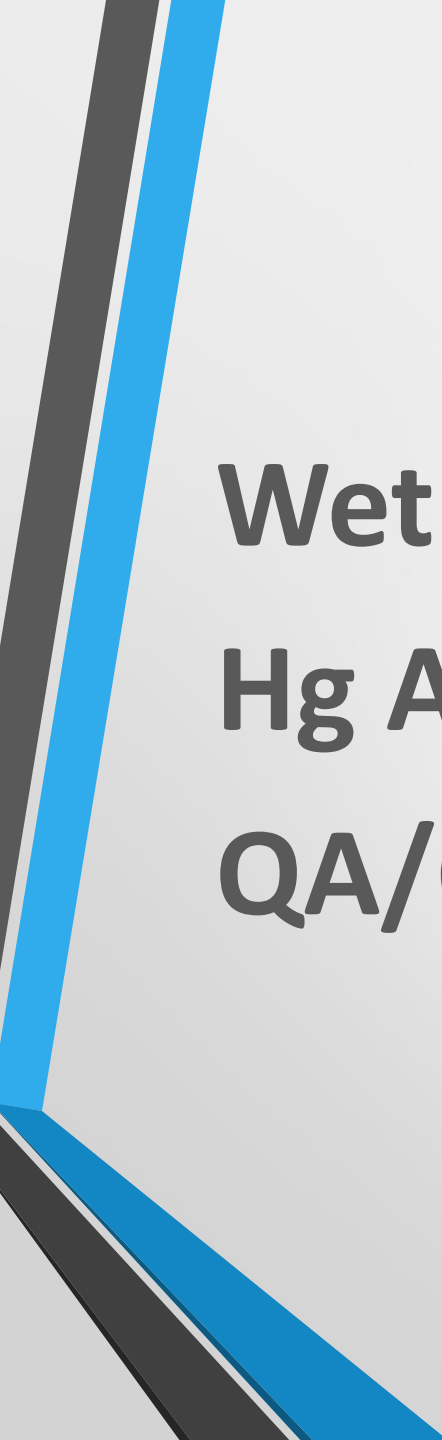


Mercury Central Analytical Lab and Site Liaison Reports

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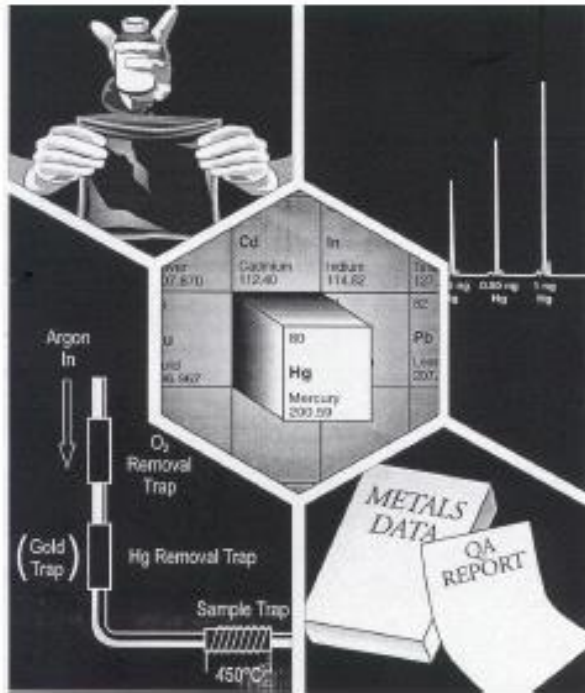
Wet Deposition Sampling and Hg Analysis: QA/QC and Data Summary

Rainwater Hg Analysis

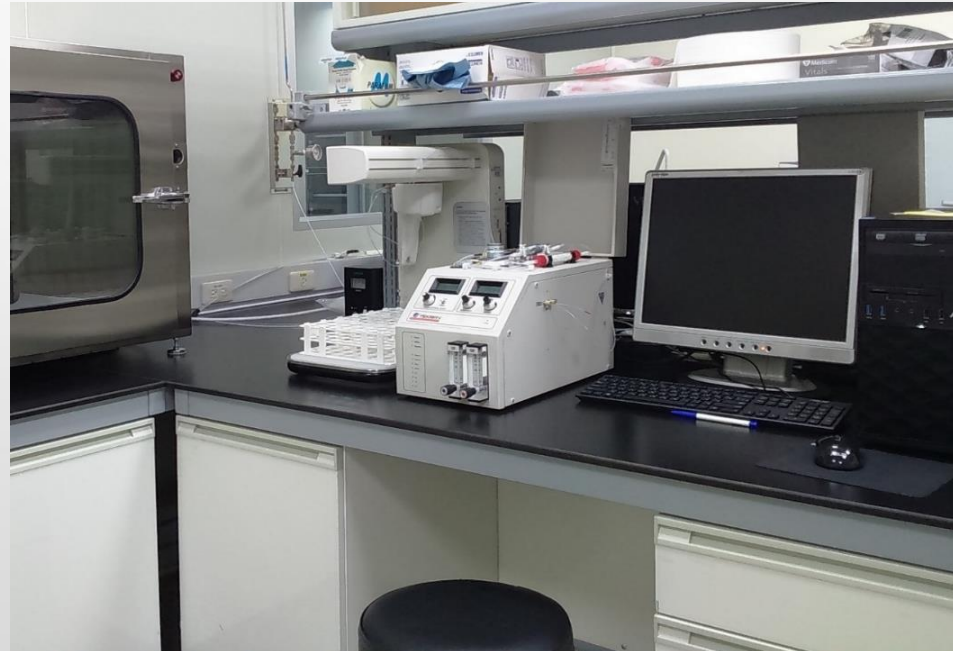


Method 1631, Revision E: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry

August 2002



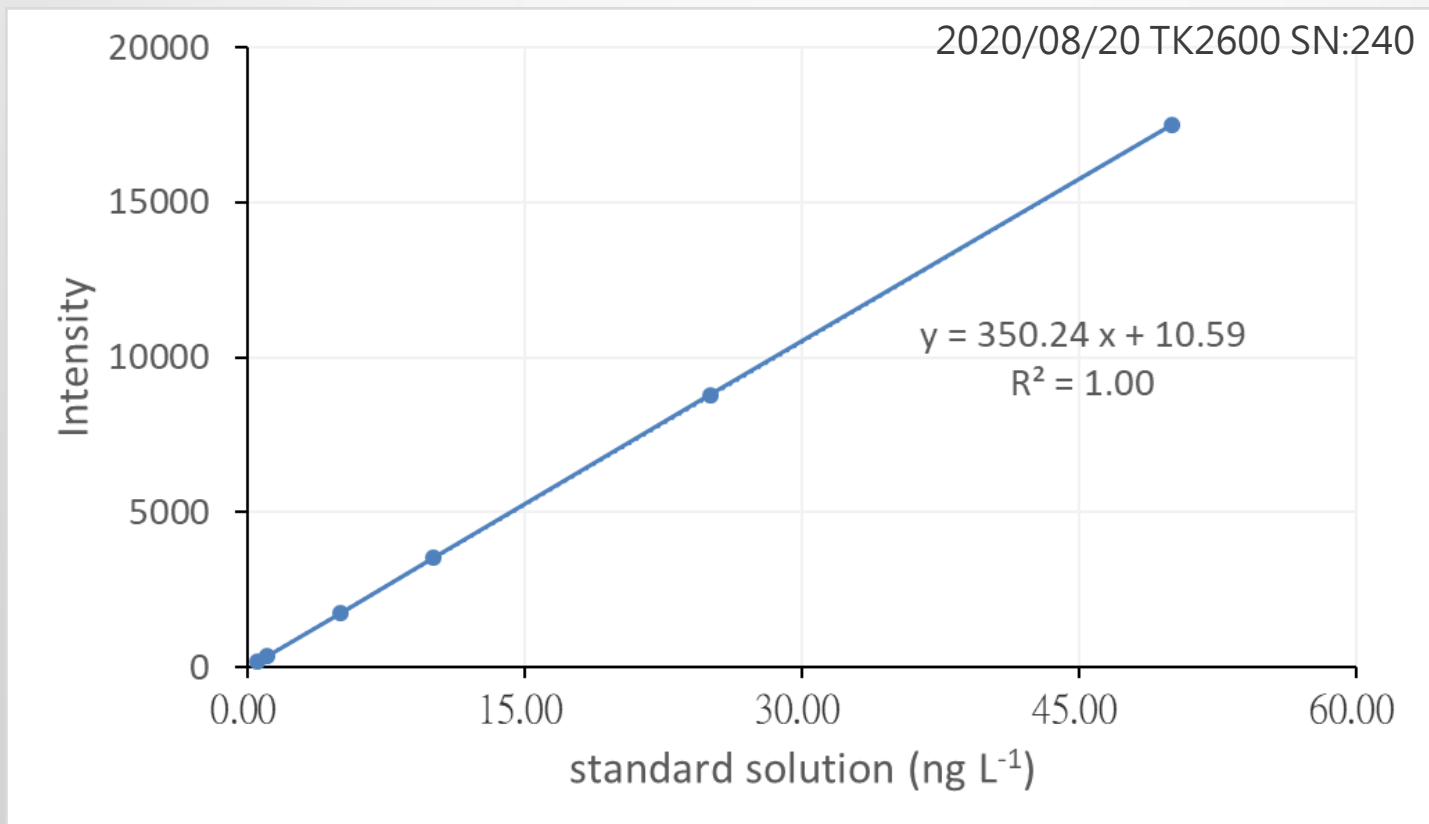
Total Hg is quantified by dual amalgamation Cold Vapor Atomic Fluorescence Spectrometry (CVAFS) after BrCl oxidation, NH₂OH·HCl neutralization, and SnCl₂ reduction.



Method Detection Limit

MDL of the NCU lab is 0.12 ng/L

Calibration Curve



Blanks

System blank

	Frequency	Mean (ng L ⁻¹)	Min. (ng L ⁻¹)	Max. (ng L ⁻¹)	1631 rev. E
2018 – 2019	103	0.07	0.03	0.18	< 0.5 ng L ⁻¹
2020 Jan - Jun	23	0.06	0.04	0.13	

Bottle blank

	Frequency	Mean (ng L ⁻¹)	Min. (ng L ⁻¹)	Max. (ng L ⁻¹)	1631 rev. E
2018 – 2019	164	0.21	<MDL	1.95	< 0.5 ng L ⁻¹
2020 Jan - Jun	46	0.17	0.01	3.25	

Duplicate Analysis and Matrix Spike

Duplicate analysis

	Frequency	Mean (%)	Min. (%)	Max. (%)	1631 rev. E
2018 – 2019	128	2.2	0.01	11.2	RPD < ± 20 %
2020 Jan - Jun	28	1.4	0.02	4.87	

Matrix spike/duplicate

	Frequency	Mean (%)	Min. (%)	Max. (%)	1631 rev. E
2018 – 2019	102	99.2	78.4	110.0	Recovery 71 – 125 %
2020 Jan - Jun	23	99.6	95.2	103.6	

Recovery of QCS and CRM

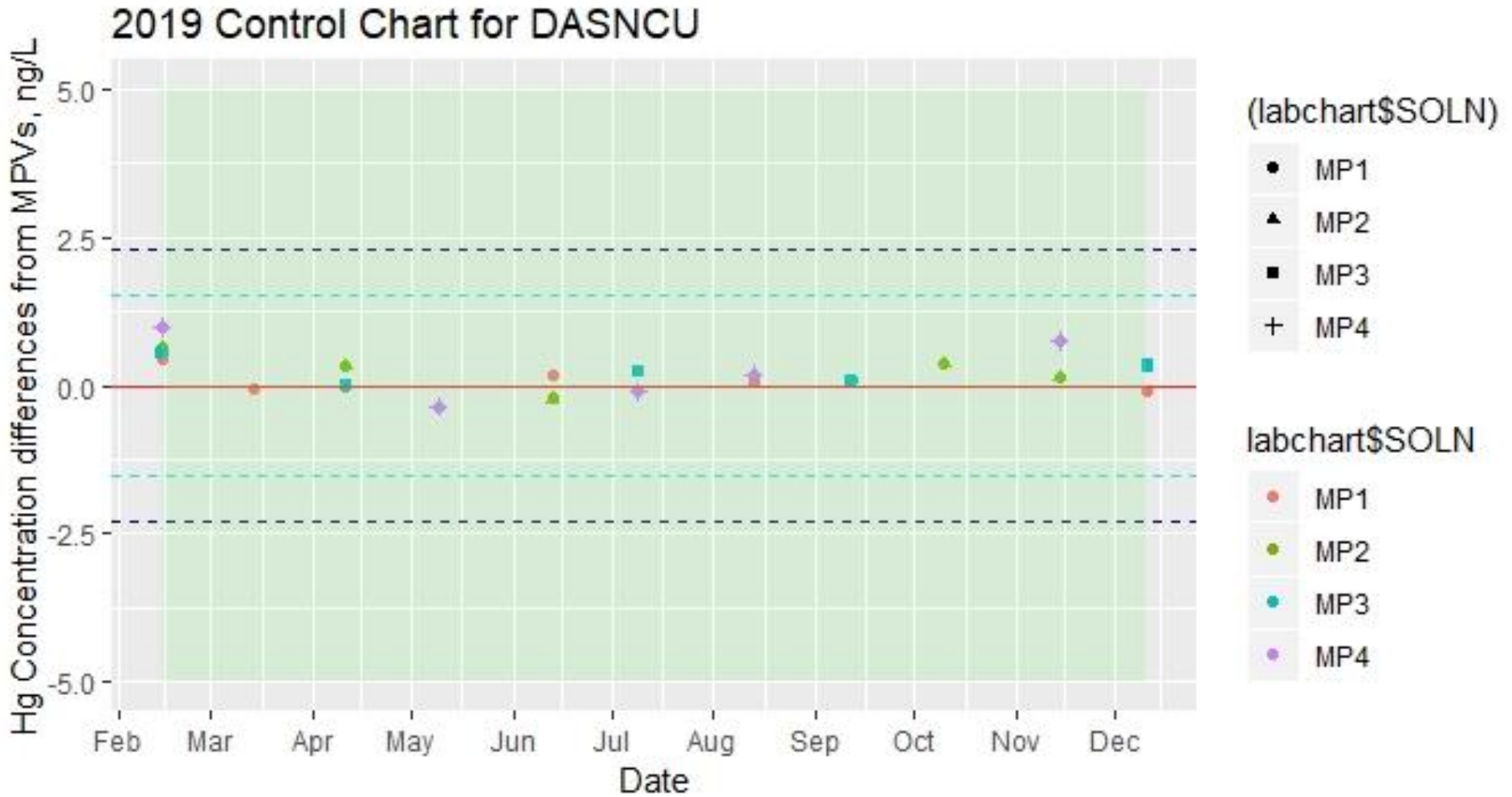
Quality control sample (QCS)

	Frequency	Mean (%)	Min. (%)	Max. (%)	1631 rev. E
2018 – 2019	131	101.2	91.7	113.7	Recovery 80 – 120 %
2020 Jan - Jun	31	99.9	96.2	102.9	

Certified reference material (CRM)

	Frequency	Mean (%)	Min. (%)	Max. (%)	1631 rev. E
2018 – 2019	34	95.9	88.5	105.2	--
2020 Jan - Jun	2	98.5	96.6	100.5	

USGS Interlaboratory-Comparison Program



Samples Received and Analyzed

Rain water sample

Site ID	Number		Subtotal
	2018-2019	2020/Aug	
APFJ01	-	10	10
APIN01	-	-	
APID01	44	-	44
APID02	-	17	17
APMN01	-	-	
APNP01	-	-	
APPW01	-	-	
APPH01	45	-	45
APLK01	16	2	18
APTW01	80	24	104
APTH01	70	6	76
APVN01	16	14	30
APVN02	3	4	7
APKRA2	62	13	75
Summary	336	90	426

Samples Received and Analyzed

QC sample (Reagent blank, bottle blank, etc)

Site ID	Number		Subtotal
	2018-2019	2020/Aug	
APFJ01	4	-	4
APIN01	-	-	-
APID01	21	-	21
APID02	-	-	-
APMN01	-	-	-
APNP01	-	-	-
APPW01	-	-	-
APPH01	2	-	2
APLK01	-	4	4
APTW01	-	8	8
APTH01	30	14	44
APVN01	8	1	9
APVN02	9	-	9
APKRA2	-	-	-
Summary	74	27	101

Samples Received and Analyzed

Other samples (e.g. surface water)

Site ID	Number		Subtotal
	2018-2019	2020/Aug	
APTH01	50	19	69
Summary	50	19	69

APMMN Data Summary

Site ID	Total Hg Concentration (ng L ⁻¹)		
	Mean±S.D	Minimum	Maximum
2018 – 2019	12.2±12.7	0.3	97.8
2020 Jan - Jun	25.2±28.1	2.5	99.8

Some miss for sample shipment

1. Not proper shipping bottles
2. Not place the sample bottle in double zip lock bags
3. Sample is not labeled
4. Observation Form is not included
5. Sample leaking



**THANK
YOU!**

