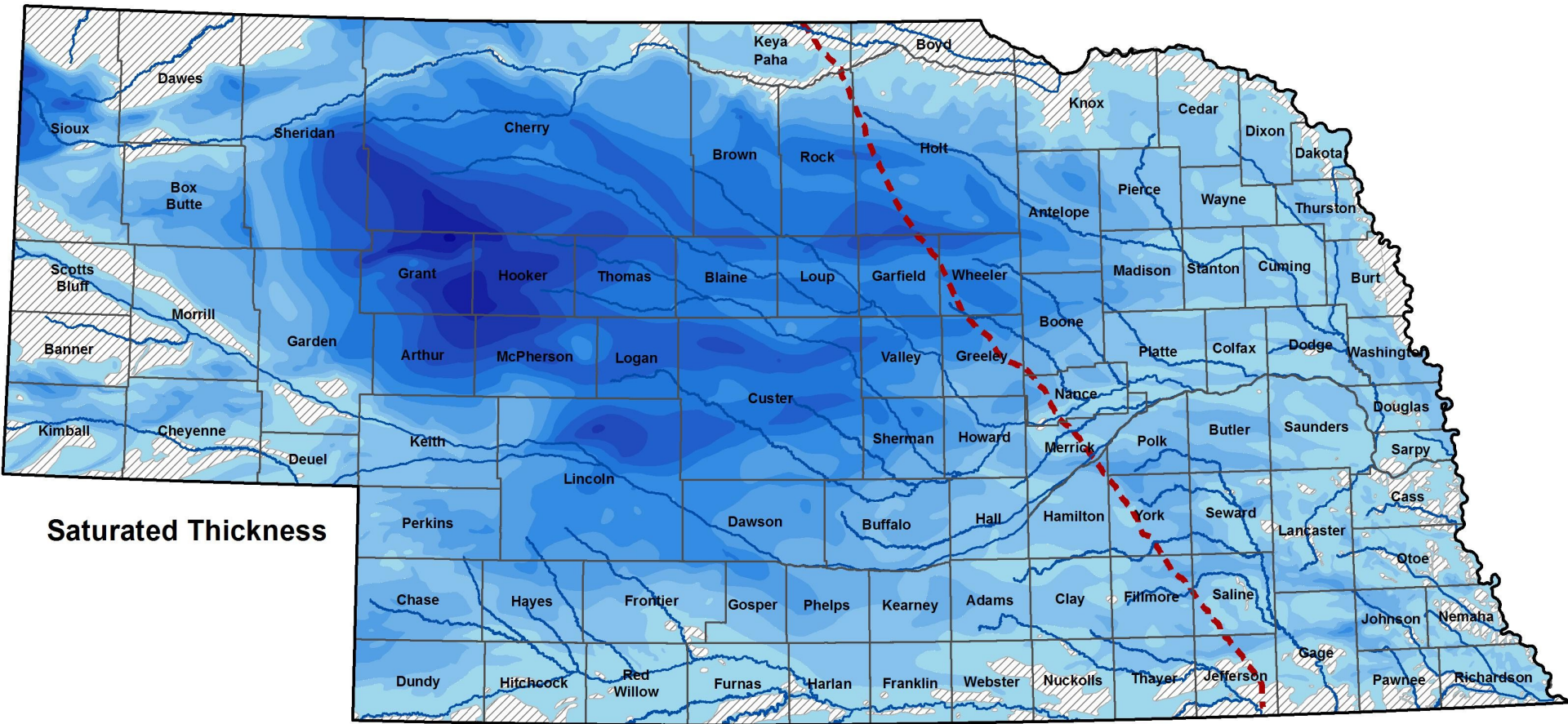




Base of the Aquifer

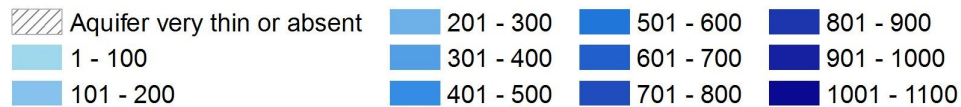
Elevation in feet

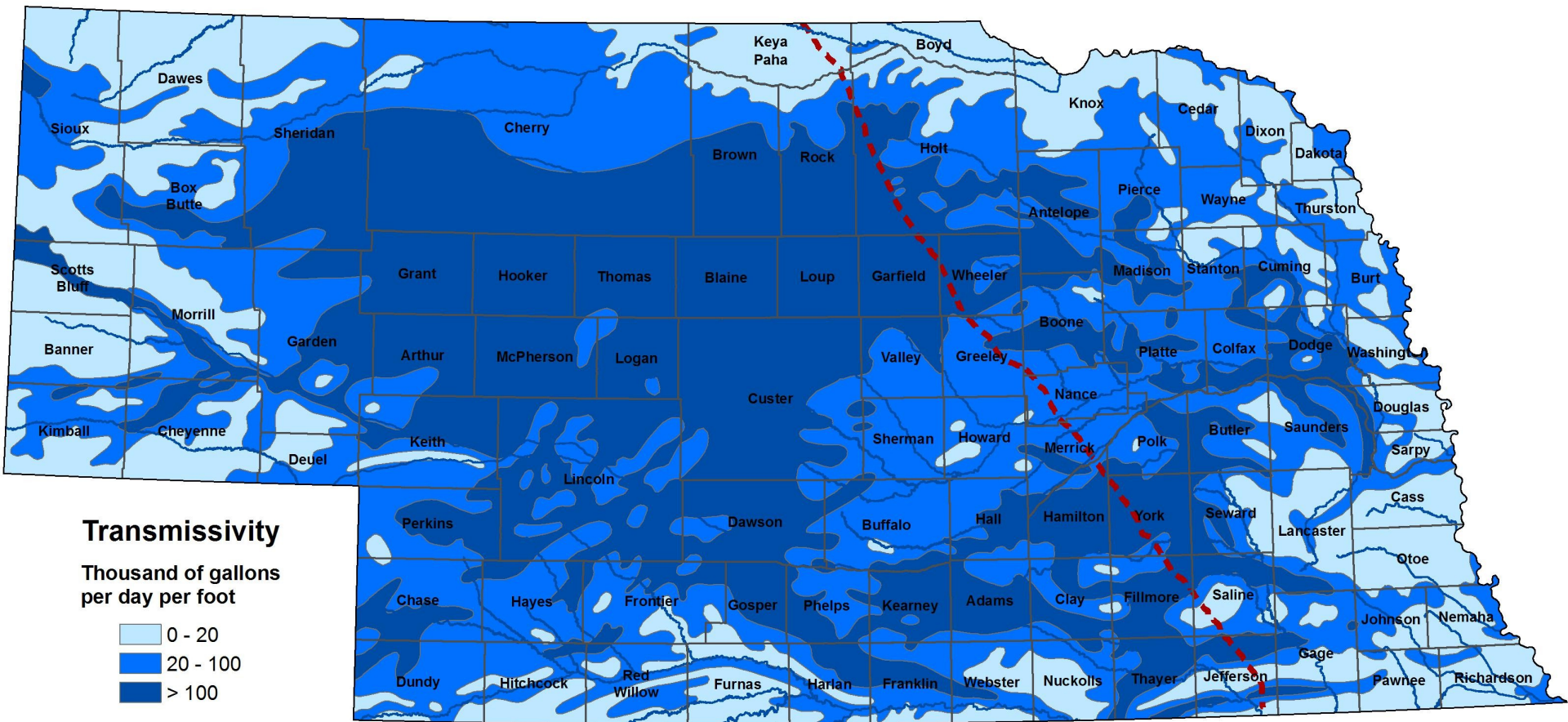


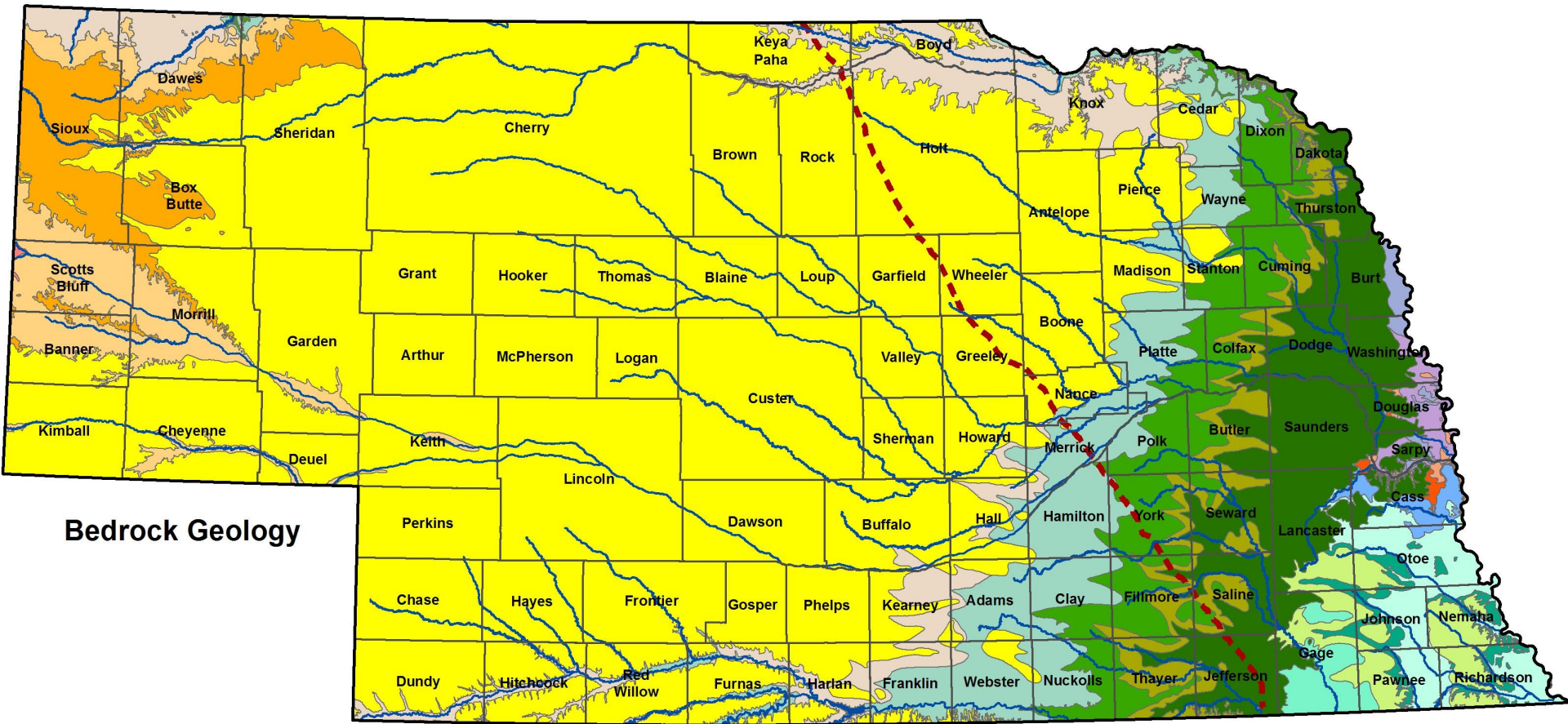


Saturated Thickness

Thickness in feet



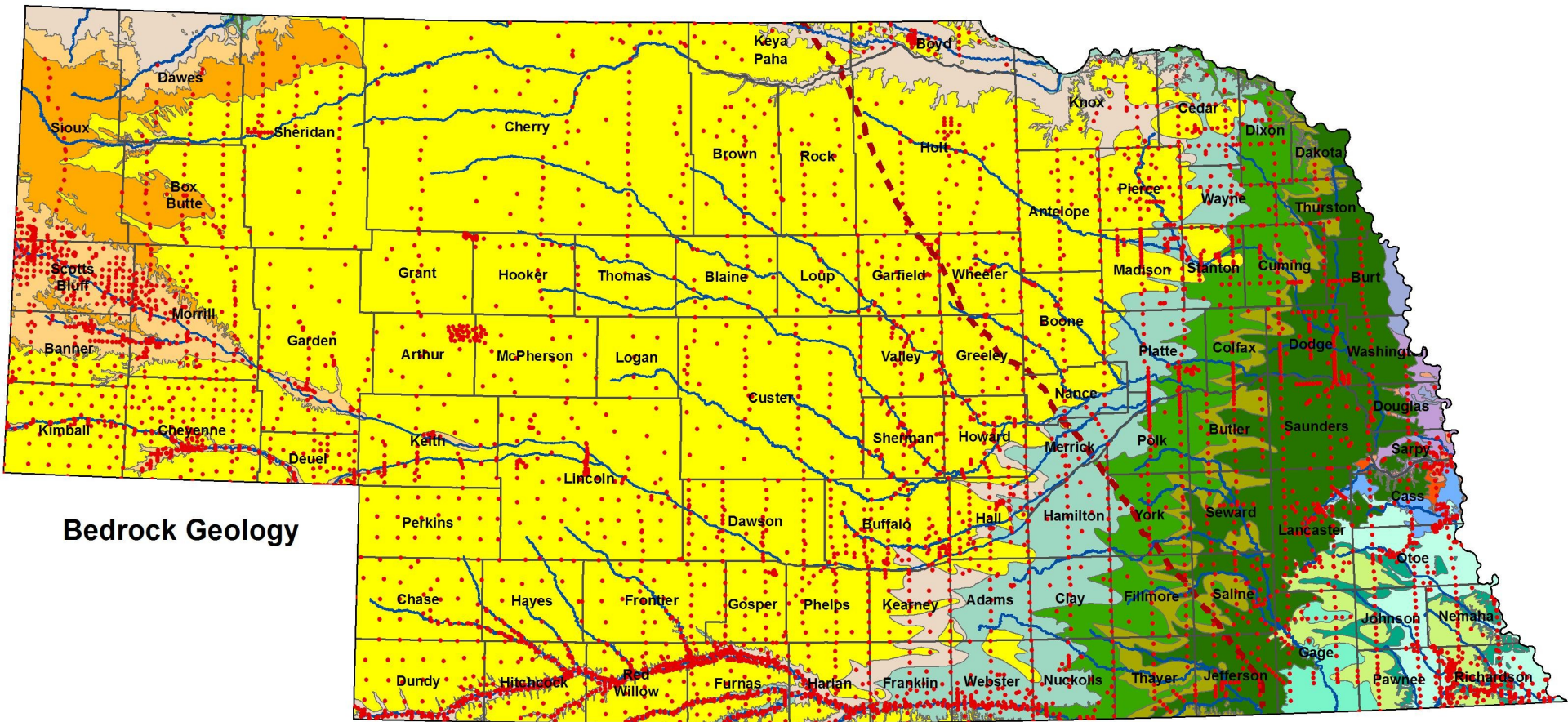




Bedrock Geology

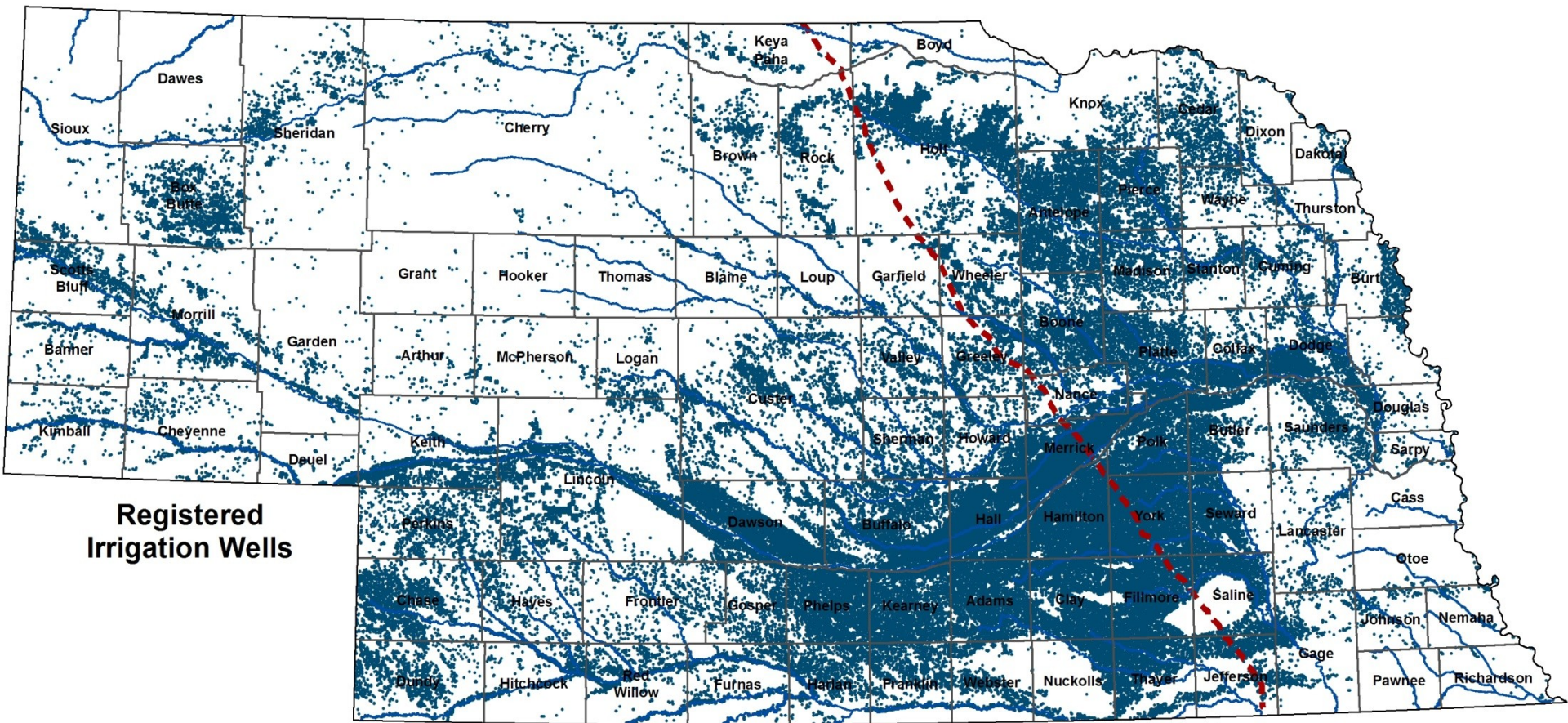
- | | | | | |
|----------|---------------|--------------------|----------|---------------|
| Admire | Council Grove | Greenhorn-Graneros | Niobrara | Wabaunsee |
| Arikaree | Dakota | Kansas City | Ogallala | White River |
| Carlile | Douglas | Lansing | Pierre | Surface Water |
| Chase | Fox Hills | Marmaton | Shawnee | |

Les Howard
 Conservation and Survey Division
 School of Natural Resources, UNL



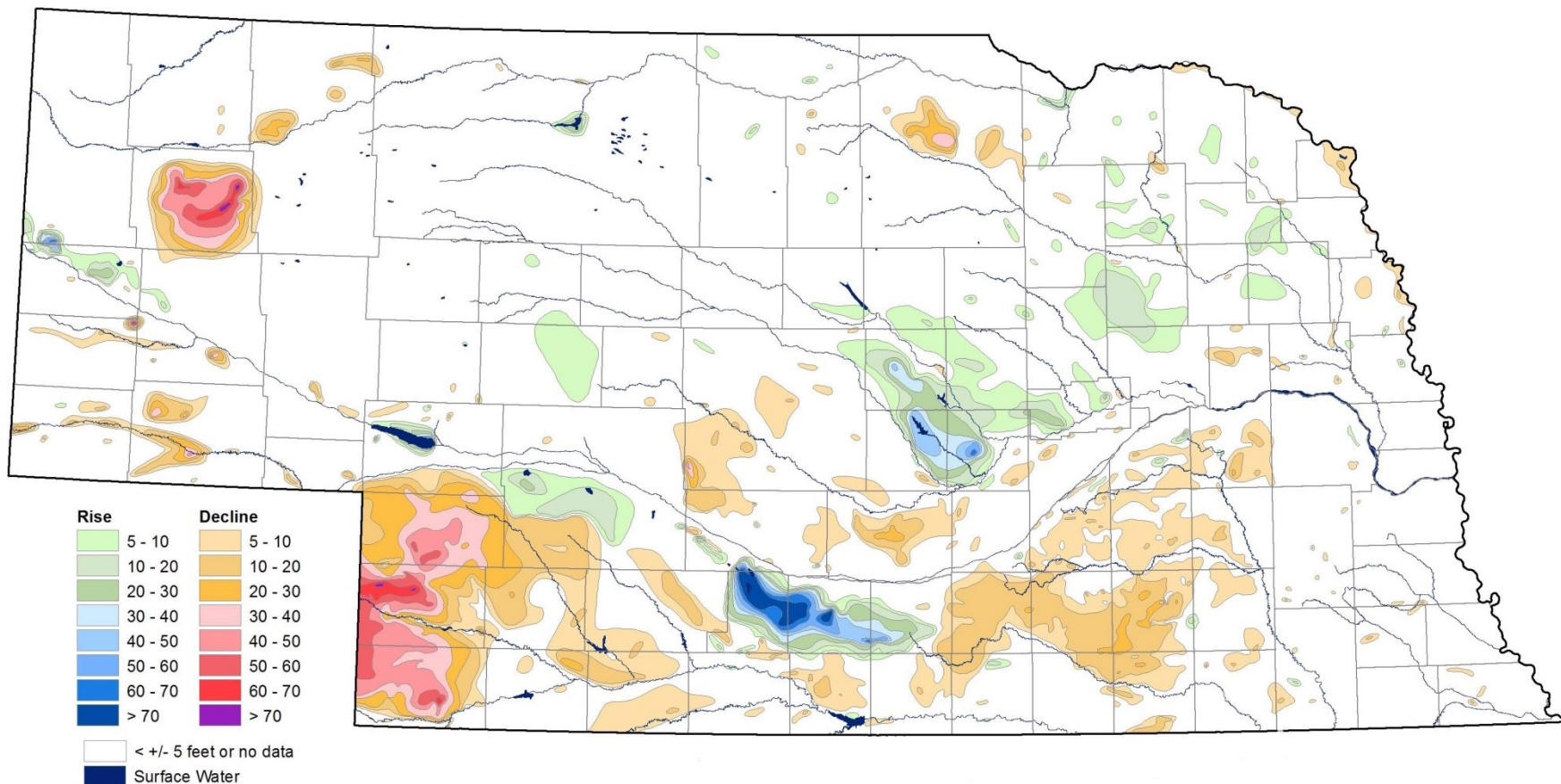
Bedrock Geology

- | | | | | | | | | | |
|--|----------|--|---------------|--|--------------------|--|----------|--|---------------|
| | Admire | | Council Grove | | Greenhorn-Graneros | | Niobrara | | Wabaunsee |
| | Arikaree | | Dakota | | Kansas City | | Ogallala | | White River |
| | Carlisle | | Douglas | | Lansing | | Pierre | | Surface Water |
| | Chase | | Fox Hills | | Marmaton | | Shawnee | | |

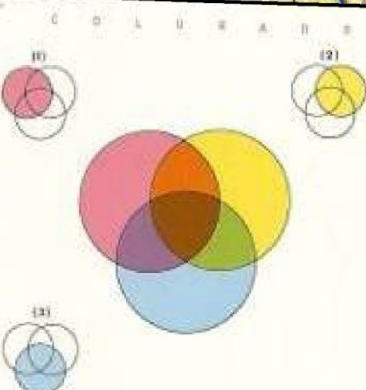
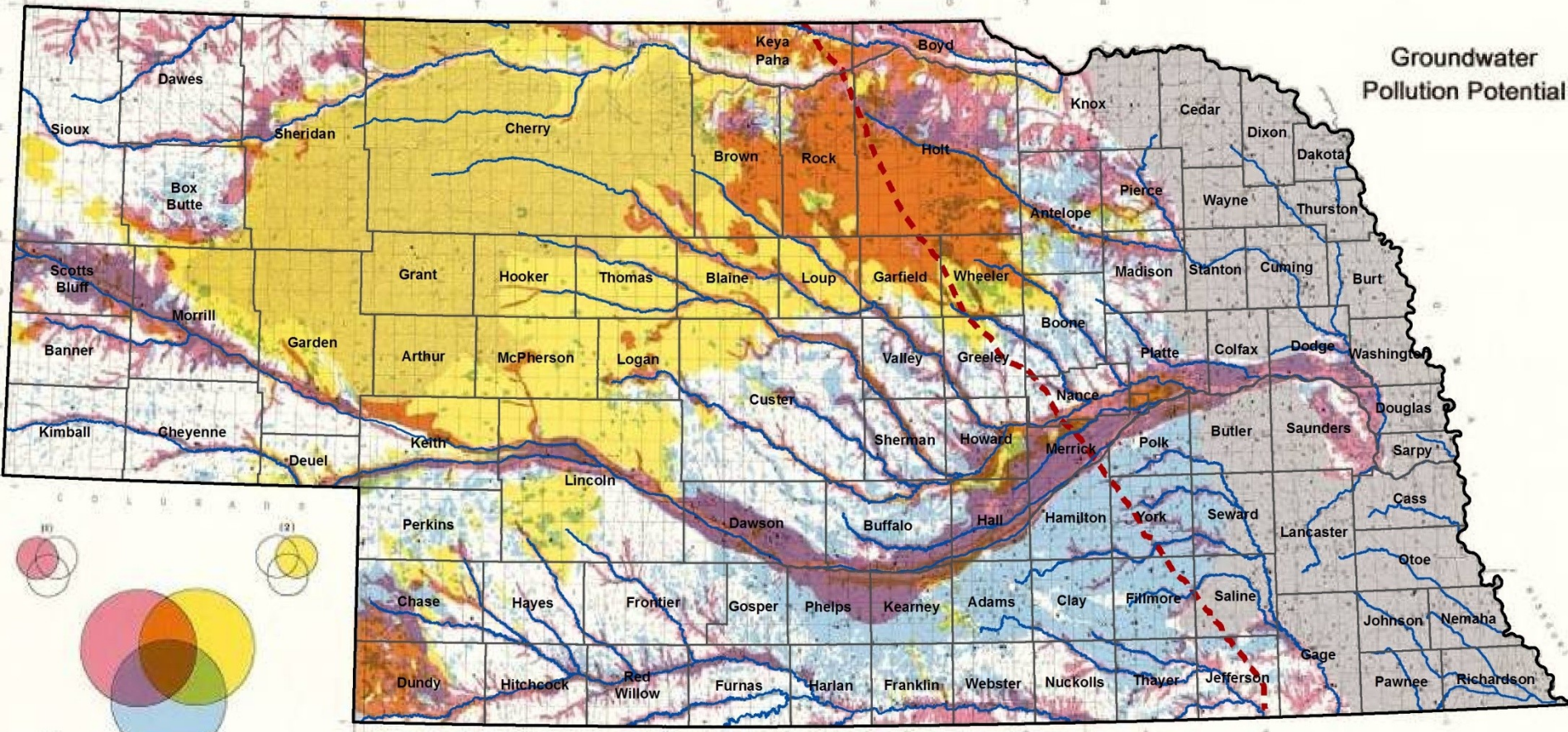


**Registered
Irrigation Wells**

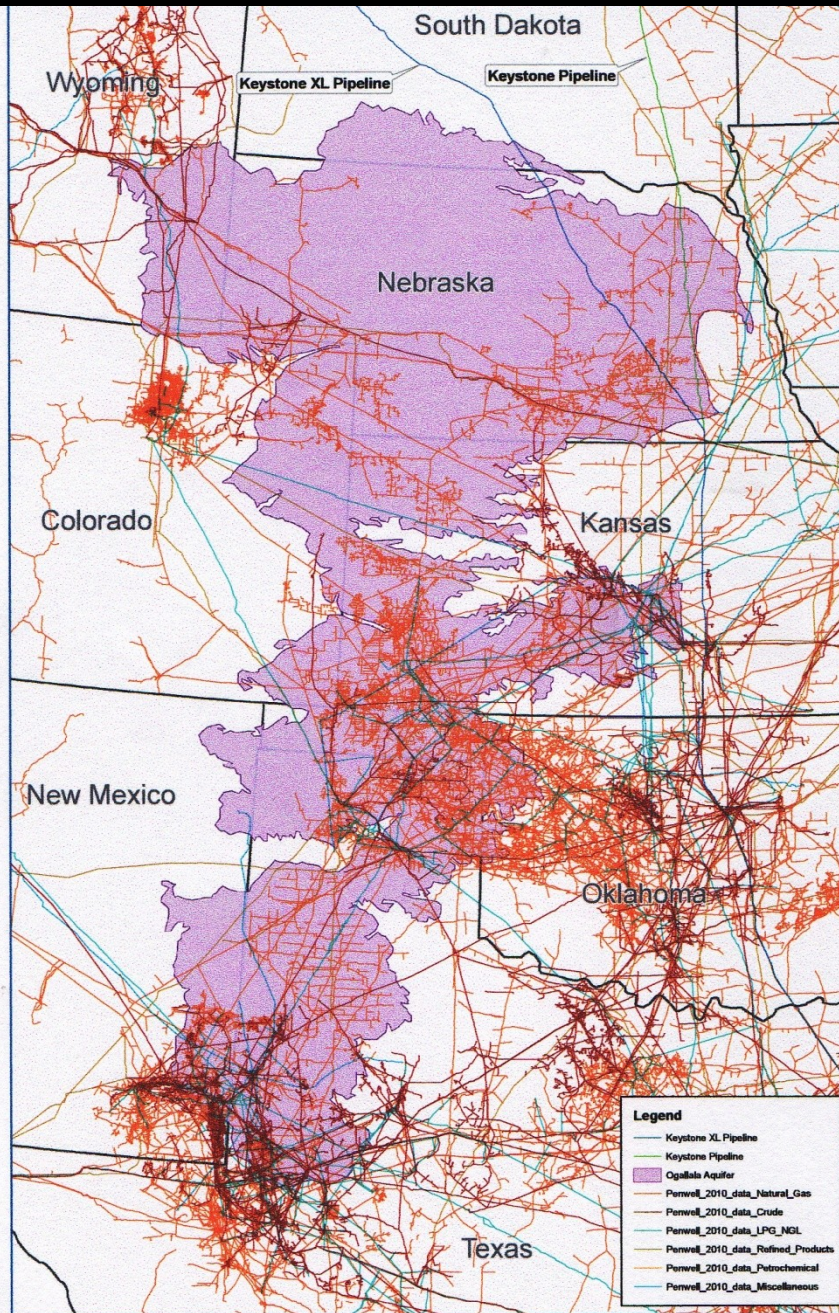
Groundwater-level Changes in Nebraska - Predevelopment to Spring 2009



Groundwater Pollution Potential



Les Howard
Conservation and Survey Division
School of Natural Resources, UNL



Developing higher-order thinking skills

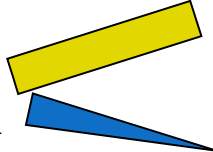
(Distinguishing context)

Data



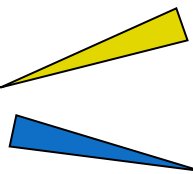
Applied or situational context

Information



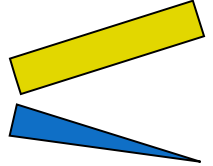
Relevancy, Experience

Knowledge



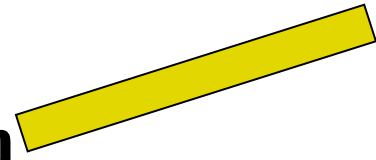
Love/Compassion, Virtue, Creativity

Intelligence



Humanity, Conscience, Morality

Wisdom

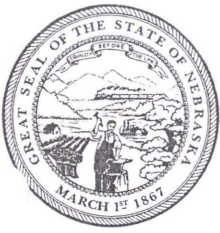




Fact Sheet on Interstate Natural Gas Pipeline Siting

Unlike oil transportation pipelines, construction and post-construction reclamation activities for interstate natural gas pipelines, such as Northern Natural Gas, are governed by the Federal Energy Regulatory Commission (FERC)

- **FERC requirements ensure landowner notice and solicit landowner input for interstate pipeline projects**
 - Required landowner and stakeholder notification and communication
 - FERC notifies affected landowners about the project and their rights at FERC
 - FERC conducts “scoping meetings” in communities to hear landowner concerns
 - For most larger projects, the pipeline must conduct open houses in affected communities
- **FERC requires comprehensive environmental analysis for interstate natural gas pipeline projects**
 - Interstate pipelines must submit comprehensive Resource Reports on 13 environmental issues, including impacts on water use and quality, fish, wildlife and vegetation, cultural resources, geological resources, soils, land use, aesthetics, and air and noise quality
 - FERC’s examination of these issues will lead to conditions of the order granting pipelines authority to construct to ensure compliance with mitigation of impacts
 - FERC projects are governed by its *Upland Erosion Control, Revegetation and Maintenance Plan* and *Wetland* and FERC’s *Waterbody Construction and Mitigation Procedures*
 - Interstate pipelines must distribute to affected landowners an Environmental Complaint Resolution Process that describes how pipelines will respond to landowner concerns during and after construction and must contain information on how stakeholders can reach the FERC Hot Line for unresolved complaints
 - Interstate pipelines are required by FERC to continue monitoring post-construction reclamation and land rehabilitation efforts for two growing seasons following completion of the project; These post-construction requirements include: monitoring of drainage and irrigations systems, appropriate vegetative cover is progressing, erosion control is effective, and requires the maintenance of signs, gates and vehicle trails
- **Courts have found state regulation of interstate natural gas pipelines is preempted by the federal Natural Gas Act**
 - Courts in Kansas and Iowa have found that state regulation of interstate natural gas pipelines is preempted by federal law



Dave Heineman
Governor

STATE OF NEBRASKA

DEPARTMENT OF REVENUE
Douglas A. Ewald, Tax Commissioner
PROPERTY ASSESSMENT DIVISION, **Ruth A. Sorensen**, Administrator
P.O. Box 98919 • Lincoln, Nebraska 68509-8919
Phone: (402) 471-5984 • Fax (402) 471-5993
www.pat.ne.gov

November 29, 2010

Senator Annette Dubas
1018 State Capitol
PO Box 94604
Lincoln, NE 68509-4604

RE: LR 435 Pipeline Hearing

Dear Senator Dubas:

Thank you for the invitation to attend and testify at the Natural Resources Committee's hearing scheduled for December 1, 2010. Unfortunately, I am unable to attend the hearing. Please accept this letter as the Nebraska Department of Revenue's (Department) testimony regarding assessment of pipelines in Nebraska, along with the collection and distribution of the revenue collected from the operating pipelines.

The Property Tax Administrator is responsible for assessing state assessed (centrally assessed) properties on an annual basis. There are a number of public service entities that are valued by the state. The TransCanada Keystone XL Pipeline will be subject to central assessment. Once operational, the pipeline will be assessed based upon a going concern or business valuation. Each county in which the pipeline is located will receive an allocation of value to that county and value within a county will be allocated to each political subdivision (i.e., county, schools, cities, fires districts, etc.) within that county. Each of these political subdivisions will levy taxes upon the valuation allocated to that subdivision.

On or before August 10, the total taxable value for every political subdivision will be certified to counties in which TransCanada has situs. The county assessor will then certify the total taxable value to the political subdivisions. The taxable value for TransCanada will be included in the valuation base for levy setting purposes. TransCanada will pay property tax in each county the pipeline has situs.

Testimony was also requested regarding the tax dollars the counties would receive compared to the value TransCanada has publicized for the Keystone XL pipeline. All property in Nebraska is valued as of January 1 each year. While the pipeline is being built, or until oil is flowing through the pipeline, it will be considered "construction work in progress." Until the pipeline is actually placed in service, it will not be subject to assessment for property tax purposes.

November 29, 2010
Senator Annette Dubas
Page 2

Since the Keystone XL pipeline is not operational, the Department cannot estimate or comment on any amounts related to the future assessed value or any property taxes that may be generated from the pipeline once it is operational. As for the values TransCanada has publicized, the Department is unaware of how that value was determined as the Department was not contacted about this information.

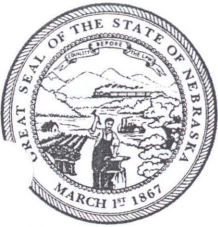
Should you have any questions before or after the hearing regarding the assessment of centrally assessed properties, please feel free to contact me.

FOR THE TAX COMMISSIONER

Sincerely,

A handwritten signature in cursive script that reads "Ruth A. Sorensen". The signature is written in black ink and has a long, sweeping tail that extends to the right.

Ruth A. Sorensen
Property Tax Administrator



Dave Heineman
Governor

November 30, 2010

STATE OF NEBRASKA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Michael J. Linder

Director

Suite 400, The Atrium

1200 'N' Street

P.O. Box 98922

Lincoln, Nebraska 68509-8922

Phone (402) 471-2186

FAX (402) 471-2909

website: www.deq.state.ne.us

Senator Chris Langemeier, Chair
Natural Resources Committee
State Capitol Building, Room 1210
Lincoln, Nebraska 68509

RE: LR 435 Interim Hearing - Interim study to examine issues relating to oil and natural gas pipelines in the State of Nebraska

Dear Senator Langemeier and Committee Members:

I would like to take this opportunity to provide written comment on LR 435. I regret not being in attendance, but the Environmental Quality Council meets on December 1 as well, and they will be hearing several important regulatory proposals. Of course, I can provide any additional information you may desire at a later date.

I am enclosing a letter of July 27, 2010, to Senators Dubas and Sullivan which lays out the responsibilities of my agency in relation to any oil or natural gas pipeline. Nothing has changed since that letter was written, and I would ask that it be included in the record of LR 435.

Much attention has been focused on potential accidents emanating from pipeline projects and what would occur in the event of an accident, leak or spill. As indicated in my letter, the NDEQ has a spill response program that is on call at all times. The agency works closely with US EPA Region VII on releases and they have assisted us on many occasions. Over the years, we have responded to many spills and releases from all sorts of above and below ground structures. I believe that the NDEQ has a good record of spill and leak response and also of following through on any remedial requirements.

The State of Nebraska has a well-trained emergency response team that includes several local and state agencies besides NDEQ. That group frequently holds table top exercises and receives all of the necessary training to run a professional response program. Part of that training involves spill and leak response which would be pertinent to pipeline projects as contemplated under LR 435.

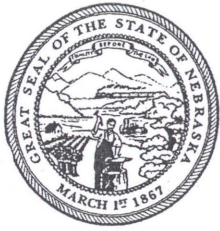
If you need any additional information on this issue, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael J. Linder".

Michael J. Linder

Director



Dave Heineman
Governor

STATE OF NEBRASKA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Michael J. Li

Director

Suite 400, The Atrium

1200 'N' Street

P.O. Box 98922

Lincoln, Nebraska 68509-8922

Phone (402) 471-2186

FAX (402) 471-2909

website: www.deq.state.ne.us

July 27, 2010

Senator Annette M. Dubas
District 34
Room 1018 -State Capitol Building
Lincoln, Nebraska 68509

Senator Kate Sullivan
District 41
Room 1019 -State Capitol Building
Lincoln, Nebraska 68509

RE: LR 435 – Interim Study on Crude Oil and Natural Gas Pipelines in Nebraska

Dear Senators Dubas and Sullivan:

In response to your letter of July 6, 2010 we provide the following responses to your questions:

- **DEQ's legal obligations and jurisdiction (including citations) related to an oil or gas pipeline**

Statutory Citations:

- 81-1504 Department; powers; duties
- 81-1506 Unlawful acts
- 81-1507 Director; violations; hearings; orders
- 81-1508 Violations of the Environmental Protection Act, Integrated Solid Waste Management Act, or Livestock Waste Management Act; civil penalties; injunctions

Regulatory Citations:

- Title 126--Rules and Regulations Pertaining to the Management of Waste
 - Requires anyone responsible for a release of oil or hazardous substance underground or a release that impacts or threatens waters of the state or public health and welfare to notify the department.
 - Title 118—Groundwater Quality Standards and Use Classification
 - Determines the appropriate manner for clean-up of a release.
- **A description of the certification or consultation DEQ provided for the Keystone XL Pipeline Project**

DEQ staff did participate in the original Keystone Pipeline project scoping meeting with several state agencies and TransCanada in December 2005; also conducted a National Environmental

July 26, 2010
Senator Annette Dubas
Senator Kate Sullivan

We look forward to meeting with you on August 5th. If you should have any questions, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "M. J. Linder", with a stylized flourish at the end.

Michael J. Linder
Director



Dave Heineman
Governor

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES
Brian P. Dunnigan, P.E.
Director

November 30, 2010

IN REPLY TO:

TO: Natural Resources Committee Members
FROM: Brian P. Dunnigan, P.E., Director *B.P.D.*
SUBJECT: LR 435

In relation to oil and gas pipelines in the State of Nebraska, I offer the following information:

Agency's legal obligations and jurisdiction related to an oil or gas pipeline.

The Department does not have any authorities regarding approval or certification of pipelines that cross Nebraska.

The Department often receives calls from companies that are proposing or are in the process of constructing pipelines. The Department has two areas of authority relating to such contacts.

The first area of authority is under our Floodplain/Dam Safety Division. Questions are often asked regarding pipelines that cross streams and rivers. Our floodplain authorities are limited to assisting local governments which have the actual floodplain regulatory authorities. Our response to contacts regarding this area is to refer interested persons to the correct local agency and to the persons handling U.S. Army Corps of Engineers' 404 permits (which regulate construction activity in streams).

The second area of authority is granting permits to use water. Water is used during pipeline construction for purposes of dust control, compaction, and hydrostatic testing of the pipeline once it is constructed. If the water proposed to be used is surface water, a permit is required from the Department. Most of the surface water appropriations granted for use during construction of a pipeline are temporary permits and Department staff often checks on the operation during the use of the permit to be sure that they are in compliance with their permit. If the water proposed to be used is groundwater, an entity is referred to the local natural resources district. In addition, if the groundwater use includes a transfer that is under the authority of the Department, an application for a permit to transfer water may be required from the Department or a transfer notice may be required to be filed in the Department.

Please let me know if you have any other questions regarding this matter.

admin-dir/dunnigan/2010

301 Centennial Mall South, 4th Floor • P.O. Box 94676 • Lincoln, Nebraska 68509-4676 • Phone (402) 471-2363 • Telefax (402) 471-2900

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The Honorable Dave Heineman
Governor of Nebraska
State Capitol
P.O. Box 94848
Lincoln, Nebraska 68509-4848

Robert E. Jones
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TransCanada Keystone Pipeline LP
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August 5, 2010

Dear Governor Heineman,

TransCanada has withdrawn its request to the Pipeline and Hazardous Materials Safety Administration (PHMSA) for a special permit. The permit would have allowed TransCanada to build the proposed Keystone XL pipeline using stronger steel with additional safety conditions and operate the pipeline at a slightly higher pressure than current federal regulations for oil pipelines in the United States.

After listening to concerns from the public and various political leaders, we made the decision to withdraw the permit application. We will build Keystone XL using the as-proposed stronger steel and operate it at a lower level of pressure, consistent with current U.S. regulations.

We also recognize that we need to take more steps to assure the public and stakeholders the parameters of the special permit would result in a safer pipeline. The company will continue to establish an operating record which will demonstrate the strength and integrity of the Keystone Pipeline System, which has been granted a special permit.

We will implement additional safety measures on Keystone XL that would have been required under the special permit. These measures offer an enhanced level of safety and would allow TransCanada to request a special permit in the future. These safety measures also will be consistent with those that have been implemented on the existing Keystone Pipeline. In issuing the special permit for Keystone, PHMSA concluded the permit would provide a level of safety equal to or greater than that provided if the pipeline were operated under the current standard.

Without the special permit, Keystone XL will meet all of its initial commercial commitments to serve Gulf Coast refineries. Keystone also will continue to work with U.S. producers in the Bakken and broader Williston Basin area to provide needed transport for growing production in Montana and the Dakotas.

The Keystone XL project received approval in March 2010 from both the South Dakota Public Utility Commission and the National Energy Board in Canada. Pending receipt of additional permits, construction is planned to begin in 2011.

When completed, the Keystone XL project will increase the commercial capacity of the overall Keystone Pipeline System from 590,000 barrels per day to approximately 1.1 million barrels per

day. The \$12 billion system is 83 percent subscribed with long-term, binding contracts that include commitments of 910,000 barrels per day for an average term of approximately 18 years.

Commercial operations of the first phase of the Keystone system began June 30. Construction of the extension from Steele City Nebraska to Cushing Oklahoma is one-third complete and the pipeline is expected to be operational in 2011.

Additional information is available on the project web page at www.transcanada.com/keystone.

TransCanada is committed to the safe operation of the Keystone Pipeline System. Please let me know if you have any questions on this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Jones', with a long horizontal flourish extending to the right.

Robert E. Jones, P.Eng.
Vice President
TransCanada Keystone Pipeline LP



August 17, 2010

The Honorable Kate Sullivan
Nebraska State Senate
State Capitol
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Dear Senator Sullivan,

Thank you for your recent questions regarding our proposed Keystone XL Pipeline. I appreciate your concerns and am pleased to address your questions in the attached pages. At TransCanada, we are dedicated to safety and respecting the environment.

The oil tragedy in the Gulf has raised the profile of energy issues nationwide. In Nebraska, it has contributed to increased interest in and scrutiny of our proposed project. We welcome the scrutiny and we accept without reservation the responsibility to ensure safe operation of our pipelines in Nebraska. Our primary focus is to design, construct and operate the pipeline to prevent a leak. We also accept the responsibility under existing federal law and State of Nebraska law to respond, contain and clean-up oil if, for any reason, a release from our system occurs.

We understand the importance of Nebraska's special resources including the Sand Hills and the vast Ogallala Aquifer. We also understand that while these resources appropriately are especially revered, it is our responsibility to assure integrity of our system and readiness to respond through every inch of the State of Nebraska.

Over the last six decades, TransCanada has established a record as a successful pipeline operator and more importantly, a successful partner in the communities we serve. We are proud of the awards and distinctions we have earned, including regular recognition as one of the world's most sustainable corporations (by Dow Jones and the Global 100). As you may know, Keystone has its U.S. operating headquarters in western Omaha – a location that has served for many years as the headquarters of TransCanada's Northern Border natural gas pipeline. We look forward to a continued successful partnership with the State of Nebraska.

TransCanada is a leader in the responsible development and reliable operation of North American energy infrastructure. We are committed to the safe operation of the Keystone Pipeline System. With safeguards in place to protect Nebraska's resources and Nebraskans, one can appreciate the benefits this pipeline brings, in terms of energy security for the United States as well as local benefits in Nebraska.

I trust you will find the attached responses to your specific questions helpful. If you have further questions, please contact me or Gordon Kissel or his team.

Sincerely,

Robert E. Jones, P.Eng
Vice President, Keystone Pipelines

1. Welds versus bolts. Explain why welds are better. How long do they last?

A bolted joint prevents leakage by holding two pieces of metal against each other, often with a compressible gasket to further reduce the likelihood of a leak. However, over time, it is possible for the joint to leak, due to movement between the two components. In addition, the compressible gaskets can dry out.

The welds used to join two pieces of pipe on a pipeline like Keystone are stronger than the pipe itself. To assure the quality of the welds, Keystone uses controlled welding processes; all welds are 100% inspected using non-destructive testing through radiography and/or ultrasonic inspection techniques. Prior to being placed in service, the pipeline is hydrostatically tested where the pipeline is filled with water and pressurized to a minimum of 125% of the maximum operating pressure to verify its integrity. With ongoing maintenance and corrosion protection, the weld will continue to maintain its integrity for the life of the pipeline.

2. Pressure waiver -- tested continuously? How?

First, as discussed further in No. 9 below, Keystone has withdrawn its application to the federal Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) for a Special Permit or "waiver" of the federal regulation specifying the design factor for the pipe. As a result, the proposed Keystone XL pipeline will operate at a lower maximum pressure than previously proposed.

With regard to testing, following initial construction and testing (some of which is described in question 1 above), Keystone will continuously monitor and periodically test the pipeline to assure its integrity. In addition, Keystone will employ methods to detect leaks before they occur. Monitoring and testing methods include: checking the adequacy of the cathodic protection system to ensure the pipeline is protected from corrosion; monitoring of the pipeline for leaks (as described in response to question 7); aerial surveillance, which in addition to leaks, monitors for encroachment on the pipeline to prevent excavation damage; and high resolution in-line inspections, which involve sending an instrumented device through the pipeline to map wall integrity to identify areas of degradation before they become leaks.

3. Detail the difference between crude oil and tar sands oil. What actually is coming through the pipeline? Is it a mixture?

The Keystone Pipeline will transport crude oil. In its natural state, oil sands¹ are like peanut butter – mixed with sand, clay and silts. The sand and other sediment are removed during production and the remaining product is called bitumen. Bitumen is then either refined into a synthetic crude oil or mixed with lighter-weight hydrocarbons (diluent) that allow the bitumen to flow more easily and match industry crude oil specifications. These products are classified for shipment as crude oil and contain virtually no sand.

¹ While not uncommon, the reference to the oil sands as "tar sands" is incorrect; tar is a manufactured product whereas these deposits contain a heavy form of crude oil called bitumen. Oil produced from the bitumen supplies refineries to produce gasoline, diesel, jet fuel, lubricants and various other valuable commercial products, including plastics and cosmetics.

Like the portion of the Keystone Pipeline System already in operation, the Keystone XL Pipeline is designed and will be permitted to deliver crude oil. In addition to the crude oil produced from the oil sand regions, the Keystone System also will move conventional oil produced in the Western Canadian Sedimentary Basin. There will be strict tariff specifications, which will be filed with the Federal Energy Regulatory Commission that will govern the quality of the oil that the pipeline will transport. There will be no sand in the oil that is transported.

Finally, Keystone is working with U.S. producers in Montana and in the Dakotas to provide transportation to market from the growing crude oil production in the Bakken region and in the broader Williston Basin. Bakken production is one of the fastest growing sources of oil in the continental United States but it has been hampered by pipeline bottlenecks that have prevented efficient delivery to market. Producers are looking to the Keystone Pipeline System as a solution to this problem.

More information on oil sands production is available in a brief video available on the Canadian Association of Petroleum Producers website at www.capp.ca. (Click on the "Oil Sands Video" link under "Popular Links.")

4. When a leak occurs, what happens?

As part of the operation of the pipeline, Keystone will implement an extensive, multi-faceted pipeline integrity program with the goal of preventing any pipeline leak from occurring. In the event of a leak, however, operators in Keystone's Operational Control Center (OCC) in Calgary will immediately stop all operating pumping units at the pump stations in the U.S. and Canada, a process that takes approximately nine minutes.

The pipeline system design includes check valves, which allow flow in only one direction, limiting spill volumes. Once all the operating pumping units have been stopped, OCC operators also will close isolation valves in the vicinity of the leak to further limit impacts, a process that takes approximately three minutes.

In addition to shutting down the pipeline, the OCC will immediately dispatch pipeline emergency response personnel to the scene.

Especially in light of recent events in the Gulf, a few key points concerning Keystone's operations and its response to a leak or spill should be noted:

- Operating an electrically-powered mechanical oil pipeline is fundamentally different than drilling into a pressurized oil and gas reservoir starting 5,000 feet below the ocean surface targeting a reservoir another 13,000 feet down.
- We monitor the Keystone Pipeline System through the use of supervisory control and data acquisition (SCADA) system and a staffed operations control center 24 hours a day, 365 days a year.
- In the event of a pipeline leak, the primary role of local first responders will be to secure the site and protect public safety.
- Keystone's responsibility is to clean up the spill and restore the site.
- Keystone's response would include trained employees, equipment and additional qualified contract resources.

- The costs of oil spill response and clean-up are Keystone's responsibility – not that of the local emergency responders or local governments.
- Keystone is a utility – a critical component of the nation's energy infrastructure, federally regulated by PHMSA.

5. How will the pumps be shut off?

As indicated above, in an emergency, pumps would be remotely secured from Keystone's OCC.

6. How will the oil be contained?

First, it is important to note that historically, the majority of liquids pipeline spills involve three barrels or less and are localized events. In the event there is a spill, cleanup and remediation methodologies are based on site-specific conditions, including volume of oil released, terrain, weather conditions, presence of sensitive receptors, soil permeability, and the presence of water.

Generally, on water, containment or sorbent booms would be used to contain the oil. On land, available materials such as dirt, sand or snow would be used to block or direct flow of spilled oil to recovery areas. Containment would also involve blocking road culverts or other drain paths that might allow oil to flow out of containment.

Cleanup would be required to meet state and federal standards established to protect human health and the environment. Additionally, the properties of crude oil and its behavior in soils and aquifers will limit the area impacted by a spill. Crude oil has a high affinity for soils and, after the initial dispersal that occurs during the spill event, crude oils do not tend to migrate substantially through soils, allowing efficient recovery of spill from the affected area.

7. How is it detected?

The pipeline will be monitored continuously from the OCC in Calgary that is staffed 24 hours a day and 365 days a year and will employ several different methods to detect leaks. These methods are designed to rapidly detect leaks of any size. They include:

- remote monitoring of pressure and flow data from the pump stations and valve sites that allows Keystone to detect leaks down to approximately 25-30% of pipeline flow rate;
- software-based volume balance systems that monitor receipt and delivery volumes sufficient to detect leaks down to approximately 5% of pipeline flow rate;
- computational monitoring capable of detecting leaks to a level of approximately 1.5 to 2% of pipeline flow rate;
- volume trending analysis to assist in identifying low-rate or seepage releases below the 1.5 to 2% of pipeline flow detection thresholds; and
- direct-observation methods, including aerial patrols, ground patrols, and public and landowner awareness programs.

Keystone also has a fully-redundant backup OCC that is ready for use immediately in the unlikely event of a disruption to the primary OCC. The primary communication system is satellite-based, with a phone-system backup.

8. In the case of a leak, who's liable for contamination of the land/underground water?

In the event of a pipeline leak, it is Keystone's responsibility to clean up the spill and restore the affected area. Similarly, the costs of oil spill response and clean-up are Keystone's responsibility – not that of landowners, local emergency responders, or local governments. (Consistent with well established common law regarding protection of property, in the event that another party has purposefully or negligently damaged Keystone facilities, Keystone could seek recovery of some costs through local courts.)

9. Why did you seek the waivers on the size and thickness of the steel?

As recently announced, TransCanada has withdrawn its application to PHMSA to operate under the conditions of a special permit. The permit would have allowed TransCanada to build the proposed Keystone XL pipeline using stronger steel with additional safety conditions and operate the pipeline at a slightly higher pressure than current federal regulations for oil pipelines in the United States. TransCanada has more than 30 years experience operating pipelines with a similar design. We sought the special permit because we believe it results in a safer pipeline while also increasing efficiency. These reasons also were cited by federal regulators when the design was adopted in 2008 as the standard for natural gas pipeline design in the United States.

After listening to concerns from the public and various political leaders, we made the decision to withdraw the permit application. We will build Keystone XL using the as-proposed stronger steel and operate it at a lower level of pressure, consistent with current US regulations. We will implement additional safety measures on Keystone XL that would have been required under the special permit. These safety measures will be consistent with those that have been implemented on the existing Keystone Pipeline.

10. Where are you in the federal permitting process?

We anticipate publication of a Final Environmental Impact Statement from the U.S. Department of State later this year and issuance of a National Interest Determination and Presidential Permit in early 2011.

11. Where are you in contract negotiations with landowners?

TransCanada is actively working with landowners in Nebraska as well as the other Keystone XL states (Montana, South Dakota, Oklahoma, and Texas) to complete negotiations for pipeline easements. Where negotiations have not yet been successful, we have begun to send written correspondence with our final offer, after which we may initiate eminent domain activity for the easement rights we require. Even in those cases where we initiate eminent domain, we remain committed to working toward a voluntary agreement with landowners. In Nebraska, we continue to work with the "Landowners for Fairness" group that represents a number of local landowners to come to agreement on terms for easements.

On the first phase of the Keystone Pipeline recently constructed in Nebraska, we acquired easements from more than 450 landowners. Less than two percent of the easements required in Nebraska were acquired through the eminent domain process; all other easements were acquired through voluntary negotiation.

12. When do you expect to begin actual construction?

After receipt of additional permits, construction is planned to begin in 2011.

13. What about reclamation contracts? Are you negotiating reclamation contracts with landowners now?

Keystone works to minimize the impact of the pipeline on landowners and to ensure landowners are compensated for the impacts they experience. Part of Keystone's approach is to restore the land following construction. Keystone construction documents include general reclamation methods as well as more specific approaches for individual land types crossed. More explicit details on the restoration of the landowners' properties and compensation for crop losses and damages are discussed and finalized with the landowners as a part of the easement negotiation. Easement offers typically include market based payments for lost productivity for a pre-defined period. In addition, Keystone is responsible for any reduced productivity associated with the pipeline, regardless of the payments for lost productivity covered in easement negotiations.

14. How is the pipeline decommissioned? Who is responsible for removal of the pipeline once it's served its useful life?

Once in service, pipelines are maintained as permanent assets. While it is possible that the pipeline would at some point be permanently removed from service, it is not anticipated as a normal event at the end of some fixed period. In this regard, speculation about removal at the end of useful life is somewhat akin to speculation about removal of Nebraska State Highway 91 when it has served its useful life.

Historically, if the pipeline were taken out of service, the product would be removed, the pipe cleaned, and the pipeline filled with an inert gas such as nitrogen. The company would monitor the cathodic protection systems and other protections to ensure that the pipe did not deteriorate and to guard against any third-party damage.

If the pipeline were to be permanently decommissioned, the company would meet all additional regulatory requirements in place at the time. To minimize impacts, the pipeline would likely be filled with an inert substance as described above and left in place. For as long as the pipe stayed in the ground, TransCanada would remain liable for any damage the pipeline would cause. If TransCanada chose to remove the pipe instead, the removal cost would be TransCanada's.

15. What is TransCanada's public relations plan in light of current circumstances?

We recognize that, in light of recent events in the Gulf of Mexico and more recently in Michigan, there is significant interest in our proposed pipeline and we look forward to sharing information with those interested to ensure they have the information they need to be comfortable with our proposal.

16. What's the status of the first pipeline?

The first phase of the Keystone system commenced commercial operations on June 30, 2010. Construction of the pipeline extension from Steele City, Nebraska to Cushing, Oklahoma is approximately fifty percent complete and the pipeline is expected to be operational in 2011.

17. What state permits has TransCanada had to obtain?

The Introduction (Section 1) to the Keystone XL Draft Environmental Impact Statement (DEIS) contains a complete list of permits required in Section 1.8 (on pages 1-19 through 1-24). A copy of Section 1.8 is attached.

18. Why can't the route be changed to avoid the Ogallala Aquifer?

Changing the route to avoid the Ogallala Aquifer would increase overall impacts and would be inconsistent with the absence of significant risk to the aquifer represented by the pipeline in its current route.

Total land disturbed by a pipeline, environmental impacts, costs, and overall impacts to landowners all generally increase with increased length of a pipeline. So, all else being equal, there are benefits associated with minimizing length.

If the proposed route of the project posed a substantial threat to the Ogallala Aquifer, additional costs and impacts associated with rerouting the project to avoid the aquifer could be justified. But, as discussed in the attached paper, "Pipeline Safety and the Ogallala Aquifer", the project does not pose a broad threat to the aquifer.

Keystone recognizes the immense value of the Ogallala Aquifer as well as other natural and human resources. When routing linear projects of this magnitude, it is not practical to avoid sensitive areas, such as aquifers, rivers, wetlands, human population centers and other resources, nor - based on the risk posed- is it necessary.

Pipeline Safety and the Ogallala Aquifer

As discussed below, it is not possible for a crude oil spill to contaminate the entire Ogallala Aquifer. Rather, the impact of a potential oil spill on the aquifer would be limited to a very small area. TransCanada would be responsible for clean-up. Remediation would be required to meet state and federal standards and would ensure the protection of human health and the environment. In the highly unlikely event that groundwater wells were adversely impacted, TransCanada would be responsible for providing an alternative water supply.

Pipelines are safe and the chance of a significant spill is remote, yet TransCanada is ready to respond to limit volume and impacts

Pipelines are the safest, most reliable, economical and environmentally favorable way to transport oil and petroleum products, as well as other energy liquids, throughout the U.S. Nearly every gallon of gasoline or diesel fuel used in Nebraska was transported via pipeline. In addition to transportation, many other industries get raw materials by pipeline, including food, drugs and pharmaceuticals, plastics, chemicals, and road construction. Pipelines are a vital part of our country's infrastructure and have been quietly serving the nation for decades.

Leaks from pipelines are rare¹ and tend to be small². In addition, Keystone incorporates proven design features to further reduce the likelihood of a release from the Keystone Pipeline. Importantly, however, TransCanada does not rely on this historical pipeline safety data and Keystone's safety design features. TransCanada also is ready to respond to limit any release from the Keystone System and to clean-up if a leak were to occur.

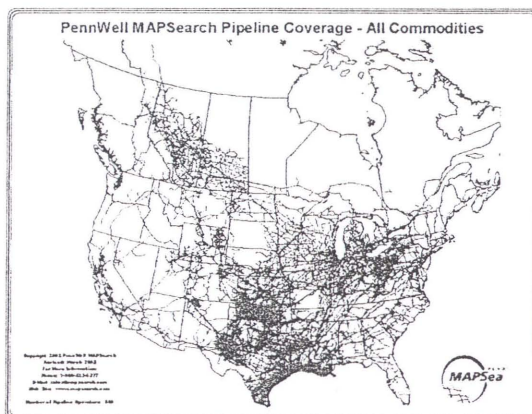
Upon detection of a leak, pumps would be immediately secured from the Operations Control Center and valves would be closed to isolate the affected section of pipe and to limit spill volumes. TransCanada personnel would be mobilized to the spill site immediately to begin emergency containment and begin clean-up. Additional actions would include the notification to landowners and appropriate public agencies of potential groundwater impacts. Even for a spill in the area of a shallow aquifer, prompt clean-up would limit the ability of crude-oil contaminants to dissolve in water.

Clean-up of any release from the Keystone Pipeline System is required by state³ and federal law. In addition to complying with state and federal law, prompt clean-up of a spill avoids jeopardizing TransCanada's ability to continue to operate the Keystone Pipeline System.

Keystone does not threaten the Ogallala Aquifer

The Keystone XL pipeline would cross the Ogallala Aquifer for some 250 miles. To help put this number in perspective, there are currently almost 21,000 miles of pipelines crossing Nebraska, including almost 3,000 miles of hazardous liquid pipelines. Many miles of these pipelines co-exist with the Ogallala Aquifer. In addition, oil is produced in areas where the Ogallala Aquifer is located, including in western Nebraska.⁴

Not all portions of the aquifer are equally vulnerable to contamination. From a technical standpoint, the vulnerability of groundwater is a function of depth to groundwater; presence or

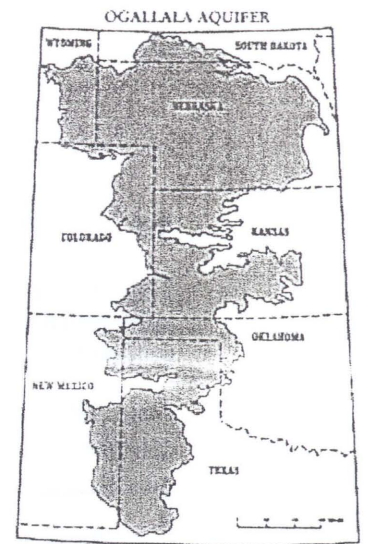


absence of overlying confining layers; and the proximity and number of wells. In some places, the Ogallala Aquifer is at or very near the ground surface, while in other places it is 300 feet deep. Some portions of the aquifer are confined, meaning there are protective materials such as clays and glacial till which protect the aquifer from surface contamination. In other areas these protective confining layers do not exist.

Assuming a spill from Keystone were to occur in an area where the Ogallala Aquifer is vulnerable, properties of crude oil and its behavior in soils and aquifers limits the area impacted by a spill. Crude oil has a high affinity for soils and, after the initial dispersal that occurs during the spill event, crude oils do not tend to migrate substantially through soils. Constituents within crude oil may dissolve and mobilize but that process takes time and, even then, the ability of these contaminants to move through groundwater is limited due to naturally occurring subsurface microbes that break down hydrocarbons, limiting dispersal of petroleum products. Within groundwater, movement of petroleum contaminants typically is confined to approximately 300 feet from the source, due to this natural attenuation.⁵

Consequently, even if a spill occurred in an area with shallow groundwater, and even if the oil remained in contact with the water for long enough that contaminants would dissolve into the water, impacts would be limited to a very localized area. It is not possible to contaminate the entire Ogallala Aquifer.

If, despite the protections in place to prevent impacts on groundwater, a groundwater aquifer were affected, TransCanada would work cooperatively with state and federal agencies to select the appropriate, site-specific methods for clean-up, groundwater monitoring, and remediation methods. The selection of clean-up and remediation methodologies are based on site-specific conditions, including weather conditions, presence of sensitive receptors, soil permeability, and presence of water. Clean-up would be required to meet state and federal standards and would ensure the protection of human health and the environment. In the highly unlikely event that groundwater wells were adversely impacted, TransCanada would be responsible for providing an alternative water supply.



¹ According to the Association of Oil Pipelines, spills along hazardous liquid pipeline rights-of-way have fallen from two incidents per thousand miles in 1999-2001 to 0.8 incidents per thousand miles in 2005-2007, a decline of 60 percent.

² Based on historical data available from the Pipeline Hazardous Materials Safety Administration, when pipeline leaks do occur, they are small. Most pipeline leaks are three barrels or less; 80% of spills involve less than 50 barrels; and less than 0.5 percent of spills total more than 10,000 barrels.

³ Nebraska Environmental Protection Act, §81-1501 *et seq.*

⁴ According to the Nebraska Energy Office, crude oil has been produced in Nebraska since 1939. In 2009, Nebraska produced more than 6,000 barrels of crude oil per day from 18 different counties. The most significant production is located in southwestern part of the state.

⁵ American Petroleum Institute, Characteristics of Dissolved Petroleum Hydrocarbon Plumes, Vers. 1.1, December 1998.

1.8 PERMITS, APPROVALS, AND REGULATORY REQUIREMENTS

The assisting federal, tribal, state, and local agencies with jurisdiction over various aspects of the Project participated in the EIS process by providing direct input to DOS or through the EIS review and comment process (see Sections 1.3.3 and 1.3.4).

Table 1.8-1 lists the permits, licenses, approvals, and consultation requirements for federal, state and local agencies.

Agency	Permit or Consultation/Authority	Agency Action
Federal		
U.S. Department of State (DOS)	Presidential Permit, Executive Order 13337 of April 30, 2004 (69 Fed. Reg. 25299, et seq.)	Considers approval of cross-border facilities; lead federal agency under NEPA
	Section 106 (NHPA)	Supervises and coordinates compliance with Section 106 of NHPA and consultation with interested Tribal agencies
Bureau of Land Management (BLM)	ROW Grant(s) under the Federal Land Policy and Management Act of 1976 as amended (FLPMA) and Temporary Use Permit under Section 28 (MLA)	Considers approval of ROW grant and temporary use permits for the portions of the Project that would encroach on public lands
	Archeological Resources Protection Act (ARPA) Permit	Considers issuance of cultural resource use permit to survey, excavate or remove cultural resources on federal lands
	Notice to Proceed	Following issuance of a ROW grant and approval of the Project's POD, considers the issuance of a Notice to Proceed with Project development and mitigation activities for federal lands
U.S. Corps of Engineers (USACE) – Omaha, Tulsa, Fort Worth, and Galveston Districts	Section 106 (NHPA)	Responsible for compliance with Section 106 of NHPA and consultation with interested Tribal agencies
	Section 404, CWA	Considers issuance of Section 404 permits for the placement of dredge or fill material in Waters of the U.S., including wetlands
	Section 10 Permit (Rivers and Harbors Act of 1899)	Considers issuance of Section 10 permits for pipeline crossings of navigable waters
U.S. Fish and Wildlife Service (USFWS)	Section 106 (NHPA)	Responsible for compliance with Section 106 of NHPA and consultation with interested Tribal agencies
	ESA Section 7 Consultation, Biological Opinion	Considers lead agency findings of an impact of federally-listed or proposed species; provide Biological Opinion if the Project is likely to adversely affect federally-listed or proposed species or their habitats
U.S. Bureau of Reclamation (Reclamation)	ROW Grant and Temporary Use Permit under Section 28 of the MLA	Determines if ROW grant issued under MLA by BLM is in compliance with Reclamation standards

**TABLE 1.8-1
Permits, Licenses, Approvals, and Consultation Requirements for the Proposed Project**

Agency	Permit or Consultation/Authority	Agency Action
Federal Highway Administration (FHA) Office of Pipeline Safety (OPS)	Section 106 (NHPA) Crossing Permit 49 CFR Part 195 (typically submitted closer to the construction phase after all other permits approved) 49 CFR Part 194 (typically submitted closer to the construction phase after all other permits approved) Special Permit (currently under review)	Responsible for compliance with Section 106 of NHPA and consultation with interested Tribal agencies Considers issuance of permits for the crossing of federally funded highways Reviews and approves IMP for HCAs prior to installation Reviews and approves ERP prior to installation Authorizes the design, construction and operation of the Project using a 0.80 design factor in non-HCAs; imposes conditions to ensure at a minimum an equivalent level of safety
U.S. Environmental Protection Agency (EPA), Regions VI, VII, VIII	Section 401, CWA, Water Quality Certification Section 402, CWA, National Pollutant Discharge Elimination System (NPDES)	Considers approval of water use and crossing permits for non-jurisdictional waters (implemented through each state's Water Quality Certification Program) Reviews and issues NPDES permit for the discharge of hydrostatic test water (implemented through each state's Water Quality Certification Program, where required)
U.S. Department of Agriculture – Natural Resources Conservation Service (NRCS)	Section 106 (NHPA)	Responsible for compliance with Section 106 of NHPA and consultation with interested Tribal agencies
U.S. Department of Agriculture – Farm Service Agency (FSA)	Section 106 (NHPA)	Responsible for compliance with Section 106 of NHPA and consultation with interested Tribal agencies
U.S. Department of Agriculture – Rural Utilities Services (RUS)	Section 106 (NHPA)	Responsible for compliance with Section 106 of NHPA and consultation with interested Tribal agencies
Western Area Power Administration (Western)	Section 106 (NHPA)	Responsible for compliance with Section 106 of NHPA and consultation with interested Tribal agencies
Advisory Council on Historic Preservation (ACHP)	Consultation	Advises federal agencies during the Section 106 consultation process; signator to the Programmatic Agreement
U.S. Department of Treasury – Bureau of Alcohol, Tobacco, and Firearms	Treasury Department Order No. 120-1 (former No. 221), effective 1 July 1972	Considers issuance of permit to purchase, store, and use explosives should blasting be required
Montana*		
Montana State Historic Preservation Office (SHPO)– Montana Historical Society**	Section 106 consultation regarding NRHP eligibility of cultural resources and potential Project effects on historic properties, Compliance with Montana State Antiquities Act	Reviews and comments on activities potentially affecting cultural resources
Montana Department of Environmental Quality (MDEQ)	Certificate of Compliance under MFSA	Considers issuance of a certificate of compliance under MFSA for construction and operation of the proposed facility.

**TABLE 1.8-1
Permits, Licenses, Approvals, and Consultation Requirements for the Proposed Project**

Agency	Permit or Consultation/Authority	Agency Action
MDEQ – Permitting and Compliance Division – Water Protection Bureau	Montana Ground Water Pollution Control System (MGWPCS) and Nondegradation Review (three levels of water protection based on water classification, i.e., outstanding resource waters etc.), Standard 318 (Permitting conditions for Pipeline Crossings at Watercourses – short term turbidity)	Considers issuance of permit for stream and wetland crossings; provides Section 401 certification consults for Section 404 process
	Montana Pollutant Discharge Elimination System (MPDES)	Considers issuance of permit for hydrostatic test water discharge into surface water, trench dewatering, and stormwater discharge
MDEQ – Permitting and Compliance Division – Waste and Underground Tank Management Bureau	Septic Tank, Cesspool, and Privy Cleaner New License Application Form (for work camps)	Reviews and licenses Cesspool, Septic Tank and Privy Cleaners, inspects disposal sites for septic tank, grease trap and sump wastes
MDEQ – Permitting and Compliance Division – Air Resources Bureau	Air Quality Permit Application for Portable Sources; Air Quality Permit Application for Stationary Sources	Considers issuance of air quality permit(s) for work camps dependant on source of power such as portable diesel generator or use of non-electrical equipment is used during construction or operation of the pipeline (i.e., diesel powered pumps during hydrostatic testing)
MDEQ – Permitting and Compliance Division – Public Water Supply Bureau	Water and Wastewater Operator Certification (for work camps)	Reviews and licenses operators of certain public drinking water and wastewater treatment facilities; issues approval to construct, alter or extend public water or sewer systems (including hauling, storage and distribution of water)
Montana Department of Natural Resources and Conservation (DNRC) – Water Resources Division (General)	Water Appropriation Permit (Beneficial Water use Permit) and/or Water Wells Drilling/ Alteration	Considers issuance of permit for water use for hydrostatic testing or waters for dust control
Montana DNRC Trust Land Management Division	Navigable Rivers/Land use License/Easement	Consults on and considers issuance of permit for projects in, on, over, and under navigable waters
Department of Transportation – Glendive District	State and Highway Crossing Permit for pipeline and access roads that encroach state highway ROW, with traffic control based on the Manual on Uniform Traffic Control Devices	Considers issuance of permits for crossings of state highways
Department of Transportation – Helena Motor Carrier Services (MCS) Division Office	Oversize/Overweight Load Permits, where required	Considers issuance of permit for oversize/overweight loads on state maintained roadways
Montana Public Service Commission	Grant Common Carrier Status	Considers whether or not an applicant qualifies as a common carrier under Montana Annotated Code (MAC) 69-13-101; if a common carrier, the commission would supervise and regulate operations under MCA Title 69 allowing Keystone to cross state highways and state streams.

**TABLE 1.8-1
Permits, Licenses, Approvals, and Consultation Requirements for the Proposed Project**

Agency	Permit or Consultation/Authority	Agency Action
County Road Departments	Crossing Permits	Considers issuance of permits for crossing of state highways
County Floodplain Departments	County Floodplain permitting	Considers issuance of permits and review of work in floodplains
County and Local Authorities	Pump Station Zoning Approvals, where required	Reviews under county approval process
	Special or Conditional Use Permits, where required	Reviews under county approval process (Note: These permits are not required after a Certificate of Compliance under MFSA is issued)
County Weed Control Boards	Approval of reclamation plan	Considers approval of a reclamation/weed control plan (Note: These approvals still required after Certificate of Compliance under MFSA is issued)
South Dakota*		
South Dakota Historical Society**	Consultation under Section 106, NHPA	Reviews and comments on activities potentially affecting cultural resources
South Dakota Public Utilities Commission (SDPUC)	Energy Conversion and Transmission Facilities Act	Considers issuance of permit for a pipeline and appurtenant facilities
Department of Environment and Natural Resources, Surface Water Quality Program	Section 401, CWA, Water Quality Certification	Considers issuance of permit for stream and wetland crossings; consult for Section 404 process
	Hydrostatic Testing/Dewatering & Temporary Water Use Permit (SDG070000)	Considers issuance of General Permit regulating hydrostatic test water discharge, construction dewatering to waters of the state, and Temporary Water use Permit
Department of Game, Fish, and Parks	Consultation	Consults regarding natural resources
Department of Transportation	Crossing Permits	Considers issuance of permits for crossing of state highways
County Road Departments	Crossing Permits	Considers issuance of permits for crossing of county roads
County and Local Authorities	Pump Station Zoning Approvals, where required	Reviews under county approval process
	Special or Conditional Use Permits, where required	Reviews under county approval process
Nebraska		
Nebraska State Historic Preservation Office (SHPO) **	Consultation under Section 106, NHPA	Reviews and comments on activities potentially affecting cultural resources
DEQ, Division of Water Resources	Section 401, CWA, Water Quality Certification	Considers issuance of permit for stream and wetland crossings; consult for Section 404 process
	Excavation Dewatering and Hydrostatic Testing Permit Form NEG6720000 Dewatering Form NEG6721000 Relocation	Considers issuance of permit regulating hydrostatic test water discharge and construction dewatering to waters of the state
Department of Environmental Quality (DEQ), Division of Air Quality	Nebraska Administrative Code Title 129, Construction Permit.	Considers issuance of permit for construction of proposed tank farm at Steele City

TABLE 1.8-1 Permits, Licenses, Approvals, and Consultation Requirements for the Proposed Project		
Agency	Permit or Consultation/Authority	Agency Action
Department of Natural Resources	Water Appropriations – Groundwater and Surface Water	Considers issuance of permit to use Public Waters (for hydrostatic test water or dust control)
Game and Parks Commission	Consultation	Consults regarding natural resources
Department of Transportation	Crossing Permits	Considers issuance of permits for crossing of state highways
County Road Departments	Crossing Permits	Considers issuance of permits for crossing of county roads
County and Local Authorities	Pump Station Zoning Approvals, where required	Reviews under county approval process
	Special or Conditional Use Permits, where required	Reviews under county approval process
Kansas		
Department of Health and Environment, Bureau of Water	Hydrostatic Testing Permit (if applicable)	For pump station piping, may be below permitting thresholds
	Water Withdrawal Permit (if applicable)	For pump station piping, may be below permitting thresholds
Department of Wildlife and Parks	Non-game and Endangered Species Action Permit (if applicable)	Reviews of new pump station locations
SHPO**	Historical Resources Review (if applicable)	Reviews of new pump station locations
County and Local Authorities	Pump Station Zoning Approvals, where required	Reviews under county approval process
Oklahoma		
Oklahoma State Historical Society**	Consultation under Section 106, NHPA	Reviews and comments on activities potentially affecting cultural resources
Oklahoma Archaeological Survey (OAS)	Consultation	Reviews and comments on activities potentially affecting archaeological sites
DEQ, Division of Water Resources	Section 401, CWA, Water Quality Certification.	Considers issuance of permit for stream and wetland crossings; consults for Section 404 process; Critical Water Resources.
	Excavation Dewatering and Hydrostatic Testing Permit (OKG270000)	Considers issuance of permit regulating hydrostatic test water discharge and construction dewatering to waters of the state
Department of Wildlife Conservation	Consultation	Consults regarding natural resources
Department of Transportation	Crossing Permits	Considers issuance of permits for crossing of state highways
County Road Departments	Crossing Permits	Considers issuance of permits for crossing of county roads
County and Local Authorities	Pump Station Zoning Approvals, where required	Reviews under county approval process
	Special or Conditional Use Permits, where required	Reviews under county approval process
Texas		
SHPO**	Consultation under Section 106, NHPA	Reviews and comments on activities potentially affecting cultural resources

TABLE 1.8-1 Permits, Licenses, Approvals, and Consultation Requirements for the Proposed Project		
Agency	Permit or Consultation/Authority	Agency Action
Texas Commission on Environmental Quality (TCEQ)	Section 401, CWA, Water Quality Certification.	Consults for Section 404 process; permit regulating hydrostatic test water discharge, and construction dewatering to waters of the state
	General Conformity Determination	Determines conformity of the federal action to the State Implementation Plan (SIP)
Parks and Wildlife Department	Consultation 31 TAC 69 - Marl, Sand, and Gravel Permits	Consults regarding natural resources, considers issuance of stream crossing permits
Texas General Land Office	Coastal Zone Management Program	Considers issuance of Coastal Zone Consistency Determination
	State owned lands	Considers approval of easement grants for ROW cover state-owned lands
Railroad Commission of Texas	State lead on oil and gas projects; Excavation Dewatering and Hydrostatic Testing Permit	Considers issuance of permit to operate the pipeline; considers issuance of permit regulating hydrostatic test water discharge and construction dewatering to waters of the state
Department of Transportation	Crossing Permits	Considers issuance of permits for crossing of state highways
County Road Departments	Crossing Permits	Considers issuance of permits for crossing of county roads
County and Local Authorities	Pump Station Zoning Approvals, where required	Reviews under county approval process
	Special or Conditional Use Permits, where required	Reviews under county approval process
Jefferson County Drainage District	Crossing Permits	Considers issuance of permits for crossing of drainage canals
Lower Neches Valley Authority	Crossing Permits	Considers issuance of permits for crossing of drainage canals
Note: All permits are considered attainable and consistent with existing land use plans based on consultation with the above agencies.		

*Permits associated with construction camps are discussed in Section 2.2.7.4.

**The SHPO has the opportunity to review federal agency decisions under Section 106, but it is not a legal obligation.

Source: Keystone 2009c.

1.9 REFERENCES

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Canadian Association of Petroleum Producers (CAPP). 2008. Environmental Challenges and Progress in Canada's Oil Sands. April. Available online at: <http://www.capp.ca/getdoc.aspx?DocID=135721>

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Ladies and Gentlemen of the _____. My name is Frank Shipley, a resident of Nebraska.

If moving the TransCanada pipeline is not a feasible option then I would like to offer another possible option to explore the protection of the Ogallala Aquifer and our environment.

Please understand that I am not an expert on what I am presenting. I have listened to statements about the pipeline, but I haven't heard anything about a backup plan to contain an oil spill. Having lived in Colorado, by the gold fields, I am aware of a system they use on leaching pads to keep hazardous chemicals from contaminating the ground water and environment. They use a heavy plastic liner under the pads and leach ponds.

My recommendation is that a similar liner be placed in the pipeline trench and covered with a layer of sand. The layer of sand would protect the liner during construction and act as an absorbent should there ever be a leak, while the liner would contain the oil and keep it from seeping into the ground.

Is this a 100 percent guarantee? No, nothing is-reference deep water drilling in the Gulf, but it could help prevent a major disaster occurring here either by human error or by natural occurrences such as earthquakes like the one we just had in the Schuyler area. Make no mistake, a major pipeline rupture is a possibility that we must plan for. Such an occurrence would possibly contaminate one of our largest fresh water supplies and gut our country's agriculture by stopping most irrigation.

Will this increase up front construction costs? Yes, but it could save long term costs by eliminating some of the potential lawsuits. It would also create goodwill for TransCanada by showing they don't just talk about protecting the environment, but are actually willing to be proactive instead of reactive.

Page 2

Ladies and Gentlemen I have these documents for your review, containing information about these liners, if you would like them entered into the record.

Thank you for the opportunity to present this information. I hope it helps.

Breunig, Craig

From: Chuck Hassebrook [chuckh@cfra.org]
Sent: Tuesday, November 30, 2010 6:59 PM
To: Sen. Langemeier, Chris
Subject: Statement for the record

Dear Senator Langemeier,

Please enter the statement below in the record for tomorrow's hearing.

--

Chuck Hassebrook,
Executive Director Center for Rural Affairs
145 Main St., Lyons, NE 68038
O 402 687 2103 x 1018 C 402 870 1499

The Center for Rural Affairs is opposed to the proposal by TransCanada Corporation to build the 1,980-mile Keystone XL Pipeline to move oil produced from Canadian tar sands to US refineries.

According to the US Environmental Protection Agency, securing oil from tar sands and delivering it to US refineries results in nearly double the greenhouse gas emissions as other oil delivered to US refineries.

If the near consensus view of climate scientist is correct about greenhouse gas emissions causing climate change, then building the pipeline to develop this source of oil would ultimately result in the rest of us having to bear greater burdens in reducing green gas emissions to make up the difference. Or, if no offsetting reductions are made, it would force us to bear worse consequences in extreme weather and the resulting calamity.

America must focus on better approaches to securing the energy it needs by developing renewable approaches to fueling cars, including low carbon biofuels and electric cars powered by wind and other renewable sources. That will create greater opportunity in rural Nebraska while confronting the very real threat of climate change.

--

Chuck Hassebrook,
Executive Director Center for Rural Affairs
145 Main St., Lyons, NE 68038
O 402 687 2103 x 1018 C 402 870 1499



Peter T. Lidiak
Director

Pipeline

1220 L Street, NW
Washington, DC 20005-4070
USA

Telephone 202-682-8323
Fax 202-682-8579
Email lidiakp@api.org
Web www.api.org

November 29, 2010

The Honorable Chris Langemeier
Committee on Natural Resources
District 23
State Capitol
Lincoln, NE 68509

Dear Chairperson Langemeier:

I am writing to provide information regarding the safety of hazardous liquids pipelines for consideration by the Committee on Natural Resources for oversight requirements for pipelines in the State of Nebraska. API represents operators of hazardous liquids pipelines that carry crude oil, petroleum products, carbon dioxide and other products. There are about 174,000 miles of hazardous liquids pipelines operating in the United States.

Pipelines are the safest, most efficient and most economical way to transport these energy products. Pipelines experience the lowest frequency of accidental releases of transported commodities compared to other modes of transportation. Pipelines are also becoming safer as a result of improved regulations and industry safety programs and practices. Industry statistics show that the number of hazardous liquid pipeline releases has gone down by 63% from the three year period from 1999-2001 to the three year period from 2006-2008. Over the same periods, the volumes released have declined by 48%.¹

Pipelines built and operated by our member companies deliver the energy needed by Americans to support their quality of life, and for the economy to grow, while protecting the environment every step of the way. We are committed to public safety, respect for landowners' and land users' rights, and responsible development of natural resources.

There has been significant concern about pipeline projects that are capable of moving crude oil from western Canada into the United States, most notably in Nebraska, TransCanada's Keystone XL project. Americans want and need energy, and that means infrastructure is needed to transport energy reserves. Canada is the number one supplier of oil and natural gas to the U.S., with the second largest oil reserves in the world, second only to Saudi Arabia. In addition,

¹ Information from the Pipeline Performance Tracking System, a pipeline industry database that collects information about releases from operators of about 85% of the total hazardous liquids pipeline miles in the U.S.

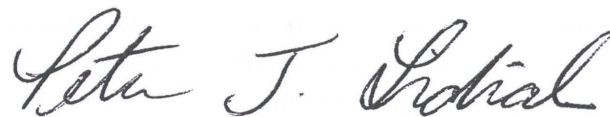
Canada is a business friendly, politically stable energy supplier to the U.S. It is important to note that crude oil from Canadian oil sands is a growing source of reliable North American energy. Long-term flexibility in supply sources is critical in a world where risks are growing, whether due to declining production from once reliable sources, unstable geo-political situations, or uncertainties in key oil producing regions. Pipeline projects like Keystone XL and Enbridge Inc.'s Alberta Clipper serve to strengthen U.S. energy security. Cambridge Energy projects that, by 2030, oil from Canadian oil sands could meet up to 27% of total US oil supply.

These projects also bring significant economic benefits to the communities through which they go. The Keystone XL pipeline is an enormous economic stimulus project that will create more than 13,000 high-wage construction jobs in 2011-2012, will generate billions of dollars in economic stimulus and millions of dollars of tax revenue for state and local governments where the pipeline is located.

Interstate pipelines carrying crude oil and products across state borders are regulated by the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA's regulations include standards for the safe construction and operation of hazardous liquids pipelines and pipe specifications and welding standards are constantly reviewed by industry to ensure the latest technologies and practices are being employed for new pipeline construction. Given the improvements in pipeline safety performance mentioned above, additional state oversight is not required and could result in competing state and federal requirements. Any inefficiency created as a result could result in higher costs that could ultimately be paid by consumers.

It would be a mistake for Nebraska to try to overlay state-specific pipeline safety requirements on the existing federal pipeline safety requirements. I would be happy to answer any questions that you might have. Thank you for your consideration of my comments.

Sincerely,

A handwritten signature in cursive script that reads "Peter J. Stohal". The signature is written in black ink and is centered below the "Sincerely," text.

November 16, 2010

Senator Tom Carlson
P. O. Box 94604
Lincoln, Ne.
68509

Dear Senator,

My name is Bob Hinson. I live 10 miles south of Bertrand in Phelps County. I have lived here and farmed this place for almost fifty years.

I have a great respect for the land and the water under it but I have a different view than most about the Keystone Pipeline.

I wrote a Letter to the Editor and put it in the Bertrand Herald. It is about my views on the Keystone Pipeline.

I understand that there is going to be a hearing in Lincoln on December 1st on the Keystone Pipeline.

I was wondering if you were going to be at the hearing and if you were I would like for you to read my Letter to the Editor at the hearing and enter it as testimony on my behalf. I am enclosing a copy of my Letter to the Editor.

Sincerely,



Robert L. Hinson
72828 Rd 438
Bertrand, Nebraska
68927-3505
Phone 1-308-472-3785
e-mail ahinson@dishmail.net

Dear Editor,

My comments are directed at our misguided politicians and the people who are opposed to building the Keystone Pipeline.

Where were you when we were trying to keep a nuclear dump from being built on the Ogallala Aquifer close to my place.

Why did you look the other way when the giant livestock producers built hundreds of mega unlined manure pits only feet above the Ogallala Aquifer.

Where were you when our legislature, in all their wisdom, made it legal for the large livestock producers to decompose thousands of tons of dead livestock and after birth each year only feet above the Ogallala Aquifer with out any barrier or safeguard what so ever. The juices just flow.

Where are you looking when the state spreads thousands of barrels of the poorest grade oil there is on our interstate and all of our other highways that lay a few feet directly over the Ogallala Aquifer just because it makes a nice surface for us to drive on. The water run off from the highways goes directly into the Ogallala Aquifer. Our Interstate has become a giant tar ball.

Why aren't you concerned about injecting thousands of tons of chemicals each year a mere two or three feet from the well heads on our pivots only one little check valve away from total disaster.

My point is when it comes to protecting the Ogallala Aquifer we are willing to take great chances and look the other way when it is for our own selfish benefit.

Along comes something that would be great for our country and our state and you jump on the bandwagon and oppose it using the Ogallala Aquifer as an excuse. Being against everything and for nothing is not the way to go this time.

The Keystone Pipeline will be new and safe. If they have a leak they will stop and fix it. It won't be under 2000 feet of water.

Remember if you don't allow this pipeline to be built you are helping to keep the price of gas high at the pumps as the other large oil companies don't like competition. They would love for you to help stop the building of the Keystone Pipeline. Remember our planes, trains, tractors, trucks and cars don't run on air.

If you want to support foreign dictators, who hate our guts, with your gas money, then keep opposing the Keystone Pipeline.

If the Canadians want to build their pipeline across my two sections of Ogallala Aquifer they are welcome to do so. I will be glad to take their money. I am more worried about the high pressure line that is seventy years old and runs three hundred feet from where my grandchildren sleep.

Of course, Fox News would say my letter is not fair and balanced because my great grandmother was a French Canadian from Quebec.

Robert Hinson, Bertrand, Nebraska

Robert L Hinson

Nov 16 2010

STATE OF NEBRASKA LEGISLATURE
NATURAL RESOURCES COMMITTEE
INTERIM STUDY HEARING
OIL AND NATURAL GAS PIPELINES

TESTIMONY OF HEIDI TILLQUIST

1. Please state your name and address for the record.

My name is Heidi Tillquist. My business address is 1601 Prospect Parkway, Fort Collins, CO 80525.

2. Please state your background and experience and your role with the Keystone XL Project.

I am an environmental toxicologist and risk assessor for AECOM, an environmental consulting firm. I have over 20 years of experience in my field and have been evaluating environmental risk from pipelines for federal agencies for approximately 15 years. Keystone retained me to conduct the same types of assessments for the Keystone pipeline system, including the Keystone XL Project. I have advised Keystone on environmental and pipeline risk assessment issues in connection with Keystone XL Project, as well as on the relationship between the project and aquifers.

3. Can you briefly describe what is referred to as the Ogallala Aquifer?

The High Plains Aquifer, commonly called the Ogallala Aquifer, covers 174,000 miles in eight states. The High Plains Aquifer is not an underground cavern filled with water, but rather is comprised of sand and gravels with water filling the interstitial spaces, similar to a sand filter. Further, the Ogallala Formation itself is not a homogeneous mass of sand, but is a complex, heterogeneous formation that is overlaid by several other geological formations.

1. The first part of the document is a list of the names of the members of the committee who have been appointed to study the problem of the shortage of housing in the city of New York.

MEMBERS OF THE COMMITTEE

The members of the committee are as follows:

- 1. Mr. J. Edgar Hoover, Chairman
- 2. Mr. E. A. Tamm
- 3. Mr. Clegg
- 4. Mr. Glavin
- 5. Mr. Ladd
- 6. Mr. Nichols
- 7. Mr. Rosen
- 8. Mr. Tracy
- 9. Mr. Carson
- 10. Mr. Egan
- 11. Mr. Gurnea
- 12. Mr. Hendon
- 13. Mr. Pennington
- 14. Mr. Quinn
- 15. Mr. Nease
- 16. Mr. Gandy

The committee will hold its first meeting on Monday, January 15, 1934, at 10:00 a.m. in the main conference room of the Federal Bureau of Investigation, Washington, D. C.

Very truly yours,
J. Edgar Hoover, Director

This document is a copy of a letterhead memorandum (LHM) prepared by the Federal Bureau of Investigation (FBI) on January 10, 1934. The LHM is addressed to the Director of the FBI and is dated January 10, 1934. The subject of the LHM is the appointment of a committee to study the problem of the shortage of housing in the city of New York. The LHM is prepared by the Chief of the Bureau of Investigation and is signed by J. Edgar Hoover, Director.

The committee is composed of fifteen members, including the Chairman, Mr. J. Edgar Hoover, and other members of the FBI staff. The members of the committee are listed in the LHM. The committee will hold its first meeting on Monday, January 15, 1934, at 10:00 a.m. in the main conference room of the Federal Bureau of Investigation, Washington, D. C.

The LHM is a copy of a letterhead memorandum prepared by the Federal Bureau of Investigation (FBI) on January 10, 1934. The LHM is addressed to the Director of the FBI and is dated January 10, 1934. The subject of the LHM is the appointment of a committee to study the problem of the shortage of housing in the city of New York. The LHM is prepared by the Chief of the Bureau of Investigation and is signed by J. Edgar Hoover, Director.

Not all portions of the aquifer are equally vulnerable to contamination. From a technical standpoint, the vulnerability of groundwater is a function of depth to groundwater; presence or absence of overlying confining layers; and the proximity and number of wells. In some places, the Ogallala Aquifer is at or very near the ground surface, while in other places it is 300 feet deep. Some portions of the aquifer are confined, meaning there are protective materials such as clays and glacial till, which protects the aquifer from surface contamination. In other areas these protective confining layers do not exist.

4. Based on your knowledge of the project and your expertise and experience with respect to pipeline risk, do you have an opinion whether the Keystone XL Project poses a significant threat to aquifers, including particularly the Ogallala Aquifer?

I am aware of public concerns – as well as misinformation -- about the chances of pipeline leaks occurring, and their potential impacts, particularly to the Ogallala aquifer in Nebraska. Nonetheless, it is my personal and professional opinion that Keystone XL does not pose a significant threat to aquifers and particularly the Ogallala Aquifer.

5. Can you explain the basis for your opinion?

Risk from the Keystone Pipeline is low for the following reasons: a leak is a low-probability event; the aquifer is protected in many areas by natural, confining layers; and the pipeline's proximity to groundwater wells combined with oil's limited mobility in soils makes it extremely unlikely that contamination from a release would impact groundwater wells.

National pipeline statistics indicate that pipeline accidents are uncommon and that leaks tend to be small; most pipeline leaks involve three barrels or less, 80% of spills

involve less than 50 barrels, and less than 0.5% of spills total more than 10,000 barrels. There are currently almost 21,000 miles of pipelines crossing Nebraska, including almost 3,000 miles of hazardous liquid pipelines.

If a pipeline spill were to occur, contamination from crude oil could potentially result in highly localized groundwater impacts. However, contamination of the entire Ogallala Aquifer is impossible. Assuming a pipeline spill did occur, properties of crude oil and its behavior in soils and aquifers limits the area impacted by a spill. Crude oil has a high affinity for soils and, after the initial dispersal that occurs during the spill event, crude oils do not tend to migrate substantially through soils. Constituents within crude oil may dissolve and mobilize, but their movement through groundwater is limited in scale, typically confined to approximately 300 feet from the source due to natural attenuation (e.g., naturally occurring subsurface microbes breakdown hydrocarbons limiting dispersal of petroleum products).

In contrast, chemicals used in some industries and in agriculture, such as commercial solvents, such as PCE and TCE (tetrachloroethylene and trichloroethylene) and pesticides, have much greater mobility and environmental persistence when compared to oil and its constituents.

Finally, if groundwater contamination were to occur, Keystone would be responsible for cleanup, groundwater monitoring, providing an alternative water supply, and cleanup of the groundwater to federal and state water quality standards that are protective of human health and environment.

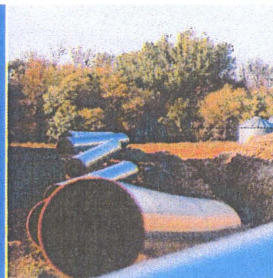
6. Do you have any additional information you would like to provide on this issue?

Attached to my testimony is a handout entitled "Pipeline Safety and the Ogallala Aquifer," which I assisted Keystone in developing. The handout discusses the safety of pipeline transportation of crude oil and petroleum products and addresses why the Keystone XL Project does not threaten the viability of the Ogallala Aquifer.

7. Does this complete your testimony?

Yes.

Pipeline Safety and the Ogallala Aquifer



As discussed below, it is not possible for a crude oil spill to threaten the viability of the Ogallala Aquifer. Rather, the impact of a potential oil spill on the aquifer would be limited to a very small area. TransCanada would be responsible for clean-up. Remediation would be required to meet state and federal standards and would ensure the protection of human health and the environment. In the highly unlikely event that groundwater wells were adversely impacted, TransCanada would be responsible for providing an alternative water supply.

Pipelines are safe and the chance of a significant spill is remote, yet TransCanada is ready to respond to limit volume and impacts

Pipelines are the safest, most reliable, economical and environmentally favorable way to transport oil and petroleum products, as well as other energy liquids, throughout the U.S. Nearly every gallon of gasoline or diesel fuel used in Nebraska is transported via pipeline. In addition to demands for petroleum for transportation, petroleum hydrocarbons are used by many other industries to produce valuable materials, including, drugs and pharmaceuticals, plastics, chemicals, and construction materials. Pipelines are a vital part of our country's infrastructure and have been quietly serving the nation for decades.

Leaks from pipelines are rare¹ and tend to be small². In addition, Keystone incorporates proven design features and construction methods, as well as a state of art integrity management program. Overall, the approach helps ensure Keystone operates safely in the area of the Ogallala Aquifer. However, TransCanada also is prepared to respond to limit any release from the Keystone System and to clean-up if a leak were to occur³.

Upon detection of a leak, pumps would be immediately secured from the Operations Control Center and valves would be closed to isolate the affected section of pipe and to limit spill volumes. TransCanada personnel would be mobilized to the spill site immediately to begin emergency containment and begin clean-up. Additional actions would include the notification to landowners and appropriate public agencies of potential groundwater impacts. Even for a spill in the area of a shallow aquifer, prompt clean-up would limit the ability of crude-oil contaminants to dissolve in water.

Clean-up of any release from the Keystone Pipeline System is required by state⁴ and federal law. In addition to complying with state and federal law, prompt clean-up of a spill avoids jeopardizing TransCanada's ability to continue to operate the Keystone Pipeline System.

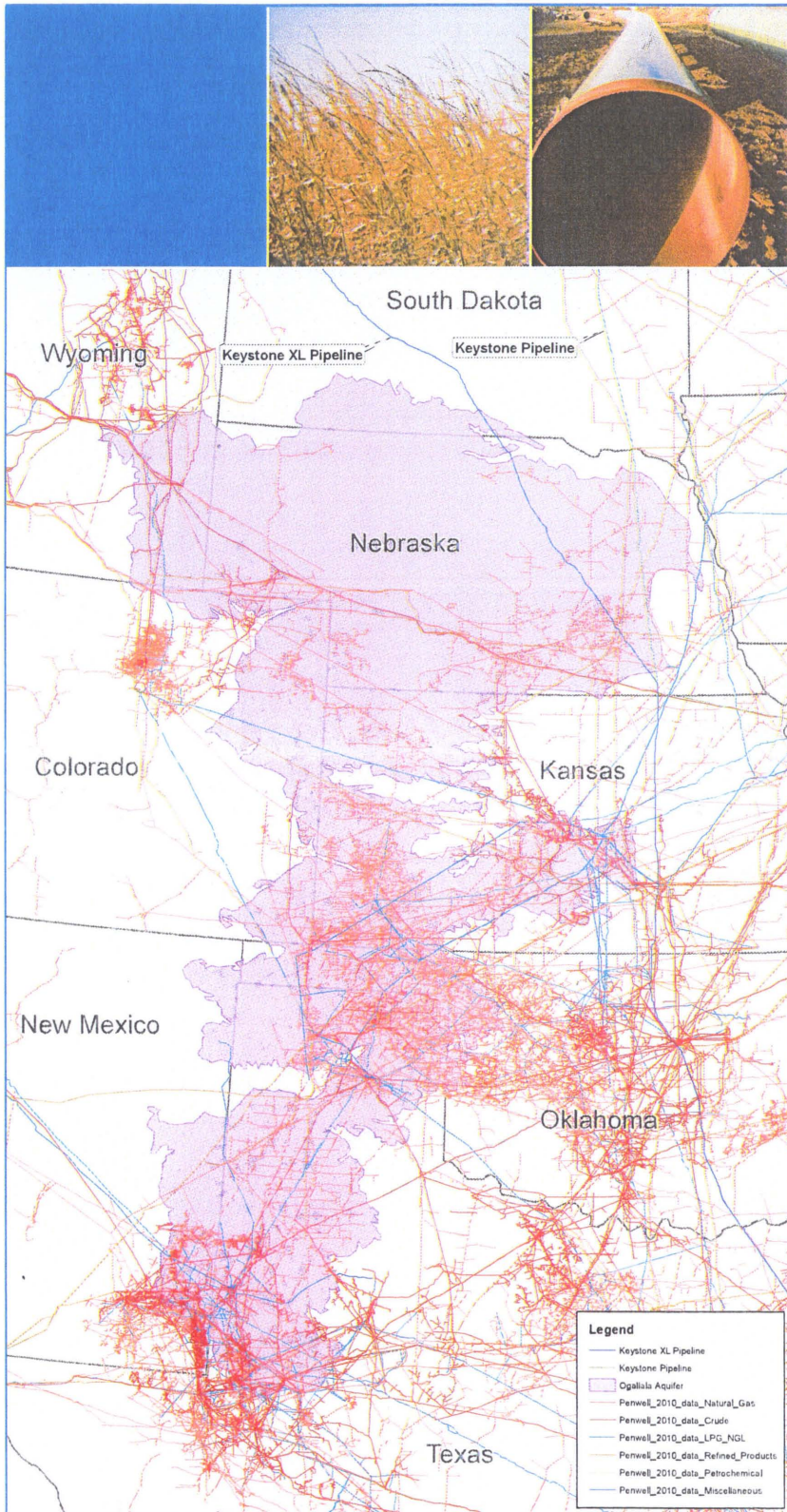
Keystone does not threaten the viability of the Ogallala Aquifer

The Keystone XL pipeline would cross the Ogallala Aquifer for some 250 miles. To help put this number in perspective, there are currently almost 21,000 miles of pipelines crossing Nebraska, including almost 3,000 miles of hazardous liquid pipelines. Many miles of these pipelines co-exist with the Ogallala Aquifer. In addition, oil wells have been drilled and are in production within areas overlying the Ogallala Aquifer, including in western Nebraska⁵.

Not all portions of the aquifer are equally vulnerable to contamination. From a technical standpoint, the vulnerability of groundwater is a function of soil type and surficial geology overlying the aquifer; depth to groundwater; presence or absence of overlying confining layers; and the proximity and number of water wells. Some portions of the Ogallala Aquifer are confined, meaning there are protective materials such as clays and glacial till which protect the aquifer from surface contamination. In other areas these protective confining layers do not exist.

Assuming a spill from Keystone were to occur in an area where the Ogallala Aquifer is vulnerable, properties of crude oil and its behavior in soils and aquifers limits the area impacted by a spill. Crude oil has a high affinity for soils and, after the initial dispersal that occurs during the spill event, crude oils do not tend to migrate substantially through soils. If the oil came in contact with groundwater, constituents within crude oil may dissolve and mobilize but that process takes time and, even then, the ability of these contaminants to move through groundwater is limited. Groundwater contains naturally occurring subsurface microbes that break down hydrocarbons, limiting dispersal of petroleum products. Studies have shown

Pipeline Safety and the Ogallala Aquifer



that within groundwater, movement of dissolved constituents typically is confined to approximately 300 feet from the source, due to this natural attenuation^{6,7}.

Consequently, even if a spill occurred in an area with shallow groundwater, and even if the oil remained in contact with the water for long enough that contaminants would dissolve into the water, impacts would be limited to a very localized area. It is not possible to contaminate the entire Ogallala Aquifer.

If, despite Keystone's comprehensive operations protection measures; integrity management and emergency response programs, a groundwater aquifer were affected, TransCanada would work cooperatively with state and federal agencies to identify the appropriate, site-specific methods for clean-up, groundwater monitoring, and remediation methods. The selection of clean-up and remediation methodologies are based on site-specific conditions, including weather conditions, presence of sensitive receptors, soil permeability, hydrogeology and aquifer characteristics. Clean-up would be conducted to ensure the protection of human health and the environment and to meet state and federal standards. In the highly unlikely event that groundwater wells were adversely impacted, TransCanada would be responsible for providing an alternative water supply.

1. According to the Association of Oil Pipelines, spills along hazardous liquid pipeline rights-of-way have fallen from two incidents per thousand miles in 1999-2001 to 0.8 incidents per thousand miles in 2005-2007, a decline of 60 percent.
2. Based on historical data available from the Pipeline Hazardous Materials Safety Administration, when pipeline leaks do occur, they are small. Most pipeline leaks are three barrels or less; 80% of spills involve less than 50 barrels; and less than 0.5 percent of spills total more than 10,000 barrels.
3. Requirements for response are detailed in 49CFR194.
4. Nebraska Environmental Protection Act, §81-1501 et seq.
5. According to the Nebraska Energy Office, crude oil has been produced in Nebraska since 1939. In 2009, Nebraska produced more than 6,000 barrels of crude oil per day from 18 different counties. Seventeen of these counties are located in western Nebraska and are underlain by the Ogallala Aquifer.
6. Newell, C.J. and J.A. Connor. 1998. Characteristics of Dissolved Petroleum Hydrocarbon Plumes, Vers. 1.1. Prepared by Groundwater Service, Inc. for the American Petroleum Institute Soil and Groundwater Technical Task Force, December 1998. 8 pp.
7. In addition to natural limitations on the spread of petroleum contaminants in groundwater as described above, the movement through groundwater, to the limited extent it does occur, tends to occur slowly. Movement of contaminants is always slower than the flow of groundwater itself. According to Gutentag et al. (1984), average groundwater flow in the Ogallala Aquifer is approximately one foot per day.

STATE OF NEBRASKA LEGISLATURE
NATURAL RESOURCES COMMITTEE
INTERIM STUDY HEARING
OIL AND NATURAL GAS PIPELINES

TESTIMONY OF MICHAEL SCHMALTZ

1. Please state your name and address for the record.

My name is Michael Schmaltz. My business address is 450 1st Street, SW,
Calgary, Alberta, Canada.

2. Please state your position and provide a description of your areas of responsibility.

I am Environmental Manager with TransCanada PipeLines with responsibility for management of environmental issues, including construction and restoration related environmental issues, for the Keystone XL Pipeline project.

3. Please state your professional qualifications and relevant experience.

I possess two diplomas; Agronomy and Land Resource Management from Olds College, Olds, Alberta, Canada. I also possess a Masters of Business Administration from Athabasca University, Athabasca, Alberta, Canada. I have 20 years experience in Land Reclamation and Environmental Management within the petroleum industry. To date, I still am actively involved in our family owned farm consisting of livestock and grain production.

4. What is the purpose of your testimony?

I will identify the steps employed to study and understand the unique characteristics of the Sand Hills and describe TransCanada's commitment to post-construction reclamation and specifically Keystone's commitment to reclaiming the area known as the "Sand Hills" after pipeline construction is complete in that area.

5. What is TransCanada's commitment to post-construction restoration?

TransCanada is committed to restoring the productive capability of all lands disturbed by pipeline construction. We implement a comprehensive program from project planning, through construction, to reclamation and monitoring, in order to ensure that disturbance is reduced as much as possible, and to restore lands crossed by our projects to their pre-construction productivity.

6. Does TransCanada have experience with restoration of native range lands?

Yes. Native rangelands are important ecosystems that support a variety of uses such as livestock grazing, wildlife habitat, and recreational opportunities. With over 50 years of experience building and operating pipelines, TransCanada has successfully reclaimed thousands of acres of native rangeland on pipeline rights-of-way throughout North America. Included in these efforts are successful pipeline reclamation projects in the arid native prairie regions of southern Alberta and southwestern Saskatchewan, Montana, North Dakota, and South Dakota. This includes areas such as the Great Sand Hills of Saskatchewan.

7. How would you characterize the Sand Hills region that exists in Nebraska?

The Sand Hills region of southern South Dakota and central Nebraska is an extensive and biologically significant ecoregion encompassing approximately 23,000 square miles. Soils are typically sandy and possess a high erosion potential vulnerable to forming blowouts and bare dunes where vegetation is not properly managed. The Sand Hills are not a uniform landscape, but a collection of diverse habitats that vary from exposed wind-swept ridges and blow outs to areas of soil deposition on the windward side, with wet meadows and alkali lakes in valley bottoms.

8. What steps has Keystone taken to better understand the challenges posed by construction and reclamation in the Sand Hills region?

During project scoping, TransCanada conducted a literature search and data gathering of the Sandhills region to aid in the projects environmental “desk-top analysis”. Secondly, TransCanada engaged in discussions with numerous regional experts on Sand Hills ecology and restoration at universities and government agencies, including experts at the University of Nebraska, the University of South Dakota, the Natural Resources Conservation Service (NRCS), and state road departments. Keystone also conducted field investigations of the entire route through the Sand Hills region to evaluate the landscape and vegetative species that are present and also to confirm the soil characteristics that were reported through NRCS SUGRO soils data. Keystone met with the Upper Elkhorn Natural Resources District, Landowners for Fairness representatives, several landowners and regional experts as mentioned above, to gain an understanding of the livestock, land management and soil conservation practices commonly employed

in the area.. These actions have assisted us in understanding the soil and landscape characteristics and challenges in the region and in turn establish the necessary construction and reclamation measures to be employed during and following pipeline construction to ensure the lands agricultural capability is maintained.

9. Are there specific best management practices that Keystone will use to ensure effective post-construction restoration of the Sand Hills region?

Yes. Keystone will implement a number of best management practices, as appropriate, to ensure effective reclamation in the Sand Hills region. These practices include the following:

- Revegetate the right-of-way in areas of native rangeland using seed mixes adapted to the Sand Hills, developed with input from the local NRCS offices and through collaboration with regional experts. Adjust seed rates accordingly to complement the application methods, seed bed and terrain constraints.
- Ensure all seed is certified noxious weed free and calculated on a pure live seed (PLS) basis.
- Use straw, native prairie hay, or other approved materials as mulch, and apply to the right-of-way and crimped into the soil to prevent wind erosion. Ensure all mulch is documented as noxious weed free. Annual

cover crops may also be used to provide a vegetative cover to control erosion where appropriate.

- Use of hodder guagers or imprinters to create impressions in the soil, reducing erosion, improving moisture retention and creating microsites for seed germination where appropriate.
- Use sediment logs (straw wattles), slope breakers, or silt fencing where appropriate to manage soil erosion issues in place.
- Apply photo degradable matting on steep slopes or areas prone to extreme wind exposure such as north or west-facing slopes and ridge tops. Use biodegradable pins in place of metal staples to hold the matting in place.
- Take into consideration soil, vegetative and regional moisture constraints, and the landowner's livestock grazing management to evaluate the need to implement fencing of the right-of-way from livestock to hasten vegetation reestablishment. Incorporate management concerns such as livestock access to water or movement within a pasture into any decisions. Compensate landowners for any grazing restrictions experienced due to fencing.
- Utilize soil tackifiers to aid in erosion control of topsoil resources.

10. Does this complete your testimony?

Yes.

STATE OF NEBRASKA LEGISLATURE
NATURAL RESOURCES COMMITTEE
INTERIM STUDY HEARING
OIL AND NATURAL GAS PIPELINES

TESTIMONY OF JIM KRAUSE

1. Please state your name and address for the record.

Answer: My name is Jim Krause. My business address is 13710 FNB Parkway;
Suite 300, Omaha, Nebraska.

2. Please state your position and provide a description of your areas of responsibility.

I am Director of U.S. Field Operations for TransCanada Keystone Pipelines.

3. Please state your professional qualifications and experience with pipeline operations.

I am registered with the Alberta Society of Engineering Technologists. I have been working in pipeline operations and engineering for over 27 years.

4. What is the purpose of your testimony?

I will address Keystone's emergency response capability for the Keystone XL Project, and the federal government's oversight of that capability.

5. Is Keystone required to develop an Emergency Response Plan for the Keystone XL Pipeline, to address potential crude oil spills?

Yes. The federal Department of Transportation – Pipeline and Hazardous Materials Safety Administration (DOT-PHMSA) has promulgated regulations at 49 CFR Part 194 that require an onshore pipeline operator such as Keystone to prepare and submit an Emergency Response Plan (ERP)/Facility Response Plan (FRP) for approval prior to

commencing operations. The DOT-PHMSA regulations at Part 194 spell out in detail the areas that must be covered in the operator's ERP.

6. Can you describe the general requirements of an ERP as set out in the DOT-PHMSA regulations?

Each emergency response plan must include procedures and a list of resources for responding to the maximum extent practicable, to a worst case discharge and to a substantial threat of such a discharge.

An ERP must Demonstrate an operator's clear understanding of the function of the Federal response structure, including procedures to notify the National Response Center reflecting the relationship between the operator's response organization's role and the Federal On Scene Coordinator's role in pollution response. In addition, a plan must establish provisions to ensure the protection of safety at the response site and identify the procedures to obtain any required Federal and State permissions for using alternative response strategies such as in-situ burning and dispersants.

Operators are required to identify and ensure that they have the resources available to remove, to the maximum extent practicable, a worst case discharge and mitigate or prevent a substantial threat of a worst case discharge. An ERP must address the removal of a worst case discharge and the mitigation or prevention of a substantial threat of a worst case discharge; (ii) identify environmentally and economically sensitive areas; (iii) describe the responsibilities of the operator and of Federal, State and local agencies in removing a discharge and in mitigating or preventing a substantial threat of a discharge; and (iv) establish the procedures for obtaining an expedited decision on use of dispersants or other chemicals.

Each ERP must include a core plan consisting of: (i) an information summary; (ii) immediate notification procedures; (iii) spill detection and mitigation procedures; (iv) the name, address, and telephone number of the oil spill response organization, if appropriate; (v) response activities and response resources; (vi) names and telephone numbers of Federal, State and local agencies which the operator expects to have pollution control responsibilities or support; (vii) training procedures; (viii) equipment testing; (ix) a drill program; and (x) plan review and update procedures. The plan must also include an appendix specific to each response zone, as well as a description of the operator's response management system including the functional areas of finance, logistics, operations, planning, and command.

7. Is Keystone developing an ERP for the Keystone XL Project?

Yes. Keystone prepared an ERP for the Keystone Pipeline Project, which was approved by DOT-PHMSA. Keystone will prepare an ERP for the Keystone XL Project, based on the approved Keystone ERP, modified as appropriate to address project-specific elements and issues. Keystone will submit the ERP for the Keystone XL project to DOT-PHMSA for review and approval prior to commencing operations.

8. Can you describe the leak detection capabilities of the Keystone XL system?

Keystone will have a state of the art Operational Control Center (OCC) located in Calgary, Alberta, which will be staffed by trained operators 24 hours a day. Through the Supervisory Control and Data Acquisition (SCADA) system, the OCC operators will remotely monitor and control the pipeline. Keystone will also have a redundant, fully functional back up OCC available for service at all times. Keystone's OCC operators

receive 7 to 9 months of operator qualification training, which includes practice on a simulator that can simulate different scenarios on the live pipeline.

The Keystone system will have a series of complementary, overlapping leak detection systems available in the OCC and in the field. These leak detection systems are as follows:

- Remote monitoring performed by the OCC operator, which consists primarily of monitoring pressure and flow data received from pump stations and valve sites fed back to the OCC by the SCADA system. Remote monitoring is typically able to detect leaks down to approximately 25 to 30 percent of pipeline flow rate.
- Software based volume balance systems that monitor receipt and delivery volumes. These systems are typically able to detect leaks down to approximately 5 percent of pipeline flow rate.
- Computational pipeline monitoring or software based leak detection systems that utilize a model to break the pipeline system into smaller segments and monitor each of these segments on a mass balance basis. These systems are typically able to detect leaks down to a level of approximately 1.5 to 2.0 percent of pipeline flow rate.
- Computer-based, non-real time, accumulated gain/loss volume trending to assist in identifying low rate or seepage releases below 1.5 to 2.0 percent by volume detection thresholds.

- Direct observation methods, which include aerial patrols, ground patrols, and public and landowner awareness programs that are designed to encourage and facilitate the reporting of suspected leaks and events that may suggest a threat to the integrity of the pipeline.

9. Will Keystone undertake emergency response training?

Yes. The DOT-PHMSA regulations mandate emergency response training for all pipeline personnel, reporting personnel, and response personnel. Keystone will implement a training and drilling (exercise) program that meets or exceeds these requirements including those outlined in the National Preparedness for Response Exercise Program (PREP) guidelines. This will include training exercises with local and state emergency responders. Local emergency responders may be required to secure the scene of a release to ensure public safety but will not be expected to respond to the spill itself.

10. Will Keystone have adequate equipment and resources to respond to any leaks or spills?

Yes. In addition to Keystone owned equipment, as required by the DOT-PHMSA regulations, Keystone will arrange with qualified emergency response contractors to have access to adequate response equipment and capabilities along the pipeline route. In general, efforts will be made to locate response personnel and equipment in close proximity to commercially navigable waterways or other water crossings, populated areas, and sensitive areas such as drinking water locations, ecologically sensitive locations. Keystone will be able to respond to a spill in any location within the time required by the DOT-PHMSA regulations.

11. Does this complete your testimony?

Yes.

