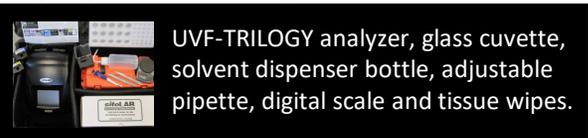




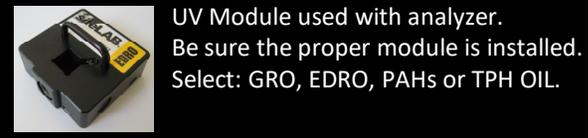
## UVF-TRILOGY Test Procedures using **METHANOL SOLVENT** Extraction

©2018 Sitelab Corporation Visit: [www.sitelabcorp.com](http://www.sitelabcorp.com) Call Toll Free 877-SITELAB or Dial (USA) 978-363-2299 UVF-TRILOGY SOIL-SOP-V1

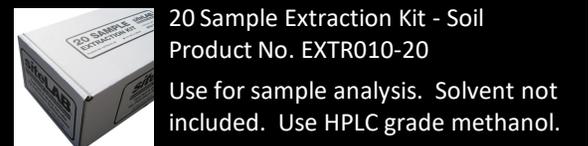
### Equipment Required



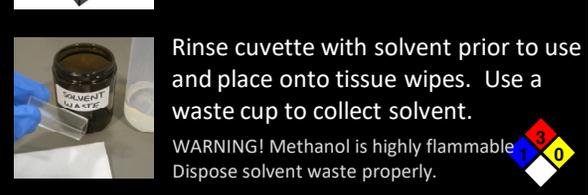
UVF-TRILOGY analyzer, glass cuvette, solvent dispenser bottle, adjustable pipette, digital scale and tissue wipes.



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



20 Sample Extraction Kit - Soil Product No. EXTR010-20 Use for sample analysis. Solvent not included. Use HPLC grade methanol.

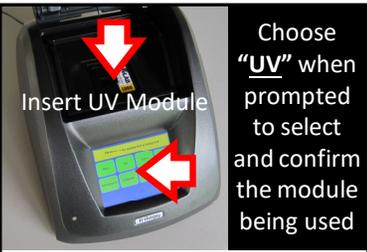


Rinse cuvette with solvent prior to use and place onto tissue wipes. Use a waste cup to collect solvent.

**WARNING!** Methanol is highly flammable. Dispose solvent waste properly.



### Set up Analyzer



Insert UV Module

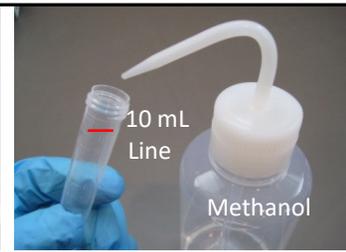
Choose "**UV**" when prompted to select and confirm the module being used

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



Extraction Jar Metal Spatula



10 mL Line Methanol

**For Most Soil Applications:**  
Weigh 5 grams of sample into extraction jar using the scale. Fill the solvent dispenser bottle with methanol and squirt 10 mL of solvent into a plastic graduated test tube and add to extraction jar. This creates a 1-to-2 or "**2X**" Extract.

**Testing Highly Contaminated Soils or Clay Samples?**  
Weigh 2 grams of sample into extraction jar and add 20 mL of solvent. This creates a **10X** Extract. Clays will filter more easily.  
Note: Try and weigh samples within + or - 0.1 gram using the scale. Be precise!

### 2. Filter Extracts



Extracts filter easier with longer settling time

Shake extract jars by hand for several minutes. Next, let jars settle for several more minutes. Remove 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 **2X** or **10X**.

### 3. Prepare Dilutions for Analysis



Pipette

Start with 100X Dilution First

Solvent

Adjust setting on the micropipette, attach a tip and use a 2nd test tube to prepare a dilution for analysis. Examples shown below account for the dilutions created in Step 1:

Pipette Extract	Add Solvent	2X Extract Dilution	10X Extract Dilution
250 uL x2	into 5 mL	= 20X	= <b>100X</b>
100 uL	into 5 mL	= <b>100X</b>	= 500X
50 uL	into 10 mL	= 400X	= 2,000X

Avoid testing extracts unless samples are clean



Glass Cuvette

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



MEASURE FLUORESCENCE EDRO 042M PPM

Press Here

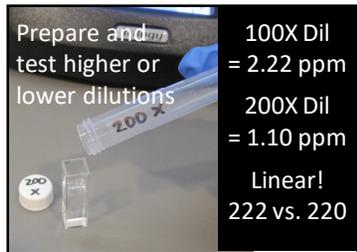
**EDRO Test Example:**  
Reading = "2.22 ppm"  
x 100X Dilution

Final Concentration = 220 ppm (mg/Kg)

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**

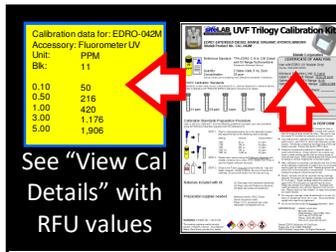
### Quality Control Tests



Prepare and test higher or lower dilutions

100X Dil = 2.22 ppm  
200X Dil = 1.10 ppm  
Linear! 222 vs. 220

**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.



Calibration data for: EDRO-042M Accessory: FluorometerUV

Conc. (PPM)	RFU
0.10	50
0.50	216
1.00	420
3.00	1,176
5.00	1,900

See "View Cal Details" with RFU values

**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.