Red Hill Dye Tracer Study FAQ

What is a dye tracer study?

A dye tracer study injects a fluorescent dye into a single well and monitors for the arrival of the dye in adjacent wells.

Why do a dye tracer study?

Often there is a lot of unknowns with a fuel release and is difficult to track in groundwater. By using a known mass of dye whose concentration can be easily estimated using an LED sensor allows for valuable data to be collected on groundwater migration. These data sets are used to better understand the hydrogeology and to calibrate numerical models.

Who is doing the dye tracer study?

The University of Hawaii is performing the dye tracer test with their own independent contractors.

When will the dye tracer study be completed?

With injection occurring mid-February, monitoring is expected to occur through the Spring of 2025. Preliminary results to be shared with the EPA, HI DOH, and public this summer.

What dye and how much was injected?

50 pounds of Rhodamine WT (Water Tracer) was injected over 6 days with 5,000 gallons of drinking water from the Navy's Waiawa shaft.

Is Rhodamine WT toxic?

Rhodamine WT is non-toxic and is approved by the EPA and HI DOH for use. USGS studies often turn entire rivers red without any reported ecological impacts.

Where is the dye expected to go?

Most of the dye is expected to be captured by Red Hill shaft, with a small portion being absorbed or trapped within the bedrock.

Who consumes the water from Red Hill Shaft?

Currently all water production from Red Hill shaft is treated with granular activated carbon prior to discharge to Halawa stream. No water from Red Hill shaft is currently consumed by the public and will not be exposed to the dye.

Will any streams, springs or shorelines turn red?

The dye was injected at an elevation below sea level and within Red Hill shafts capture zone to prevent any dye discharging to the ground surface. Additionally the dye will be filtered out using a granulated activated carbon system prior to discharge Halawa stream.

Any more questions or concerns please contact Dr. Toomas Parratt (toom@hawaii.edu)