

BEFORE THE NEBRASKA PUBLIC SERVICE COMMISSION

In the Matter of the Application	)	Application No. OP-003
of TransCanada Keystone Pipeline,	)	Pre-filed Testimony
L.P., Calgary, Alberta seeking	)	Cindy Myers
route approval of the Keystone	)	Informal Intervener
XL Pipeline Project pursuant to	)	June 5, 2017
the Major Oil Pipeline Siting Act)	

I live in rural Holt County near the Sandhills Alternative Route. Our land and private well are two miles east of that route, downstream per flow of the Ogallala Aquifer, our drinking water source. Our water is so pristine, the town of Stuart doesn't even need to treat the public water supply. How many sources of drinking water are this pure? You must taste it to truly appreciate good water.

I listened to Dr. Jim Goeke testify to the legislative Natural Resources Committee December 1, 2010 that SW Holt County is most vulnerable to ground water contamination because of our sandy soil and high ground water level.

“Certainly here in Holt County we have got high water tables and sandy soils” (1) “We have water tables near the land surface, and southwestern Holt County has that. The pipeline could actually be set into the water table.” (2)

From experience, I know water can be reached in many places just below the surface simply by digging a post hole. Dr. Goeke suggested an underground contamination plume could extend up to two miles, the distance our well is from the Sandhills route. (3) No amount of money or bottled water could replace our good water, the best I've tasted anywhere in the country.

My neighbor Connie and I gave Mike Flood a tour of SW Holt County in 2011, showing him a wondrous flowing well and numerous wetlands, both sourced by the Ogallala Aquifer. I explained how an oil pipeline in most of this area would be completely immersed in groundwater, submerged in Ogallala Aquifer waters, with only a half inch of poor quality steel separating the dirtiest, most toxic type of oil in the world from our pristine water, built by TransCanada, who has a history of leaks and faulty welding with their Keystone 1 pipeline.

I'm thankful Mr. Flood, speaker of our Unicameral at the time, actually drove out to Holt County and listened to us. He took our concerns back to the special legislative session in November of 2011. Mr. Flood was hailed for his bargaining skills after compromising with TransCanada, moving the route minimally to the east. TransCanada smiled because this assured them expediency of the process, but for Nebraska, it was a deceptive bargain. The reroute still crosses the heart of the Ogallala Aquifer, Nebraska's greatest natural resource. We are truly blessed with the lion's share of one of the largest underwater reservoirs in the world. *See Exhibits 1-2.

Mike Flood testified at the York hearing that pipelines are 450 times safer than rail transportation of oil. This sounds like a great sound bite for the pipeline industry, but this statistic is definitely irrelevant for Nebraska because of the Ogallala Aquifer, which extends beyond the Sandhills.

Common sense citizens in rural Nebraska know the value of this water because it is essential for living and livelihoods. The statistic Mr. Flood quoted came from an industry whitepaper. (4) The big number he threw out is an estimate by the U.S. Department of Transportation based on numbers of incidents, injuries, fatalities and fluids recovered. This is not a study which proves the safety of a tar sands pipeline either submerged in or just above the Ogallala Aquifer water. Holt County people know their groundwater, and they know without question that a dirty tar sands oil pipeline in our precious water is plum nonsense. The deeper you go with a pipe in Nebraska, the increased threat to the aquifer. Mike Flood's suggestion that a pipeline is safer than rail is strictly a moot point when considering risk to our groundwater.

Water contamination is my primary concern about a tar sands oil pipeline crossing through or just above the Ogallala Aquifer, and also crossing Nebraska's waterways and watersheds, including the Niobrara River, Elkhorn River, Platte River and the Big Blue. When considering river crossings, we must also consider all the tributaries and watersheds. *See exhibits 3-6. We must understand water will be impacted with a spill anywhere along the route because of tributaries and watersheds draining into these major waterways and also because of the interconnectedness of our ground and surface waters.

According to the FSEIS (Final Supplemental Environmental Impact Statement) for the Keystone XL Project:

“...benzene was determined to dominate toxicity associated with potential crude oil spills.” (5)

The International Agency on Cancer Research (IACR) lists benzene as a group one carcinogen, meaning it has strong evidence that it causes cancer. The Dept. of Health and Human Services and EPA have also determined benzene is carcinogenic.

Exposure to benzene:

1. Ingestion (water and food)
2. Inhalation of Vapors (inhabitants in vicinity of spills, emergency workers)
3. Skin Contact (emergency workers, bathing and washing clothes with contaminated water)

Eye Contact (splashes). (7)

Brad Vann, EPA Environmental Scientist, informs

“You can’t smell, taste or see it. It requires laboratory analysis to detect at these concentrations. Therefore, it would be possible to drink dilute benzene above the MCL unknowingly.” (8)

ATSDR, Agency for Toxic Substances and Disease Registry, the highest authority in the country regarding toxins, clearly indicates that benzene is a serious health threat. Brief exposure (5-10 minutes) to very high levels of benzene vapors, can result in death. Lower levels in the air can drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion and unconsciousness.(9)

Eating foods or drinking liquids containing high levels of benzene can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, coma and death. Other adverse effects implicated with benzene include leukemia, anemia, lowered immunity, reproductive harm, and crossing of the placental barrier. Animal studies have shown that benzene can cause harm to a fetus, such as low birth weight, delayed bone formation and bone marrow damage. (9)

EPA has set a goal of 0 ppb (parts per billion) for benzene in drinking water and in water such as rivers and lakes because benzene can cause leukemia. The maximum contamination limit is a very extremely dilute 5ppb. (10) This means water is undrinkable if there is more than 5 parts of benzene in a billion parts of water. Putting this in perspective, imagine the town of Stuart's water tower, if filled with 50,000 gallons of water, it would only take 17 drops of benzene to make that water undrinkable. *See exhibit 7. My calculation was reviewed by Dr. Arden Davis, Ph.D., P.E., for accuracy.

An Independent study by Dr. John Stansbury, Ph.D., P.E. (11) , and expert testimony given by Dr Arden Davis, Ph.D., P.E (12), clearly point to benzene as the toxin posing the greatest risk to our waters related to oil spills. Dr. Stansbury warned about benzene and felt a human health risk assessment should have been done to estimate the increased risk of cancer.

“The primary constituent of concern for a spill into groundwater is benzene.” “They simply indicate that there could be a significant, undetected release of benzene which could be consumed by human receptors and leave it at that.” (13)

Dr. Stansbury was prompted to do an independent study because he believed environmental assessment for Keystone Xl was woefully inadequate. He explains how benzene separates from the oil and becomes water soluble, allowing it to migrate in flowing water, perhaps hundreds of miles. (11) He describes the migration of benzene should a spill happen at the Platte River crossing:

“Contaminants from a spill at the Platte River crossing would travel downstream unabated into the Missouri River for several hundred miles and affect drinking water intakes for hundreds of thousands of people in cities like Lincoln, NE; Omaha, NE; Nebraska City, NE; St. Joseph, MO; and Kansas City, MO, as well as aquatic habitats and recreational activities.”

“The benzene released by the worst-case spill to groundwater in the Sandhills region of Nebraska would be sufficient to contaminate 4.9 billion gallons of water at concentrations exceeding the safe drinking water levels. This water could form a plume 40 feet thick by 500 feet wide by 15 miles long. This plume, and other contaminant plumes from the spill, would pose serious health risks to people using that groundwater for drinking water and irrigation.”

(11)

Dr. Arden Davis testified:

“Because of benzene’s solubility and its allowable limit of only 5 parts per billion in drinking water, a pipeline leak could contaminate a large volume of surface water or ground water...”. “Benzene is soluble in water and can be transported down gradient toward receptors such as public water-supply wells, private wells, and

spring or seeps. In certain cases, benzene can be transported more than 500 or 1000 feet down gradient in aquifers.” (12)

According to the FSEIS:

“Most spills that enter a water body could result in exceedence of the national MCL for benzene,” and “...analysis indicates the need for rapid notification of managers of **municipal water intakes downstream of spill so that any potentially affected drinking water intakes could be closed to bypass river water containing crude oil.**”

(14) “The proposed Project route would cross several tributaries to the Missouri River with the potential to affect the Missouri River” (15)

A spill January 2015 oil pipeline rupture into the Yellowstone River **allowed benzene to migrate into the water supply of Glendive, MT and benzene was found to be up to triple the MCL.** (16) Current water treatment systems do not remove benzene according to an engineer with the MWRWSS (Mni Wiconi Rural Water Supply System) in SD.

Most baffling to me, most likely due to my background as a registered nurse, is that environmental impact statements required for these types of projects do not have a specific health impact assessment. Look at the table of contents of the FSEIS. Chapters devoted to plants, wildlife, soil, etc., but not one chapter devoted for assessment of impact to humans. (17)

The Kalamazoo River oil spill in July 2010 greatly affected people's health. The Michigan Dept. of Health identified 320 (58%) of 550 individuals with adverse health effects from four community surveys along the impacted waterways. (18)

TransCanada uses a pamphlet "Oil Pipeline for Emergency Responders" instructs people to monitor for benzene "if possible". (19) I'm concerned about volunteer emergency responders being untrained about the dangers of benzene, how to monitor for benzene and how to protect themselves from the strong toxic vapors. Strong benzene fumes from a major spill could be fatal within 10-15 minutes without protection. Medical facilities must be prepared for oil spill disasters. I believe medical staff education and drills should be required since benzene poisoning is not usual for most health professionals. There is a sample MSDS (Safety Data Sheet) in the FSEIS with the notation "These MSDS do not represent the actual product that would flow through the proposed Keystone XL pipeline". (20)

After six years in operation, TransCanada's Keystone 1 had a major spill in SD in April 2016. 17,000 gallons of oil spilled underground at Galen Heckenlaibel's farm. **This large leak was not detected by high-tech sensors touted by TransCanada, but discovered by a landowner. (21)** **It took an entire week before TransCanada could even find the location on the pipeline from which the oil spewed. Faulty welding was attributed to this disaster. (21)** In a May 2017 news interview, Galen was asked if the \$12,000 dollars he was paid for his easement was worth it. Without hesitation he responded "I would not do it again". He believes TransCanada did not properly compensate him for the cleanup effort on his land. (22) *See exhibits 8-11.

It has been public knowledge that TransCanada's Keystone 1 has been very leaky from the start, including a gusher that shot about 60 feet into the air when a valve failed, "It was higher than the cottonwood trees." (23)

When it comes to cleaning up dilbit in water, there is definitely a difference compared to conventional crude oil per the FSEIS:

"A notable difference between dilbit (diluted bitumen, tar sands oil product) and other forms of crude is its capacity to precipitate out in water." "Due to the capacity for dilbit to precipitate out in water and its resistance to biodegradation, in the event of a release to a water body, more difficult cleanup scenarios (dredging) may be expected..." (24)

According to the Nebraska Department of Environmental Quality Study of the KXL Reroute in 2012, there are 2,398 wells within one mile of the reroute in Nebraska. (25) A large municipal supply well or intake could potentially draw affected water to the well or intake since it would draw from a larger area of groundwater. (26)

I adamantly oppose the Sandhills route option, since this has some of the most pristine water in our state. The route option with the least impact to NE isn't mentioned in the application, This is the I-90 corridor, described in the FSEIS, which would follow the interstate for a distance in SD, and then drop down and parallel Keystone 1 the entire distance across NE. (27) *See exhibit 12.

Because of great risk to our waters, limited tax revenue due to depreciation, and negligible permanent jobs, the best option in Nebraska is no route. I am opposed to all three of the proposed Keystone XL Pipeline route options through Nebraska, particularly the Sandhills route.

I ask the Commissioners to deny TransCanada's request for any of the proposed routes.

Holt County Commissioners passed a resolution declaring no oil pipelines. This means no discussion, no debate. It means no KXL in Holt County.

Respectfully submitted,

Cindy Myers

Informal Intervener

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402-709-2920

Bibliography/References

(1) Nebraska Legislative Natural Resources Committee Transcript, December 01, 2010, page 19.

<http://nebraskalegislature.gov/FloorDocs/101/PDF/Transcripts/Natural/2010-12-01.pdf>

(2) Nebraska Legislative Natural Resources Committee Transcript, December 01, 2010, page

21. <http://nebraskalegislature.gov/FloorDocs/101/PDF/Transcripts/Natural/2010-12-01.pdf>

(3) Nebraska Legislative Natural Resources Committee Transcript, December 01, 2010, page 31.

<http://nebraskalegislature.gov/FloorDocs/101/PDF/Transcripts/Natural/2010-12-01.pdf>

(4) UTA, United Transportation Advisors, LLC, February 2014, page 6.

<https://outlook.live.com/owa/projection.aspx>

(5) U.S. Department of State, FSEIS for Keystone XL Project (Final Supplemental

Environmental Impact Statement) for Keystone XL Project. 4.13-25. <https://keystonepipeline->

xl.state.gov/documents/organization/221135.pdf

(6) IACR, International Agency on Cancer Research

(7) U.S. Dept. of State, FSEIS for Keystone XL Project. 3.13-4. <https://keystonepipeline->

xl.state.gov/documents/organization/221135.pdf

(8) Brad Vann, EPA Environmental Scientist, Region 7, Vann.Bradley@epamail.epa.gov.

Quotes from email from Brad Vann received June 2011.

(9) ATSDR (Agency for Toxic Substances and Disease Registry). Public Health Statement, Benzene. CAS#:71-43-2. Division of Toxicology and Environmental Medicine. August 2007.

(10) EPA (Environmental Protection Agency).

(11) Dr. John Stansbury, Ph.D., P.E., “Analysis of Frequency, Magnitude and Consequence of Worst-Case spills from the Proposed Keystone XL Pipeline”.

<http://engineering.unl.edu/downloads/civil/Worst-case-Keystone-spills-report-dis.pdf>

(12) Dr. Arden Davis, Ph.D., P.E., Expert Testimony before the Public Utilities Commission of the State of South Dakota in the Matter of the Petition of TransCanada Keystone Pipeline, LP for Order Accepting Certification of Permit Issued in Docket HP09-001 to Construct the Keystone XL Pipeline on Behalf of Dakota Rural Action.

<https://puc.sd.gov/commission/dockets/HydrocarbonPipeline/2014/HP14-001/testimony/davistestimony.pdf>

(13) Dr. John Stansbury, Ph.D., P.E., Information emailed to me from Dr. Stansbury.

(14) US Dept. of State. FSEIS for Keystone XL Project, Appendix P. <https://keystonepipeline-xl.state.gov/documents/organization/221135.pdf>

(15) US Dept. of State. FSEIS for Keystone XL Project, 3.3-3.39. . <https://keystonepipeline-xl.state.gov/documents/organization/221135.pdf>

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(21) U.S. Dept. of Transportation. Pipeline and Hazardous Materials Safety Administration, In the Matter of TransCanada Oil Operation, Inc., Respondent. Corrective Action Order. April 9, 2016. CPF No. 3-2016-5002H.

- (22) KSFY, abc. “A Year After the Spill: Farmer Shares Story of the Keystone Pipeline Cleanup”. May 2017. <http://www.ksfy.com/content/news/A-year-after-the-spill-Farmer-shares-story-of-the-Keystone-Pipeline-cleanup-422068233.html>
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- (25) NDEQ (Nebraska Dept. of Environmental Quality). “Nebraska’s Keystone XL Pipeline Evaluation”. Draft Evaluation Report. October 2012.
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In the Matter of the Application)	Application No. OP-003
of TransCanada Keystone Pipeline,)	Exhibit List
L.P., Calgary, Alberta seeking	)	Cindy Myers
route approval of the Keystone	)	Informal Intervener
XL Pipeline Project pursuant to	)	June 5, 2017
the Major Oil Pipeline Siting Act)	

1. Map of Ogallala Aquifer (High Plains Aquifer) in relation to first KXL route, depicting saturated thickness of the aquifer.

2. Depth to water map.

3. Niobrara River and tributaries upstream tracing, USGS

4. Elkhorn River and tributaries upstream tracing, USGS

5. Platte River and tributaries upstream tracing, USGS

6. Big Blue River and tributaries upstream tracing, USGS

7. Water Tower image showing 17 drops of benzene will
contaminate 50,000 gallons of water.

8. Photo of Keystone One spill site, April 4, 2016, taken by
Cindy Myers

9. Photo of Keystone One spill site, April 4, 2016, taken by
Cindy Myers

10. Photo of Keystone One spill site, April 8, 2016, taken by
Cindy Myers

11. Photo of Keystone One spill site, April 8, 2016, taken by
Cindy Myers

12. Map of I-90 corridor route option

13. Holt County Board of Supervisors Resolution against Oil
pipelines

Respectfully Submitted,

Cindy Myers

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BEFORE THE NEBRASKA PUBLIC SERVICE COMMISSION

In the Matter of the Application)	Application No. OP-003
of TransCanada Keystone Pipeline,	)	Witness List
L.P., Calgary, Alberta seeking	)	Cindy Myers
route approval of the Keystone)	Informal Intervener
XL Pipeline Project pursuant to)	June 5, 2017
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As an informal intervener, I declare myself as a witness

Respectfully Submitted,

Cindy Myers

Informal Intervener

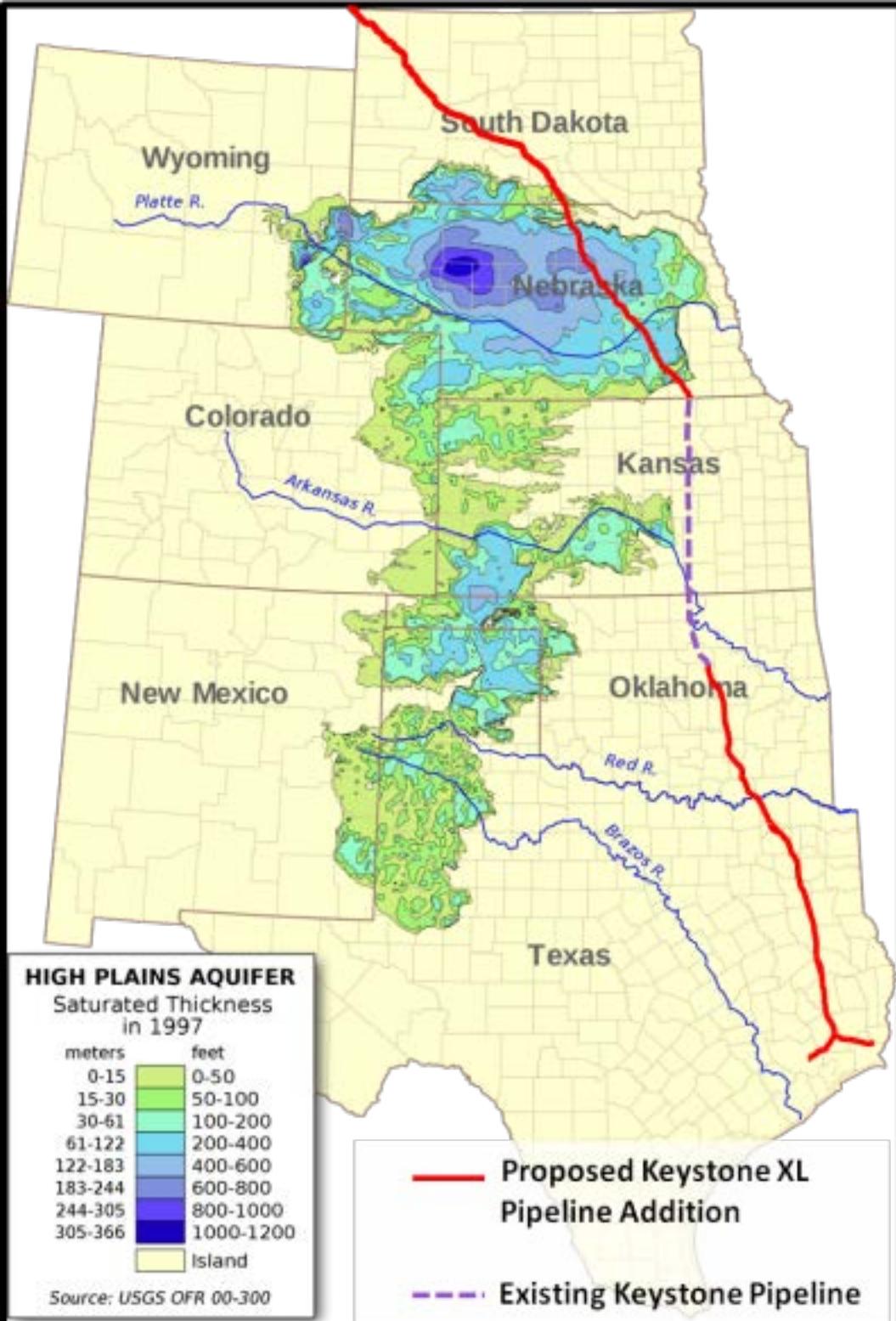
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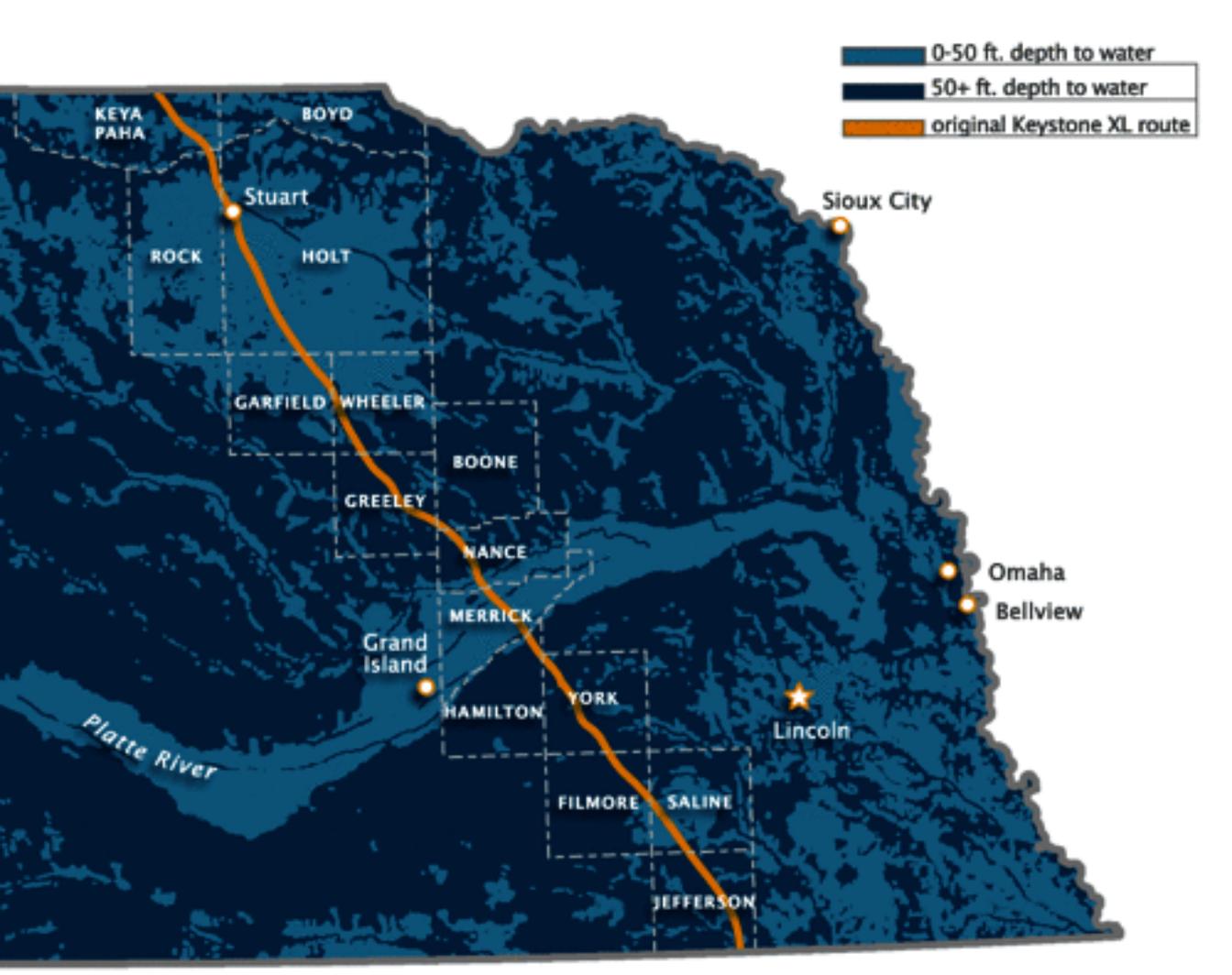
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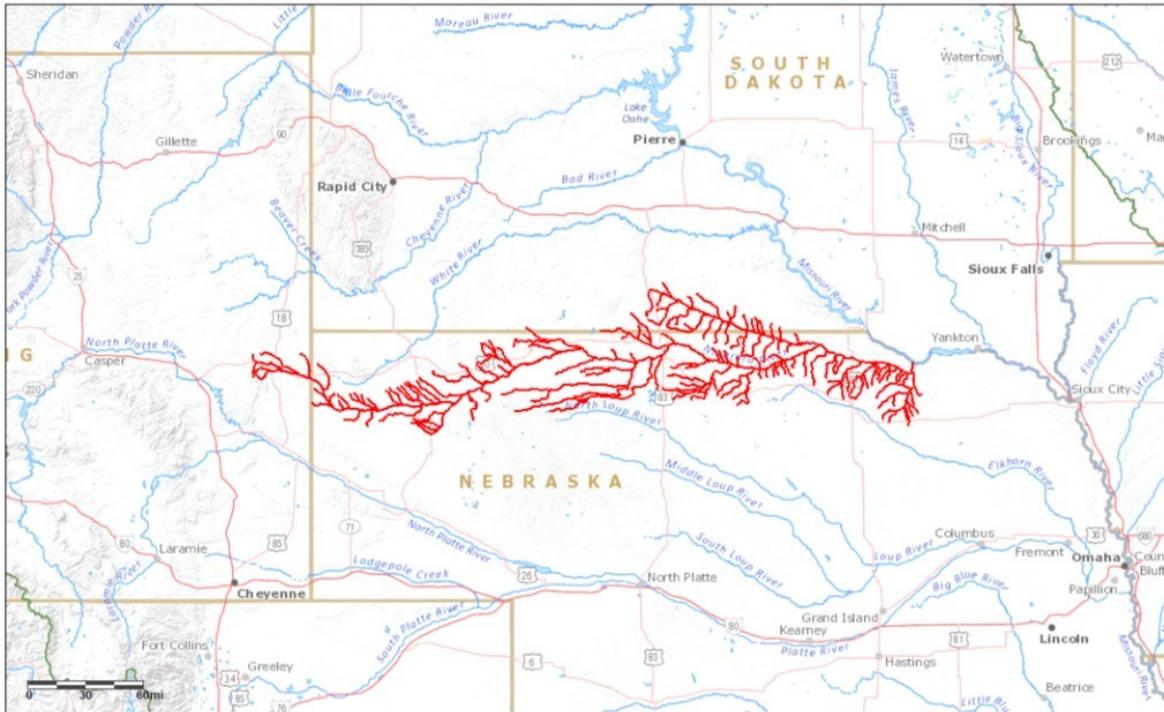
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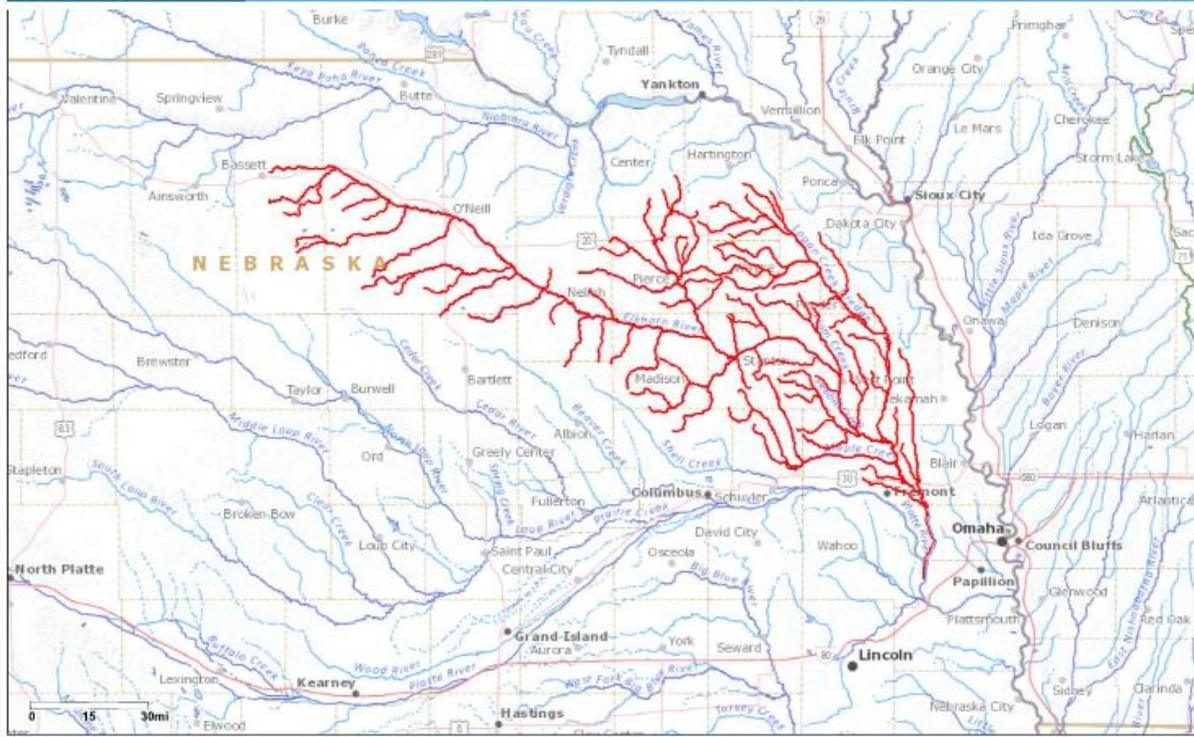
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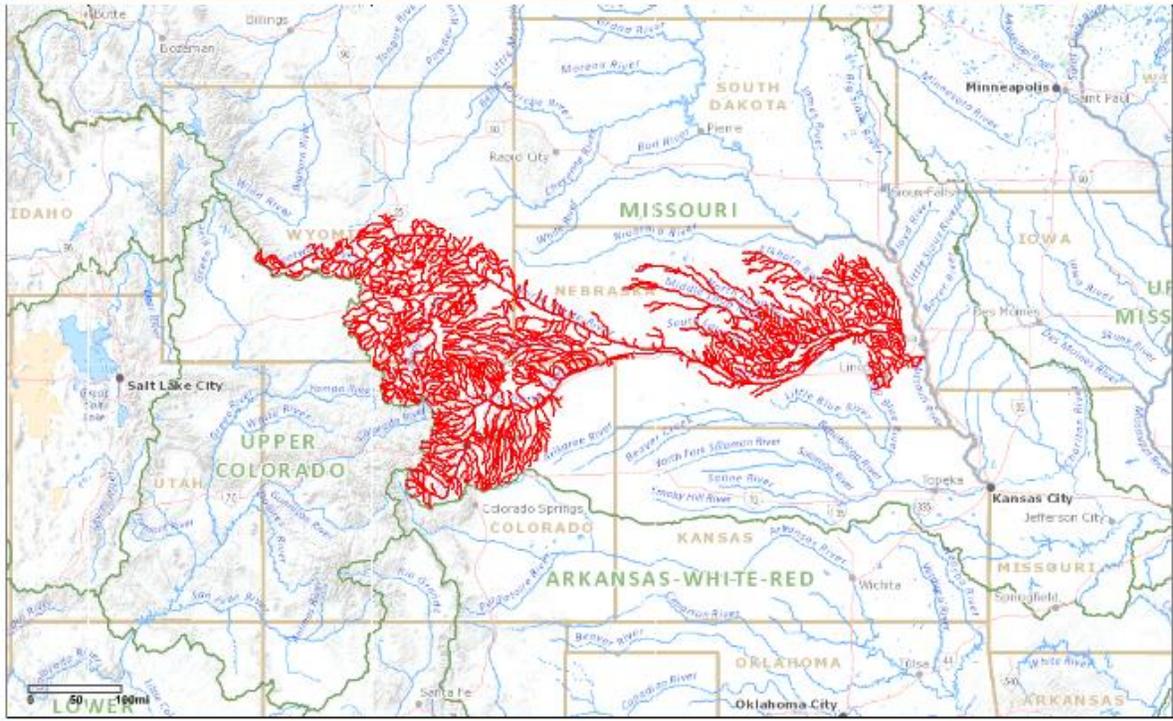




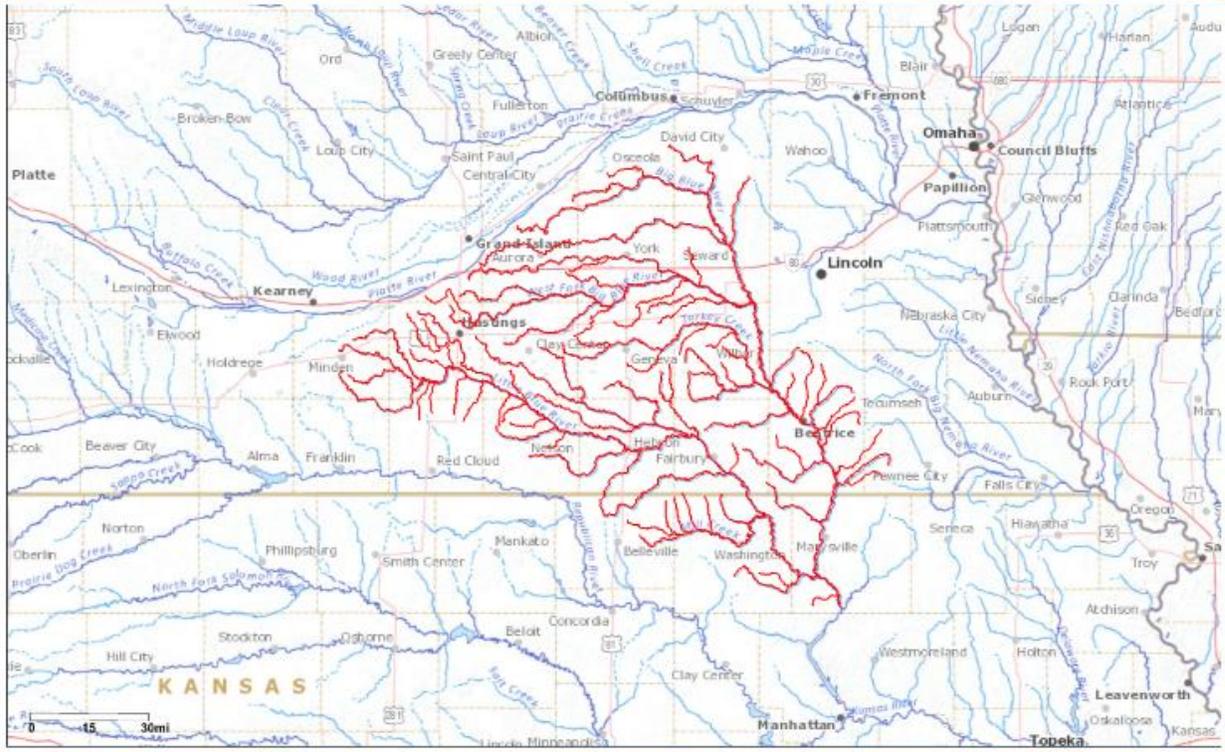




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A black and white illustration of a water tower. The tower has a square base, four legs, and a lattice-work structure. At the top is a small square tank with a peaked roof. A sign is attached to the front of the tank. The sign contains the text: "17 drops of Benzene poisons 50,000 gallons of water".

17 drops of
Benzene
poisons
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gallons of
water





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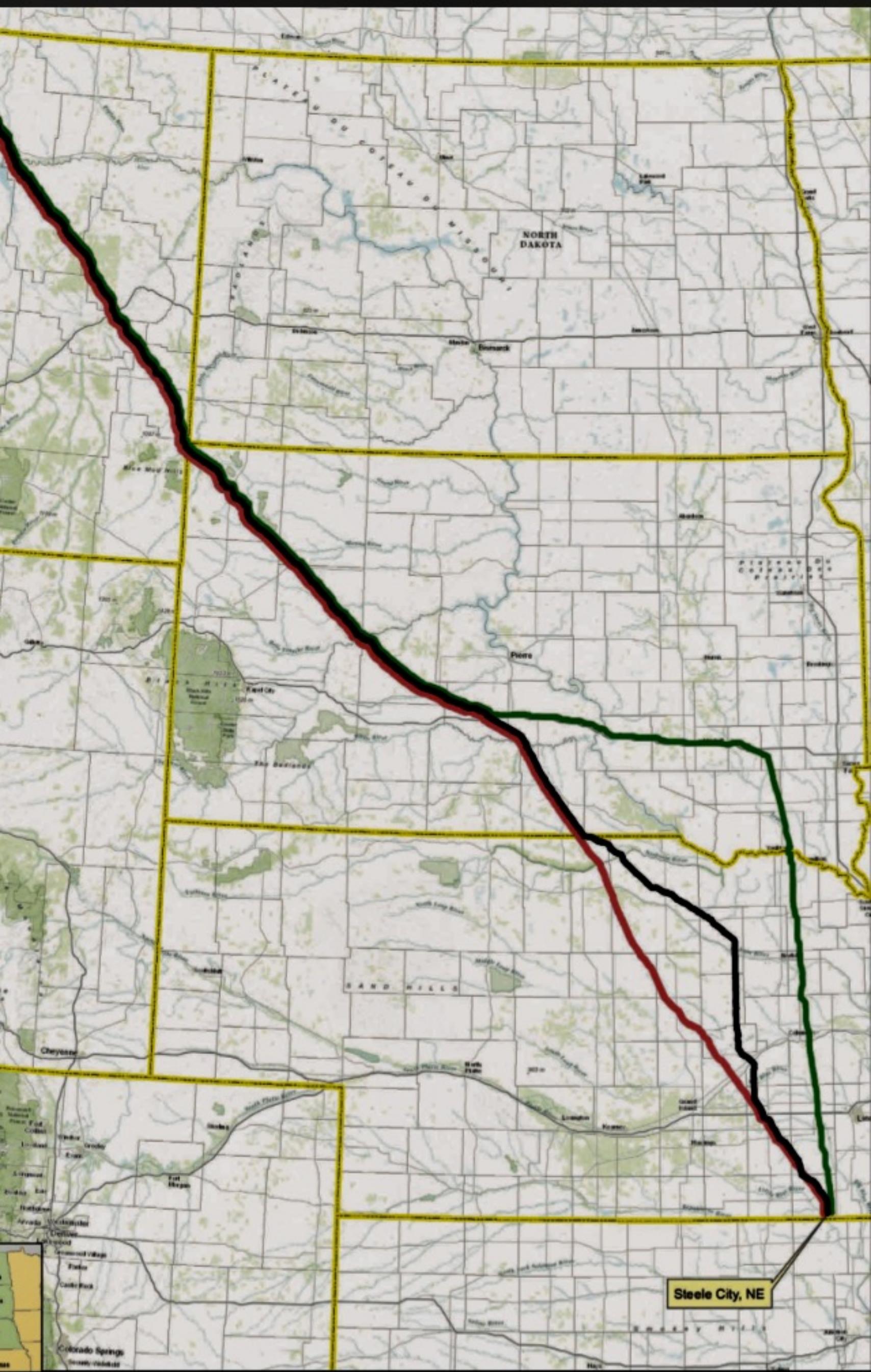
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— I-90 Corridor Alternative
— 2011 Steele City Alternative

CINDY MYERS EXHIBIT 13/13

NE PSC OP-003

Holt County Board of Supervisors passes resolution to oppose all crude oil and or tar sand pipelines across Holt County. April 30, 2013

“10:15 being the time advertised the meeting was opened up for discussion on the Keystone XL Pipeline that is proposed to come through Holt County. 35 interested landowners along with 3 Keystone XL Pipeline Representatives were present. Time was allowed for the following to speak: Mary Jean Adams, Bob Beelaert, Ernie Fellows, Oliver Horton, Jeff Rauh, Ray Kopecky, Neil Galloway, Bruce Boettcher, Lloyd Addison, Dwain Marcellus, Susan Schaaf, Sue Mitchell, Terry Frisch, Bud Andersen and Susan Luebbe.

Chairman Tielke suggested a motion that Holt County is not opposed to pipelines but is concerned with the tar sands being pumped through Holt County.

RESOLUTION #2013-7

OF THE

HOLT COUNTY BOARD OF SUPERVISORS

Motion by Boshart, 2nd by Metschke, to propose the following Resolution: to oppose all crude oil and or tar sand pipelines across Holt County. Voting Aye: Butterfield, Boshart, Scholz, Metschke, Hahlbeck, Snyder and Tielke. Voting Nay: None. Motion carried.”