TransCanada-Keystone Crude Oil Pipeline

Prepared by*
WEB Water Development Association, Inc.*
PO Box 51, Aberdeen, SD 57402-0051
email: chohn@webwater.org
Phone 1-800-658-3957 or (605) 229-4749

Introduction

TransCanada, a Canadian company, is seeking a permit approval from President Bush through the U.S. State Department and from the South Dakota Public Utilities Commission to construct and operate a $2.1 billion, **30 inch high pressure crude oil pipeline** from the oil sands area of Hardisty, Canada to Patoka, Illinois, crossing through eastern South Dakota. A number of issues that require additional information are identified throughout this booklet. Agency contacts are on page 21. Action items can be found on page 18.

Public Hearings – SD Public Utilities Commission

The South Dakota Public Utilities Commission, which has regulatory authority over oil and gas lines in South Dakota, will be holding four public hearings on the TransCanada-Keystone Pipeline. The PUC is charged with protecting South Dakota citizens and property from the impacts of oil and gas pipelines. **The PUC will take public comment and written testimony** on the dates and times listed below. Landowners and community leaders should plan to attend to offer their views, voice their concerns and present verbal or written testimony. Additional more formal hearings will follow these informal hearings.

Monday, June 25, 2007, 11:00 AM	City Commission Chambers, 416 Walnut, Yankton, SD
Monday, June 25, 2007, 7:00 PM	Joe's Café, 1150 Spruce, Alexandria, SD
Tuesday, June 26, 2007, 7:00 PM	Clark Community Center, 120 N Commercial St, Clark, SD
Wednesday, June 27, 2007, Noon	Marshall County Community Bldg, 909 S Main, Britton, SD

Written testimony may be sent by email or by U.S. mail to the PUC at the address shown below. Those who wish to have **legal standing** and take part in the final decision process must file an ***Application for Party Status*** with the PUC before 5:00 pm **June 26, 2007** on a form available from the PUC Office in Pierre, SD listed below. A copy of the form may also be secured by calling 1-800-658-3957.

SD Public Utilities Commission
State Capitol Building – 1st Floor
500 E Capitol Avenue
Pierre, South Dakota 57501-5070
Phone 1-800-332-1782 or (605) 773-3201
Fax (605) 773-3809
Dusty Johnson, Chairman..... dustin.johnson@state.sd.us
Gary Hanson, Vice Chairman... .gary.hanson@state.sd.us
Steve Kolbeck, Commissioner.. steve.kolbeck@state.sd.us
www.state.sd.us/puc/puc

U.S. State Department
Elizabeth A. Orlando, Foreign Affairs Officer
OES/ENV Room 2657 U.S. State Department
Washington, D.C. 20520
Phone (202) 647-4284
Fax (202) 647-1052
orlandoea2@state.gov

I-29 Alternate Route - Preferred (Map on Page 2)

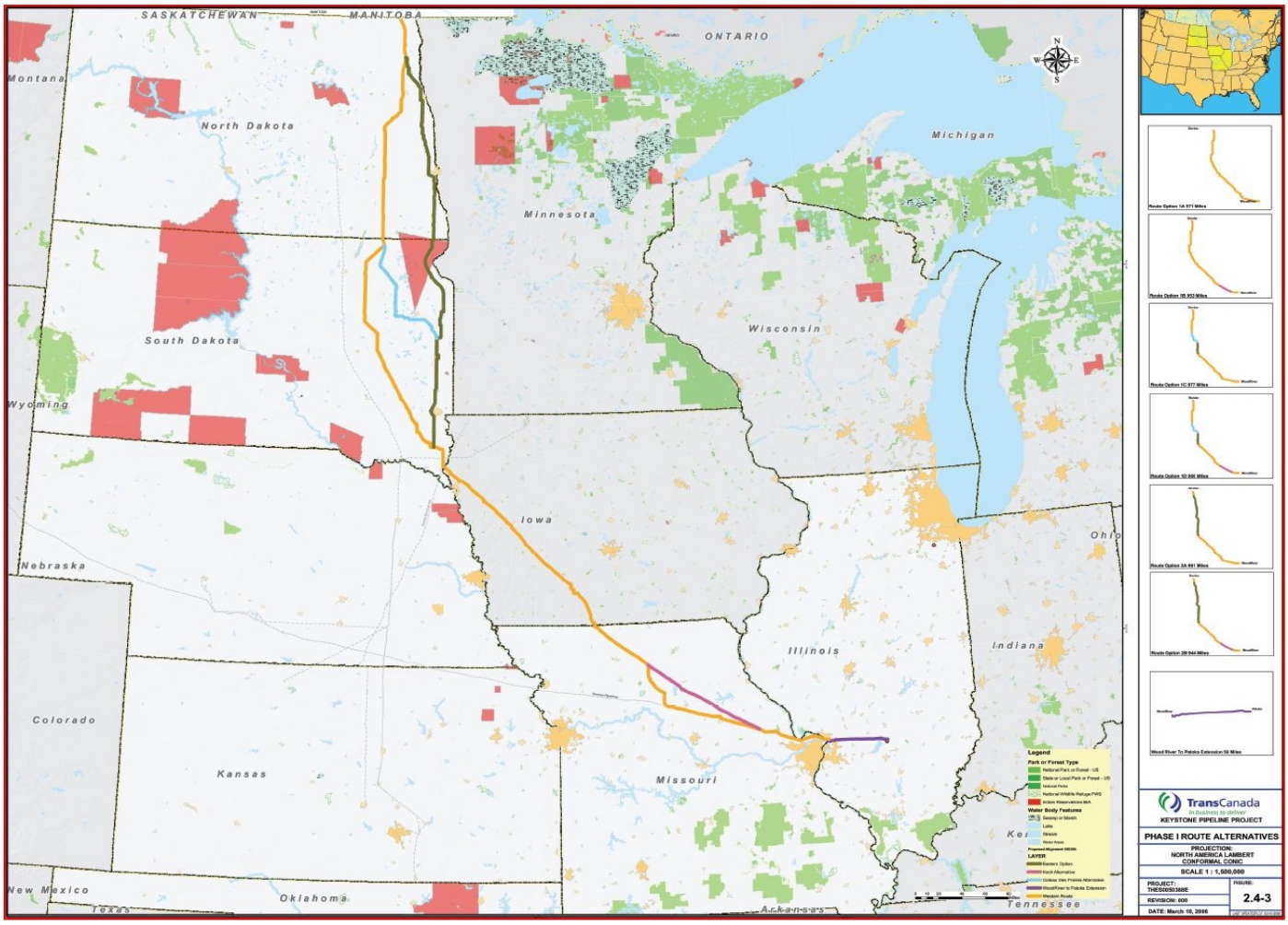
The permit application TransCanada filed with the U.S. State Department in 2006 included an "**Alternate Route**" (*Map 2.4-3*) for the crude oil pipe along **Interstate Highway I-29 through North Dakota and South Dakota** (see page 2). **The I-29 Alternate Route would allow for the oil pipeline to be placed in existing state road right-of-way and would require far less acquisition or condemnation of privately owned productive farm land. If an oil leak occurs in the future, it could be contained in a wide highway road ditch along a well traveled highway where it could be quickly spotted and reported and emergency response teams and equipment quickly dispatched to clean up the oil spill**. **WHY NOT** locate the Trans-Canada-Keystone Oil Pipeline in state road right-of-way rather than through productive private farm lands? The Governor and other state officials support the TransCanada-Keystone Oil Pipeline and will collect contractor's excise and annual tax revenues. If there is an oil leak, the Governor and state agencies will have better luck getting TransCanada out to clean up a "spill" in a timely manner than a farmer or landowner located in a remote rural area with narrow township roads or section line trail access.

TransCanada's Easement Is Unfair - Landowners DON'T SIGN

Even before the PUC public hearings have been held, TransCanada's out-of-state land agents have been contacting landowners telling them their land will be condemned if they don't sign a **TransCanada Easement and Right-of Way Agreement.** Some landowners have complained of threats and harassment by TransCanada land agents. Some have claimed that TransCanada is targeting absentee landowners, poor landowners, and the elderly. Many question why TransCanada is being allowed by the SD Public Utilities Commission to secure land easement **before the PUC has even held public hearings or granted the company a permit** to pass through the South Dakota. Lawyers who have reviewed the easement question whether it provides landowners protection against future oil leaks, fires, and soil or ground water contamination. Section 1 of the easement is shown below.

> "Section 1. *Grantor (landowner) on behalf of itself and its heirs, assigns, agents, successors in interest and any other person or entity taking through or under it) does hereby release, acquit, waive and forever discharge Grantee (TransCanada), and its successors and assigns, its parent, subsidiary and related companies and their officers, directors, employees, shareholders, agents , successors, assigns, attorneys, insurers, sub-contractors, consultants, or any other person or entity taking through or under them, or any of them, of all and from all manner of action, causes of action, lawsuits, claims and demands of every kind and nature whatsoever, whether known or unknown and whether arising in law or in equity, that Grant has or may have against Grantee (its successors and assigns) in connection this Agreement.*

Interstate 29 - Alternate Route - TransCanada Oil Pipeline



Landowners Should Not Sign Any TransCanada Documents

Landowners shouldn't sign any TransCanada documents before first having them reviewed by an attorney,

especially the easement document, which as written takes away landowner rights in the event of a spill or pipe failure. Furthermore, there is no good reason to sign documents before the PUC hearings have been held. In the event of a crude oil leak, will TransCanada have any responsibility to the landowner for damage to their property, loss of future income, and other damages caused by an oil leak? Many question whether the onetime payment by TransCanada is adequate for the risk and conditions place on the land. **A payment offered by TransCanada to one landowner in Marshall County amount to $39 per acre when figured over the 50 year expected life of the pipeline, well below what cash rent is going for in the area** ($26,000 : 13.3 acres : 50 yrs = $39 acre per year average). At a landowners meeting in Britton, SD on May 10, 2007, TransCanada's engineer L.A. "Buster" Gray said easements that had already been secured from landowners with the Section 1 clause included would not be returned, cancelled or amended. Is the only remedy left for landowners who have signed the document with this wording who now object, be some form of class action litigation or a restraining order to restore landowner rights? Who is looking out for the rights of South Dakota landowners and farmers?

Have Officials Already Given A Foreign Company Condemnation Over Private Lands?

The following statement is taken from the information filed by TransCanada with the U.S. State Department as part of the permit application process.

> *"Landowners will receive monetary compensation in return for granting easements, including compensation for the diminution in the value of the property, if any, loss of use during construction, crop loss, loss of nonrenewable or other resources, and restoration of unavoidable damage to property during construction. If an easement cannot be negotiated with the landowner, Keystone may acquire easements needed for the pipeline under state eminent domain laws." (TransCanada Construction Mitigation & Reclamation Plan, pg 1-21).*

TransCanada-Keystone Pipeline intends to acquire the necessary right-of-way easement for construction and operation of the pipeline by negotiating easements with landowners along the route or, if necessary by condemnation. **As late as May 10, 2007 TransCanada's land agents have been telling South Dakota landowners they have the right to use SD eminent domain laws to condemn private land if the owner doesn't accept TransCanada's offer.** Landowners have reported being threatened with condemnation if they don't sign immediately, on the very same day the landowner was given the easement document.

Has the PUC, the Governor, the Legislature, a state agency, or a court all ready granted Trans-Canada the power of condemnation and eminent domain over private land as they claim BEFORE the Public Utilities Hearings were even held on June 25, 25 and 27, 2007?

WHY would any South Dakota official grant a foreign company the right of condemnation and eminent domain over private lands owned by South Dakota landowners and taxpayers? Whatever happened to the concept of private property rights? What precedent does this set for South Dakota? Since statehood, the use of eminent domain has been limited to public roads and local utilities that provide a direct benefit to the citizens and landowners of South Dakota. A crude oil pipeline from Canada provides no such direct benefit to South Dakota landowners or rural communities it crosses. No one in South Dakota is going to be able to tap the oil line?

WHY Is Information Filed With The PUC – NOT AVAILABLE TO THE PUBLIC ?

As of Tuesday, June 12, 2007 **most of the information filed** with the Public Utilities Commission by Trans-Canada in support of their permit application **is not available to the public and the landowners of South Dakota, 13 days before public hearings are to be held**. PUC Staff contend that state laws and rules allow TransCanada to block access to the information on file. With PUC hearings less than 13 days away, landowners and taxpayers of South Dakota had to file a complaint and ask for a special hearing before the Public Utilities Commission to get documents released that **should have been made public from day one**. The PUC scheduled a hearing on this request for Tuesday, June 12, 2007 at 1:30 pm. Below is a list of documents **you can't see** as they appear on the PUC website docket. To access the PUC website to look at the list of documents you can't open do the following: (1) enter www.puc.sd.gov, (2) then click on Commission Actions at the top of the screen, (3) then Commission Dockets, (4) then 2007 Hydrocarbon Pipeline, and (5) then HP07-001. You should see something that looks like what is listed below. If you have access to a computer, check it out for yourself.

HP07-001 -In the Matter of the Application by TransCanada Keystone Pipeline, LP for a Permit under the South Dakota Energy Conversion and Transmission Facility Act to Construct the Keystone Pipeline Project.

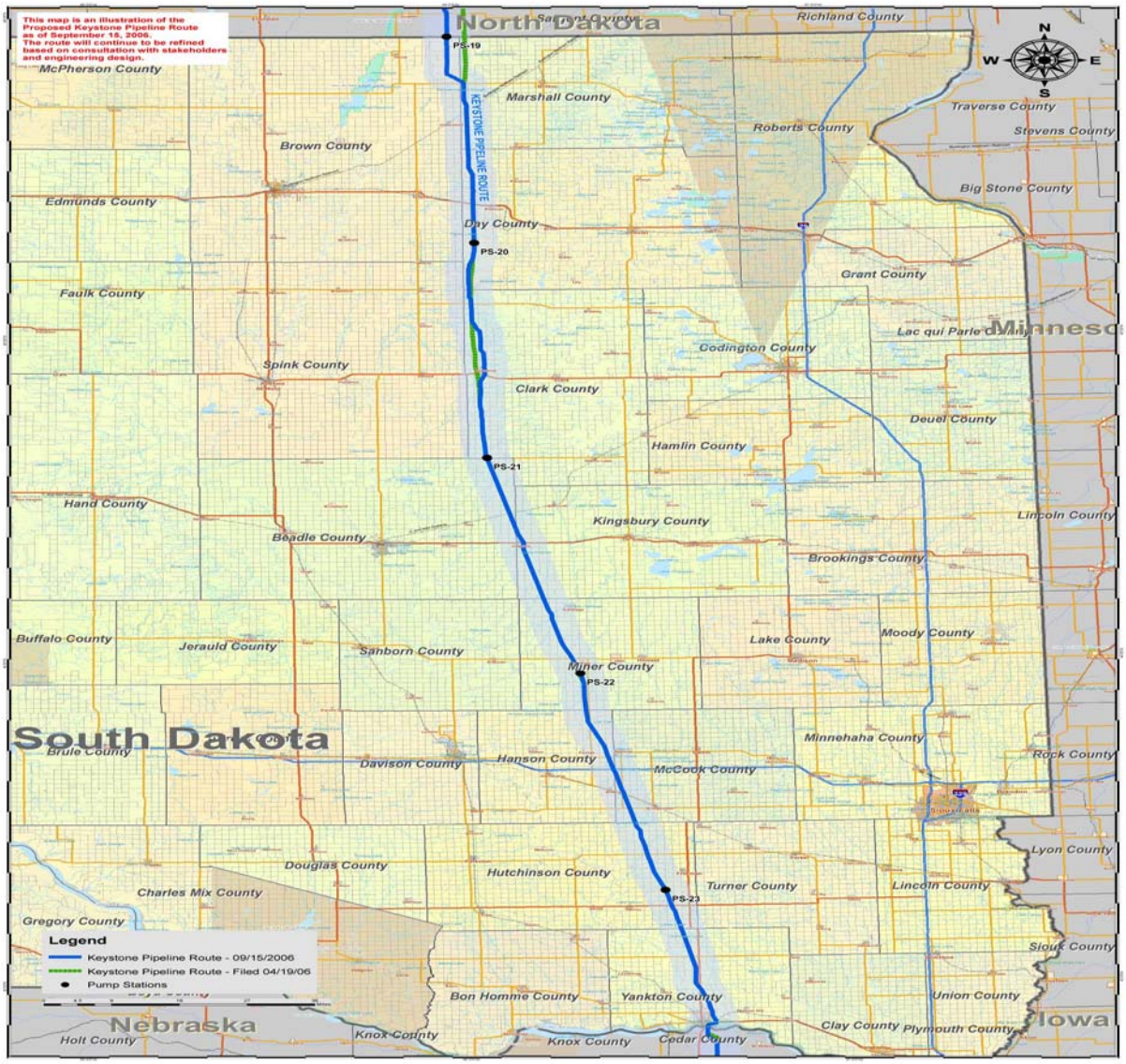
Weekly Filing 04/26/07 to 05/02/07 Agendas:
June 5, 2007, Agenda to Commission Meeting
May 8, 2007, Addendum to Agenda to Commission Meeting

- Application
- **Exhibit A - Route Maps, Land Use Maps, and Soil Maps**
- Exhibit B - Construction Mitigation and Reclamation (CMR) Plan
- **Exhibit C - Supplemental Filings with the Department of State**
  All Documentation of Exhibit C is Confidential (Not Available to the Public)
  - Pipeline Risk Assessment and Environmental Analysis **Confidential**
  - Appendix A DNV Frequency Volume Study **Confidential**
  - Emergency Response Plan **Confidential**
  - Keystone Pipeline Project - Description Plan **Confidential**
    - Update Keystone Pipeline Project - Description Plan **Confidential**
  - North Dakota Route Map **Confidential**
  - **Summary and Table of Contents for Illinois, Kansas, Missouri, Nebraska, North Dakota, Oklahoma, and South Dakota Supplement Filing**
    - Part 1 (North Dakota, South Dakota, and Nebraska) **Confidential**
    - Part 2 (North Dakota, South Dakota, and Nebraska) **Confidential**
    - Part 3 (Kansas, Missouri, Oklahoma, Illinois) **Confidential**
    - Part 4 (Kansas, Missouri, Oklahoma, Illinois) **Confidential**
  - **Work Plan Memo for Illinois, Kansas, Missouri, Nebraska, North Dakota, Oklahoma, and South Dakota Supplement Filing**
    - Part 1 (North Dakota, South Dakota, and Nebraska) **Confidential**
    - Part 2 (North Dakota, South Dakota, and Nebraska) **Confidential**
    - Part 3 (Kansas, Missouri, Oklahoma, Illinois) **Confidential**
    - Part 4 (Kansas, Missouri, Oklahoma, Illinois) **Confidential**
  - **Contents of Supplemental Filing Cushing Extension** Part 1 and Part 2 **Confidential**
  - **Cultural Resource Surveys and Reports** **Confidential**
  - **REX Cultural Surveys**
    - **Kansas** **Confidential**
    - **Missouri** **Confidential**
    - **Nebraska** **Confidential**
  - **Supplemental Filing for each State Below:**
    - **Illinois** **Confidential**
    - **Kansas** **Confidential**
    - **Missouri** **Confidential**
    - **Nebraska** **Confidential**
    - **North Dakota** **Confidential**
    - **Oklahoma** **Confidential**
    - **South Dakota** **Confidential**

- **September 2006 Supplement Filing Wetlands**
  - Summary and Contacts **Confidential**
  - Table of Contents **Confidential**
  - Kansas City District **Confidential**
  - Omaha District **Confidential**
  - St. Louis District **Confidential**
  - Tulsa District **Confidential**
  - National Park Service **Confidential**
  - US Fish and Wildlife Service South Dakota Contacts **Confidential**
- **Native American Consultations**
  - Letters June 13 to Tribes ARG Part 1 and Part 2 **Confidential**
  - Letters June 14 to Tribes ARG Part 1 and Part 2 **Confidential**
  - Letter June 13 to Tribes Metcalf Part 1 and Part 2 **Confidential**
- **List of Tribes Contacted** Part 1 and Part 2 **Confidential**
- **Native American Response** Part 1 and Part 2 **Confidential**
- **State Historical Preservation Office** Part 1 and Part 2 **Confidential**
- **Mainline Pipeline Route Alternative** **Confidential**
- **Final Environmental Reports dated November 2006**
- **Exhibit D - Biological Reports** **All Documentation of Exhibit D is Confidential (Not Available to the Public)**
  - January 2007 Raptor Report **Confidential**
  - Map 1, Map 2, Map 3, Map 4, Map 5, Map 6, Map 7, Map 8, Map 9, Map 10 **Confidential**

    - Bio Field Survey **Confidential**
    - Wetlands Survey **Confidential**
- 05/22/07 - Notice of Public Hearing
- 05/22/07 - Letters to Newspapers: Daily Press & Dakotan, Freeman Courier, Salem Special, The Alexandria Herald, Miner County Pioneer, De Smet News, The Plainsman, The Clark County Courier, Reporter & Farmer, The Britton Journal.
    - Notice of Public Hearing
    - Application for Party Status
- 05/29/07 - List of Landowners Confidential (**Not Available to the Public)**
- 05/29/07 - Application for Party Status Confidential (**Not Available to the Public)**
- 05/31/07 - Letter and Application for Party Status Confidential (**Not Available to the Public)**

The only documents available on the TransCandada-Keystone Crude Oil Pipeline are those that were filed in 2006 with the U.S. State Department. To access those documents by computer take the followings steps; (1) using the internet search for U.S. State Department website, (2) in the upper right hand corner of the State Department web page enter Keystone Pipeline and click GO to search, (3) of the several items that pop up, click on the one that mentions **Applying for Presidential Permits for Liquid Pipelines,** (4) a list of items should show up on the left side of the screen, click on www.keystonepipeline.state.gov , (5) click on Project Documents and a list of documents should come up on the screen, which amounts to about 6 inches of printed paper. Keep in mind these were filed last year and may not be current but they are the only documents available at this time.



South Dakota's Rural Communities & Landowners Should Be Treated Fairly

TransCanada wants to put a crude oil pipeline through rural areas near Britton, Langford, Andover, Ferney, Raymond, Carpenter, Iroquois, Howard, Alexandria, Menno, and other towns ending at Yankton, SD. Did TransCanada select North Dakota and South Dakota for their pipeline route because Minnesota and Iowa have tougher environmental laws and provide more protection for landowners and property rights? At a May 10, 2007 meeting in Britton, SD farmers and landowners challenged TransCanada officials to (1) accept long term liability for any oil leaks or pipeline failures, (2) offer a better up-front price, (3) agree to pay an annual payment to each landowner crossed for the life of the oil line (50 years) which is something wind farms have been doing, and (4) post a cash bond with each County and Township government for damage to roads, with Fire Departments for the costs of future emergency response and with the rural water systems and the State for damages to groundwater supplies and water resources.

At $65 per barrel, the 435,000 barrels of crude oil TransCanada plans to ship through South Dakota each day will be worth $28 million per day ($10.3 billion per year). If the price of oil goes to $80 per barrel as industry experts predict, the 435,000 barrels of oil would be worth **$34.8 million per day ($12.7 billion per year)** to TransCanada and its partners. TransCanada can well afford to treat the rural communities they cross fairly. If not, maybe they should find a different route for their oil pipeline.

Rural Roads & Highway Crossings

No mention has been made by TransCanada regarding spring load limits and maintenance of county and township roads during pipeline construction when miles of heavy steel pipe, construction equipment and materials will be delivered to job sites by semi truck and trailer. Many rural county and township roads can't handle that kind of heavy load and traffic. Township and county road budgets have limited resources. TransCanada and their contractors should be required to bore all roads and post cash bonds with every County and Township they cross. State highways, paved roads, and primary gravel roads will be bored rather than "open cut", according to the TransCanada permit application filed with federal government. All other secondary roads, which we assume would include gravel roads and section lines, will be "open cut" during the construction of the oil pipeline unless the local entity (county or township) requests otherwise. Open cuts through roads tend to settle which can result in auto accidents and damage to farm machinery, combines, grain trucks and other equipment.

High Pressure Oil Pipeline Means High Risk For South Dakota

The TransCanada-Keystone Oil Pipeline will be operated at **1,400 psi** (pounds per square inch) to deliver 18,270,000 gallons per day. The pressure may be raised to **1,700 psi** to deliver 24,822,000 gallons per day. In a news story in the *Argus Leader*, Robert Jones, VP for TransCanada said the operating pressure could be as high as **2,000 psi.** By comparison, the 155 mile WEB water mainline built with ductile iron pipe operates at a peak pressure of 100 to 209 psi and delivers 8,000,000 gallons of water per peak day. A 30" crude oil pipeline pressurized at 1,400 psi to 1,700 psi is a very serious and dangerous pressure vessel. The natural gas line that failed in 2000 near **Carlsbad, NM** was operating at **675 psi when it failed** killing 12 people.

Public Safety – Property Damage

According to NTSB there were 227 reported pipeline failures in the U.S. in 2000 with property damages of $197 million and 16 fatalities. As reported by the **National Transportation Safety Board (NSTB)**, a single pipeline accident..."***can injure hundreds of persons, affect thousands more, and cost millions of dollars in property damage, loss of work opportunity, community disruption, ecological damage, and insurance liability"*****(7).** According to the Office of Pipeline Safety (OPS) the most common cause of liquid or natural gas transmission pipeline accidents is corrosion (24%). Another less frequent category is seam weld failure on pipe, when the seam of the pipe splits open. Seam weld failure accounted for 4% to 5% of the failures and 30% of the property damage according to a 2002 OPS report. The "*Distribution Pipeline Incident Summary by Cause Report*" issued by OPS concluded that... "***Outside force damage is a catchall term that includes (1) third party excavation damage, (2) excavation damage caused by the pipeline company itself, (3) landslides, (4) fire, (5) lightning, (6) snow, (7) wind, (8) motor vehicles and (9) vandalism."*** **Explosions on large natural gas pipelines can kill people hundreds of feet away and spills from oil pipelines may extend miles away from the pipeline and often can never be fully cleaned up.** (see page 12, Bemidji, MN 1979 oil spill)

TransCanada Has NO EXPERIENCE Operating High Pressure Oil Pipelines ?

At public meetings held in Aberdeen and Britton on May 10, 2007, TransCanada officials **L.A. "Buster" Gray, Chief Engineer and Nichole Aitken, Stake Holder Relations Manager admitted to a group of landowners, farmers and local officials that TransCanada doesn't own or operate any crude oil**

pipelines. Yet in a news story printed in t he *Argus Leader* TransCanada Vice President Robert Jones claimed his company had lots experience and a good track record. So which is it? NO EXPERIENCE or lots of experience? It depends on who TransCanada is talking to and what "spin" they want to put on their message. A recent search of TransCanada's official website found no oil pipeline listed among the facilities they own and operate. Is it a good idea for South Dakota and the Midwest to have a large high pressure crude oil pipeline built and operated **by a company which has no proven track record of operating a high pressure oil pipeline**? When companies with experience, like BP (British Petroleum), are having pipe failures and leaks like the one that dumped 200,000 gallons of crude oil at Prudhoe Bay, Alaska on March 3, 2003 (page 17)? High pressure crude oil pipelines are no place for "first time" on the job training.

Oil Sands – What's In The Crude Oil ?

TransCanada has refused to release the exact composition of the crude oil they plan to transport across North and South Dakota claiming it is "proprietary information**".** A Canadian industry website describes the oil as Tar sands, also referred to as **oil sands** or **bituminous sands**, made up of a combination of clay, sand, water, and bitumen. On average bitumen contains **83.2% carbon, 10.4% hydrogen, 4.8% sulphur, 0.94% oxygen, and 0.36% nitrogen**. Most bitumen contains sulphur and several heavy metals such as **nickel, vanadium, lead, chromium, mercury, arsenic, selenium** and other toxic elements. Technically speaking, the bitumen is not oil nor tar, but a semisolid, degraded form of oil that does not flow at normal temperatures and pressures, making it difficult and expensive to extract. Tar sands are mined to extract the oil-like bitumen, which is then converted into synthetic crude oil or refined directly into petroleum products by specialized refineries. Most refineries can only handle about 10-15 per cent of their input coming from these heavy oil sources. Oil sand deposits are strip mined or made to flow into producing wells by in situ techniques, which reduce the bitumen's viscosity with steam and/or solvents. This latter process uses a great deal of water. **"Canadian crude is heavy, lower-quality oil than that coming from the Middle East", according to David Sykuta, director of the Illinois Petroleum Council in Springfield. "It sells for less per barrel than Mideast oil, but it's not cheaper because you have to spend more to turn it into gasoline,"** he said. Plus, refiners will need to invest heavily to handle the extra supply. Bitumen is primarily used for paving roads. Its other uses are for general waterproofing products, including roofing felt and for sealing flat roofs. Vessels for the heating of bitumen or bituminous compounds are usually **excluded from public liability insurance policies**. Under the heat and pressure of burial deep in the earth, the remains were transformed into materials such as bitumen, kerogen, or petroleum.

Oil Sands- The Impacts On Public Health & Safety

TransCanada has refused to release the exact composition of the crude oil they plan to transport across North Dakota and South Dakota claiming it is "proprietary information**".** Below is a summary of information taken from the **Canadian Centre for Occupational Health & Safety** website (http://www.ccohs.ca).

Hydrogen sulfide**:** *Colorless gas, rotten eggs odor at very low concentrations, smell begins to dull at 50 ppm and completely lost above 100 ppm (2-15 minutes) deadening the sense of smell. Detection through odor is not reliable. Olfactory fatigue may result from prolonged exposure to concentrations below 100 ppm. The sense of smell is deadened above 100 ppm. It occurs naturally in crude petroleum, natural gas, sour gases, in salt mines, in volcanic gases, hot sulfur springs, lakes, and salt water ponds. Also a by-product of petroleum refineries, petrochemical plants, natural gas plants, paper mills, iron smelters, coke ovens, food processing plants and tanneries. Since Hydrogen sulfide can react with iron in the presence of moisture, the steel used must be chosen carefully. EXTREMELY FLAMMABLE GAS. Forms explosive mixtures with air over a wide concentration range. Very low ignition energy. Gas is heavier than air and may hug the ground. Distant ignition and flashback are possible. During a fire, irritating/toxic sulfur dioxide may be generated. Confined space hazard. Can accumulate in confined spaces, especially in low-lying, poorly ventilated areas, producing a fire/toxicity/explosion hazard May ignite in contact with some metal oxides and oxidants. VERY TOXIC. May be fatal if inhaled. Gas may be severely irritating to the eyes and respiratory tract. Causes lung injury-effects may be delayed. Inhalation of high concentrations may cause respiratory paralysis, irregular heartbeat, collapse and death. May cause nervous system effects. Liquefied escaping from cylinder can cause frostbite. It poses a very serious inhalation hazard. Human exposures at 250-500 ppm - potentially fatal build-up of fluid in the lungs (pulmonary edema, headache, nausea, dizziness), especially if exposure is prolonged; 500 ppm - severe lung irritation, excitement, headache, dizziness, staggering, sudden collapse ("knockdown"), unconsciousness and death within 4-8 hours, loss of memory for period of exposure; 500-1000 ppm - respiratory paralysis, irregular heart beat, collapse, and death. The symptoms of pulmonary edema, such as chest pain and shortness of breath, can be delayed for up to 48 hours after exposure. Prolong exposure to higher concentrations can produce bronchitis, pneumonia and a potentially fatal build-up of fluid in the lungs. There are numerous case reports of deaths, especially in the petroleum industry, sewage maintenance, and farmers. Most fatalities have occurred in relatively confined spaces (e.g. sewers, sludge tanks, cesspools, or H2S collecting in pits or dips on open land or in buildings). In many cases, multiple deaths have occurred at a single site. Rescuers, attempting to save an unconscious co-worker, have entered a confined area without respiratory protection or safety lines. They, in turn, have been overcome by H2S. Workers who survive a serious short-term exposure may recover or may experience long-term effects.* Fire Fighting Instructions: *Extreme caution is required in a fire*

situation. Evacuate area and fight fire from a safe distance or a protected location. Approach fire from upwind to avoid extremely hazardous gas and toxic decomposition products. For fires involving flammable gases, the best procedure is to stop the flow of gas before attempting to extinguish the fire. In some cases, extinguishing the fire with carbon dioxide or dry chemical powder may be necessary to permit immediate access to valves to shut off the flow of gas. However, this must be done carefully. If it is not possible to stop the flow of gas and if there is no risk to the surrounding area, allow the fire to continue burning while protecting exposed materials with water spray, to prevent ignition of other combustible materials. Gas clouds may be controlled by water spray or fog. If possible, use unmanned monitor nozzles and immediately evacuate the area. DO NOT direct water at open or leaking containers or cylinders and take precautions not to get water inside a container or cylinder. Reverse flow into cylinder may cause rupture. Take care not to block pressure relief valves. May cause dense fog and reducing visibility. For a massive fire in a large area, use unmanned hose holder or monitor nozzles; if this is not possible withdraw from fire area and allow fire to burn. Be aware that flying material from ruptured tanks may travel in any direction. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank/pipe due to fire. After the fire has been extinguished, explosive, toxic atmospheres may linger. Before entering such an area, especially confined areas, check the atmosphere with an appropriate monitoring device. Protection of Fire Fighters: *Hydrogen sulfide is an extremely toxic, flammable gas.. Do not enter without wearing specialized equipment suitable for the situation. Firefighter's normal protective clothing (Bunker Gear) will not provide adequate protection. Chemical protective clothing (e.g. chemical splash suit) and positive pressure self-contained breathing apparatus (NIOSH approved or equivalent) may be necessary.*

Benzene: *Clear, colorless liquid with a characteristic, aromatic hydrocarbon odor. EXTREMELY FLAMMABLE LIQUID AND VAPOUR. Can accumulate static charge by flow or agitation. Vapor is heavier than air and may spread long distances. Distant ignition and flashback are possible. Liquid can float on water and may travel to distant locations and/or spread fire. Can decompose at high temperatures forming toxic gases. Harmful if inhaled or swallowed. Central nervous system depressant. Vapor may cause headache, nausea, dizziness, drowsiness and confusion. May cause blood and bone marrow effects, based on animal data. Causes skin and eye irritation. Aspiration hazard. Swallowing or vomiting of the liquid may result in aspiration into the lungs. CANCER HAZARD - can cause cancer. MUTAGEN - may cause genetic damage.* Fire Fighting Instructions: *Evacuate area and fight fire from a safe distance or a protected location. Approach fire from upwind to avoid hazardous vapors and toxic decomposition product. Stop the leak before attempting to stop the fire. If the leak cannot be stopped, and if there is no risk to the surrounding area, let the fire burn itself out. If the flames are extinguished without stopping the leak, vapors could form explosive mixtures with air and reignite. Closed containers may explode in the heat of the fire. Isolate materials not yet involved in the fire and protect personnel. Water may be ineffective for fighting fires involving benzene because of its low flash point, unless used under favorable conditions by experienced firefighters trained in fighting all types of flammable liquid fires. Benzene and its decomposition products are extremely hazardous to health. Do not enter any fire area without specialized protective equipment suitable for the occasion. Firefighter's normal protective equipment (Bunker Gear) will not provide adequate protection. Chemical resistant clothing (e.g. chemical splash suit) and positive pressure self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) may be necessary.*

Groundwater

The oil pipeline will cross numerous aquifers within South Dakota, including the **Oakes, Bramton, Tulare, Vermillion, Altamont, Floyd, and Lower James-Missouri aquifers**. The depth to water in the Oakes Aquifer along the route of the pipeline in **Marshall County is 10-15 feet in depth.** The depth to the upper layer of water of the **Altamont Aquifer near Raymond in Clark County varies from 10-35 feet**. The same is true for ground water in the **Carpenter area of Clark County**. Near-surface groundwater occurs at various locations where the pipeline crosses small streams in northwestern Day County *(TransCanada Construction Mitigation & Reclamation Plan, pg 3.5-35)*. Much of the ground water in **northwest and western Day County is within 4 feet of the surface** according to the ***Day County Soils Survey*** completed by USDA-NRCS.

A release of crude oil will find its way into soil materials and can enter groundwater and move through the aquifer system. The potential for groundwater contamination is greater where the water table is relatively close to the surface, and where the soils overlying the aquifer are porous materials. Depending on the type of pipe failure, the volume of the spill, the depth of the groundwater and the soil conditions in the area, a crude oil spill could continue to move and contaminate an aquifer or adjacent property for years. Crude-oil moving through gravel or sandy soils could reach and damage PVC water line used by municipal water systems and rural water systems to deliver drinking water to towns, farms, rural homes, livestock hookups, ethanol plants and other customers**. Five of the eight rural water systems crossed by TransCanada rely on groundwater wells.** (see page 10)

Oil Spill -Impact On Water Quality

Among the many substances in crude-oil are chemicals such as **benzene, toluene, ethylbenzene, xylene** and other lightweight chemical compounds. These compounds are more water soluble and can disperse further and more rapidly in both surface and ground waters than other crude oil substances. These compounds pose a significant threat to water quality. For example, one teaspoon of benzene **(0.005 ppm**) can contaminate **260,660**

gallons of water. The US-EPA enforceable water quality standard for drinking water allows no more that 0.005 ppm concentration of benzene in both surface water and groundwater. **Benzene** exposure can cause **anemia or a decrease in blood platelets** and may result in an **increased risk of cancer**. **Toluene** in excess of EPA standards can cause problems with the **nervous system, kidneys and liver**. **Ethylbenzene** can cause problems with the **liver and kidneys. Xylene** can cause damage to the **nervous system**.

Oil Spill – What Are The Odds Of An Oil Leak In South Dakota ?

An "***Oil Spill Frequency Volume Study*** **"** filed by TransCanada with the federal government in 2006 acknowledged that oil spills do occur on oil pipelines. Release of crude oil can occur during transport through a pipeline and pose a significant risk of soil and water contamination surrounding the area of the spill. The Trans-Canada Study estimated that **a 1,000 barrel (42,000 gallons) oil spill may occur anywhere along the TransCanada Keystone Pipeline once in 12 years; a 10,000 barrels (420,000 gallons) oil spill may occur once in 39 years; and a spill of more than 10,000 barrels might occur once in 50 years** *(TC Pipeline Risk Assessment, pg 3-2)*. The projections are theoretical based on historical data of pipeline operation. The extent of environmental damage would depend on the location and quantity of the oil spill, the type of soil and water resources in the area of the spill, and the topography of the land area. In a study independent of the oil industry, the **United States Geological Survey (USGS) estimated that an average of 83 crude-oil spills occurred in the United States during the three year period of 1994-1996, with each spilling about 50,000 barrels (2,100,000 gallons) of crude-oil.** The British Petroleum (BP) pipeline failure and spill on March 3, 2003 at Prudhoe Bay, Alaska dumped 200,000 gallons of crude oil. BP is recognized as having years of oil pipeline operations experience, and they had a major pipe failure and oil spill. TransCanada doesn't even own or operate a crude oil pipeline and has no experience or track record operating a high pressure crude oil pipeline.

Oil Spill -Impact On Farm Land and Soils

According to the information filed by TransCanada with the U.S. State Department, the clean-up of **a 84,00 gallon spill (2,000 barrels) from the TransCanada pipeline spill could require the removal of up to the equivalent land area of 3 feet in depth over 400 acres or about 2,001,277 cubic yards of soil** *(Pipeline Risk Assessment, pg 4-4)*. A summary of TransCanada's record of gas spills from 2000 through 2005 is shown on page 20. **TransCanada had 576 spills in the past 6 years, for an average of 96 spills per year.** The crude oil is extracted from Alberta oil sands, called "bitumen", is described as "black and thick oil". TransCanada refuses to release the makeup of the crude-oil claiming "proprietary information". Crude-oil released into soils will disperse both vertically and horizontally. Soil reports published by the U.S. Department of Agriculture -Natural Resources Conservation Service (NRCS) show a large quantity of sandy soils and shallow ground water areas that will be crossed by the TransCanada-Keystone Pipeline in Brown, Marshall and Day County (9). Sandy soils found throughout much of the TransCanada-Keystone Pipeline route could enhance the dispersion of crude-oil. Soil moisture and precipitation could also increase the dispersion of a crude-oil spill. Clean-up of soil contaminated by crude oil can require significant time, effort and cost. Required remedial actions may range from excavation and removal of contaminated soil to allow the contaminated soil to recover through natural environmental fate process (evaporation, biodegradation, etc). State and federal programs mandate notification and initiation of response actions "*in a timeframe and on a scale commensurate with the threats posed*" *(TransCanada Construction Mitigation & Reclamation Plan, 2-50).* What about the loss of crop production, property values and future earnings to farmers as a result of contamination by an oil spill? A crude oil pipeline leak near Bemidji, MN in 1979 was never fully cleaned up and soils remain sterile 28 years later.

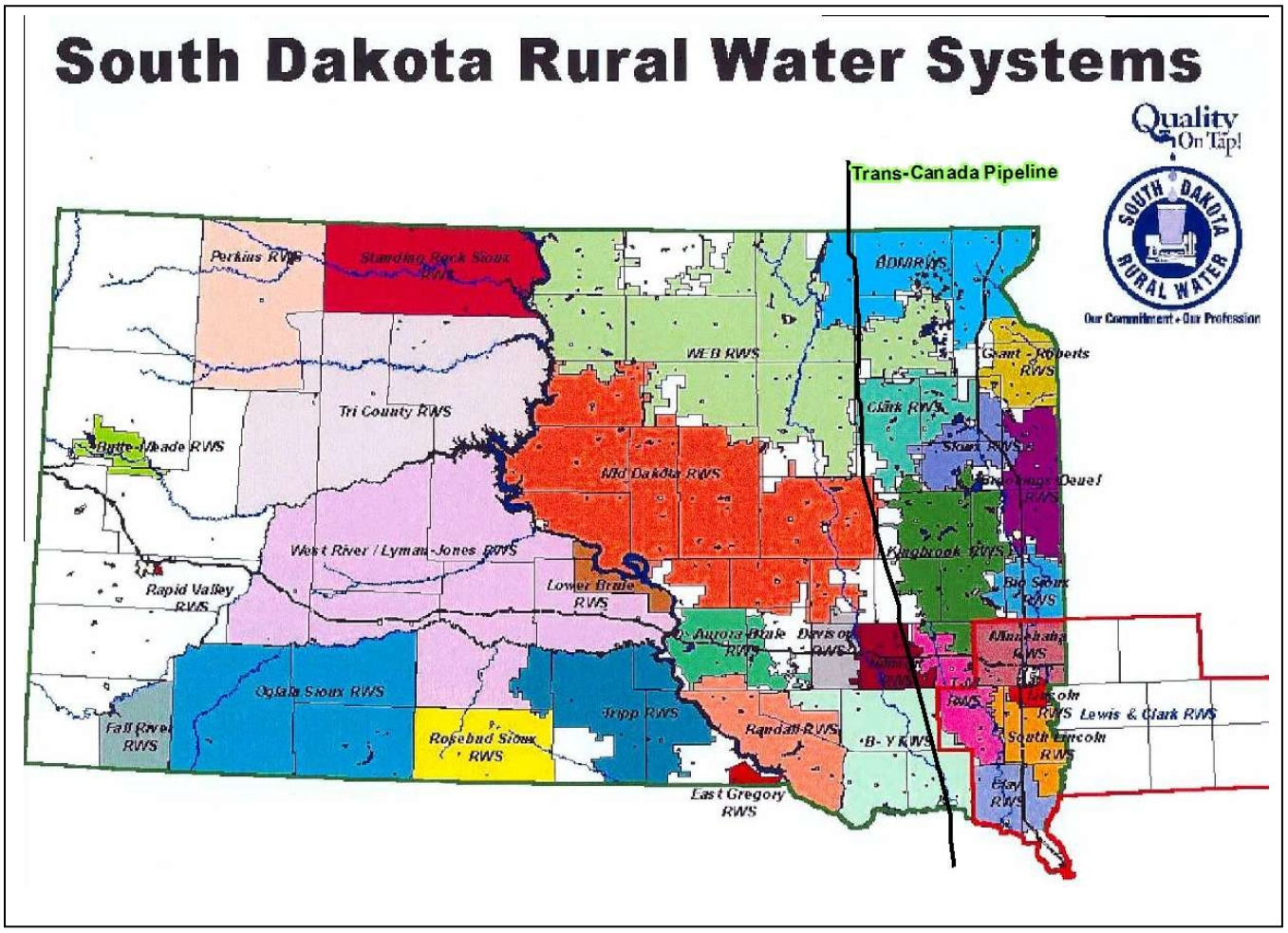
Risk Of Large Crude Oil Spill

The TransCanada-Keystone Oil Pipeline plan calls for a wide separation between mainline automated valves and manual valves. For example, the distance between the pump station at the North Dakota-South Dakota state line and the next pumping station near Ferney, SD is about 42 miles of 30 inch pipe which would hold about 156,660,000 gallons of crude-oil (3,728,571 barrels). The distance between the Fernery pump station and the next pump station near Carpenter, SD is about 47 miles of 30 inch pipe which would hold about 175,312,000 gallons of crude oil (4,174,000 barrels). In addition to the 4 automated valves at compressor pump stations, the TransCanada-Keystone Pipeline will have 7 to 10 manually operated valves on the 220 miles of pipeline in South Dakota, with some valves being 20 to 30 miles apart**. In the event of a major pipe failure, there may not be time to reach valves to stop the crude-oil from draining out of the pipeline on to productive farm land and into wetlands**. Manually operated valves won't do much good if the TransCanada operations staff are hundreds of miles away in Alberta or Omaha. A pipe failure at a low elevation point on either the 42 mile reach between North Dakota and Ferney, SD or the 47 mile reach between Ferney and Carpenter, SD could result in a spill of millions of gallons of crude oil. By way of comparison, the 155 mile WEB water mainline has 31 manual isolation valves, with each valve located every 5 miles, and six pump stations and control points which are monitored and operated by a computerized SCADA system and operations staff dispatched out of Aberdeen, South Dakota. At

May 10, 2007 meeting a TransCanada official said that their operational staff will be located in Omaha, NE and the SCADA control center will be located in Canada.

Rural Water Systems

The permit application filed with the U.S. State Department by TransCanada failed to acknowledge that the proposed oil pipeline would cross miles of rural water pipeline operated by eight (8) rural water systems in South Dakota**. The permit application filed with the federal government by TransCanada in 2006 failed to identify the risk that could result in the event that a crude-oil spill came in contact with buried PVC water pipelines**. A study by **Iowa State University**, commissioned by the **American Water Works Association (AWWA)**, **confirmed that petroleum and crude-oil products can permeate through the rubber gasket of PVC water pipes, contaminating the drinking water being delivered to customers by municipal and rural water systems**. How much PVC water pipeline will need to be replaced in the event of a large oil "spill" is not known at this time, nor is it known if TransCanada would be held responsible for the cost of replacement.



The TransCanada Oil Pipeline route will cross eight rural water pipeline systems in South Dakota.

BY Water District	**PO Box 248, Tabor, SD 57063-0248**	**(605) 463-2531**	byh2o@byelectric.com
BDM Water System	**PO Box 49, Britton, SD 57430**	**(605) 448-5417**	www.bdmruralwater.com
Clark Rural Water	**PO Box 162, Clark, SD 57225**	**(605) 532-5201**	crws@itctel.com
Hanson Water System	**PO Box 324, Emery, SD 57332**	**(605) 449-4422**	davhanrw@sunrisenet.com
Kingsbrook Rural Water	**PO Box 299, Arlington, SD 57212**	**(605) 983-5074**	kbrw@iw.net
Mid-Dakota Rural Water	**PO Box 318, Miller, SD 57362**	**(605) 853-3159**	office@mdrws.com
WEB Water	**PO Box 51, Aberdeen, SD 57402**	**(605) 229-4749**	chohn@webwater.org
TM Water District	**PO Box 445, Parker, SD 57053**	**(605) 297-3334**	tmrwd@iw.net

WEB Rural Water - Concerns

The WEB pipeline system provides high quality drinking water service to **7,759 rural hookups, 104 towns and bulk users, and 5 ethanol plants in a 17 county service area, which includes 14** counties in South Dakota and 3 counties in North Dakota. A 12 inch PVC mainline near Andover, South Dakota delivers treated water to 1,023 rural hookups and 8 towns in Day County and 6 rural hookups in Marshall County and several hookups in Clark County. If the TransCanada-Keystone pipeline fails at or near the point where the crude oil pipeline crosses WEB's 12" PVC water mainline a **crude-oil spill could damage the rubber pipe joint gaskets, permeate through the pipe wall, and contaminate the drinking water service of 1,029 rural hookups and 8 towns.** WEB will require TransCanada to secure a permit to cross water lines easements, which will include insurance coverage naming WEB as "additional insured" and a cash bond to cover the impacts of any future oil "spills" or leaks. WEB will also require TransCanada to case all lines crossed by the oil pipeline.

Missouri River Crossing

The TransCanada-Keystone Oil Pipeline will cross the **Missouri River near Yankton, South Dakota, upstream of a section of river which is the only portion of the Missouri River in South Dakota that remains in a natural scenic condition**. The area is managed by the National Park Service and will require a permit from the U.S. Secretary of Interior. Constructing an oil pipe crossing under the Missouri River east of Yankton would be a major project and a major environmental concern. **The Missouri River is a source of water for over half the population of South Dakota, including the City of Sioux Falls, once the Lewis & Clark water system is completed.** (*TransCanada Construction Mitigation & Reclamation Plan, 2-64*).

TransCanada's Emergency Response Plan - Where Is?

The U.S. Office of Pipeline Safety requires that TransCanada-Keystone prepare and file an Emergency Response Plan (ERP). The TransCanada permit application filed with the U.S. State Department states last year stated that an Emergency Response Plan will be filed as a "supplemental" to the permit application. No plan has been made available as of June 8, 2007. **The Emergency Response Plan, which is required by law, should be filed with state and local government, fire departments, utilities and local emergency responders for review, comment and approval BEFORE consideration is given to any permits by the SD Public Utilities Commission or the U.S. State Department**

Computer Monitoring Systems

TransCanada-Keystone says they will use two technology-based leak detection systems, which will include leak detection software SCADA (Supervisory Control and Data Acquisition) monitoring and volumetric balancing. Sensors and monitoring equipment will be located at pump stations and the data collected will be transmitted by satellite to the central control center in Canada (*TransCanada Construction & Reclamation Plan, 2-48).* The SCADA systems that TransCanada will be using will help monitor and operate the crude-oil pipeline and may help detect problems by sensing changes in pressure and flow rate. However, at the point the SCADA system senses a change in pressure or flow and shuts the automated valves off at the pump station, a major release or spill may have already occurred on the pipeline miles away from the pump station. Based on NTSB's reports on oil and gas line failures, and WEB's own experience, **computer SCADA systems may detect major changes in pressure and flow but they don't necessarily detect small leaks that develop on pipelines, which over time can develop into a major leak or spill and contaminate soil and ground water for days, weeks or months before the leak is found.** That is exactly what happened on March 3, 2005 with the BP crude oil pipeline failure at Prudhoe Bay, Alaska (see below). This kind of leak causes more of a problem when the pipe is located in a remote isolated rural area. Because of the potentially severe consequences of a crude-oil spill, prevention is critically important and successful prevention requires regular testing of the pipeline's integrity, including internal corrosion. Internal inline inspection devices, known as "smart pig" may detect some defects in the pipe as they travel through the pipeline being moved by oil flow and pressure.

Prudhoe Bay, Alaska – Oil Leak Linked To Poor Maintenance

A news story by David Greising in the May 27, 2007 Chicago Tribune reported that a worker driving along the western part of the Prudhoe Bay field smelled the oil and discovered the 200,000-gallon spill. "**BP's automatic detection system had missed the slow-flowing leak, which had appeared an estimated five days earlier.** BP was tapping into new oil sources that delivered viscous, highly corrosive crude. From that point forward, oil flowing through BP's eastern operating area would be increasingly thick and slow flowing, and **thicker oil is far more corrosive, thanks in part to the sand that settles in the bottom of pipes and deflects anti-corrosion chemicals away from the metal they are intended to protect".** "A 25 percent budget cut

instituted in 1999, after the Amoco merger, meant that one crucial corrosion-fighting method—sending cylindrical probes called "pigs" through the pipes to both clean and inspect them—was abandoned virtually altogether, company records show." Given the history, it's difficult to believe the assurances TransCanada is giving regarding the Keystone Pipeline. Any permit the PUC considers approving should include some strong conditions and requirements for regular scheduled maintenance to protect private farm land, public lands, wetlands, the environment, and public safety.

Operations-Workforce

TransCanada-Keystone say they will have **20 employees in the United States to operate the 1,073 miles of crude-oil pipeline, 23 pump stations and 45 mainline valves**. At a meeting on May 10, 2007 a TransCanada official said the Operations Staff will be located in ***Omaha, NE***. Timely emergency response will depend on where the operations staff will be located and how quickly they can be mobilized to respond to a pipe failure, leak or oil fire at a remote rural location. The Trans-Canada staff will need to provide 24 hour-7 day per week coverage, including evenings, weekends and holidays, to respond to emergency calls that might develop on the 1,073 miles of high pressure (1,440 psi to 1,700 psi) crude-oil pipeline. Assuming there are three work shifts that will mean 6 staff on duty at any one time. That's not enough staff to handle a large water line leak repair let alone a high pressure crude oil pipeline failure. Congressional hearings on the BP crude oil spill at Prudhoe Bay, Alaska held in May 2007 gathered a wealth of information that the SD Public Utilities Commission should secure and review before making a final decision on granting TransCanada a permit to cross South Dakota. In the interest of public safety the PUC should require that Trans-Canada locate at least 6 staff or more at a central location in South Dakota to handle maintenance, emergency response, oil spill containment and fire fighting.

Bemidji, MN - Oil Spill 1979

An oil spill of about 10,700 barrels (449,400 gallons) occurred on August 20, 1979 near Bemidji, Minnesota when a pipeline transporting crude-oil broke causing contamination of soils and the underground aquifer. A study commissioned by the **United States Geological Study** (USGS) estimated that after the initial cleanup efforts were completed in 1980, about 110,000 **gallons of crude oil remained** in the sub-soil and ground water table. Tests show that a plume of oil is moving toward a lake.

The land appears to be sterile. The results of the Bemidji study showed that the oil continues to move underground in the direction of the ground water flow toward a nearby lake. Thirteen different studies have been completed at the Bemidji spill site from 1979 to 1996 by scientific teams addressing such issues as; crude-oil in shallow sand, crude-oil in a shallow aquifer, geochemical volution, flow modeling of crude-oil permeability distribution, biodegeneration, creosote contaminants in groundwater, hydrocarbon vapors in unsaturated soil zones and distribution of gas vapors. Twenty eight years later the soil is still contaminated by crude oil and nothing grows.

Additional information on the *U.S. Geological Survey Bemidji Crude-Oil Research Project* is available on the internet http://wwwmn.cr.usgs.gov/bemidji/ or by contacting the District Chief, U.S. Geological Survey, Toxic Substances Hydrology Program, 2280 Woodale Drive, Mounds View, Minnesota 55112, telephone number (612) 783-3100.

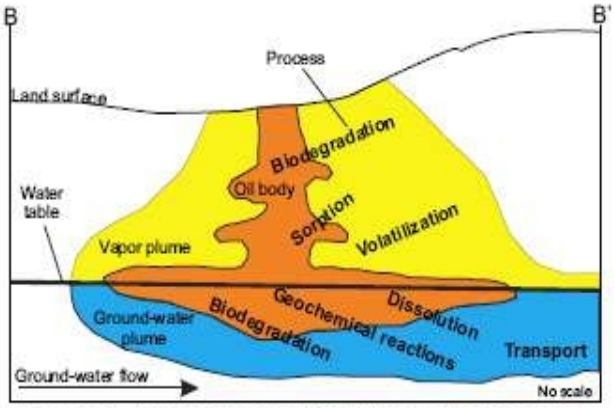
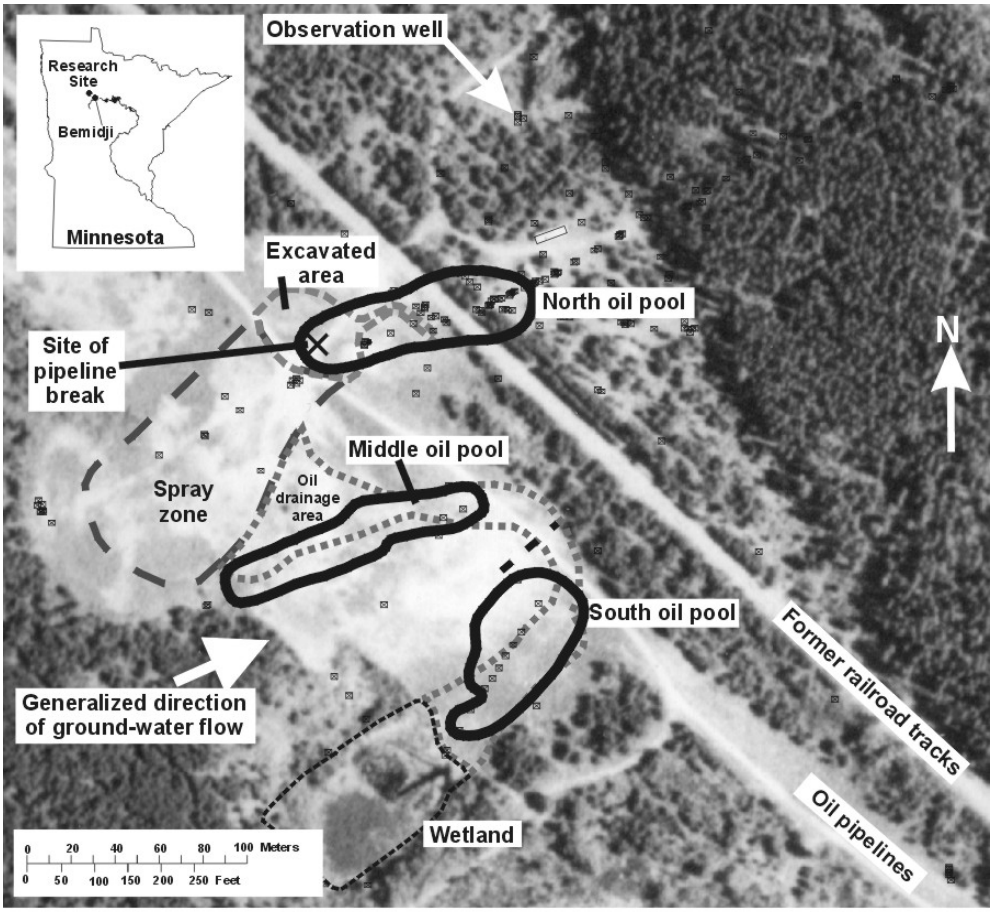


Figure 2. Processes critical to understanding the fate and transport of hydrocarbons in the subsurface at the Bemidji site.



Approximate extent of oil, August 1998 modified from Lakehead Pipe Line Co., written commun., 1998

Features of the Bemidji, Minnesota crude-oil spill research site superimposed on a 1991 aerial photograph.

Bellingham, Washington Olympic Pipeline Failure 1999

A pipeline failure near Bellingham, Washington at 3:28 pm on June 10, 1999 caused a quarter million gallon spill and an explosion that killed two 10-year old boys and an 18-year old man. Eight people were injured, one home was damaged, and the City water treatment plant was severely damaged.

Property damages were estimated at $45 million and **criminal charges** were filed against several pipeline officials. Witnesses to the Bellingham explosion testified that the boys suffocated on the fumes and "every living thing in the creek was killed for a mile and a half."

The parents of the two boys killed in the Bellingham explosion were awarded $75 million in settlement from Olympic Pipeline and its largest share holder, Shell Oil. Settlement with the family of the third man was not disclosed. (Sept. 16, 2002 - Oil & Gas Journal)

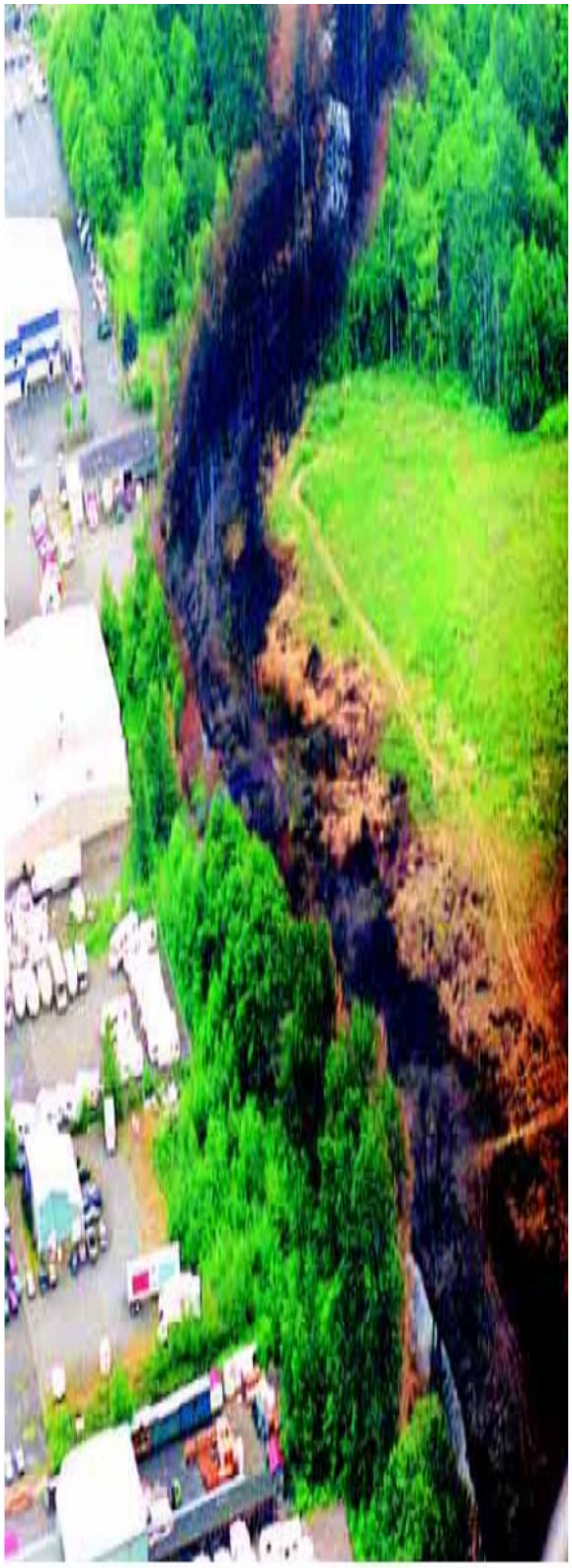


Figure 1. Postaccident aerial view of portion of Whatcom Creek showing fire damage.

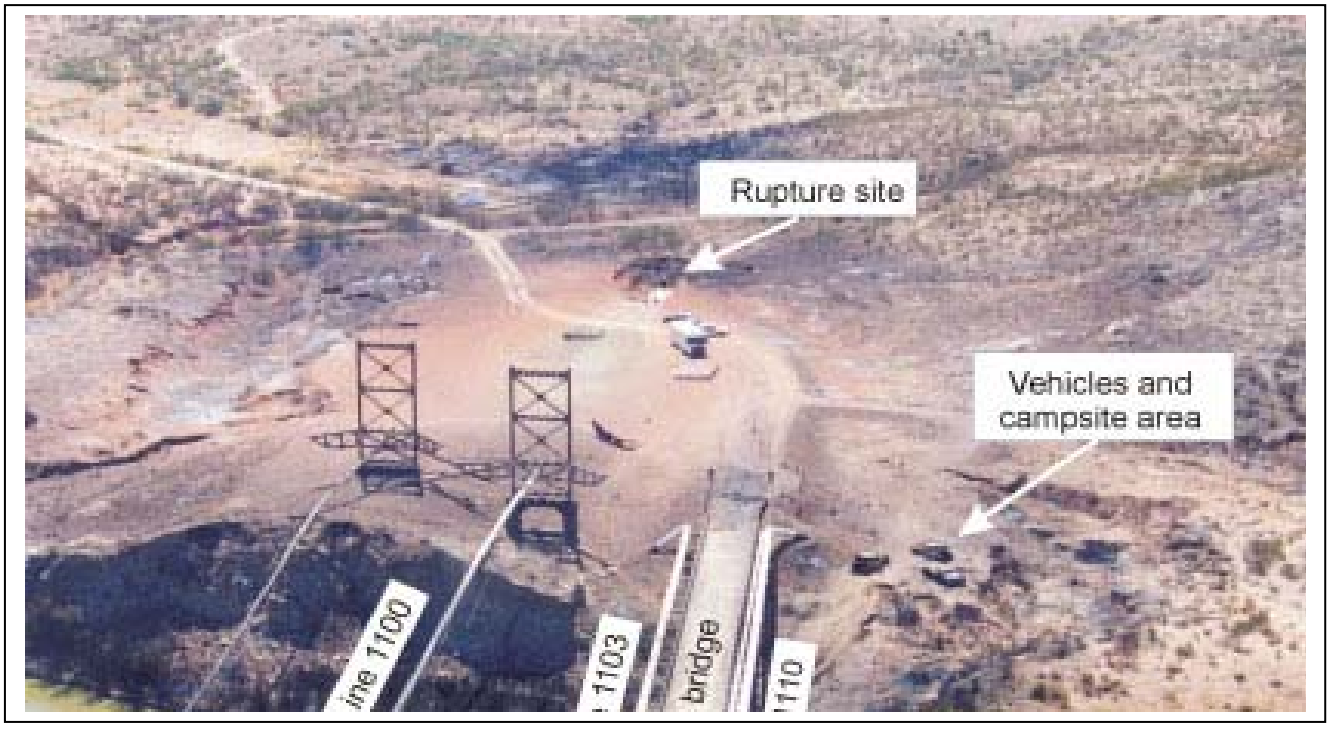
The **National Transportation Safety Board** summary report NRSB # PAR-02/02 stated that about 1-1/2 hours after the rupture, the gas ignited and burned approximately 1-1/2 miles along the creek. The NTSB determined that the probable cause of the June 10, 1999, rupture of the Olympic pipeline in Bellingham, WA, was (1) **damage done to the pipe by a contractor** and Olympic Pipe Line Company's inadequate inspection of the contractor's work; (2) Olympic Pipe Line Company's **inaccurate evaluation of in-line pipeline inspection results**, which led to the company's decision not to excavate and examine the damaged section of pipe; (3) **Olympic Pipe Line Company's failure to test, under approximate operating conditions**, all safety devices associated with the products facility before activating the facility; (4) Olympic Pipe Line **Company's failure to investigate and correct the conditions leading to the repeated unintended closing of the inlet block valve**; and (5) Olympic Pipe Line Company's practice of performing database development work on **the Supervisory Control and Data Acquisition System (SCADA) while the system was being used to operate the pipeline, which led to the system's becoming non-responsive at a critical time during pipeline operations.** At the time of the pipe failure, the pressure near the rupture point increased from **215 psi to 1,494 psi within one minute** and then dropped back to 230 psi. (*NTSB investigative report).* **The pressure on the TransCanada Keystone Pipeline through South Dakota will be 1,400 psi to 1,700 psi, which is six to seven times higher than the pressure was at Bellingham, WA.** A TransCanada executive told the Argus Leader the pressure could go as high as 2,000 psi.

Figure 13. Rupture location before removal of pipe showing proximity of water line tee connection.

Carlsbad, New Mexico - El Pas0 Pipeline Failure August, 2000

On Saturday, August 19, 2000 at 5:26 am, a family of twelve people camping on the banks of the Pecos River, 675 feet away from the El Paso Natural Gas Pipeline, were killed when a weak spot on the bottom inside of the pipe

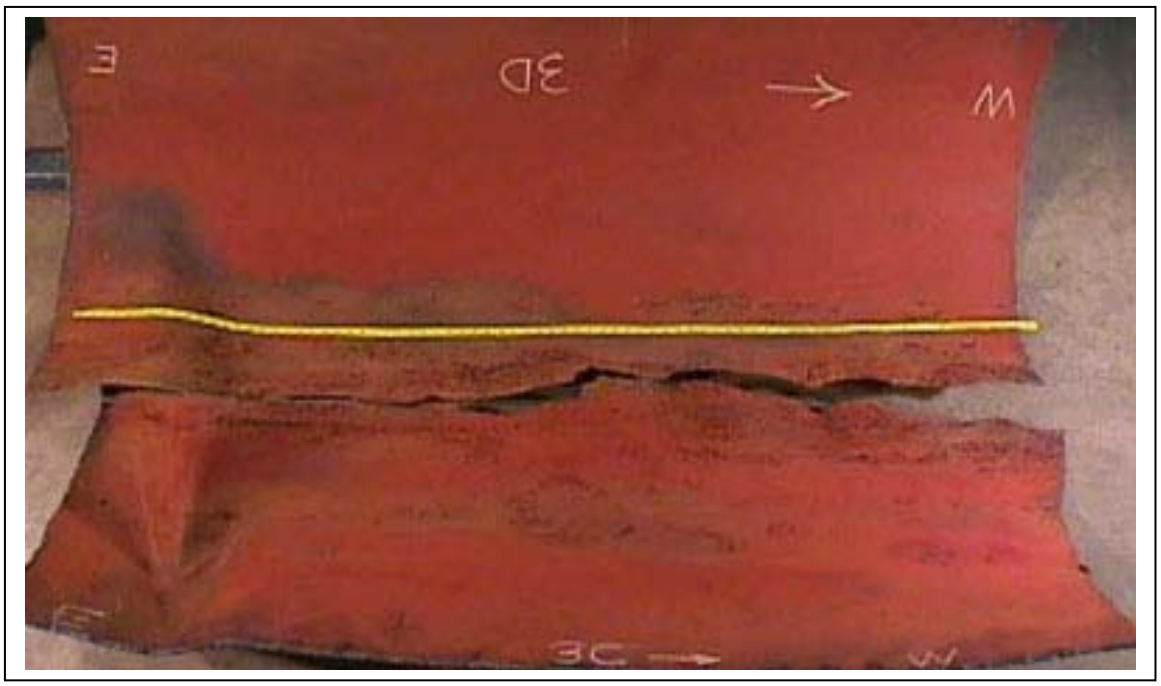
Fire reaching hundreds of feet into the air at Carlsbad, New Mexico pipeline failure August 19, 2000.



failed which caused an explosion and fire. The fire raged for 55 minutes before it could be shut down and caused **$1 million** in property damage. **An investigation by the National Transportation Safety Board (NTSB) found that the pipeline failure at Carlsbad, New Mexico was caused by (1) the design and construction of the pipeline, (2) the inadequacy of El Paso's *internal corrosion* control program, (3) the inadequacy of Federal safety regulations, and (4) the inadequacy of Federal oversight of the pipeline operator.**

The National Transportation Safety Board report released on February 11, 2003 included the following statement.

> "*The National Transportation Safety Board determines that the probable cause of the August 19, 2000, natural gas pipeline rupture and subsequent fire near Carlsbad, New Mexico, was a significant reduction in pipe wall thickness due to severe internal corrosion. The severe corrosion had occurred because El Paso Natural Gas Company's corrosion control program failed to prevent, detect, or control internal corrosion within the company's pipeline.*" (NTSB Report)



El Paso steel pipe that failed due to corrosion from inside the bottom of the pipeline.

Of the 12 people who died at the Pecos River on August 19, 2000, there were four female children, two age 6 months, one age 21 months, and one age 5 years old; three adult women ages 18, 25 and 47 years old; one male child age 3 years old; and four adult men ages 20, 23, 43 and 55 years old. **According to the National Transportation Safety Board, the cause of death of all 12 people who died in the explosion was extensive thermal burns, carbon monoxide poisoning, and smoke inhalation.** The NTSB found that the force of the rupture and violent ignition created a 51 foot-wide crater about 113 feet long. A 49-foot section of the pipe was ejected from the crater in three pieces, with the largest found 287 feet from the crater. All three ejected pipe pieces showed evidence of internal corrosion damage. The most severely corroded area had reduced **the original 0.33 inch pipe wall**

thickness by 72 %, leaving only 28 % of the wall thickness, or about 0.0924 inch remaining. TransCanada's engineer L.A. "Buster" Gray told landowners at a May 10, 2007 meeting that **the pipe wall thickness for the Keystone Pipeline will be about 0.38 inch thick**. The pipeline in New Mexico was being operated at approximately **675 psi when it failed. The pressure on the TransCanada Keystone Pipeline through South Dakota will be 1,400 psi to 1,700 psi, which is twice as high as the pipe pressure at the pipe failure at Carlsbad, New Mexico in 2000.**

Spiral steel pipe unraveled by explosion at Carlsbad, NM

Nine months later, on June 1, 2001, El Paso Natural Gas was fined $2.25 million dollars in civil penalty by the U.S. Department of Transportation. Included in the civil penalty was the charge that El Paso Natural Gas had ...

"failed to minimize the possibility of a failure recurrence following a similar incident in 1996". (USDOT news release)

Two years after the "***spill"***, El Paso Natural Gas Corp., reached an undisclosed settlement with the families of the 12 victims. The Houston newspaper reported that the family of one young victim was paid $14 million. Two years after the pipeline failure, the New Mexico Public Regulation Commission (PUC) held public hearings and proposed more stringent pipeline safety. South Dakota's elected officials and the SDPUC could learn something from what happened with oil gas "spills" in New Mexico and other states. If oil and gas lines were as safe as TransCanada would have us believe, more Public Utilities Commissioners and oil company executives would be living next oil and gas lines.

Corporate - Investor Responsibility

According to the Sept. 16, 2002 - Oil & Gas Journal, the **pipeline industry's profits in 2001 reached a record high of 38.9% return on revenues and have averaged 32% return over the past 21 years** (www.ogj.com). After the type of accidents listed previously, one would hope that some of the profits and more man power resources will be dedicated to pipeline corrosion testing, maintenance, and public safety in the future. **At $65 per barrel the 435,000 barrels of crude oil TransCanada plans to ship through South Dakota each day would be worth $28 million per day ($10.3 billion per year). TransCanada can well afford to treat the landowners, resources and rural communities they cross in South Dakota fairly.**

Fire & Spill Containment Response

Some spills may require assistance from local, state and federal agencies. The permit application filed by TransCanada with the U.S. State Department included the following statement.

"In the event of a large spill, TransCanada will be expected to take the lead in recovery and cleanup. A fire associated with a spill is relatively rare. According to historical data only about four percent (4%) of reportable liquid spills are ignited. In the event of a fire, local emergency responders will execute the roles listed above and firefighters will take actions to prevent the crude oil fire from spreading to adjacent foliage or structures. Fire departments might choose to extinguish a small or moderate-sized crude oil fire, but in many cases the best course of action may be to let the fire burn itself out." (TransCanada Construction Mitigation & Reclamation Plan, 2-50).

That last sentence could be a problem during the dry months of summer and fall during periods of high winds when the risk of wind driven grass fires are high in South Dakota. The question is do local fire departments in South Dakota have the training and equipment needed to fight oil fires? What are the environmental risks to volunteer fire fighters when fighting crude-oil fires? Would there be exposure to respiratory problems similar to what was experienced by U.S. soldiers who served in Desert Storm? Who will pay the cost, TransCanada or local taxpayers?

Surface Water

The TransCanada-Keystone Pipeline route across South Dakota lies entirely within the James River drainage basin with the exception of a small area near the Missouri River.

Crow Creek, Marshall County
Crow Creek Drainage Ditch, Marshall County
Renzienhausen Slough, Marshall County
Amsden Lake, Day County
Antelope Creek, Day County
Tributaries to Logan Dam/Reservoir, Clark County
Fordham Reservoir, Clark County
Sewage Disposal Ponds, Clark County
Foster Creek, Clark County & Spink County
Pearl Creek, Beadle County
Lake Iroquois, Kingsbury County
Twin Lakes, Miner County
Lake Eli, Hanson County
Wolf Creek drainage, Hanson County & Hutchinson County
Beaver Creek, Yankton County
James River and its tributaries
Missouri River and its tributaries

Accidents in pipeline transportation can result in a release of crude oil into water resources. Release of crude-oil into surface water would have toxic effects on fish and aquatic organisms, and water quality.

Things PROPERTY OWNERS & LOCAL GOVERNMENT Can Do

1. **Contact your elected officials**. The Public Utilities Commission, Governor, Legislators and Congressional Delegation are all elected to serve the voters of South Dakota, not TransCanada and their investors. Call or write and let them know how the TransCanada oil pipeline will impact your property, your community and your water supply.

2. **Require TransCanada to secure permits** for each road crossing and each utility crossing to assure that the pipeline construction complies with existing policy and easement requirements. TransCanada has assured the federal government in their permit application that they will comply with local permit requirements. Local permits should require that TransCanada install **pipe with double wall thickness (0.78 inch)** whenever the pipe is installed under or 800 feet either side of road crossings, and within 800 feet of homes, schools, parks and public places.

3. Require TransCanada to **post a cash bond and liability insurance coverage** to protect public and private property, public roads and utilities. Insurance coverage is required for water lines and utilities that cross railroads and public roads, why not the same requirement for high pressure oil and gas pipelines? Certificate of insurance should be filed with the South Dakota Secretary of State and with each County

Auditor of the counties crossed by the pipeline.

4. Require TransCanada to enter into an agreement to **pay the cost of grading, maintenance and repair of county and township roads** during the oil pipeline construction and for at least two years after the pipeline is completed and the farm ground and roads have settled back to their pre-project condition.

5. As a condition of the PUC permit and the construction/permanent easement, TransCanada should be required to **enter into an agreement with each landowner, County, Township, fire district, water system, drainage district or utility to pay the cost of any future damage to land, private property, wetlands, roads, water lines or other public facilities** that is caused by the operation of the TransCanada crude-oil pipeline, including a leak, spill, explosion, fire, accident or other failure during the operational life of the oil pipeline, which is estimated by TransCanada to be 50 years or more. Contract agreements and conditions should be filed in the County Courthouse.

Things TRANSCANADA Can Do

To make the crude-oil pipeline they are building and will operate through South Dakota safe and acceptable to the communities they cross for years to come, TransCanada should doing the following;

1. **Double the pipe wall thickness to at least 0.78 inch wall thickness** in those areas where the pipeline (a) comes within 900 feet of a home, business, town, park, school or public place, (b) crosses a public road or section line, (c) crosses municipal and rural water lines as well as private water lines, and (d) crosses a river, creek, stream, drainage or sensitive environmental area such as the crossing of the Missouri River near Yankton, SD.

2. **Increase the number of booster stations from 4 to 8 in South Dakota, to reduce the pressure** needed to move the oil through South Dakota **from 1,400 psi to 700 psi** or from 1,700 to 850 psi and could reduce the risk of a leak, pipe failure or oil spill.

3. **Increase the number of manual valves from 7 to 44** in South Dakota, which on 220 miles of crude-oil pipe would put a **valve every 5 miles**. Valves are used and will be needed to shut off the flow of oil during maintenance or in response to a leak, spill, accident or fire.

4. **Provide the training and specialized equipment that local volunteer fire departments** will need to contain an oil leak/spill or to fight a possible oil fire. Fire fighters should be informed of the health and environmental issues involved in fighting crude-oil fires and spills. TransCanada should enter into agreements with fire departments and districts to provide training and equipment, including personal air pack equipment, and agree to pay for the cost of spill containment and fire fighting.

5. **Deposit a cash bond with the state of South Dakota and each county and township crossed** by the crude-oil pipeline to cover the risk and potential cost of damage to private property and public property in the event of a pipe failure, oil spill or oil fire. The bond should remain in place for the life of the pipeline, which has been estimated by TransCanada at 50 years.

6. **Station 6 or more TransCanada operations staff at a central location** along the pipeline route in South Dakota to operate and maintain the system and to be available to respond to a leak, spill, fire or other emergency. The town of Iroquois, South Dakota appears to be a central location, with the larger towns of DeSmet and Huron close by. Even during fair weather, a distance greater than 100 miles can result in a delay in the emergency response that may be critical in the event of pipe failure, oil leak or fire. The response time could be even further delayed during the winter months when blizzard and ice conditions often impact highway travel throughout eastern South Dakota, such as the ice storm of 2006 or the recent blizzard conditions of March 2 and March 3, 2007.

Things The Public Utilities Commission, Governor & SD Legislature Can Do

1. TransCanada-Keystone could be required to design their high pressure oil pipeline with **double wall thickness of at least 0.78 inch thickness** whenever the high pressure crude-oil pipeline route comes within 900 feet of a town, school, housing development, private residence, farm, business, park, or other public gathering areas and where the pipe crosses a state highway or public road, to avoid the kind of tragedy and property damage that was caused at Carlsbad, New Mexico on August 19, 2000, Bellingham, Washington

on June 19, 1999, Bemidji, Minnesota on August 20, 1979, and Prudhoe Bay, Alaska in 2003.

2. The State could **tax gas and oil that flows through pipelines within the borders of the state** on a per-mile or per-barrel basis to help cover the costs associated with spills, accidents, fires, environmental impacts, clean-up, and property damage. A $0.10 per barrel tax or toll on crude-oil transported through South Dakota by the TransCanada-Keystone Oil Pipeline would generate $15,877,500 in revenue to the State (435,000 barrels per day x $0.10 per barrel = $43,500 per day x 365 days = $15,877,500 per year). TransCanada's permit application predicts that there will be pipe failure and oil spills along the pipeline. Will the costs of emergency response and clean-up be paid by TransCanada or be left to the taxpayers? At $65 per barrel of oil **TransCanada could make $28 MILLION per day ($10 BILLION per year) for the oil shipped through South Dakota**. They can afford to take care of any clean-up or oil spills that may occur.

3. TransCanada-Keystone could be required to provide the State of South Dakota and each County it will cross with annual information on their **track record of operating oil and gas pipelines** and the environmental impacts of any operational spills they have been involved in, which resulted in damage to private property, wetlands and water bodies during both construction and operation, as well as injury or loss of life.

4. **TransCanada-Keystone could be required to provide the written policy and procedures they will follow for the negotiating or condemnation of private land for easement right-of-way. Condemnation of privately owned land should be discouraged and used only as a last resort and then only after all other alternatives and options have been exhausted** and under the review and approval of the local County Commission or Public Utilities Commission. Rural water systems have installed thousands of miles of water lines using voluntary negotiated easements, without the use of forced condemnation. Out-of-state oil companies should be required to do the same.

5. TransCanada-Keystone could be required to provide the written policy and procedures they will follow for the **clean-up of any public or private property** that may be contaminated as a result of a crude-oil spill. This written policy should include the process for reimbursement of landowners, adjacent property owners, water utilities and public lands and resources that are impacted by an oil spill or pipeline operations. This document should be placed on file with the PUC and with every County crossed by the pipeline.

6. TransCanada-Keystone could be required to provide **proof of liability insurance coverage and a certificate of insurance** naming the State of South Dakota and the counties, rural water systems, townships, utilities and individual landowners crossed by the pipeline as "additional insured" on the policy. The insurance policy should cover the operating life of the crude-oil pipeline, which is estimated by TransCanada at 50 years or more and should obligate all partners involved in the crude-oil pipeline, including LLC and LP.

7. TransCanada-Keystone could be required to pay in advance for the cost of construction of power lines and electrical facilities needed to provide electricity to the pumping stations and mainline valves located in South Dakota. This is a cost of oil pipeline construction and should be paid by TransCanada, not local utility customers and rate payers.

8. TransCanada-Keystone could be required to provide a construction and operations reclamation plan that they and their contractors will follow for crossing private property, public property, public road right-of-way, rural water systems, and municipal drinking water pipelines throughout South Dakota, including a risk assessment completed by an independent consultant or the NTSB of the impacts an oil spill may have on South Dakota. The reclamation plan should cover the operating life of the oil pipeline, which is estimated by TransCanada at 50 years or more and should obligate all investors, partners and shippers involved in the crude-oil pipeline. The plan should be made available to landowners crossed by the pipeline as well as state and local emergency responders.

9. TransCanada-Keystone could be required to provide a remedial plan that they and their contractors will follow to **clean-up soil, surface water and ground water contaminated** by a construction spill or crude-oil spill during operations, both within the construction right-of-way and outside the right-of-way, including the cleanup of creek beds, ground water, drainage ways and soils that are impacted. The remedial plan should cover the operating life of the oil pipeline, which is estimated by TransCanada at 50 years or more and should obligate all partners involved in the crude-oil pipeline, including LLC and LP.

10. The permit application TransCanada filed with the federal government predicts that there will be oil leaks and pipe failure. *(Pipeline Risk Assessment pg 3-2).* TransCanada and its partners could be required by state law to **post a bond or cash payment** with the State of South Dakota, the Public Utilities Commission and/or the Department of Environment and Natural Resources to cover the cost of clean-up of any oil spill should one occur during the 50-year life of the TransCanada-Keystone Oil Pipeline.

11. The SD Public Utilities Commission could be given the authority and responsibility by the State Legislature to **arbitrate easement acquisition disputes** in an effort to reach reasonable settlement before TransCanada is allowed to use South Dakota eminent domain laws to condemn land held in private ownership. The process should include independent appraisers using methods to determine fair compensation for temporary and permanent right-of-way easements including loss of production. The rights of private property owners along the pipeline route in South Dakota should not be left to the mercy of professional land acquisition agents that TransCanada, an international oil company, have sent in to South Dakota to secure easements under the threat of condemnation using South Dakota eminent domain laws.

12. The SD Legislature could establish in law a process for evaluating damage to land, water and resources by a gas or crude-oil spill, and a method and process for determining compensation for property damage caused by a gas or crude oil spill. The plan should include a "no cost" administrative appeals process available to landowners and property owners who are not satisfied with the result of negotiations with TransCanada-Keystone or other gas and oil pipeline builders and operators.

13. The SD Legislature could require that oil and gas pipeline companies crossing South Dakota filed **detailed construction plans stamped by engineers licensed to do business in South Dakota**, with the Department of Environment and Natural Resources and the Public Utilities Commission for prior approval before any permits are approved and before eminent domain is granted to cross South Dakota. The Department of Environment and Natural Resources (DENR) must approve construction plans for all water and sewer systems built in the state, and farm feedlot runoff containment, then why not the same requirement for high pressure crude-oil and gas pipeline plans?

14. The PUC or DENR could require TransCanada to allow the state to **monitor the operating pressure and flow of the oil pipeline** at various locations to assure that the system is not exceeding the authorized pressure. The cost of this monitoring equipment and annual testing and calibration should be paid for by TransCanada.

Pipeline Permits, Inspection & Regulation In South Dakota

The federal government establishes minimum pipeline safety standards under U.S. CFR, Title 49, 190-199. The Office of Pipeline Safety, headquartered in Washington, DC, has overall regulatory responsibility for hazardous liquid and gas pipelines. Through OPS certification, the state of South Dakota regulates, inspects, and enforces intrastate gas pipeline safety requirements, performed by the Pipeline Safety Division of the SD Public Utilities Commission (PUC) which is directed by a 3 member commission elected by the voters. The address and phone number for the PUC is listed above and on page 1 of this document. (www.state.sd.us/puc/puc.htm).

Permit Approval - Agencies

The following local, state and federal agencies will review the TransCanada permit and have a role in reviewing the project and some agencies have the authority and responsibility to protect the public safety, private property, water, and natural resources of South Dakota.

Agency	Authority	Contact Person
SD State Historical Preservation Office	Preservation of cultural and historic resources	SD State Preservation Office 900 Governors Drive Pierre, SD 57501-2217 Phone (605) 773-3458 shpo@state.sd.us
SD Public Utilities Commission	Issuance of permit for pipeline transportation. Through OPS, the state of South Dakota regulates, inspects, and enforces intrastate gas pipeline safety requirements, performed by the Pipeline Safety Division of the SDPUC, Phone (605)773-3201 (www.state.sd.us/puc/puc.htm)	Public Utilities Commission Dusty Johnson, Chairman Gary Hanson, Vice Chairman Steve Kolbeck, Commissioner Capitol Bldg – 1st Floor 500 E Capitol Ave Pierre, SD 57501-5070 Phone (605) 773-3201

		www.state.sd.us/puc/puc
SD Department of Environment & Natural Resources.	Protect streams and wetlands, water quality, discharge permits. Issue permit for stream and wetland crossing, and discharge of water used for testing. Oil spills. Source Water Protection Program.	Steven Pirner, Secretary Dept of Environment & Natural Res. 523 E. Capitol Ave Pierre, SD 57501-3182 Phone (605) 773-3151 steve.pirner@state.sd.us • www.state.sd.us/denr
SD Department of Transportation	State highway crossings	Judy Payne, Secretary SD Department of Transportation 700 E. Broadway Ave. Pierre, SD 57501 Phone (605) 773-3265 judy.payne@state.sd.us
SD Fish & Game Department	Protect state game production areas	Jeff Vonk, Secretary or John Kirk, Environmental Review Department of Game Fish & Parks 523 East Capitol Ave Pierre, SD 57501 Phone (605) 773-6348 jeff.vonk@state.sd.us john.kirk@state.sd.us
US Fish & Wildlife Service	Protection of wildlife areas, and habitat of endangered species, the James River and the Missouri River	U.S. Fish & Wildlife Service 134 Union Blvd. Lakewood, CO 80228 Phone (303) 236-7905 MountainPrairie@fws.gov
US Environmental Protection Agency	Protection of water quality and wetlands	Regional Director-Region 8 US Environmental Protection Agency 1596 Wynkoop Street Denver, CO 80202-1129 Phone 1-800-227-8917
US Department of Interior	Missouri National Recreation River Missouri River crossing near Yankton,SD	Dirk Kempthorne, Secretary US Department of Interior 1829 C Street NW Washington, DC 20240 Phone (202) 208-3100 webteam@ios.doi.gov
County Government	Crossing of county and township roads	County Highway Supt. County Commissioners Township Officials of each county crossed by the pipeline

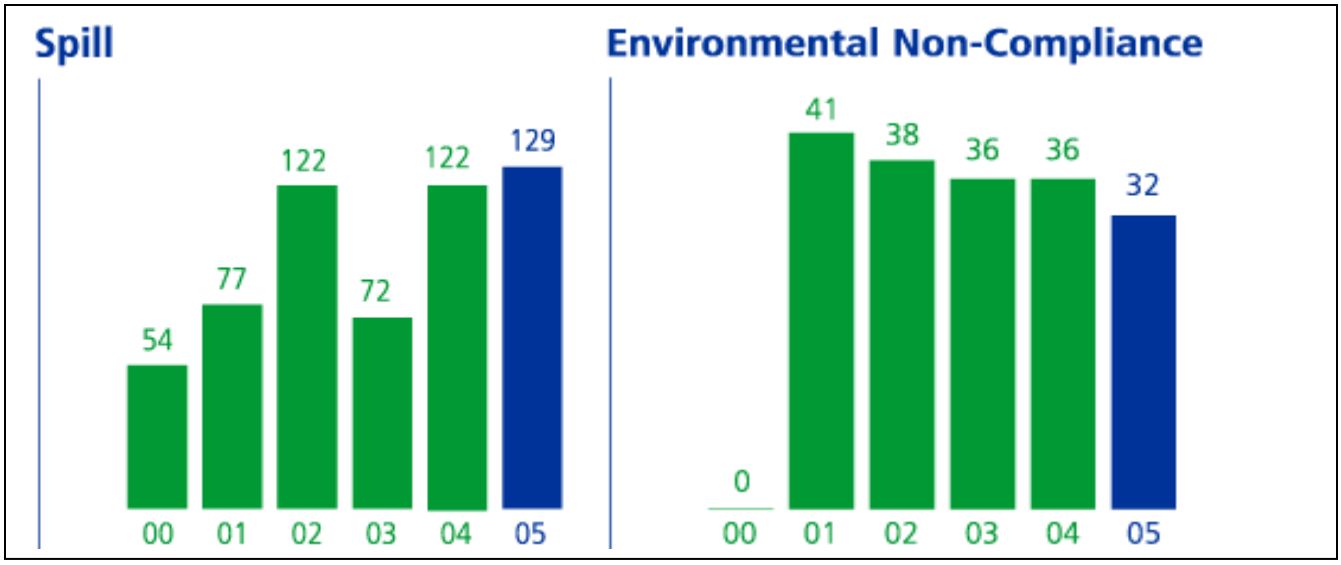
TransCanada –Who Are We Dealing With ?

As the group of oil company investors begin the process of seeking permit approvals for the construction of 217 miles of high pressure crude-oil pipeline through South Dakota, it's fair to ask, ..."**Who Is TransCanada"?**

TransCanada had 576 spills in the past 6 years according to their official website

Nearly 80 per cent of the spills were due to equipment-related leaks of hydraulic oil, lube oil, glycol and fuel typically of low volume (<5L). Four spills were classified as 'Serious' with 125 classified 'Minor' spill incidents. A minor spill is defined by TransCanada as: a spill, onsite that poses no adverse affect to the environment or impact to a water body or to groundwater. **TransCanada had 183 non-compliance incidents in the 6 years**. (http://www.transcanada.com/social/responsibility/numbers.html) . TransCanada is a Canadian oil and gas pipeline transmission and electric power generating company. The Oil Digest reports that Conoco holds 50% ownership in TransCanada's proposed pipeline (Oil Digest 7/5/06). TransCanada reported profits of $1.2 Billion in 2005 and $1.05 Billion in 2006[1]. As of a Jan. 31, 2007 report, TransCanada posted a total share return, including stocks and dividends of 15% in the past year and 20% annually for the past five years. (www.transcanada.com) TransCanada, founded in 1951, is a large energy company based in Calgary, Alberta. The company is the largest shareholder of TransCanada PipeLines, LP, which owns many of Canada's natural gas pipelines, as well as a number in the United

[1]



States. TransCanada is also has electrical generating assets and owns or is involved in the Northern Border Pipeline, Tuscarora Gas Pipeline, and the ANR Pipeline. TC Pipelines, LP is 50% owner of the Northern Border Pipeline, which moves natural gas through South Dakota and was built in 1982.

TransCanada's-El Paso Connection

According to the December 2006 *Toronto Star*, TransCanada paid $3.39 billion for the Houston, Texas based ANR Pipeline Company, a subsidiary of **El Paso Corporation**, one of the largest interstate natural gas pipeline systems. In the deal, TransCanada also secured gas storage facilities in Michigan and 50% share of Great Lake Gas Transmission (www.anrpl.com). El Paso Corporation has experienced at least **40 pipeline ruptures since 1985, including the pipeline corrosion failure and explosion that took place at Carlsbad, New Mexico on August 19, 2000, and resulted in the deaths of 12 people, 5 children and 7 adults.**

On February 7, 2007, the *Houston Chronicle* reported that **El Paso Corporation had reached a court settlement with the U.S. Department of Justice to pay more than $7.7 million to settle claims that it helped the former Iraqi regime receive millions in kickbacks through a U.N. sponsored humanitarian "Food for Oil" program. The settlement includes $5.48 million, which is the amount of illegal surcharges El Paso's oil purchases provided to the former government of *Saddam Hussein* and $2.5 million in civil penalties to the Securities and Exchange Commission (SEC).**

The $5.48 million fine collected by the U.S. Department of Justice from El Paso Corp., will be used to purchase humanitarian goods for the people of Iraq. **According to a 2005 report by former Federal Reserve Chairman Paul Volcker, about 2,200 companies in dozens of countries paid nearly $1.8 billion in kickbacks to Saddam Hussein's government through the *"Food for Oil"* program. Other U.S. companies charged in the scam were Chevron, Texaco, Mobil, Coastal Corp, and Bayoil USA.**

References:

1. Keystone Pipeline Project Construction Mitigation and Reclamation Plan, TransCanada, (April 4, 2006 Rev. 3)
2. Pipeline Risk Assessment and Environmental Consequence Analysis, TransCanada - Keystone Pipeline Project (June 2006) ENSR.
3. Bemidji Crude-Oil Research Project, United States Geological Service Fact Sheet 084-98
4. Handbook of PVC Pipe Design and Construction, 1982, Uni-Bell PVC Pipe Association.
5. AWWA Study - Iowa State University, 2007; impacts of petroleum on PVC water line
6. Office of Pipeline Safety, studies and reports
7. National Transportation Safety Board, "Pipeline Accident Report, Pipeline Rupture and Fire Near Carlsbad, NM, August 19, 2000"
8. WestLaw, Natural Resources J. 44- 243
9. US Dept. of Agriculture, Soil Conservation Service. Soil Surveys: Brown Co. 1994, Day Co 1990, Marshall Co 1970, Beadle Co 1975.

WEB Water Development Association, Inc.
38462 US Hwy 12, PO Box 51
Aberdeen, South Dakota 57402-0051

postage permit

Will TransCanada-Keystone bring crude oil leaks and oil fires like this to South Dakota ?