

DTSC Laboratory Update



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Report to Scientific Guidance Panel
Oakland, CA
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Status

- Progress with sample analysis
- Other DTSC activities that benefit the Program

Progress with MAMAS

(as of March 3, 2015)

	N=200	N=60
	PFC	PBDE/PCB/OCP
Aliquoted	200	60
Extraction completed	200	60
Instrument analysis completed	200	60
Data review completed	200	60
Data released to Program	200	



Progress with Expanded BEST

(as of March 3, 2015)

	n=337	n=218
	PFC	PBDE/PCB/OCP
Aliquoted	337	218
Extraction completed	337	218
Instrument analysis completed	337	
Data review completed	337	
Data released to Program	337	



Progress with the CA Teachers Study (CTS) (as of March 3, 2015)

	n=2,869 received		
	PFC	PBDE	PCB/OCP
Aliquoted	2,455	2,455	2,455
Extraction completed	1,560	1,656	1,656
Instrument analysis completed	1,560	1,585	469
Data review completed	1,560	1,527	176
Data released to PI, to be posted on website	1,560	1,527	176

DTSC Capabilities

Class	# of analytes	Sample type	Instrumentation	Status
PFASs	12+	Serum	LC-MS	Production
PCBs	15	Serum	HRMS	Production
OCPs	7	Serum	HRMS	Production
PBDEs	19	Serum	HRMS	Production
Phenols in serum	4	Serum	LC-MS	Production
Hydroxy- BDEs	12	Serum	HRMS	Production
OPFR metabolites	4	Urine	LC-MS	Validation
Synthetic musks	2	Serum	GC-MS	Development

1 High Exposure of California Firefighters to Polybrominated Diphenyl 2 Ethers

3 June-Soo Park,^{*,†} Robert W. Voss,^{‡,§} Sandra McNeel,[‡] Nerissa Wu,[‡] Tan Guo,^{†,§} Yunzhu Wang,[†]
4 Leslie Israel,^{||} Rupali Das,[‡] and Myrto Petreas[†]

FOX Serum POPs study published

- Firefighters are highly exposed to PBDEs
- Good housekeeping and personal hygiene may reduce exposures

Fire Station Dust Study

- Highest PBDEs in FOX dust
 - Manuscript in review (Shen et al.; ES&T)
- Higher BFRs in FOX than house dust (Brown et al.; Env Research, 2014)
- OPFRs, bromo- and chloro-dioxins in FOX and house dust: analyses in process

2nd Fire Station Dust Study

- Funded by IAFF
- Refine exposure assessment questionnaire
- Collect dust from fire stations, trucks, equipment
- Expand analysis (BFRs, OPFRs, dioxins, PAH, PFAS, non-targeted)
 - What's in turnout gear?
 - Does dust get tracked back from fire sites?
- Team: IAFF, Commonweal, DTSC, UC Berkeley
(Professor Hammond, doctoral student Beverly Shen)

QUESTIONS?