Report to Scientific Guidance Panel:

CDPH Environmental Health Laboratory Update

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Update Overview

- New staff
- Laboratory set up and instrumentation
- New method development
- Method performance
- Proposed year 2 activities

New Cooperative Agreement Staff

- Dr. Binfeng Xia, Laboratory Scientist
- Dr. Dongli Wang, Laboratory Scientist
- One Laboratory Information Management Specialist to be hired in July 2010

These are in addition to 4 lab staff hired through February 2010 (2 ELS plus QMC and SMS)

Laboratory Set up

- Currently in use:
  - Sample receiving and handling room (D-366)
  - Organics and inorganics analytical lab (D-306)
- Identified for future use:
  - Organics analytical lab (D-263 est. August 2010)
  - Organics analytical lab (D-262 est. Dec 2010)

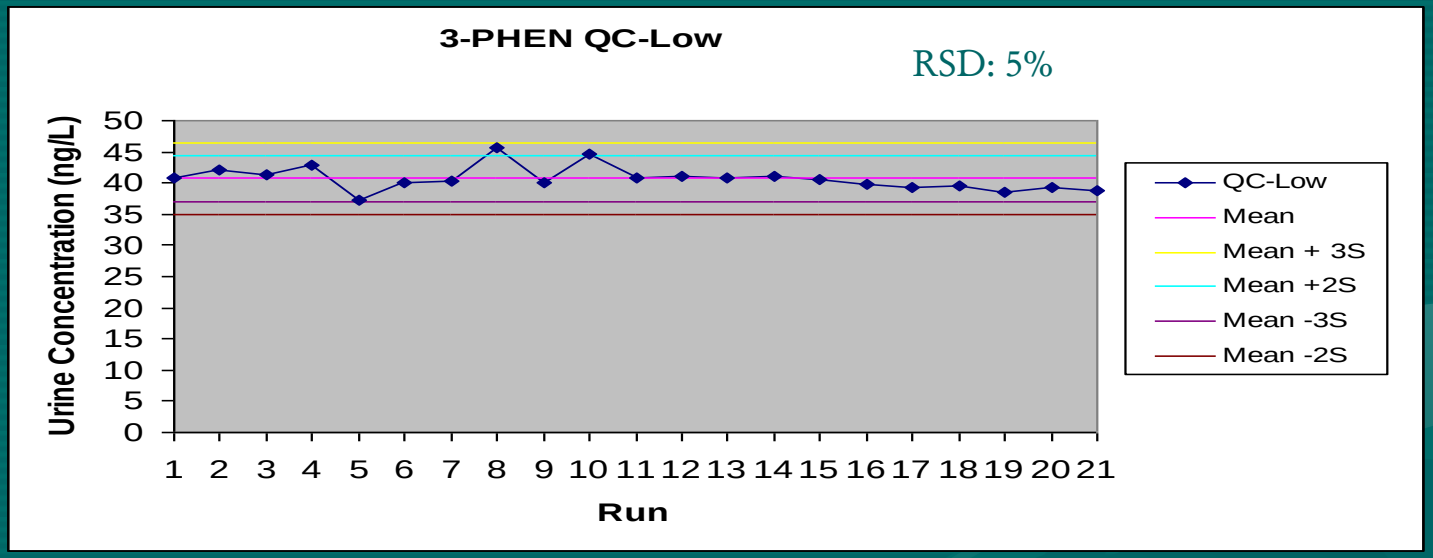
New Instruments

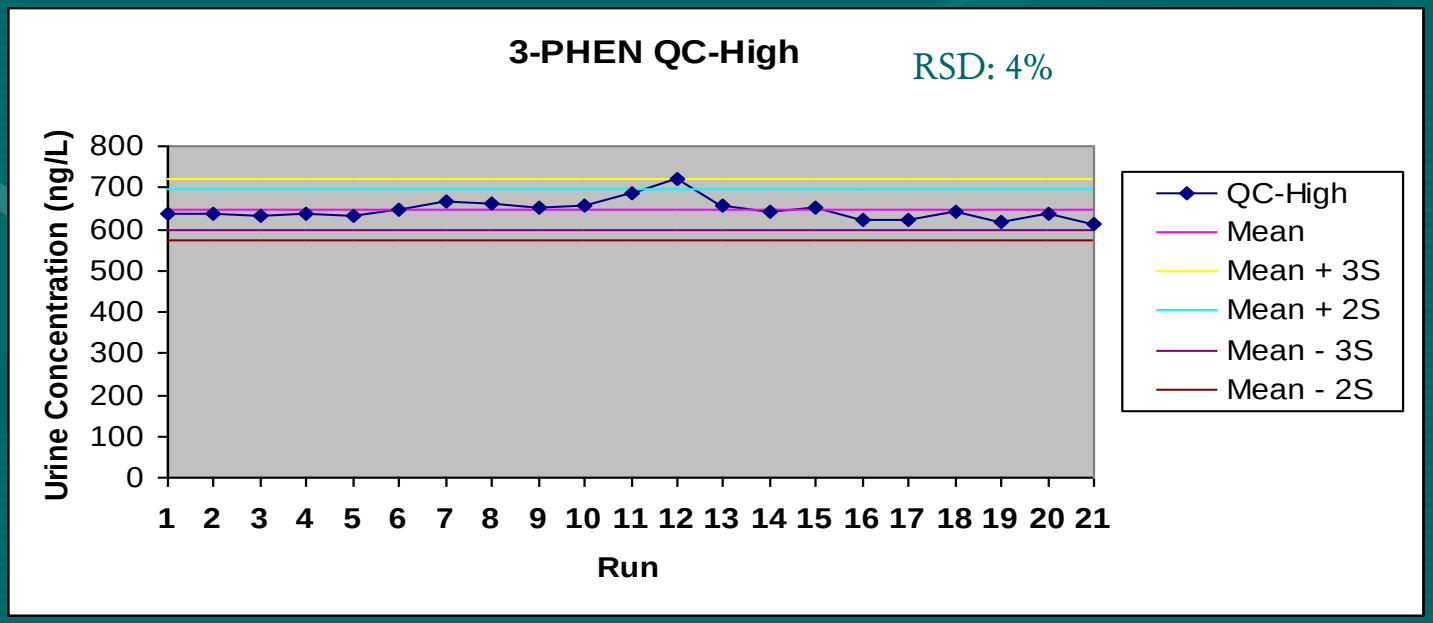
- Instruments ordered:
  - LC-MS/MS (AB QTRAP 5500): OP specific metabolites and pyrethroid metabolites.
  - LC-MS/MS (Agilent 6460): environmental phenols
  - GC-MS/MS (Agilent 7000): OP common metabolites: dialkyl phosphate (DAPs)
- Still to be purchased:
  - IC-MS/MS: perchlorate
  - Sample preparation equipment: lab automation

Method Development

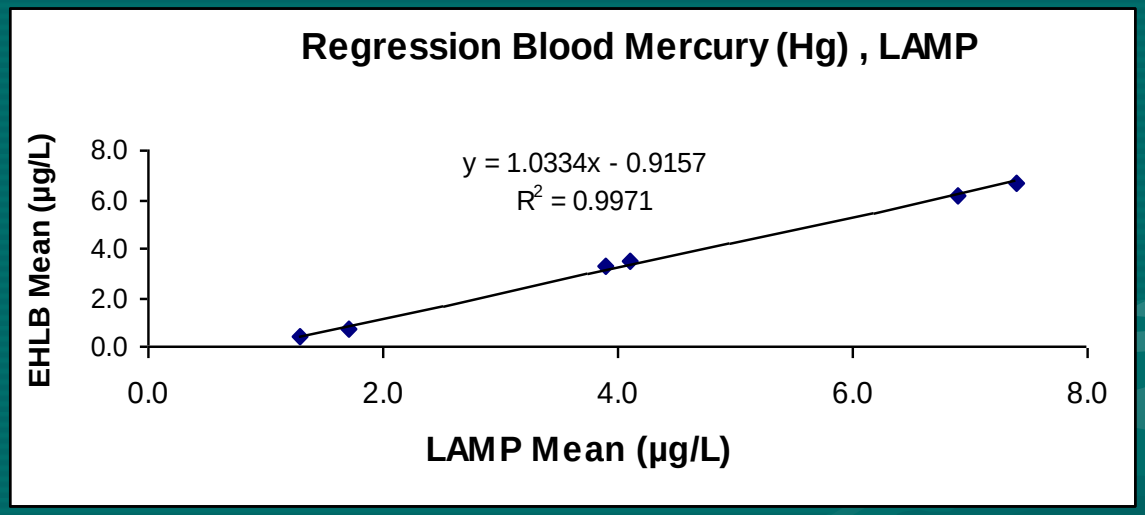
Validated	In Progress	Exploratory
1. Blood metals (Pb, Cd, Hg, Mn)	1. Metals in urine	1. DAPs
2. Chlorpyrifos (TCPy) Pyrethroid (3-PBA)	2. Arsenic speciation	2. Perchlorate
3. Phthalate (MbP, MeP)	3. Bisphenol – A	
4. PAH (3-Phen)		
5. Creatinine		

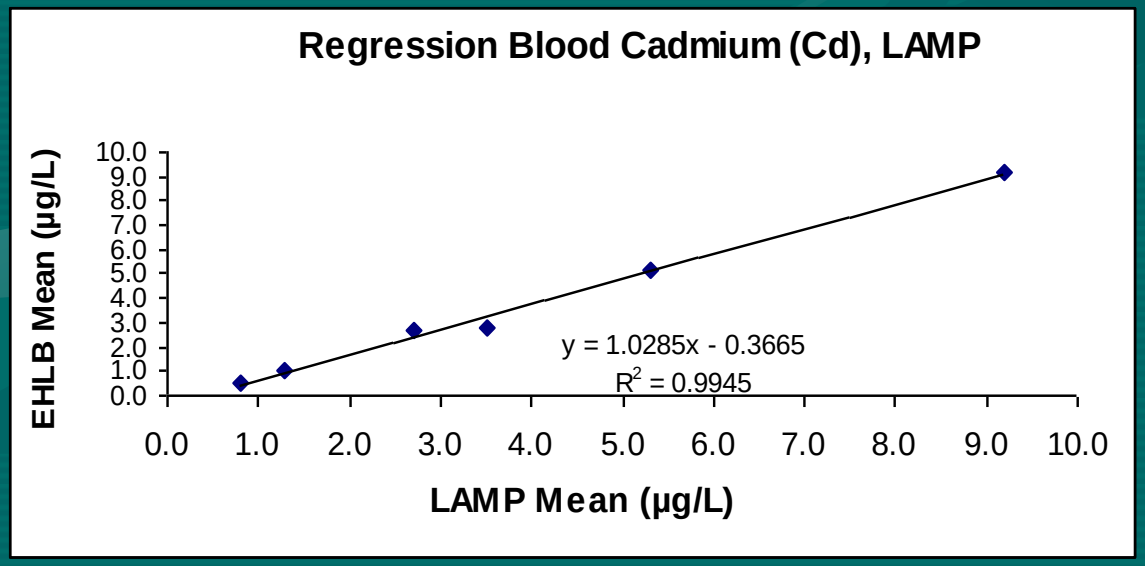
Method Precision: 3-Phen





Method Accuracy: Blood Metals





Year 2 Activities

- **Expand upon existing methods:**
  - Hydroxy-PAH (currently 1 analyte; will increase in Year 2)
  - Phthalate metaolites (currently 2 analytes; will increase in Year 2)
  - OP specific metabolite (currently 1 analyte; will increase in Year 2)
- **Methods in progress:**
  - Metals in urine (Oct. 2010)
  - Arsenic speciation (June 2011)
  - Bisphenol A (June 2011)
- **Increase capacity**
  - Procedure automation
  - Enhance through-put