FRIENDS OF KAINAISSKSAAHKOYI, Blood Lands Environmental Coalition

"WE ONLY HAVE ONE EARTH
FOR OUR CHILDREN AND THEIR
CHILDREN……."

Chief Bird 2011

Friends of Kainaissksaahkoyi: Blood Land Environmental Coalition are concerned people for the protection of our environment where we hold the earth, water and air precious that is to sustain our people and future generations for ever.

(Note: One day, last September 2010, I asked will this type of drilling have any effect on the under ground water: I have yet to get a straight answer.) There has never been any true consultation with the tribal members as of today.

Chief Bird 2011

SUMMARY FACTS ON GAS LEASE PROPOSAL TO

KAINAIWA RESOURCES INC.

BY BOWOOD ENERGY LTD

AUGUST 2010

- **FACT:**
- **Lease Proposal Lands: 94.75 contiguous sections or 24, 256 hectares**
- **BONUS: $500.00 Per hectare (Approx.) $12.128,000, Land Bonus monies paid to Indian Oil and Gas**
- **ANNUAL RENT: $5.00 per hectare**
- **TERM: Five (5) years**
- **Bowood shall make one time payment of $2,000,000.00 to 971445 Alberta LTD**

Drilling Commitment: Spud a minimum of one (1) well within 12 months from effective date

Minimum depth of 1000m or 5m into Devonian, which ever occurs first.

One (1) additional wells within 12 to 24 months
two (2) additional wells within 24 to 36 months
two (2) additional wells within 36 to 48 months
two (2) additional wells within 48 to 60 months
Total 8 wells

Note: There is no limit on maximum on number of wells to be drilled.

SUMMARY FACTS ON OIL LEASE PROPOSAL TO

KAINAIWA RESOURCES INC.

FROM MURPHY OIL COMPANY LTD

AUGUST 2010

Facts from Murphy Oil Company

Lease Terms: 5 Years

Lease Lands: **202 contiguous sections** south of Township 7 on Blood First Nations Reserve

Lease bonus Consideration:$736,324,25/ha covering 51,712 hectares, totaling $38,076,800.00

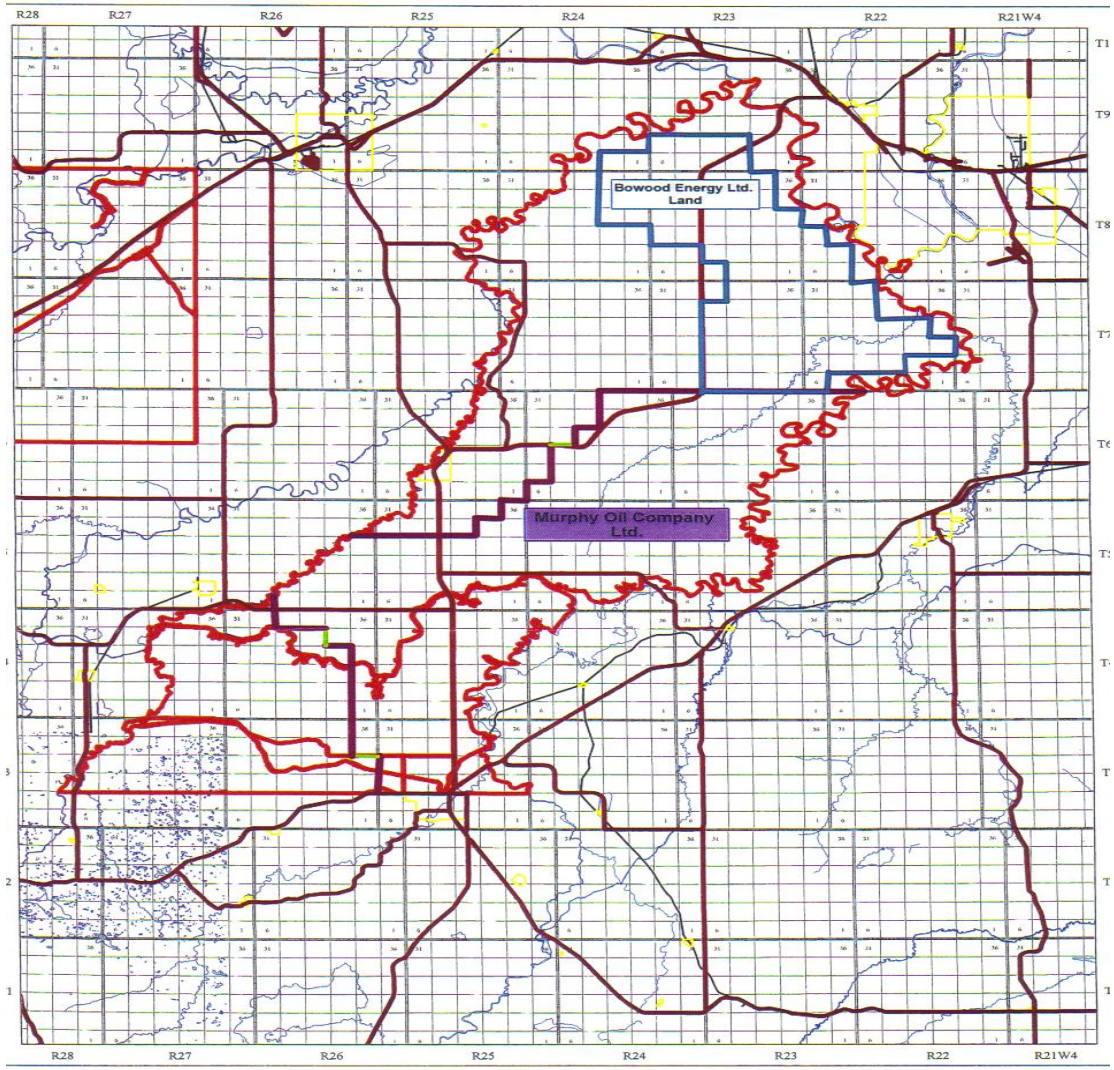
Type of Disposition: Petroleum & Natural Gas Lease
Lease Rental: $5.00 per/ hectare
Lease Term: 5 Year

Spud a minimum of two (2) wells within 12 months from effective date

Minimum depth of 1,500m or 5m into Sunburst Formation whichever occurs first

two (2) additional wells within 12 to 24 months
four (4) additional wells within 24 to 36 months
four (4) additional wells within 36 to 48 months
four (4) additional wells within 48 to 60 months
Total 16 wells

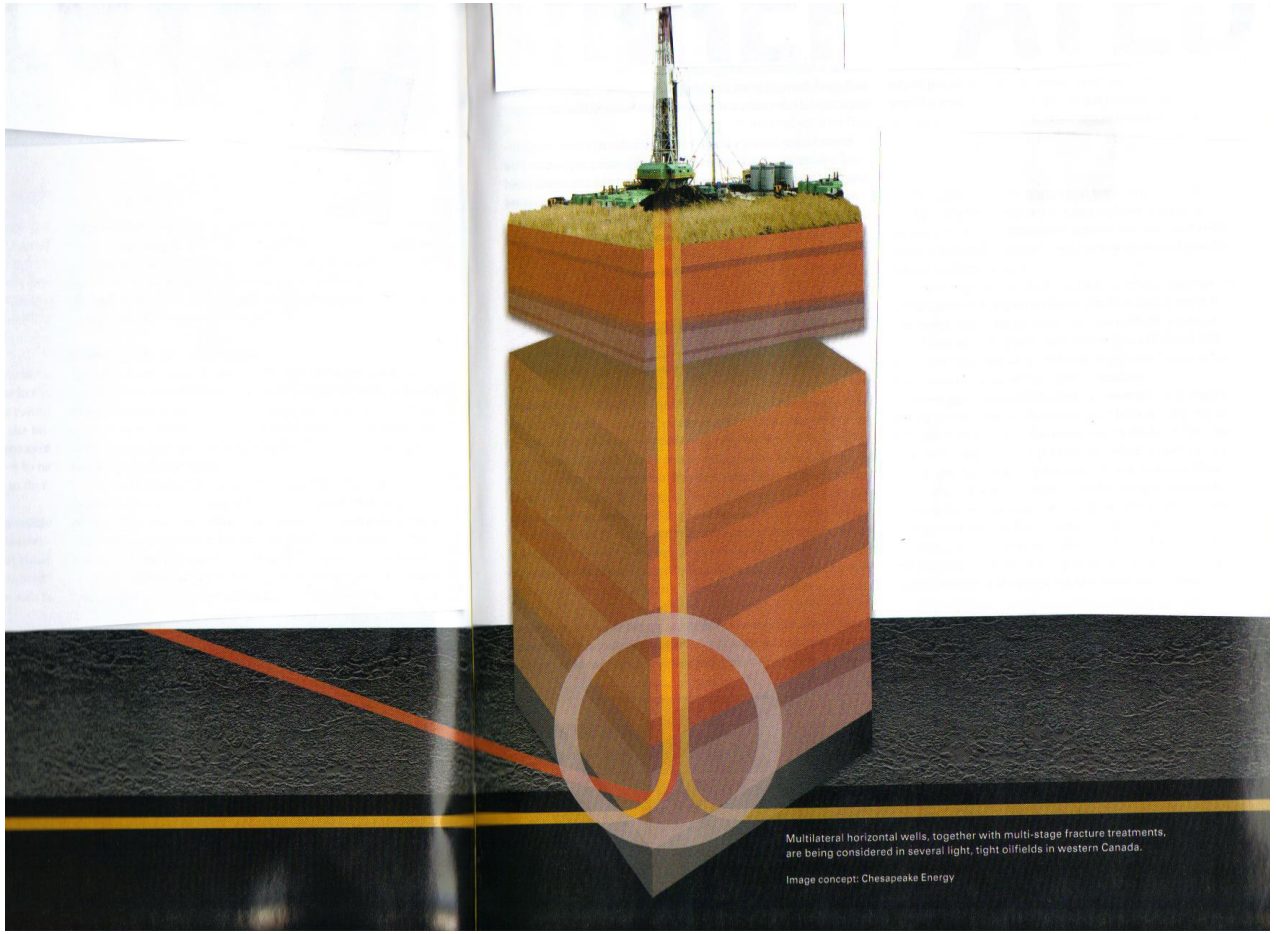
Note: There is no limit on maximum number of wells to be drilled.



Ryder Scott

Kainaiwa Reserve
Murphy and Bowood Land

Scale 1:267914



Chief Bird 2011

REVOLUTION REPEATED

By Peter McKenzie-Broom

Oil Week February 2011

- **JUNIORS AND THE TREADMILL**
- Since it became common place in the late 1980's, horizontal drilling has been enhanced by increased efficiency. Much longer horizontal legs are now possible: **many are two and three kilometers in length.**
- Other contributors include geosteering……
- Most important of all is the multi stage fracturing. The industry can now isolate many completion zones along lengthy horizontal well bores: **a two kilometer horizontal leg can host up to 20 hydraulic fractures.**
- This production phenomenon has also involved largely **unacknowledged regulatory responses by provincial governments within western Canada.**
- Page 30

ALBERTA OIL – The Business of Energy (February 2011)

- Step by Step – Regulatory changes adapt provincial authority to swift industry by Jeff Lewis Interviewing Steve Smith Executive Manager of Applications with the ERCB.
- ….. Case in point: **A suite of amendments announced late last year by the industry watchdog include changes aimed at accommodating the unprecedented wave of horizontal drilling targeting "tight"oil and shale gas as well as the sharp rise of in situ,…**
- …As a result, the ERCB developed regulations to limit **surface impacts** on farmers' fields And the like by restricting drilling activity to certain "corner target" areas.
- Today, the spread of horizontal drilling – which increasingly **involves rock-splintering injections of "frac" fluids** means operators no longer need a well directly above the target.

Continuing – Alberta Oil February 2011

- The new generation of wells routinely reach out **1.6 kilometers sideways across deposit, and sometimes farther.**
- The extended reach of a **horizontal well effectively changes the distribution of everything from well pads to pumper trucks and storage tanks at ground level, making the old rules for vertical wells redundant**.
- Updating policies to reflect modern practices is "critical" because some of these regulations were developed in 1940's, 50's and 60's. **They have been supplemented over the years and revised but we haven't gone back to take a fundamental look at the premise of those regulations in a number of years.**
- Alberta Oil - Pages 17 and 18

- How deep do natural gas wells go?
- The average well is up to 8,000 feet deep. The depth of drinking water aquifers is about 1,000 feet. The problems typically stem from poor cement well casings that leak natural gas as well as fracking fluid into water wells.
- How much water is used during the fracking process?
- Generally 1-8 million gallons of water may be used to frack a well. A well may be fracked up to 18 times.
- What fluids are used in the fracking process?
- For each frack, 80-300 tons of chemicals may be used. Presently, the natural gas industry does not have to disclose the chemicals used, but scientists have identified volatile organic compounds (VOCs) such as benzene, toluene, ethylbenzene and xylene.
- In what form does the natural gas come out of the well?
- The gas comes up wet in produced water and has to be separated from the wastewater on the surface. Only 30-50% of the water is typically recovered from a well. This wastewater can be highly toxic.
- What is done with the wastewater?
- Evaporators evaporate off VOCs and condensate tanks steam off VOCs, 24 hours a day, seven days a week. The wastewater is then trucked to water treatment facilities.
- What is a well's potential to cause air pollution?
- As the VOCs are evaporated and come into contact with diesel exhaust from trucks and generators at the well site, ground level ozone is produced. Ozone plumes can travel up to 250 miles.
    - http://gaslandthemovie.com/whats-fracking

Correspondence from KRI Director& Indian Oil Gas Director

- The design of the actual drilling that will take place has not been finalized yet. However **I can tell you that companies will not be using a liquid or water based frac.** They will be using a **compressed gas frac. The gas that will be used will either be CO2 or nitrogen**. Although, the chances of a fluid frac migrating to water wells use for drinking is extremely remote especially at these depths, the compressed gas frac eliminates that very remote chance. As you are most definitely aware all the negative information is associated with fluid or water based fracs (USA ie gasland) or are very shallow wells (CBM wells ie Rosebud, AB).

- There are other benefits associated with this type of fracing system compared to a water based one. Here are a few, **no water will be used for the fracing process**. Our water is a limited resource and we need to manage it accordingly. **A water based frac uses approximately 10,000 m3 per well or about 360 water truck loads. The compressed gas frac needs about 60 truck loads.** So traffic and damage to roads will be minimized. However keep in mind these oil companies are required to maintain all roads they use. There are NO other "chemicals" added to the compressed gas fracs compare to a water based frac. Those are just a couple of important facts that maybe of interest to you. Also the exact make up of this fracing system will be available for any Tribal member to see
- As for the consultation issue, KRI is required to consult with all residents in the area as it relates to a surface lease. We will be going beyond the minimum distances set out in the regulations. Once we have a proposed surface location this triggers that consultation process. However, I can't comment on Chief and Council's process on their consultation with members on leasing mineral rights. Further to that, you may not be aware that the province has leased all available mineral rights from the US border all the way past the Reserve and surrounding Lethbridge without any consultation with its residents. I'm not saying that is why C&C didn't consult with members. I'm just informing you on what happens off Reserve and that Alberta didn't consult with its residents or the Tribe when leasing mineral rights. They only consult when there is a project ie a well to be drilled or a surface lease. I bring this up as a result of a lethbridge resident saying the Tribe needed to consult with lethbridge in a letter to the Editor. It was obvious this person wasn't aware of the mineral rights were being leased all around lethbridge. D. Shade Nov 25, 2010

Correspondence
Strator Crow Foot - Chief Executive Officer
Indian Oil & Gas Canada

- **Subject:** Re: Oki
-
- Thank you for your email, IOGC does not have a public participation protocol relating to the negotiation and finalization of subsurface oil and gas agreements. We work with chief and councils, consequently **the Blood Tribe Chief and Council have clearly indicated to me that consultation with band membership is their duty and sole responsibility, and is being carried out.** However, IOGC does require a level of community consultation prior to approving surface agreements which include all environmental aspects. If you have any concerns or questions you should contact your Chief and Council or David Shade.
-
- Regards.
-
- Strater J. Crowfoot

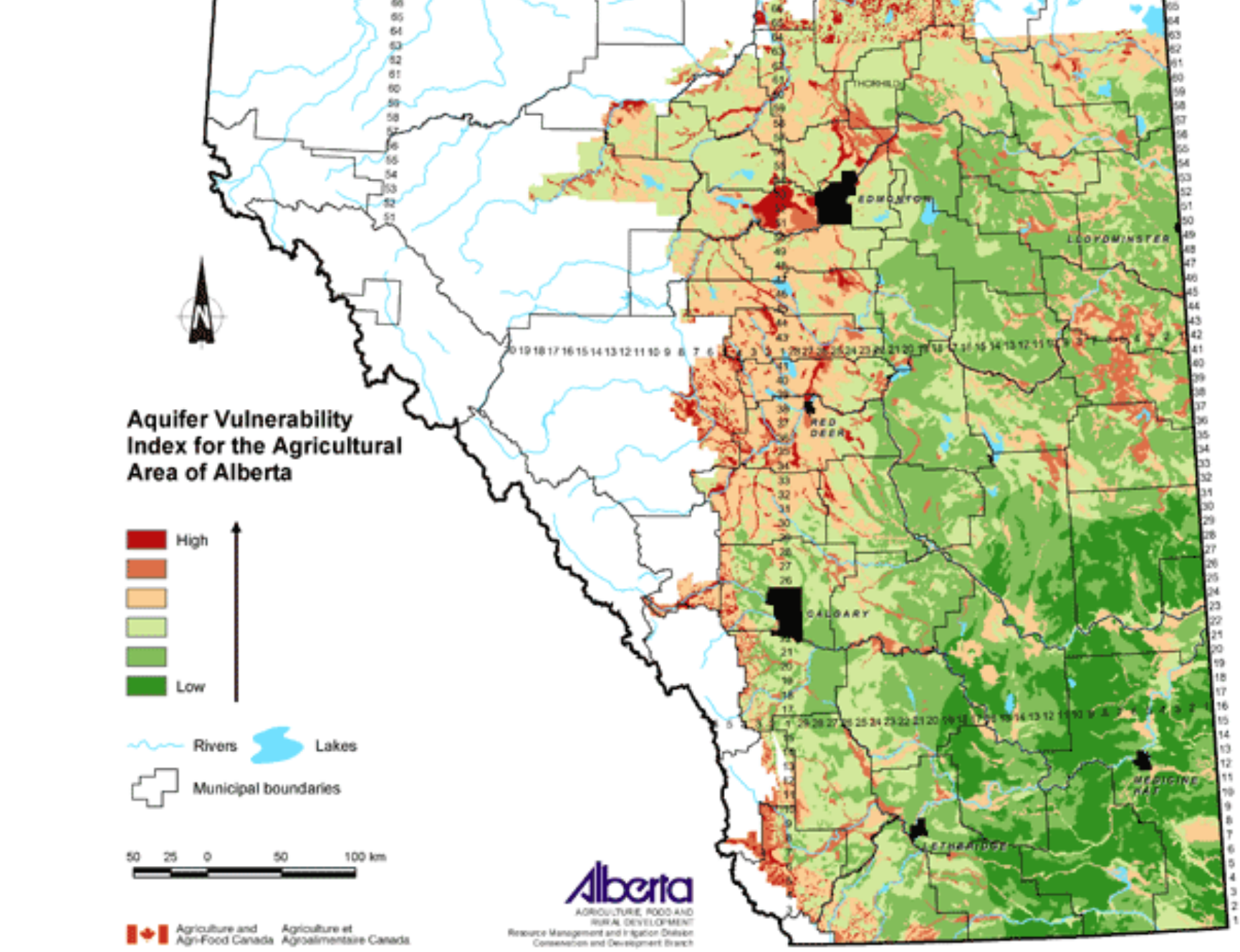
Agricultural Land Resource Atlas of Alberta - Aquifer Vulnerability

Index for the Agricultural Area of Alberta

- **Description**

  The Aquifer Vulnerability Index (AVI) is a method for assessing the vulnerability of aquifers to surface contaminants. An aquifer is a geologic formation that is permeable enough to transmit sufficient quantities of water to possibly support the development of water wells. In the assessment of aquifer vulnerability to potential contamination, the depth to the aquifer and the types of geological materials above them are considered. For example, aquifers closer to the surface overlain with pervious surface materials are more vulnerable to contaminants, as compared to aquifers found deeper and covered with thick layers of impervious materials.

  The AVI ratings indicate the potential of surficial materials to transmit water with contaminants to the aquifer over a period of time. The AVI ratings are displayed on the map in classes ranging from low to high. An area with a low class rating implies that water percolating through the surficial materials in this area takes a long time (in the range of thousands of years) to reach the aquifer. **On the other hand, in an area with a high rating, contaminated water is predicted to reach the aquifer within "tens" of years**.


Aquifer Vulnerability Index for the Agricultural Area of Alberta
High
Low
Rivers
Lakes
Municipal boundaries
50 25 0 50 100 km
EDMONTON
LLOYDMINSTER
RED DEER
CALGARY
MEDICINE HAT
LETHBRIDGE
Agriculture and Agri-Food Canada
Agriculture et Agroalimentaire Canada
Alberta
AGRICULTURE, FOOD AND RURAL DEVELOPMENT
Resource Management and Irrigation Division
Conservation and Development Branch

TOTAL DISOLVED SOLDS

- 1. My water well reading 1. Cold water tap 215 TDS: 2. Hot water tap 227 TDS
- Had water tested after gas well drilled approximately 1000m from house, can not drink well water.
- Acceptable levels is between 8 – 16 TDS, 50 TDS is tolerable for a short length of time.
-
- 2. Neighbor # 1. High 400's TDS – Drilling across river a few years ago approx ¼ mile

- 3. Neighbor # 2 Mid 300"s TDS – water transported to cistern from either Standoff or Old Agency well. Original water well permanently destroyed after seismic testing was done less than 50 yards from water well.

- 4. Numerous complaints on cracked sewer, water lines, well contaminations and cracked basements. From reserve residents from seismic activity, damages have never been repaired by companies or KRI.

Facts:

1. Hydraulic Fracking and horizontal drilling
2. Some of the chemicals used in Fracking: ethane, methane, benzene etc.
3. There are 132 existing wells on the Blood Reserve where most of the wells are located on the north end of Reserve.
4. $50,204,800 Bonus to be released to Tribe's capital account after IOGC executes leases
5. Rivers bordering Blood Reserve: Waterton, Belly, St. Mary all flowing into Oldman River
6. Potential of disrupting under ground water, contamination of water system, soil contamination, effect on air qualit.
7. Kainai Resources Incorporated are both Regulators and Investors
8. Murphy and Bowood **companies agreed that they don't know where all the water is and no one has done accurate scans for for locating the aquifers. But did not agree to find them and test them…**

.

Questions and Concerns

1. There is no Emergency Disaster Plan made public
- 2. No Health Safety Plan, no answers on potential health risks for land occupants, rig site workers, rsks for on reserve, off reserve people.
- 3. Companies questioned where will water come from and how many gallons per well? Reply: will get water 20km off Blood Reserve.
- 4. Companies questioned on Waste Management Plan for extracted materials. Reply: Will be off the Reserve.
- 5. No Environmental Plan made public with respect to underground water, surface water, soil and air.
- 6. No legal guarantees from Murphy and Bowood that there will be no contamination of our water sources.
- 7. Is there a possibility that contaminated water will effect agriculture, irrigation, urban real estate, outdoor water recreation and the foods industry which depend on water.
- 8. Murphy Oil using compressed fracking and is a client of GasFrac

The Friends of Kainaissksaahkoyi: The Blood Lands Environmental Coalition will continue to offer tobacco, sacred berries and water to the earth to give thanks for all it provides.

Others will include in their prayers the safety of our lands, water and our children.

Chief Bird 2011


Weatherford Ampscot