

Crook County

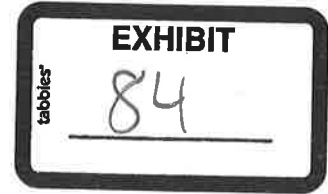
JUN 08 2022

June 8, 2022

Will Van Vactor, Director
Crook County Planning Commissioners

Community Development

Crook County Court
Seth Crawford, Judge
Brian Barney, Commissioner
Jerry Brummer, Commissioner



Following are facts and information which are on the record regarding the Knife River Corporation appeal of the Crook County Planning Commission denial on 217-21-000573-PLNG. Attached is my March 1, 2022 memorandum provided to the Crook County Planning Commission.

One of the most significant concerns addressed in the memorandum are the facts surrounding the surface water and ground water issues.

[REDACTED]

[REDACTED] When Knife River submitted their application to Crook County in 2021, they simultaneously argued to Oregon Water Resources Department (OWRD) the OID could only deliver 80gpm of the water necessary for their needs to operate in order to acquire a limited license (LL-1876) to drill wells and pump 78 million gallons (500gpm) of water year around to meet their needs. The aquifer they would pump from has declined over 30 feet in 2021.

[REDACTED]

[REDACTED] This is a critical issue for the 60-70 domestic wells within 1/2 mile of the proposed new wells. OWRD will shut down the LL-1876 when neighboring wells encounter problems.

[REDACTED]

[REDACTED] This is a substantial decrease from 2021 which was also extremely limited. Crops grown in this area require a minimum of 2-2 1/2 acre feet for a full growing season.

What do priority neighboring domestic water users do while waiting 6-8 months for an available well driller to deepen or repair their wells? [REDACTED]

[REDACTED]

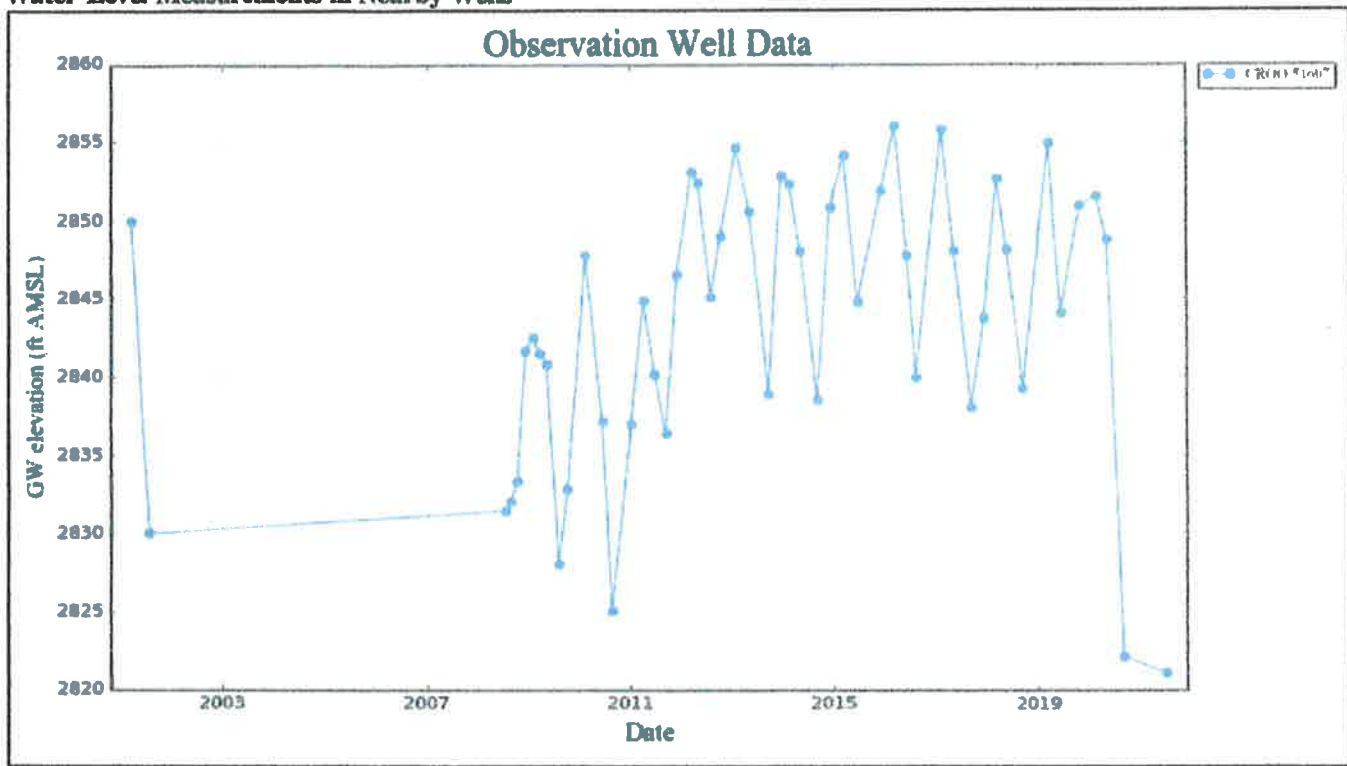
The facts are that Knife River cannot meet the water requirements to operate their existing operation or any expansion. Knife River certainly cannot fulfill any assurances made in a well guarantee to neighbors that may be affected. There is no water for dust control, watering berms, growing a cover crop on reclaimed land, or even to operate the screening plant without significant impacts on everyone in the area. This is just the wrong place at the wrong time for a project of this type.

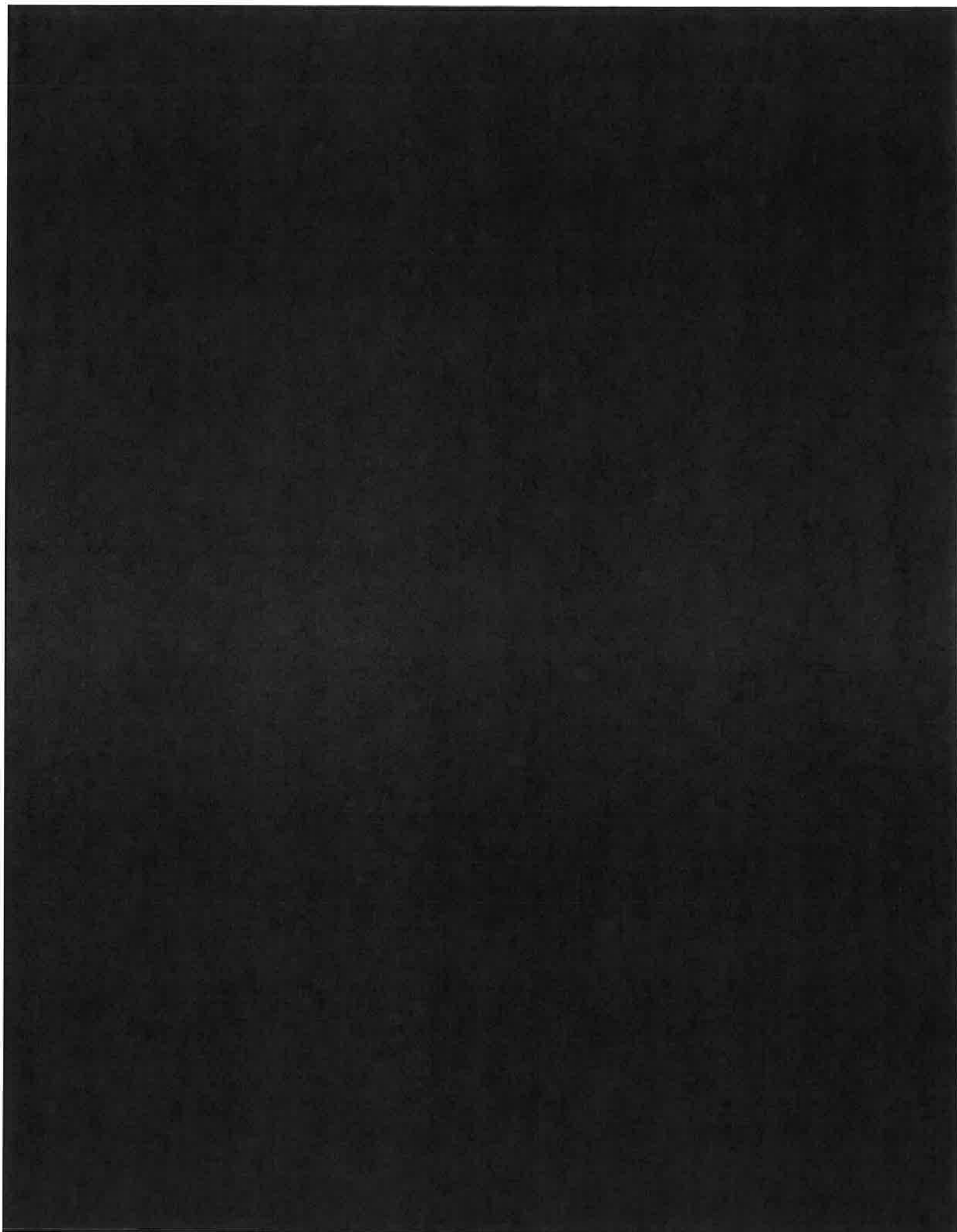
Regards,

Richard L. Zimmerlee

A handwritten signature in black ink, appearing to read "Richard L. Zimmerlee". The signature is stylized and overlaps the printed name below it.

Water-Level Measurements in Nearby Wells





Will Van Vactor, Director
Crook County Community Development

March 1, 2022

Crook County Planning Commissioners
Re: Knife River Expansion

The following is information and facts regarding the Knife River mining operations on Stahancyk Lane and current application on the Vanier property to be submitted to the record.

1) The December 8, 2021 letter from Fitch & Neary covers some of the many concerns. Knife River, in their reports, has made multiple misrepresentations. Ed Fitch points out the well logs for the bore drillings were not provided to the county. The logs and summary of those logs are attached. Note that each of the 7 well logs has identical static water levels (SWL) of 18 feet which the driller certified to OWRD to be true. This data appears to be manipulated and false. The actual SWL varied in all 7 wells as I witnessed all the drillings. The SWL varied mostly between 8-12 feet with only one SWL at 17 feet. Current test pits dug on the Vanier property show SWL mostly from 2 feet to 8 feet with only the most western portion next to Porfily somewhat deeper.

2) We are now encountering saturated soils due to encroachment of sub-surface water that was diverted by the backfill of non-permeable soils on the Woodward property. Knife River is denying they created this problem yet in Ordinance 328, Exhibit A, page 18, the Knife River "experts" report says "mining the cell from east to west and backfilling with low permeability soils, effectively re-routes the groundwater". That is exactly what has happened when the Woodward mine was backfilled, the flow going into those cells was diverted down gradient to the northwest. In 4 years farming this property, 2 of which were extreme drought years, I have not encountered any saturated soils, soils so saturated that our equipment actually got stuck. The Davis family who owned and farmed this property for many years prior, confirm they never experienced saturated soils. Knife River has denied any responsibility to DOGAMI and DOGAMI has refused to investigate the matter stating that Knife River has a good track record with them. This confirms the local concerns that the burden of proof is on the neighborhood and Knife River will do whatever they want. To even suggest a DOGAMI permit is going to protect anyone other than Knife River is laughable. It appears the last time a DOGAMI staff person visited the Woodward site was in 2019 when Ben Mundie wrote his report that is part of the record. Attached is a copy of the DOGAMI permit application for the Woodward mine. Multiple violations have been addressed with DOGAMI, all of which they have ignored as suggested by the attached e-mails. In December 2021, Knife River even hired a 20 year veteran geologist away from DOGAMI to work for them.

3) Ground water

a) Ground water flow in the Woodward/DOGAMI permit in 2015 was interpreted by Knife River "experts" to be W-SW. Now, in 2021 Knife River "experts" are interpreting the ground water flow to be NE-SW. It appears the direction of the flow changed as a matter of convenience for a permit application and to be able to deny responsibility.

b) Knife River de-watered the Woodward mine in violation of their permit at a rate of 500-1000gpm from Feb-Oct 2020. Knife River told DOGAMI they only discharged water briefly in the stream for the benefit of many farmers. That discharge was full of silt and sand which plugged my pumps and settling pond and resulted in the rebuilding of 2 irrigation pumps. Again, Knife River denies any responsibility saying "we rebuilt them last time, you rebuild them this time". The de-watering continued to allow Knife River to mine the NW corner of the Woodward mine.

Now, the Knife River "experts" are representing that their "models" suggest there will be an inflow of ground water to the Vanier property of as little as 10-20gpm (see attached Lidstone flow model). Knife River admits that as they mine west to east they have encountered greater flows of water. They further represent in their reports that even more ground water is expected on the Vanier property. The inflow to the Woodward mine was significant. By example, my August 2021 document (Exhibit 21) shows the SE portion of the mine submerged in water. In 48 hours the water level raised more than 3 feet. Each 5 acres of that open mine equals 217,800 square feet. 3 feet of water on 5 acres is 15 acre feet of water or 4,887,765 gallons. The inflow would be more than 1700gpm to raise the water level 3 feet on 5 acres in 48 hours.

Multiple other violations exist in the Woodward/DOGAMI permit.

- 1) 18 inches of top soil was to be returned to reclaimed ground but remains in berms along Stahancyk Lane.
- 2) Mining depth was limited to 20' maximum but instead went to 35'.
- 3) Open mining was to be limited to 5 acres but exceeded 40 acres.
- 4) Reject and fines generated in mining and processing were to be mixed with backfill silts for backfill material instead remains stock piled.
- 5) No mining below the water level or de-watering was permitted yet mining occurred below water level and millions of gallons of water were discharged without permits into Crooked River.

c) Mr. Lidstone, for Knife River, represents the "pump test" he did supports a minimal amount of ground water inflow and is merely a small amount of perched water with no flow. Mr. Newton, in his memorandum, stated that the data provided by Mr. Lidstone is severely flawed. Mr. Lidstone further represents in his data provided on the record that the 3 test wells he installed on the SW corner of the Woodward property reflect accurate data regarding the SWL and aquifer volume on the Woodward and Vanier properties. The Lidstone report on 1/21/21 states the SWL of the 3 test wells as 20.6 feet, 21.4 feet and 17.5 feet below ground surface (BGS). On 11/10/21, Hudspeth Land and Water (HLW) on behalf of Knife River measured the wells at 20.6 feet, 21.3 feet and 17.2 feet to the top of the well casing, not BGS. The well casings are 3 feet above the ground surface. After adjusting to BGS, the SWL of the test wells are 17.6 feet, 18.3 feet and 14.2 feet—a substantial increase in SWL from what Mr.

Lidstone represented in his reports. Mr. Lidstone also represented in his report the SWL in the test pits dug near the test wells with an excavator on the Woodward property pre-mining was 7-9 feet with flowing water through pits. The post mining elevation is now 5-6' lower. This means the SWL post mining on the Woodward property is most likely 2-3 feet BGS. I confirmed that finding on the reclaimed ground I leased in 2021 in a test pit on the NE corner of the Woodward property. The 3 test wells were installed on the SE corner of the Woodward property at the highest point of elevation at 2930' before mining. These wells are located a few feet from the Vanier property north/south fence line. Immediately east of the wells, the Woodward land has been mined and reclaimed with a post mining field elevation 12-13 feet below the ground level at the well base. The SWL of the wells pre-mining on 11/10/21 was 14.2' adjusted to BGS. After adjusting the height of the 12-13' cut bank to the post mining field elevation, the SWL on the reclaimed land is only 2-3' BGS.

When you move from south to north along the Woodward/Vanier boundary there is a 20' decline in elevation to the north boundary of the Vanier property. To the west, the Woodward property has been mined and backfilled with non-permeable soils which provides the barrier for diverting the aquifer to the north and to a lower elevation. That lower elevation is our field that has currently become saturated and is not farmable. Given the elevation pre-mining and proposed post mining relative to the current SWL, a significant portion of the Vanier property will be below the SWL by 8-10'. Backfilling the north and east Vanier boundaries with non-permeable soils may also flood the septic fields of at least 3 residences, contaminate the shared well which has a SWL of 10' BGS and contaminate the aquifer. If Knife River breaks it they not only will not fix it, they CAN NOT fix it. There are not enough conditions imaginable to place on a CUP to address this issue.

d) Reference attached communications with Tom Byler for a ground water permit application filed June 1, 2021 by Knife River for the use of 239 acre feet (78 million gallons) of ground water annually from 1 existing well and 3 new (to be drilled) wells on the Woodward property. The permit would allow 500+gpm from these 4 wells to be used 12 months each year for 5 consecutive years. The place of use is to be on the reclaimed irrigated farm land but was represented to be an industrial/commercial use. There is a question if this is a legal use of ground water. This will most likely create substantial interference with surrounding ground water users. The nearby OWRD observation well reflects a decline in the aquifer of 30 feet in 2021. OWRD determined this will create substantial interference with surface water and Knife River can mitigate that interference by providing (purchasing) 59.8 acre feet annually in the Crooked River Zone. OWRD further stated that injury to existing ground water users could not be determined. At the same time, Knife River is seeking an OWRD permit for new wells, Mr. Lidstone is representing to Crook County Planning that there is a sensitive and limited aquifer with 80-100 wells within ½ mile of the Woodward and Vanier property that could be significantly affected by the mining activity. With these added new wells and added ground water use plus the 30' decline in the aquifer in 2021, this would be devastating for neighboring ground water users. It appears OWRD was not aware of the new application and the interferences currently being dealt with. It also seems that it would have been important for Knife River to disclose to the county their OWRD application which was approved October 6, 2021. OWRD application review states there is potential for substantial interference and that hydraulic connection between the shallow and deeper aquifers may create issues. This creates an overwhelming situation for many neighbors when Knife River potentially depletes the

aquifer and dries up neighboring wells. To further exacerbate the problem, the repeated years of drought will likely affect the aquifer.

e) Irrigation water from OLD, based on the current outlook, will be limited. In order for Knife River to meet all the requirements of watering berms, stock piles, roads, open mine areas, and operate their wash plant, the need for a massive amount of water is required. This amount does not appear to be available under any circumstances this year without taking it away from existing users.

Knife River repeatedly says if we break it, then we will fix it. It has to be proven that they broke it. Knife River has a "fleet of experts" that will say it isn't anything Knife River did or is responsible for. DOGAMI is supposed to be the "watch dog" but they do nothing. According to DOGAMI, Knife River has 3 years to correct any infractions. Knife River leaves with millions of dollars in revenues, Vaniers "sell" their property for millions through mining royalties, and the residual property post mining is walked away from with no way to hold Knife River or Vanier accountable and the local community is left without any remedy.

Knife River gives many assurances, has many "experts" who provide possible models and scenarios, all in hopes of obtaining a CUP. However, the facts and circumstances based on actual data in front of us do not support the Knife River theories and models.

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

Richard L. Zimmerlee
International Agribusiness Consultant (Retired)

Background

Lifetime of experience developing, operating, financing and consulting large scale irrigated agribusiness projects both domestic and foreign. This includes working extensively with some of the most respected engineers, hydrogeologists, agronomists and professionals in the industry for the past 45 years.