

Greetings from our Sacred *He Sapa* Black Hills

Carla Rae Marshall



Mnicoujou-Oglala Lakota/CRST
Grandmother Earth Advocate/Water Protector
Founder of Wateca Challenge (Respect, Reuse,
Repurpose, Recycle)

Board Member:

- Black Hills Clean Water Alliance
bhcleanwateralliance.org
- Rapid Creek Watershed Action
Rapidcreekwatershed.org

Contact info:
tipistola@gmail.com
Facebook & Twitter

Presenting

*Keep Black Hills
Water Alive!*

**Protecting Water & Land from
destructive and toxic mining.**

Final Presentation for the National
Equity Atlas Fellowship - June 2023

Since time immemorial, HESAPA (Black Hills) has been known to us as
Wamaka Ognaka Icante. - *The Heart of Everything That Is.*

This ancient “oasis” on the prairie, our sacred site, provides us with our natural medicines, food, and healing waters, and is home to 1,000s of species of wildlife and plant nations. Today, we must work fast to protect our HEART!



“HeSapa holds our creation story - our coming into being as human beings. They hold our ancient teachings, stories, and historical events. They hold eons of memory in our DNA and Water is our main entity. We must protect water at all costs”

- Carla Rae Marshall, Mnicouju/Oglala Lakota

Photo is Mitakosa – Lila – she’s my Lila Rae of Sunshine.



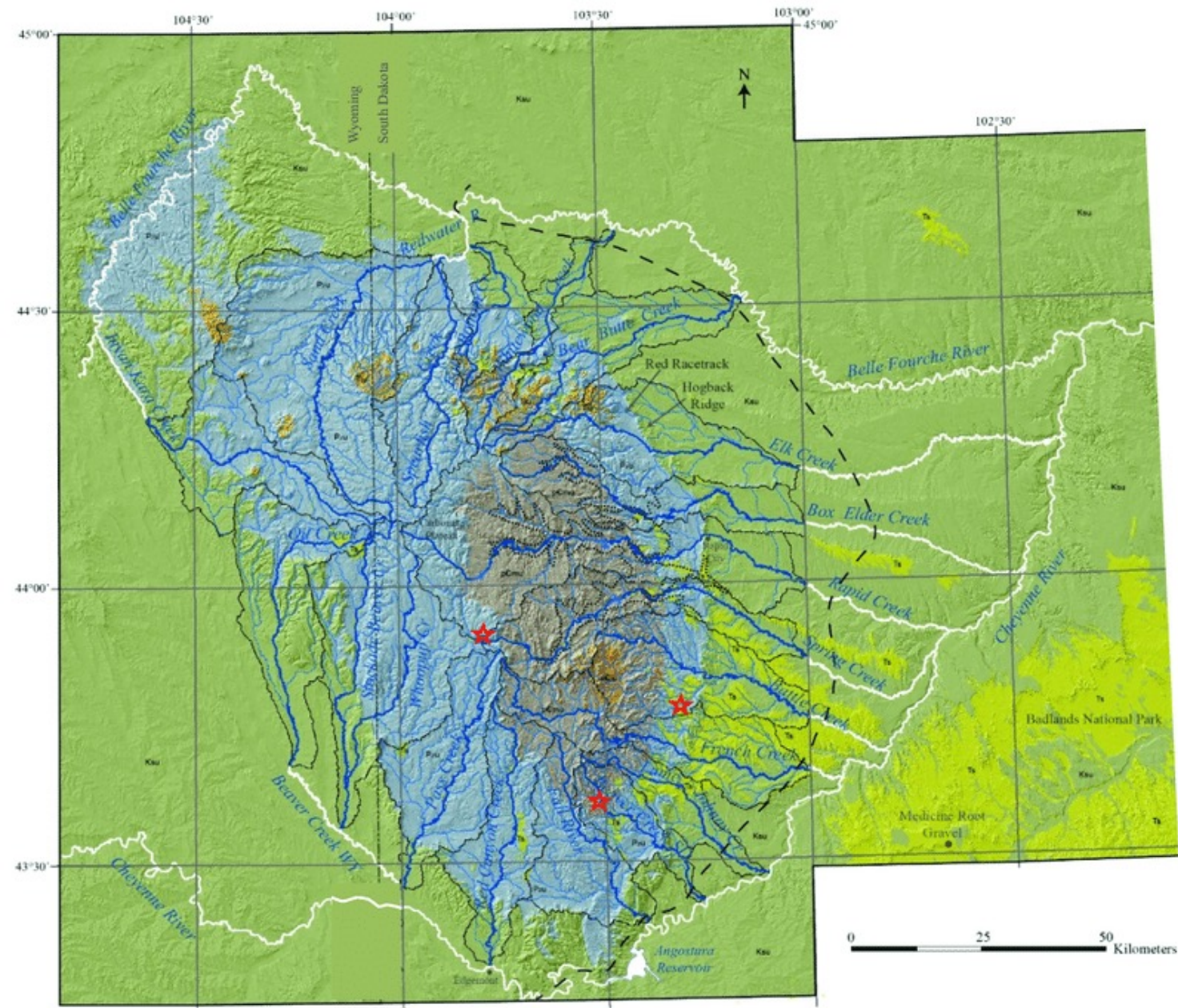
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Waterways of the HeSapa Connections to Sacred and Special Spaces

The Black Hills, in western South Dakota and northeastern Wyoming

1.2 million acres of forested hills

approximately 110 miles long and 70 miles wide. There are **11 reservoirs**, 30 campgrounds, 26 picnic areas, 2 scenic byways, **1,300 miles of streams**, 13,000 acres of wilderness, 353 miles of trails, 2 ski resorts, and much more.”



Legend

- T_s Tertiary Sediments
- T_{iu} Tertiary Igneous Rocks Undivided
- Knickzones (Hazelwood and Stetler, 2019)

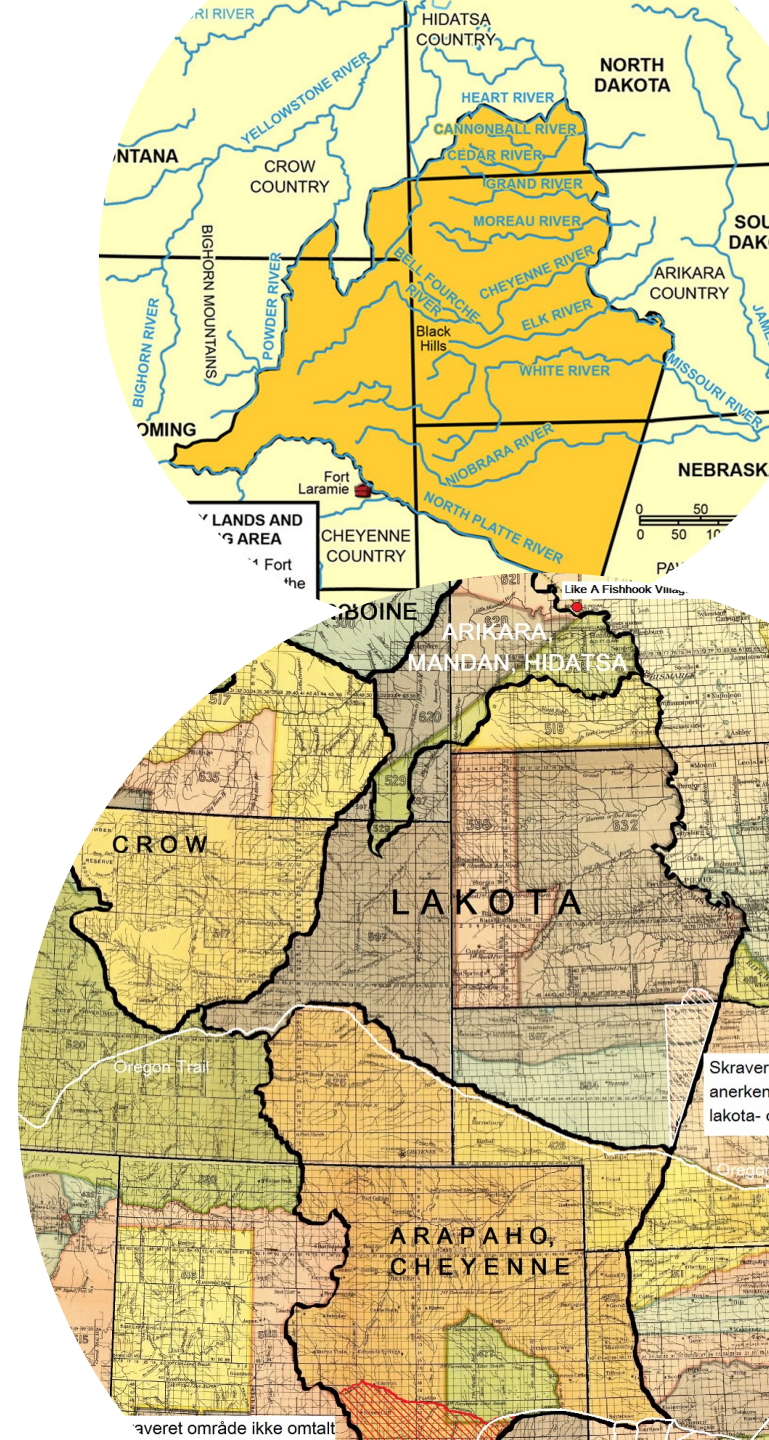


BLACK HILLS WATERSHEDS

1. CROW CREEK
2. WHITEWOOD CREEK
3. BEAR BUTTE CREEK
4. SPEARFISH CREEK
5. ELK CREEK
6. BOX ELDERS CREEK
7. RAPID CREEK/CASTLE CREEK
(UPPER/LOWER)
8. SPRING CREEK
9. BATTLE CREEK

HeSapa is Treaty Territory

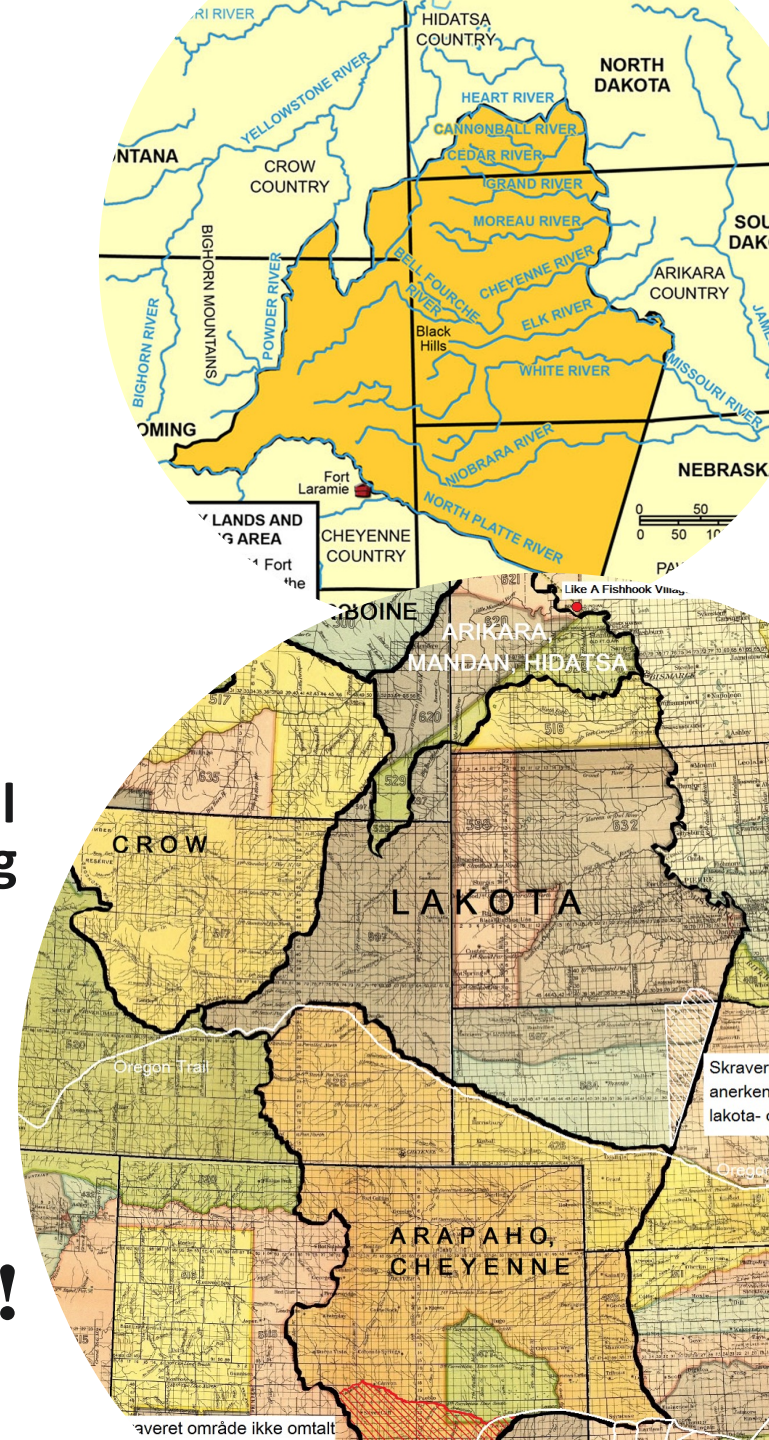
- Treaties were signed with the U.S. Government in 1825, 1851 & 1868 - resulting in Lies and Broken Promises.
- Treaties are the “Supreme Law of the Land”
- 1872 – General Mining Act was passed – and is still in use today.
- Gold was discovered in French Creek in 1872 - Whites and Miners encroached illegally into the Black Hills. Our Lakota ancestors ask the U.S. to protect their lands from illegal occupation. They received no help.

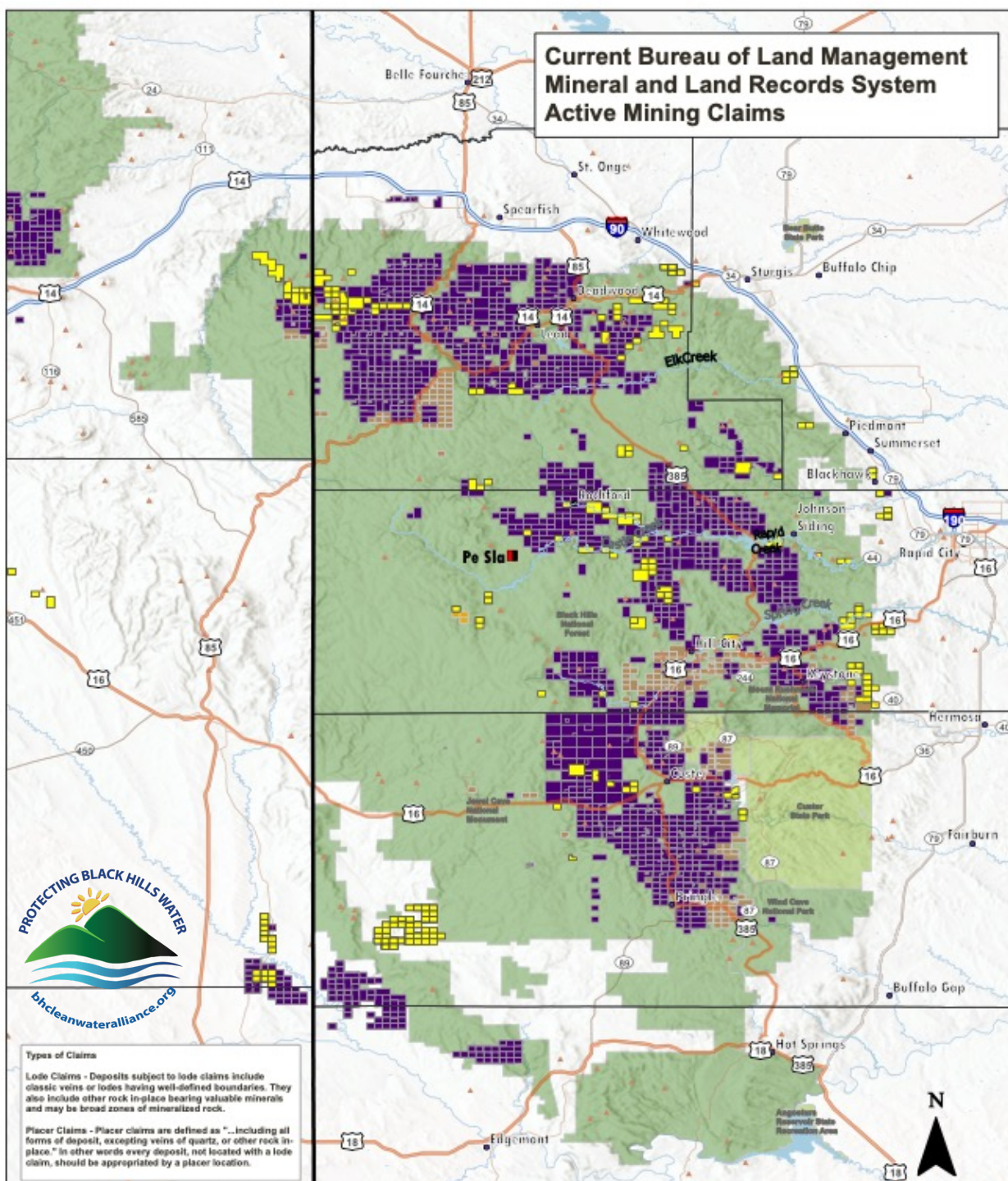


HeSapa is Treaty Territory

- 1875 Federal government tried to buy the Black Hills for \$5 million. Our ancestors refused to meet with the government commission. **THE BLACK HILLS ARE NOT FOR SALE!**
- Thus, the U.S. and white militia began their systemic genocide of Indigenous Nations to overtake our homelands for Mining and Homesteading to U.S. citizens and immigrants.
- Genocide tactics included; starvation, massacres, imprisonment, forced relocation to reservations, rape of women, murders, and stealing of children for the assimilation process and policies of “Kill the Indian, Save the Man” in Government and Church ran Boarding Schools.
- Indigenous People were not considered U.S. citizens until 1924 (Indian Citizenship Act of 1924)

WE REMEMBER – HISTORICAL TRAUMAS RUN DEEP IN OUR DNA, TOO!





We are under Attack!

As of April 26, 2023 - There are 248,000 acres of active mining claims in the Black Hills

This means that these active mining claims could become large-scale mines.

Currently, there is only one large-scale gold/silver mine operating in South Dakota called the Wharf.

More information and maps at bhcleanwateralliance.org

RARE EARTHS:

2014 Rare Elements Resources

LITHIUM:

NOT LISTED UNDER HARDROCK.
South Dakota has no protection for Lithium mining. It's lumped in with gravel.

About 10 projects are seeking to explore for Lithium.

URANIUM:

2009 Powertech Proposed mine
Now owned by enCore Energy

Current Bureau of Land Management Mineral and Land Records System Active Mining Claims

MINING COMPANIES ARE SEEKING GOLD AND MORE.

GOLD & SILVER:

Wharf Resources/Coeur Mining

- Operating large-scale mine and expanding.

GOLD Exploration and/or Proposed Projects:

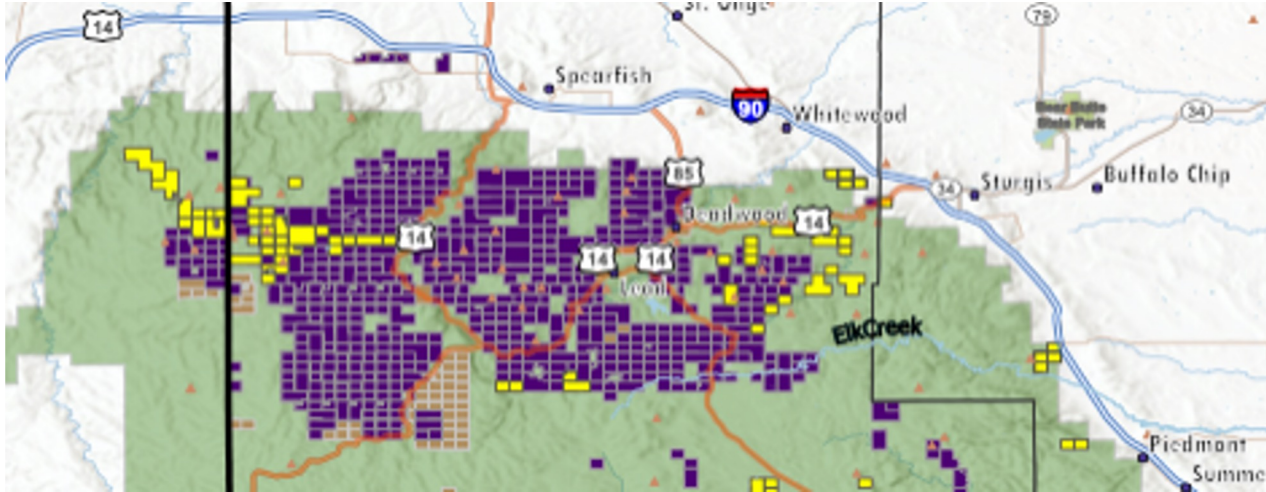
- 2017 Mineral Mountain Resources
- 2018 Agnico Eagle
- 2019 F3 Gold
- 2021 Dakota Gold
- 2021 Solitario Resources (Previously Solitario Zinc)

Types of Claims

Lode Claims - Deposits subject to lode claims are classic veins or lodes having well-defined beds, also include other rock in-place bearing valuable minerals and may be broad zones of mineralized rock.

Placer Claims - Placer claims are defined as "...including all forms of deposit, excluding veins of quartz, or other rock in-place." In other words every deposit, not located with a lode claim, should be appropriated by a placer location.

HISTORIC GOLD MINING SCARRED THE LAND AND LEFT A TOXIC LEGACY!



Gold Uses:

1. Jewelry – 51%
2. Bullion – 26%
3. Central Banks – 12%
4. Industry – 11% -

Gold is not a critical mineral

Since 1872 gold mining in the Black Hills has gone through the boom-and-bust phases.

- 1877 – 2001 the Homestake Mining Company, was the second-largest gold mine in the U.S.
- extracted over 42 million ounces of gold,
- used billions of gallons of water and left scarred lands
- wantonly discharged toxic mine tailings into Whitewood Creek and Gold Run Creek for over 100 years.

The Gilt Edge Mine, a 360-acre mine was abandoned. It has been Superfund Site since 2000 due to Acid Rock Drainage

**Historic Homestake Mine open cut
where gold was mined from 1876-2001.**

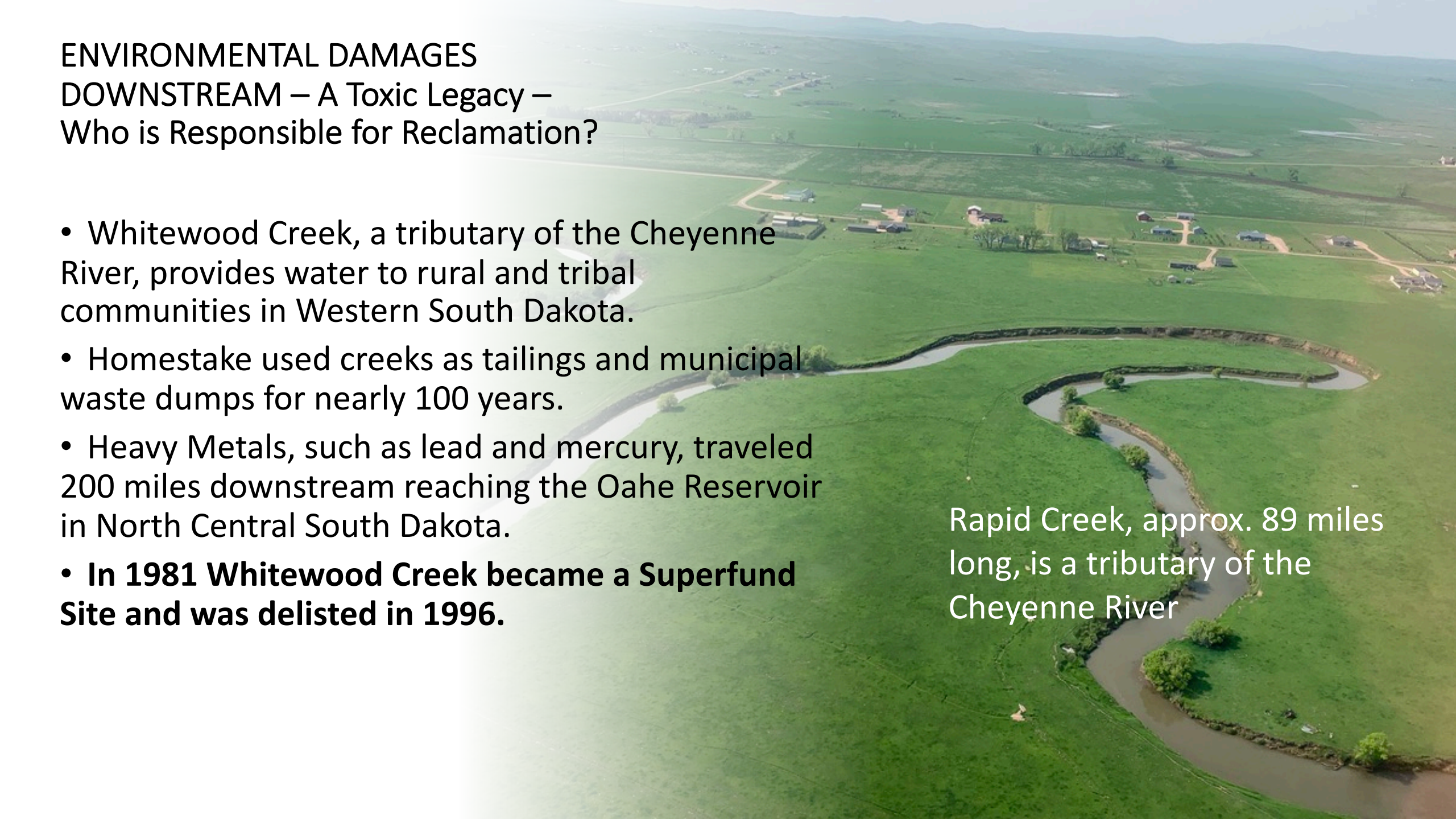
1200 feet deep and ½ a mile wide.



**Gilt Edge is an abandon gold mine turned
into a Federal Superfund Site.**

– ACID ROCK DRAINAGE (ARD)





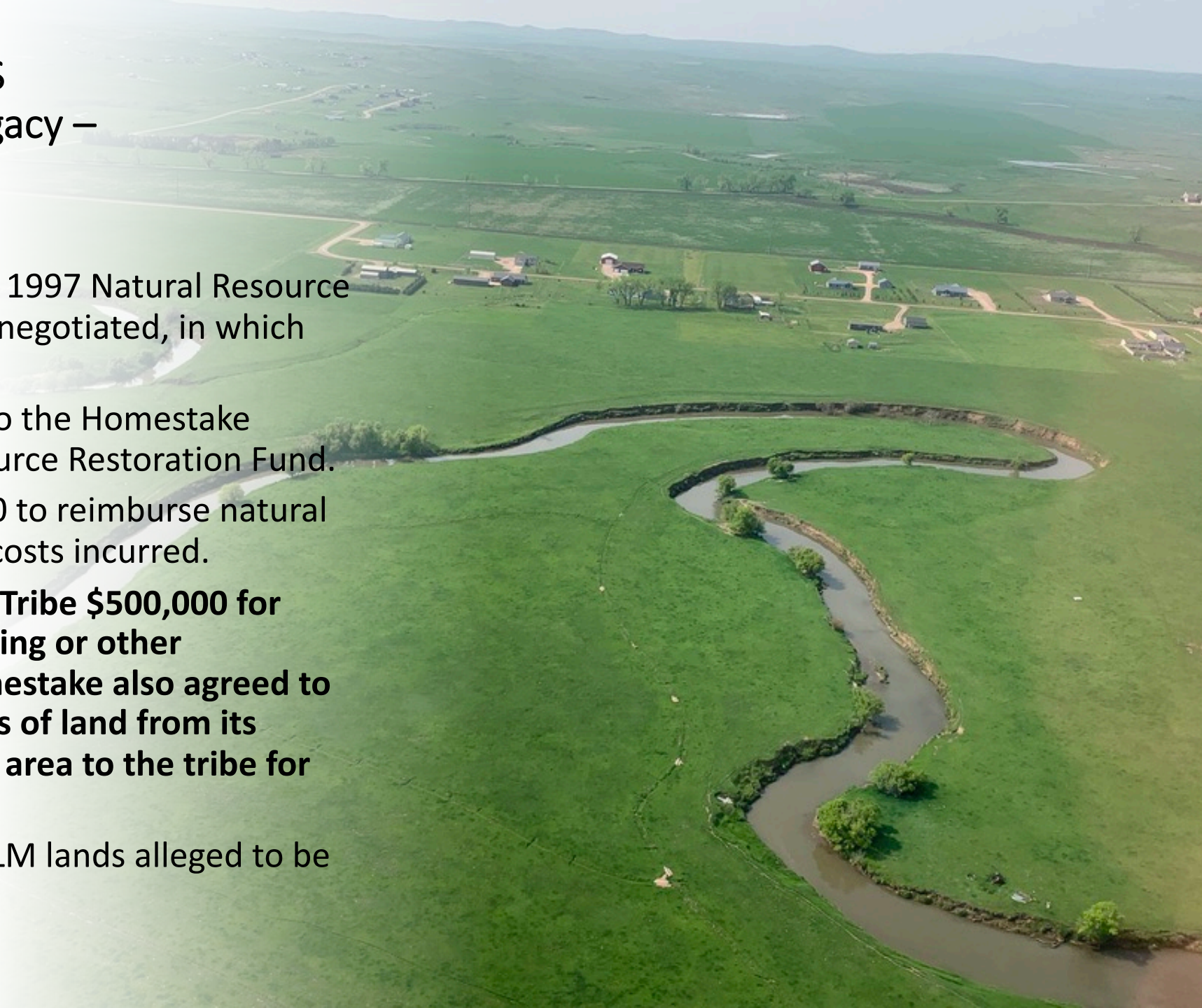
ENVIRONMENTAL DAMAGES DOWNSTREAM – A Toxic Legacy – Who is Responsible for Reclamation?

- Whitewood Creek, a tributary of the Cheyenne River, provides water to rural and tribal communities in Western South Dakota.
- Homestake used creeks as tailings and municipal waste dumps for nearly 100 years.
- Heavy Metals, such as lead and mercury, traveled 200 miles downstream reaching the Oahe Reservoir in North Central South Dakota.
- **In 1981 Whitewood Creek became a Superfund Site and was delisted in 1996.**

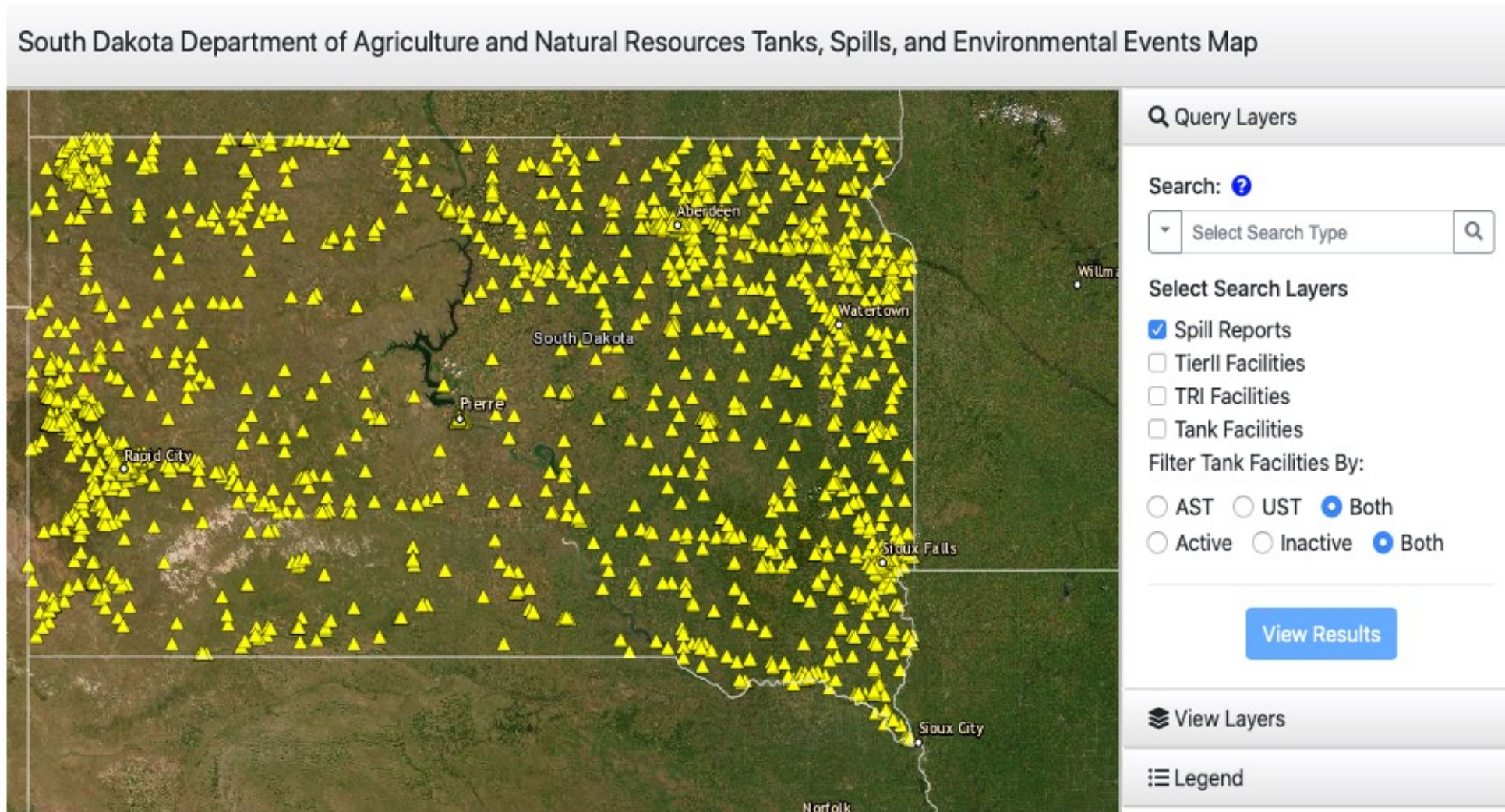
Rapid Creek, approx. 89 miles long, is a tributary of the Cheyenne River

ENVIRONMENTAL DAMAGES DOWNSTREAM – A Toxic Legacy – Who is Responsible?

- 1999 - A Consent Decree of the 1997 Natural Resource Damage Assessment lawsuit was negotiated, in which Homestake agreed to:
 - Pay a \$4 million settlement into the Homestake Mining Company Natural Resource Restoration Fund.
 - Pay the United States \$500,000 to reimburse natural resource damage assessment costs incurred.
 - **Pay the Cheyenne River Sioux Tribe \$500,000 for future environmental monitoring or other environmental purposes. Homestake also agreed to transfer by gift deed, 400 acres of land from its holdings within the Black Hills area to the tribe for non-commercial purposes.**
 - Develop a land exchange for BLM lands alleged to be contaminated by tailings.



South Dakota Department of Agriculture and Natural Resources provides citizens with an interactive map of all the toxic spills and environmental events that are hazardous to humans and the environment.



URL is <https://apps.sd.gov/NR42InteractiveMap>

**The Wharf Mine is the only operating Large-Scale Mining in South Dakota.
Toxic Cyanide Spells happen there and those must be reported to the State.
URL is <https://apps.sd.gov/NR42InteractiveMap>**

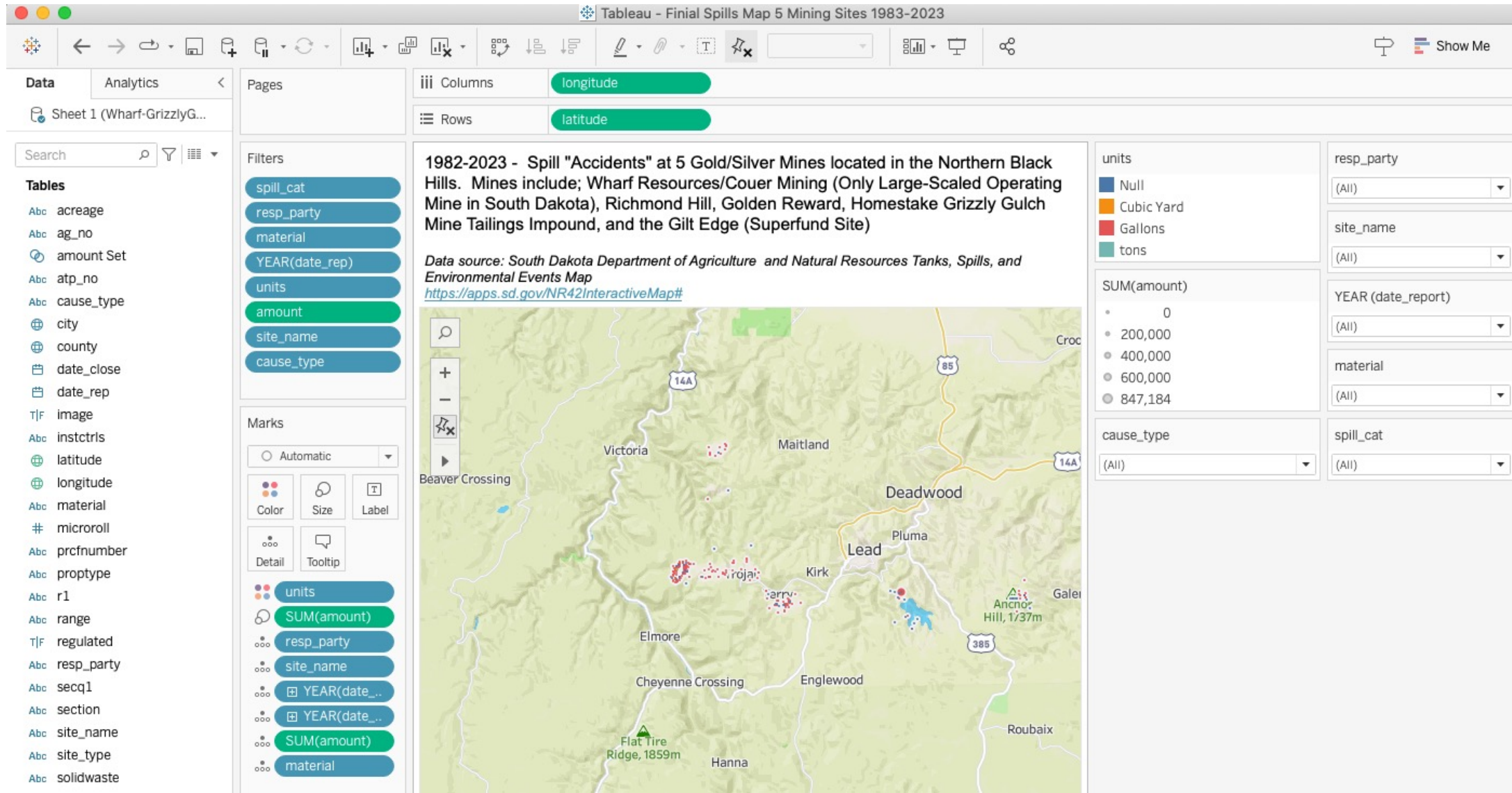
- The Wharf Mine is an open pit, heap leach - gold and silver mine with a carbon-in-column recovery system processing facility.
- Wharf owns the land and is regulated by the State for water quality and land usage.
- The estimated circumference around this Mega Mine is 7.5 miles .



Data was downloaded from the state database to create an interactive map in Tableau to highlight five locations where heavy mining occurred.

URL is <https://apps.sd.gov/NR42InteractiveMap>

This NEW interactive map will provide the user with more information upon click. The Tableau map will also allow a user to sort through more fields for easy access to finding information.



1982-2023 - Spill "Accidents" at 5 Gold/Silver Mines located in the Northern Black Hills. Mines include; Wharf Resources/Couer Mining (Only Large-Scaled Operating Mine in South Dakota), Richmond Hill, Golden Reward, Homestake Grizzly Gulch Mine Tailings Impound, and the Gilt Edge (Superfund Site)

Data source: South Dakota Department of Agriculture and Natural Resources Tanks, Spills, and Environmental Events Map
<https://apps.sd.gov/NR42InteractiveMap#>

units

- Null
- Cubic Yard
- Gallons
- tons

amount

- 0
- 200,000
- 400,000
- 600,000
- 847,184

spill_cat

(All)

material

(All)

resp_party

(All)

site_name

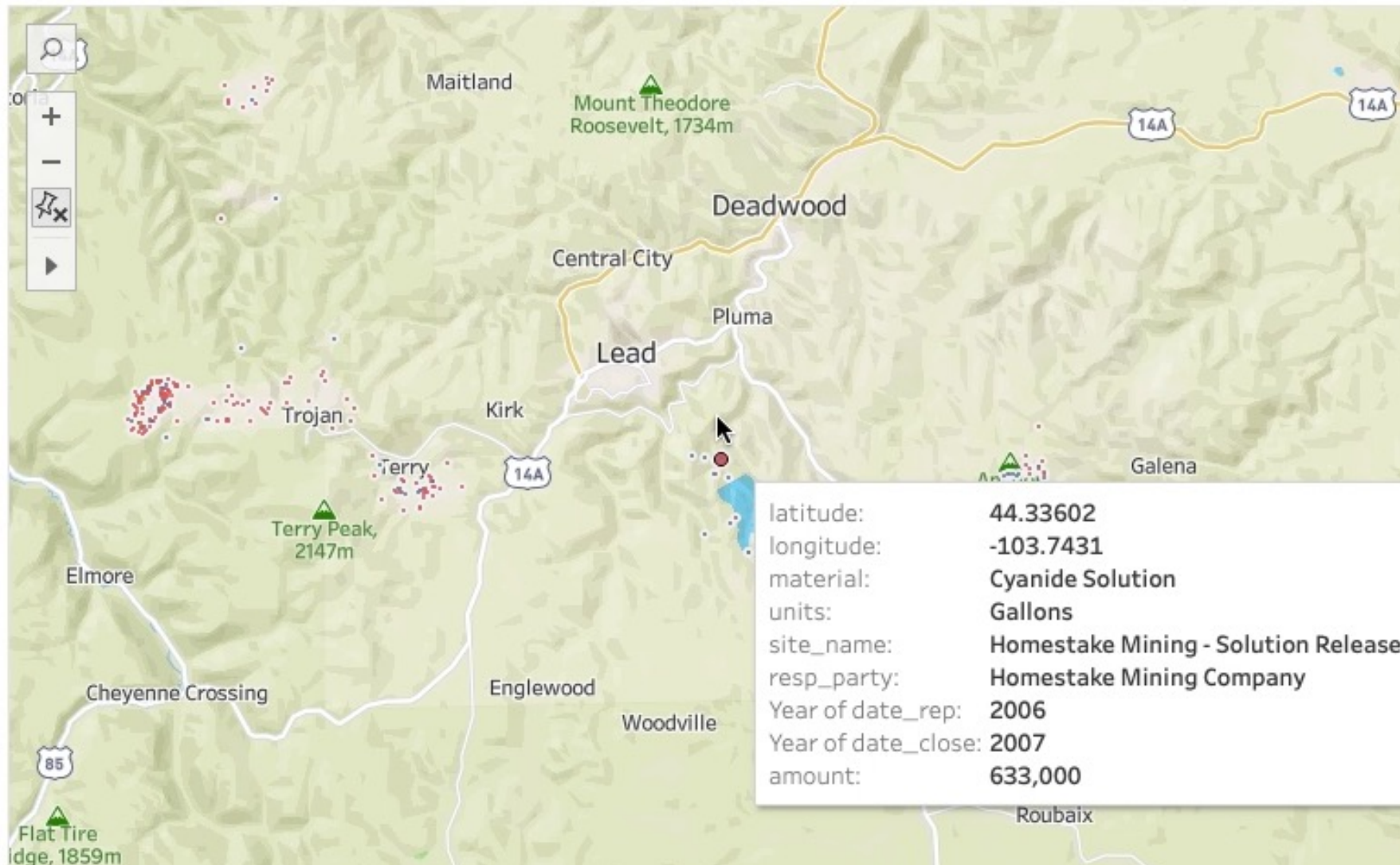
(All)

YEAR (date_report)

(All)

cause_type

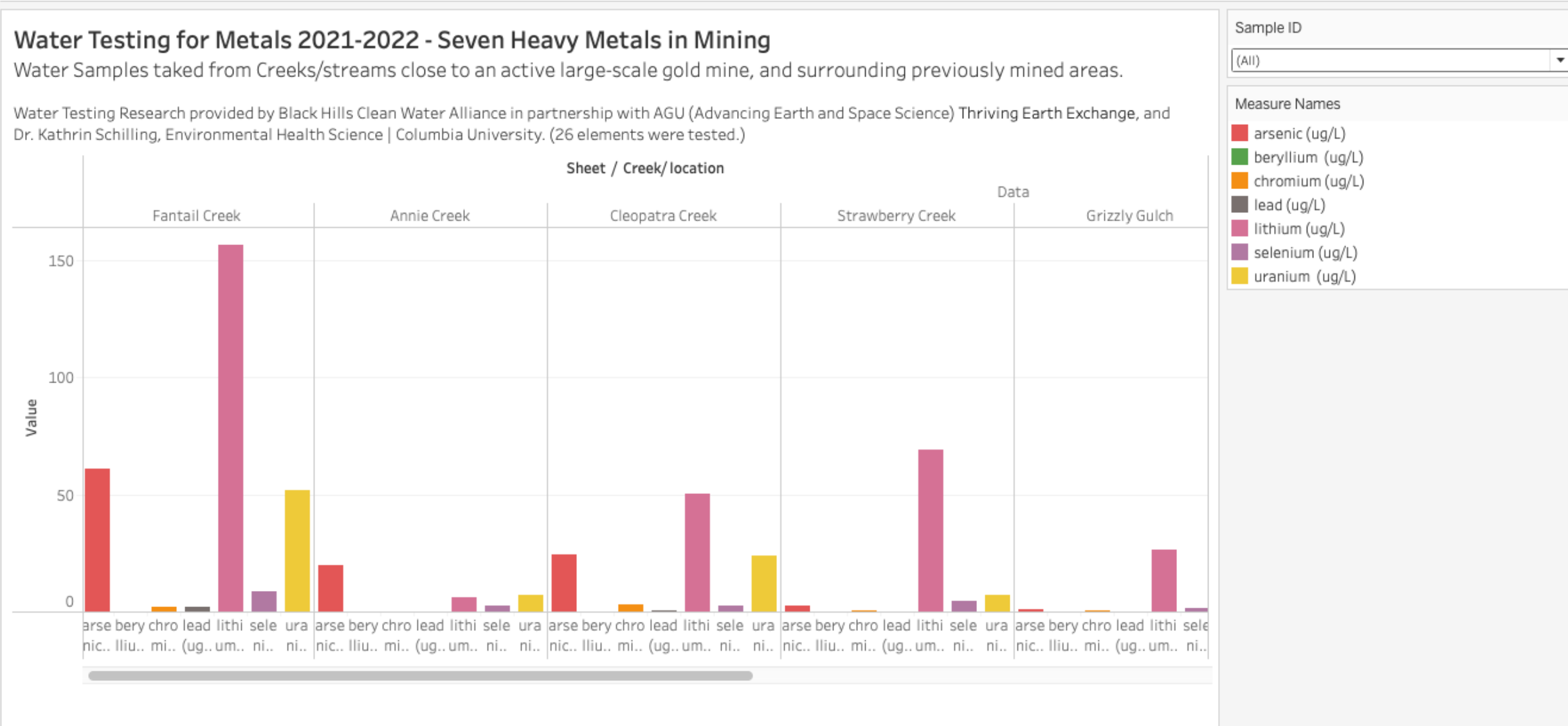
(All)





- **Since 1983 Wharf reported 184 “Accidental” Spills to the State.**
- **Total Units (gallons, tons, cubic yards?) add up to 124,216; cyanide solutions, petroleum, diesel, and mining pond releases/spills, etc.**

The Black Hills Clean Water Alliance partnered with AGU/Thriving Earth Exchange and had water testing done below the Wharf mine in these creeks. From this data, provided by Dr. Kathryn Schilling, I created this bar chart in Tableau showing the top seven heavy metals in mining.



Using information from the research

- In March 2023 Wharf applied to the state for another expansion of 40+ acres.
- A public comment period was held and those who commented could intervene.
- I am a sole-intervener and used my research as a basis to object to their expansion.
- And, since I did intervene this permitting process is now a contested case and it received media attention.
- Wharf is currently in violation of state surface water selenium standards are the East Branch of False Bottom Creek and at a higher level than EPA standards
- The South Dakota DNR Board of Minerals and Mining will decide on this expansion in July.



Wharf Surface Water Quality Issue

- ◊ Wharf currently in violation of state surface water selenium standards in the East Branch of False Bottom Creek
- ◊ Increasing selenium trends in False Bottom Creek since 2014
- ◊ In June 2021 department noted concentrations were at a level that would require selenium to be analyzed for selenium (IV) and selenium (VI).
- ◊ Selenium (VI) confirmed to be the primary selenium species present in creek
- ◊ Acute limit for selenium (VI) is 12.8 ug/L
- ◊ Concentrations in samples exceeded acute limit several months since start of speciation

PRETTY



Pactola Reservoir
Black Hills - 2023

UGLY



Wharf Gold Mine
Black Hills - 2023

Lila Wopila (A Huge Heartfelt Thank You) to Policy Link and the National Equity Atlas Fellowship, our Cohort leader and all the fellows. This has been a gifting learning about data collection and use, and the tech tools to help us Protect our Sacred HeSapa. Thank You. Carla Rae Marshall