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## West Valley student adds to sulfolane research

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### West Valley's William Mitchell Wins Scholarship

West Valley High School junior William Mitchell poses outside the school Tuesday afternoon, May 6, 2014. Mitchell placed second in the Environmental Science category at the National Junior Science and Humanities Symposium in Washington D.C. last month with his project, earning himself an \$8,000 scholarship.

Posted: Sunday, May 11, 2014 12:00 am

By Weston Morrow [wmorrow@newsminer.com](mailto:wmorrow@newsminer.com)

FAIRBANKS — As the Department of Environmental Conservation reviews its standard for sulfolane contamination in the North Pole area, it may get help from a rather unlikely source — a high school student.

Sulfolane contamination has been a hot-button issue in North Pole since the compound began leaking into the area's ground water during oil processing at the nearby Flint Hills Refinery. Despite the discussion swirling around sulfolane, relatively little research exists on the compound.

When West Valley High School student William Mitchell decided to take that lack of research and contribute his own to the mix, Mitchell took second place in the National Junior Science and Humanities Symposium last month for his work.



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His project, "Effects of Kerosene Co-contamination on Sulfolane Biodegradation," examined how other leaked contaminants in the North Pole area might be affecting the expansion of the sulfolane plume. What he found was that the presence of kerosene was causing the sulfolane to degrade at a slower rate than it would on its own.

"This experiment found that the other contaminants are having a had effect of slowing down the rate at which the sulfolane is degrading," Mitchell said.

The research could be beneficial for professional scientists studying the sulfolane plume.

"This could definitely be useful information in assessing how quickly the sulfolane is going to degrade out there and what types of things are limiting the biodegradation of the refinery in the North Pole area," Mitchell responded when asked what practical effects his research could have.

Dr. Abel Bult-Ito, professor of neurobiology at University of Alaska Fairbanks and director of Alaska Statewide High School Science Symposium, said he was impressed by the level of Mitchell's work. Not only was it impressive for a high school student, Bult-Ito said, the research was done well enough it could contribute significant knowledge to the scientific discussion on sulfolane and other contaminants.

"I think the research is good enough that it's publishable in a peer-reviewed journal," Bulti-Ito said. "It's really good data."

Mitchell actually took second place at the state level, before going on to receive the same honor against the totality of the nation's competitors. West Valley student Jake Hermann took first place in Alaska. Hermann competed in a separate category from Mitchell in the national competition.

"It's incredibly competitive," Bult-Ito said. "This is our first national winner in six or seven years ... we were just elated that he did such a wonderful job."

Mitchell said, when her first got to Washington, D.C., and saw the other students projects he didn't think he would do as well as he did.

"There was one girl in my group that I thought would easily win because she had a really good project," Mitchell said.

Mitchell worked on his project over the course of the entire school year. His process first began when his biology teacher, Cindie Beale, mentioned the Alaska symposium at the beginning of the school year.

She helped get him in touch with biologists at UAF. Mitchell was able to speak with professor Mary Beth Leigh and one of her graduate students, Christopher Kaskanke. They helped spark Mitchell's interest from just microbes in general to sulfolane. They also gave Mitchell access to lab space.

Though Mitchell received untold support from his teachers at West Valley and advisors at

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UAF, the research and the presentation was Mitchell's own, Bult-Ito said.

"He knew his subject so well he was able to integrate new information he got from the judges into his answers," Bult-Ito said. "That was really impressive."

Contact staff writer Weston Morrow at 459-7520. Follow him on Twitter: @FDNMschools.



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