



## Colorado Science and Engineering Fair

## 2025 Individual Project Abstract Form

**Please print 2 copies of the completed form. Sign both copies, keep 1 for your notebook and submit 1 copy to your Regional Fair Director with your other paperwork.**

Title of Project: Mineral Mining Monsters Time Will Tail

Finalist's Name: Paisley Anderson

School and City: Creede School District, Creede, CO

Sponsor's Name: Bryan Eubank

Category: Environmental Engineering

Division: Junior (grades 6 - 8)

Abstract (250 words or less):

My project studied the effect of old abandoned mines on nearby waterways in Mineral County. There were no living fish populations in West Willow Creek and Willow Creek. I choose to measure zinc and cadmium levels to determine water quality. A high pH indicates minerals, so I tested pH levels in East Willow Creek which contains fish populations to indicate possible minerals. These were studied to determine the levels of minerals and pH levels.

I used the Marsh McBurney flo-meter to sample the water for minerals. The samples were sent off to ACZ (water lab) for results. The YSI ProDSS was the flow meter I used to find the pH levels. The pH levels were measured since my research showed it is related to mineral levels.

My results showed high levels of zinc and cadmium in West Willow Creek and in Willow Creek. Also, I discovered the pH to be normal in East Willow Creek, West Willow Creek and Willow Creek. In conclusion, the minerals zinc and cadmium are toxic to fish in West Willow Creek and Willow Creek which indicates that my hypothesis could be correct, however, I was not able to correlate pH levels with old abandoned mines affecting nearby waterways.

*I hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. I also attest that the above properly reflects my own work.*

Finalist's Signature:

Date:

In addition, all students must complete the ISEF Student Checklist (1A), Research Plan, Approval Form (1B), and Checklist for Adult Sponsor (1), and any other ISEF forms required for this type of project. See the International Rules and Guidelines for form requirements. Return COPIES of all of these forms to your Regional Fair Director with you Finalist Verification/Permission Form. **A signed copy of this form must be included in your notebook.**