EPA 625: Base, Neutral, Acid Semi-volatiles in Municipal and Industrial Waste Water by Solid Phase Extraction
Overview

• Development of a fully automated extraction system for EPA 8270/625
• Establishment of an extraction procedure capable of implementation of various aqueous matrices
• Participation in ILI SPE Demonstration project for method suitability
• Implementation of platform across other EPA methodologies
Matrices

- DI and Tap
- ASTM 5909 synthetic Waste Water
- TCLP Fluid
- Pond, River and Reservoir surface water
- Real world industrial effluents and influents
- Groundwater
SPE Waste Water Study Participation

- Participated in both Phase I and II
- Submitted data for all matrices in each respective study
- 3rd Party participation using FMS equipment
FMS TurboTrace ABN
FMS, Inc. SuperVap w/ direct to GC vial
SuperVap Features

- 6 (250ml) and 12 (50ml) position models for extractions.
- Dry bath heating element
- Independent secondary heater for extract nipple (Can be disabled).
- Sensor controlled
- Savable temperature log capability.
EPA 625/8270 Procedure

- Fully automates all processes, not manual steps
- Capable of delivering up to 3 independent fractions (or combine as 1)
- Can elute direct to FMS Super Vap evaporator
- Automated organic solvent rinse of sample bottle
- Can elute either cartridge independently or in parallel
- Modular and Expandable
- Direct to GC Vial extracts
Recoveries by Analyte Class

- TCLP Fluid
- River Water
- Influent
- Waste Water

- Mean PAH
- Mean Phthalate
- Mean Phenols
- Mean Ion Exchangers
- Mean Semi VOAs
Data

Recoveries for Individual Compounds with specific Analyte Classes
Expanded Methodology
EPA Methods (examples)

- EPA 8082
- EPA 8081
- EPA 1694
- EPA 1664
- EPA 1613
- EPA 8151
- EPA 1614
- EPA 8310
- EPA 8290
- EPA 8330
- EPA 8141

- Any EPA 500 series SPE method
Examples

Extraction Cartridge

- Wool Filtration
- C18

Clean-up Cartridge

- Drying Agent
- Florisil
Summation

- Fully Automated 625/8270 extractions
- Expandable to meet any SPE method
- Capable of performing in line extract drying and/or Cartridge extract clean-ups
- In-line evaporation with direct to GC vial tubes.
Questions?