

SOP S-14

**STANDARD OPERATING PROCEDURE FOR AIR MONITORING AT THE
WEST KINGSTON TOWN DUMP/ URI DISPOSAL AREA SITE**

Woodard & Curran, Inc.

AIR MONITORING PROCEDURES - BREATHING ZONE

Air monitoring will be performed during the RI activities to obtain qualitative VOC concentrations in order to protect worker safety. Air monitoring will be completed in the breathing zone during sampling and intrusive activities. If a detection of total VOCs above the action level of 5 ppm is observed, Drager tube monitoring for vinyl chloride will be initiated.

Equipment Needed:

- A hand-held Photoionization Detector (PID)
- Vinyl chloride Drager tubes and pump
- Calibration Sheet
- Field Log Book
- Personal Protective Equipment as outlined in the site-specific HASP

Air Monitoring Steps - PID measurements:

1. Calibrate the PID using procedures outlined in the owner's manual.
2. Turn on the instrument.
3. Place the tip of the instrument in the breathing zone. This may be approximately 2-5 feet above the ground surface.
 - a. For a locked or closed monitoring well, the tip should be placed three to four feet above the opening of the monitoring well one minute after the well has been opened, so that accumulated volatiles do not skew the reading causing unnecessary upgrades in personal protection.
 - b. For other media the tip of the PID should be placed in the breathing zone near where the sample is collected (i.e. for surface soil sampling the PID tip should be placed above the sample at the height of the sampler).
4. Having the instrument set on the measurement mode, determine the reading and record in the field monitoring log or on the field sampling sheets. Since readings may fluctuate, the highest sustained reading should be recorded.
5. The instrument should then be turned off until the next measurement is recorded. The instrument should be calibrated at the beginning of each day of use and a check calibration at the finish of each field day.

Conduct the Operator manual for troubleshooting suggestions.

Air Monitoring Steps - Drager Tube Measurements:

1. Snap off the end of the constituent specific (i.e. vinyl chloride) Drager tube using the device included as part of the Drager tube pump. Caution should be used when breaking glass.
2. Insert the broken end of the Drager tube in the Drager pump with the pump apparatus plunger open.
3. Hold the Drager pump apparatus in the breathing zone where the reading is to be collected (see procedures outline in step 3 above for the PID measurements).
4. Press in the plunger, which will force a fixed amount of air through the Drager tube. Be sure to depress the plunger completely.
5. Monitor the Drager tube to see if the tube changes color (the color will gradually move up the tube along the measurement scale).
6. Record reading in the field logbook. Compare the reading against the criteria outlined in the HSP to see if a PPE upgrade is necessary.

QA/QC

The photoionization detector will be equipped with a 10.0 or greater eV lamp. This is capable of ionizing and detecting compounds with an ionization potential of less than 10.0 eV. Calibration will be performed at the beginning of each day of use with a standard calibration gas. The calibration gas has an approximate concentration of 100 parts per million of isobutylene. If the unit experiences abnormal perturbation or erratic readings, additional calibration may be required. Results of calibration procedures will be recorded on calibration logs. Calibration logs will be maintained on-site for the duration of the field program. A check standard will be performed at the end of each day. Refer to the site-specific HSP for details of health and safety procedures.

References

None