QUICK REFERENCE GUIDE DIRTY/OILY WATER

UVF-TRILOGY Test Procedures using HEXANE SOLVENT Extraction

siteLAB® Petroleum Hydrocarbon Solutions

Visit: www.sitelabcorp.com Call Toll Free 877-SITELAB or Dial (USA) 978-363-2299 UVF-TRILOGY WATER-SOP2-V1

Equipment Required

UVF-TRILOGY analyzer, glass cuvette, solvent dispenser bottle, adjustable pipette and tissue wipes.

UV Module used with analyzer.
Be sure the proper module is installed.
Select: TPH OIL, GRO, EDRO or PAHs.

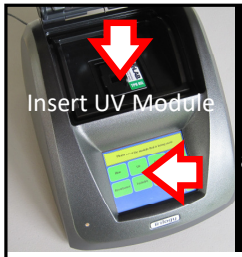
20 Sample Extraction Kit - Water
Product No. EXTR010-20-HEX

Use for sample analysis. Solvent not included. Use HPLC grade hexane.

Rinse cuvette with solvent prior to use and place onto tissue wipes. Use a waste cup to collect solvent.

WARNING! Hexane is highly flammable
Dispose solvent waste properly.

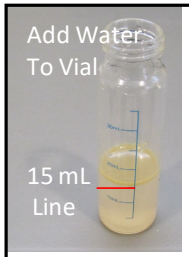
Set up Analyzer

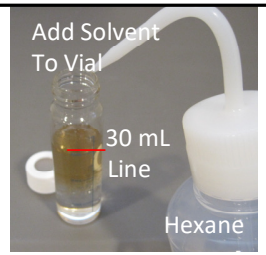


Choose "UV" when prompted to select and confirm the module being used

Turn the instrument on using the switch in the back. Open the lid and insert the module into position. Press "Calibrate" and then press "Use Stored Calibration." Choose the test you want and press "Select." The screen will display a green "measure fluorescence" button with test name shown below it. Analyzer is ready for analysis.

1. Extract Samples in Solvent





Shake water sample first and then quickly pour 15 mL of water into a sample extraction vial (vials have 5 mL graduations). Fill the solvent dispenser bottle with hexane solvent. Squirt 15 mL of hexane into the vial until it reaches the 30 mL line. This creates a 1-to-1 or 1X Extract. Hexane is a non-polar solvent, it floats on top of water. Tighten the cap and shake Extract for several minutes. Let Extract sit for a few more minutes, allowing the solvent and water to separate. Next, remove the lid and suck up 2 to 4 mL from the surface using a syringe. Attach/screw a filter to the syringe and dispense contents into a test tube. Label Extract tube with sample ID and 1X.

2. Clean Extracts?

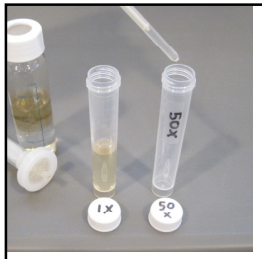
Pour Extract into Cuvette

Avoid Water from Bottom of Vial!

Extracts clear in color after settling do not need to be filtered and may not require dilution. Carefully pour into cuvette, about half full, place into analyzer's UV module, close the lid and test sample.

See Sitelab test procedures for "Clean Water" applications for more details.

3. Prepare Dilutions for Analysis



Adjust setting on the micropipette, attach a tip and use a 2nd test tube to prepare a dilution for analysis. Use examples shown below:

Pipette Setting	Extract Used	Add Solvent	Dilution Created
"250" x2	500 uL	into 5 mL	= 10X
"250"	250 uL	into 5 mL	= 20X
"100"	100 uL	into 5 mL	= 50X
"50"	50 uL	into 5 mL	= 100X
"50"	50 uL	into 10 mL	= 200X

Tighten cap and shake test tube for several seconds. Pour dilution into the glass cuvette, about half full. Use a tissue wipe to keep outside glass clean from liquids or fingerprints. Carefully place cuvette into the UV Module and close the lid. Avoid spills!

4. Test Samples, Record Results

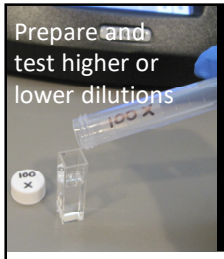
TPH OIL Test Example:
Reading = "6.20 ppm"
x 50X Dilution

Final Concentration
= 310 ppm (mg/L)

Press the green "Measure Fluorescence" button and wait a few seconds for the concentration to be displayed. Readings are shown in PPM or PPB units. Press "Mode" to switch and test sample in raw fluorescence units (RFU), if needed. Avoid readings near zero or above the maximum upper limit of the calibration. These detection limits vary depending on module and calibration kit selected.

Multiply reading by dilution tested for final result

Quality Control Tests



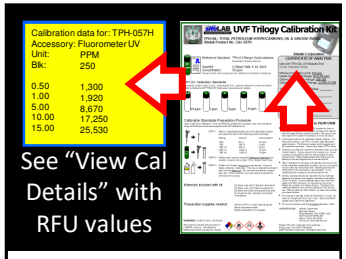
50X Dil
= 6.20 ppm

100X Dil
= 3.05 ppm

Linear!
310 vs. 305

Check for Quenching

Quenching occurs when the detector is swamped by too many or certain types of hydrocarbons, producing low or negative concentrations. Test the sample at multiple dilutions to confirm results are linear and accurate. Empty test tube and reuse.



Test a Solvent Blank

Confirm your solvent is clean. Readings should be zero ppm (or close to zero).

Test Calibration Standards

Readings should be close. Calibration Kits include a Certificate of Analysis with more details & instructions.