

A group of approximately 18 students and two adults are posing for a group photo on a grassy bank next to a pond. They are dressed in winter clothing, including jackets, hats, and gloves. Some students are holding equipment like buckets and a cardboard box. The background shows a calm pond, snow-covered ground, and a line of trees under a clear blue sky.

2011-2012 Mountain Ridge High School A.P. Environmental Science

**PILOT PHASE: COLLECTING PRE-FRACKING BASELINE
WATER QUALITY DATA.**

**Potential Frack Tributary to Piney Run Reservoir
(1 mile northwest, in Pennsylvania)**

Frostburg
Reservoir

Piney Run Reservoir for Frostburg

We, the AP Environmental Science students of Mountain Ridge High School, have decided to take the initiative and conduct baseline testing at seven locations that could potentially be affected by this fracking site.



Savage River Aquifer for Frostburg

**Frostburg Municipal Drinking Water
Treatment Plant**

Mountain Ridge Baseline Tests and Sites


Fracking Indicators

- Total Dissolved Solids
- Barium
- Bromide
- Strontium
- pH



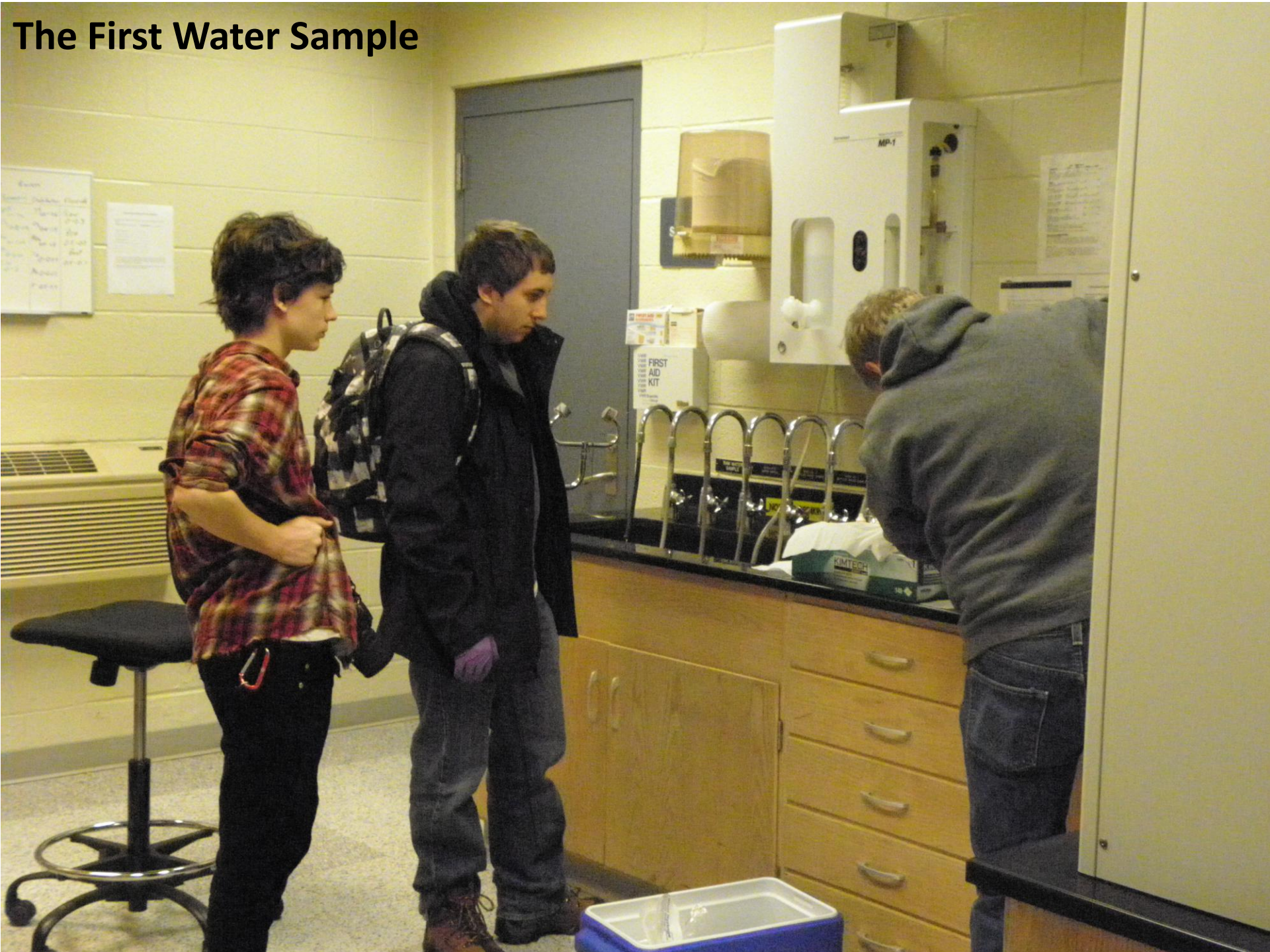
Sites

- Piney Run Tributaries (3)
- Piney Run Dam
- Savage River Aquifer
- Water Treatment Plant-Raw
- Water Treatment Plant-Filtered

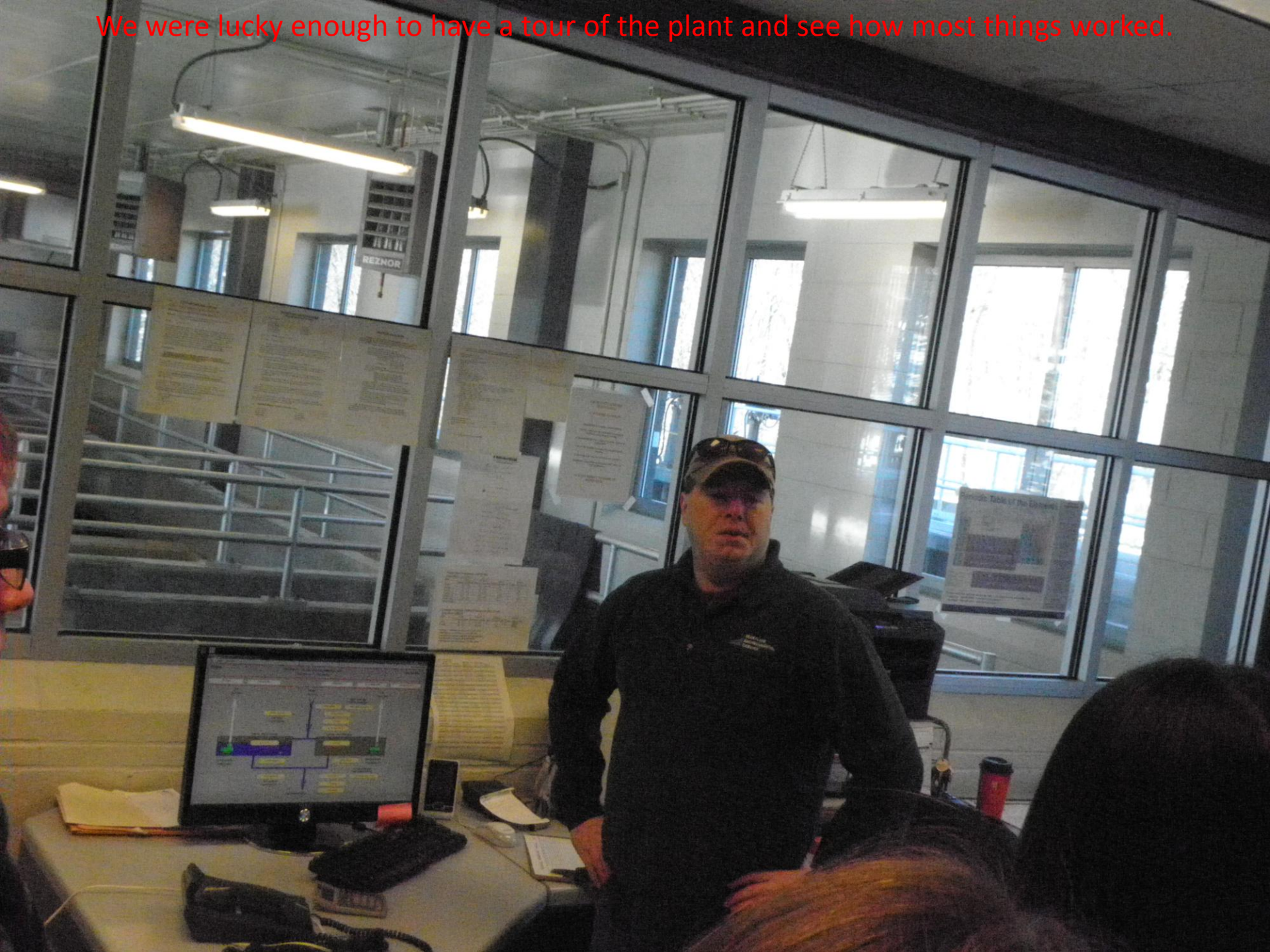


First stop, The Water Treatment Plant!

The First Water Sample



We were lucky enough to have a tour of the plant and see how most things worked.



This dome holds some of the water that flows through parts of the county.



The background of the entire image is a light beige or tan color with a subtle, mottled texture. Overlaid on this background is a repeating pattern of small, brown, fish-like creatures. These creatures are arranged in a grid-like fashion, with two types of fish alternating in rows. The first type is oriented vertically, facing upwards, and the second type is oriented horizontally, facing to the right. Both types have a simple, stylized design with visible fins and tails.

Piney Dam!



Pulling up water from the dam
(and throwing some snow)

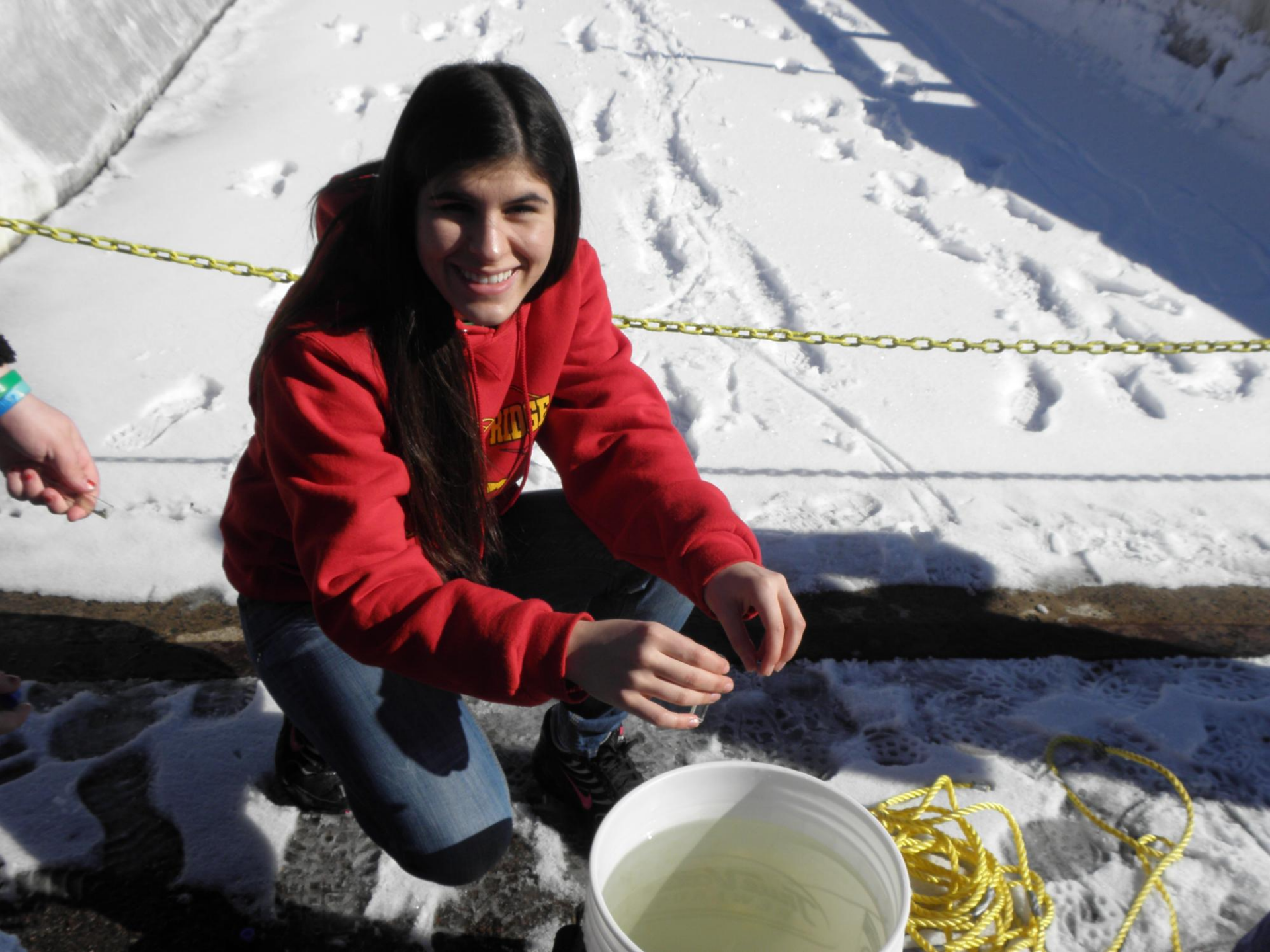


**TDS Testing...Let
the tests begin!!**



Next, pH testing;
ten drops of
solution must be
added to the
water sample.





Collecting for the lab



Filtering out unwanted particulates



One more good bucket full for sampling.






Next, to the Tributary!



First, a game of
follow the leader!!

A group of five people are hiking through a snowy forest. They are walking along a path that leads to a small stream. The ground is covered in snow, and the trees are bare. The people are wearing winter clothing, including jackets, hats, and backpacks. One person in the foreground is holding a box. A blue speech bubble is overlaid on the image, containing the text "To the water we go!".

To the water
we go!

A photograph showing three people in a snowy environment measuring the depth of a small stream. One person in a white shirt and red cap is leaning over the stream, holding a long wooden ruler vertically in the water. Another person in a plaid shirt is also leaning over, holding a ruler. A third person in a green vest stands in the background. The stream is surrounded by snow-covered banks and trees. The text "Measuring water depth" is overlaid on the image.

Measuring
water depth



We collected these samples for Johan's lab analysis at each site.






Then, its back to work;
labeling sample
equipment...





Purple gloves were worn when handling samples that would be tested to assure that none were contaminate by the oils or particles on our skin.



A man with short brown hair, wearing a grey hoodie, is shown in profile, looking towards the left. He is standing in a snowy forest with a stream. A blue pipe is visible in the background, and a tree trunk is in the foreground. The scene is brightly lit, suggesting a sunny day.


Dr. Johan Schlijf
of the University
of Maryland
Center for
Environmental
Science has
assisted us in the
planning phase.

After some hard work an 11in long
piece was removed from the tree.





Last , but not least, the Aquifer!!



First we must
collect a sample...

A group of people, mostly young women, are gathered around a white bucket filled with snow. They are wearing winter clothing like jackets and gloves. One person is holding a yellow handheld device, possibly a water quality meter, and another is holding a blue rolled-up paper. The scene is outdoors in a snowy environment. The text "TDS Testing" is overlaid on the right side of the image.

TDS Testing

And then
continue with
our tests!

More water is filtered.



...and the last pH test is completed.



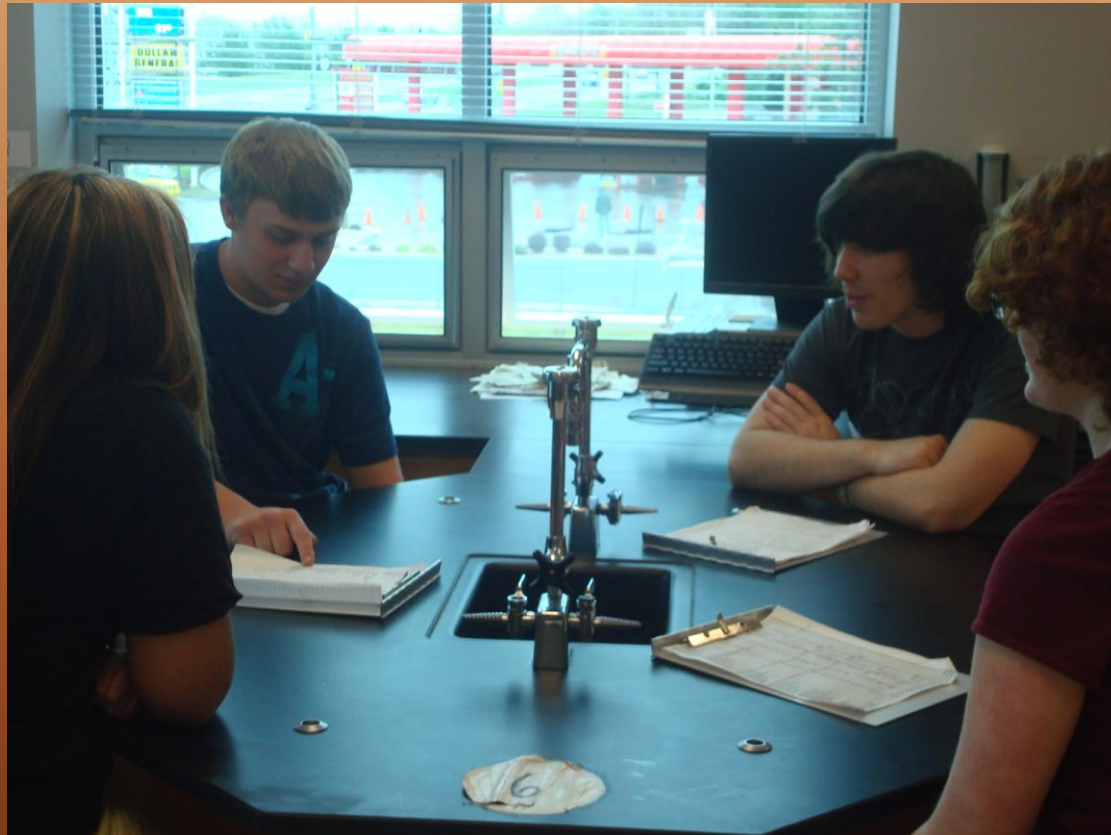
Will this become a
fracking site?



Gathered samples are sent to the lab for detailed ppm and ppb analysis



Students discuss field data collection methods and results. They improve the plan for the future.





Times-News Photo: Ben Meredith, a Mountain Ridge High School senior, presents a student-authored report on Marcellus shale gas drilling Thursday at the Allegany County Commission meeting in May of 2011. The data we collect through this project will be shared with the City Council and County Commissioners in May of 2013 and will benefit 12,000+ citizens of the local area who drink from the water supply.

2011-2012 A.P. Environmental Science



If our sampling methods are funded in the future
Br, Ba, Sr, TDS, pH, Temp, Turbidity, and more data will
be posted on the Mountain Ridge website and presented to the City Council
and County Commissioners in the future, benefitting 12,000 citizens of the area.