

day in the life: DUSEL mine tour

In March 2007, members of a US National Science Foundation panel went on a whirlwind bus tour of potential sites for the Deep Underground Science and Engineering Laboratory. Here's an account of that trip by Peter Fisher of the Massachusetts Institute of Technology. Four months later, the NSF announced its choice: Homestake, a former gold mine near Lead, South Dakota.



March 8th

I began by flying from Boston to Minneapolis. By some miracle my aisle seat was next to an empty middle seat. At the window was Holly, a 47-year-old mother of two from Hopkinton. Holly was afraid of flying and we held hands during most of the flight, which I found oddly comforting.

At the Hilton, our first meeting was in Jon's room with a bed sheet as a screen for the video projector. With people piled on his bed, couch, and floor, Jon went through our itinerary.

The four-site schedule was packed into a week and we would review two sites back-to-back over the last two days. Before each visit would be a briefing, and after, a debriefing. I must confess I felt daunted. As everyone headed out to Kincaid's, a local place with high marks, I stayed behind to reflect, rest, and possibly shuffle off to the airport in the dead of night.

March 9th

I got up at 6:30 a.m. and, without having any breakfast, got into a 15-seat van with 12 other people. Seating was pretty cozy during the 4.5 hour drive up to Soudan.

We got to the MINOS surface building at about 11 a.m. and, after they got the emergency diesel backup system working, headed underground. The six-minute trip down was a little scary; there was no light in the crowded hoist cage.

The nine-hour review ended in the late evening and we made our way in the dark to Fortune Bay Resort, a hotel/casino on Lake Vermillion. The main outdoor sport seemed to be drunken snowmobiling on the frozen lake at night.



March 10th

We arose early, left the hotel, and headed south, stopping at Cloquet for gas and to admire the Phillips 66 station designed by Frank Lloyd Wright. As we approached Minneapolis, we had a very near miss when a car pulled in front of our overloaded van. Jon pulled off the best single-handed driving maneuver I've ever seen and saved at least half our lives.

We flew to Rapid City and rented cars. Marty, Emlyn, and I rode in a car piloted by Ani, who had some very pleasant CDs. Here, we met Alice, Marty's GPS-equipped Palm Pilot, for the first time. Alice took us on a nice tour of Rapid City before guiding us to Lead. As we approached, we saw "Welcome NSF" signs. Clearly, we were expected.

We met in a hotel function room. There was a loud wedding next door, which emphasized the seriousness of our task.

March 11th

We arose early for a tour of Lead. The mine dominates the town, with the head frames visible from all over. Nine hours of presentations and tours followed, leaving me exhausted and depressed. Tom and I had a quiet scotch at the local watering hole and a pleasant chat about family and uranium mining.



The tour participants:

Mike Andrews, *Fermilab, safety*
Ani Aprahamian, *NSF, nuclear astrophysics*
Phillip Bennett, *University of Texas-Austin, geomicrobiology*
Marty Breidenbach, *SLAC, particle physics*
Mark Coles, *NSF, facilities*
Peter Fisher, *MIT, particle physics*
Tom Fudge, *consultant and owner of a uranium mine*
Emlyn Hughes, *Columbia, particle physics*

Tony Iannocchione, *NIOSH, mine safety*
Tadafumi Kishimoto, *Osaka, particle physics*
Jon Kotcher, *NSF, DUSEL program*
Alexander Livnat, *EPA, environmental expert*
John McDonald, *consultant and mining expert*
Priscilla Nelson, *NJIT provost and tunneling expert*
Neil Spooner, *Sheffield/Boulby, particle physics*
Jim Whitmore, *NSF, particle astrophysics*

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March 12th

Up early and, against my better judgment, piled into a van with Mark, Neil, Marty, Mike, and Ani, with Jim as pilot, headed for Mt. Rushmore. After taking pictures of the mountain and each other, we got back into the van and met the others in Rapid City for a 1.5 hour flight to Denver and a tedious three-van caravan across town to the Hampton Inn. We were greeted by a "Welcome DUFEL" sign, which I fixed. Another debrief/brief session followed. We were getting used to them, but it still took 2.5 hours.

March 13th

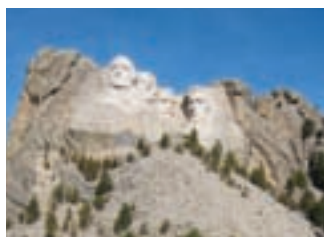
Up and out at 6:30 a.m. for an hour drive through the mountains to Henderson Mine. Coming out of Denver, I-70 rises and drops in extremes, making for an exciting ride. We passed the "Sculptured House" featured in Woody Allen's *Sleeper*.

As Henderson is a working molybdenum mine, there is a greater level of activity. Our trip underground was impressive, although the general atmosphere reminded me of medieval descriptions of hell.

Afterward, at about 6 p.m., we headed for Denver. We ran into a two-hour traffic jam caused by an accident and chemical spill, and my van experienced some mild excitement at possibly missing a site. Alice guided us to Denver International Airport in time for our flight to Seattle.

The flight was about half an hour late. We arrived at around 11:30 p.m., got our luggage and...no bus! Phil and I watched Jon on his cell to the bus company, the driver, and the driver's wife. There was a magnificent series of New York gestures, and just as I was sure we were hosed, the bus appeared. At 12:30 a.m., we began our 2.5 hour trip over Steven's Pass to Leavenworth.

I slept fitfully during the trip and recall a few things: Phil sleeping in the aisle, blocking the bathroom; sheer walls of snow 15 feet high; the bus screaming downhill through driving snow. We arrived at the Sleeping Lady Lodge, found our well-appointed woodsy little cottages, and got ourselves in bed.



DANGER
MEN WORKING
IN SHAFT



March 14th

Of the four sites, Cascade provided the best scenery and accommodations. Steven's Pass seemed much less scary in daylight, despite the heavy snowfall.

The working lunch was held in a rustic building called "The Chapel." The podium added to the spiritual air of the proceedings.

Following the presentations we returned to Seattle. Our major work was done, which gave the return trip a celebratory air! We arrived at our final Hilton at 9:45 p.m. Famished, I got the last outrageously expensive steak out of the restaurant before turning in.

March 15th

Final day, up for a 7:30 a.m. breakfast meeting to debrief the two last sites. Parting was a little wistful, mitigated by promising we would meet again in April. However, our adventure was over. My trip back to Boston was uneventful. I had not been away from my family for more than four nights since my daughter arrived seven years ago, so I was glad to be home.

Text: Peter Fisher

Photos: Peter Fisher and Neil Spooner



The author, Peter Fisher, is second from right.