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I. Method 1631 Proposed Rule Docket Index - W-98-15

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1 EPA Trace Metals Meeting Briefing Package, November 12-13, 1993,	BRIEF	11/12/93	526	U.S. EPA Office of Water, Office of		

Boston, Massachusetts

Science and
Technology, Engineering
and Analysis Division
(4303) Washington, DC

2	Briefing Materials presented at PittCon 1994 re: mercury and low-level metals sampling and	BRIEF	7/1/94	62	State of Washington, Department of Ecology, Manchester Environmental Laboratory, Port Orchard, WA	William A. Telliard	William R. Kammin, Environmental Laboratory Director
3	Letter from William Telliard to Dr. Lian Liang, Cebam Analytical, responding to 11/16/95 letter providing comments on Method 1631	COR		2		Dr. Lian Liang, Cebam Analytical, Portland, OR	William Telliard, USEPA Office of Water, Engineering and Analysis Division (4303), Washington, DC
4	Letter from William Telliard to Dr. Carl Watras, State of Wisconsin, re: WI DNR research on measurement and effects of mercury and mercury species on the freshwater aquatic environment.	COR	8/23/94	2		Dr. Carl Watras, Bureau of Research, State of Wisconsin Dept. of Natural Resources, Boulder Junction, WI	William Telliard, USEPA Office of Water, Engineering and Analysis Division (4303), Washington, DC
5	Letter from Lian Liang, Cebam Analytical,(11/16/95) to William Telliard providing comments and attachments on draft Method 1631.	COR	11/16/95	30		William Telliard, USEPA Office of Water, Engineering and Analysis Division (4303),	Dr. Lian Liang, Cebam Analytical, Portland, OR Washington, DC

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6 Inquiry from Dr. P.B. Stockwell regarding use of "Merlin Plus" Atomic Fluorescence detector as an option in Method 1631	COR	9/10/96	1		William Telliard, U.S. EPA, Office of Water, Office of Science and Technology, Engineering and Analysis Division, Washington, DC	DR. P.B. Stockwell, P.S. Analytical Ltd., Orpington, Kent, United Kingdom

7	Record of phone conversation with Colin Davies, Brooks Rand, Ltd., requesting modification of Method 1631 to allow a single gold trap for analyses rather than the dual trap currently specified in the method	COR	2/12/97	1		William Telliard, U.S. EPA, Office of Water, Office of Science and Technology, Engineering and Analysis Division, Washington, DC	Colin Davies Brooks Rand, Seattle, WA
8	Response to Colin Davies, Brooks Rand, regarding use of single-stage amalgamation procedure for mercury analysis via Method 1631	COR	3/24/97	1		William Telliard, U.S. EPA, Office of Water, Office of Science and Technology, Engineering and Analysis Division, Washington, DC	Colin Davies Brooks Rand, Seattle, WA
9	Inquiry from Brooks Rand, LTD., regarding proposed changes to Method 1631	COR	3/31/97	3		William Telliard, U.S. EPA, Office of Water, Office of Science and Technology, Engineering and Analysis Division, Washington, DC	Colin Davies Brooks Rand, Seattle, WA
10	Response from William Telliard to Colin Davies, Brooks Rand, Ltd., regarding proposed changes to Method 1631.	COR	8/14/97	1		William Telliard, U.S. EPA, Office of Water, Office of Science and Technology, Engineering and Analysis Division, Washington, DC	William Telliard, U.S. EPA, Office of Science and Technology, Engineering and Analysis Division, Washington, DC
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11	Response from William Telliard to Dr. P.B. Stockwell regarding use of the "Merlin Plus" atomic fluorescence mercury detector	COR	3/24/98	1		DR. P.B. Stockwell, P.S. Analytical Ltd., Orpington, Kent, United Kingdom	William Telliard, U.S. EPA, Office of Water, Office of Science and Technology, Engineering and Analysis Division, Washington, DC
12	"NBS Clean Laboratories for Trace	DOC	11/1/82	11	Moody, John, R.,		

Element Analysis"					National Bureau of Standards., Washington, DC in Analytical Chemistry, Vol. 54, No.13, November, 1982	
13 Office of Water Quality Technical Memorandum 94.09 (1/28/94) transmitting "A Protocol for the Collection and Processing of Surface Water Samples for Subsequent Determination of Trace Elements, Nutrients, and Major Ions in Filtered Water"	DOC	1/28/94	65	U.S. Geological Survey Water-Resources Division Office of Water Quality, Reston, VA	David A. Rickert, Chief, Office of Water Quality U.S. Dept. of the Interior, U.S. Geological Survey Water-Resources Division Office of Water Quality, Reston, VA	
15 "Guidance on Establishing Trace Metal Clean Rooms in Existing Facilities"	DOC	1/1/96	20	Office of Water, Engineering and Analysis Division (4303) U.S. EPA Washington,		
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16 "Trace Metal Cleanroom"	DOC	2/20/96	172	Prepared by Goldberg, Margaret, M., Analytical and Chemical Sciences, Research Triangle Institute for U.S. EPA National Exposure Research Lab, Cincinnati, OH	William A. Telliard, Chief, Analytical Methods Staff, Engineering and Analysis Division, Washington, DC	Alfred P. Dufour, Director, Human Exposure Research Division, National Exposure Research Laboratory, Cincinnati, OH

17	"Study Plan for Validation of EPA Method 1631" (Single-lab validation)	DOC	3/1/96	10	US EPA Office of Water, Office of Science and Technology Engineering and Analysis Division, Washington DC
18	"Guidance on the Documentation and Evaluation of Trace Metals Data Collected for Clean Water Act Compliance Monitoring"	DOC	7/1/96	34	Office of Water, Engineering and Analysis Division (4303) U.S. EPA Washington, DC. EPA 821-B-96-004
19	"Study Plan for Validation of EPA Method 1631" (Interlaboratory validation) [Included in Docket ID#39]	DOC	4/1/98	0	US EPA Office of Water, Office of Science and Technology Engineering and Analysis Division, Washington DC
20	Final Water Quality Guidance for the	FR	3/23/95	61	See NTRREV-MET, I-A.3

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22 Stay of Federal Water Quality Criteria for Metals; Administrative Stay	FR	5/4/95	2	60 FR 22228, May 4, 1995; U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology, 401 M Street, SW, Washington, DC		
23 Guidelines Establishing Test Procedures for the Analysis of Pollutants and National Primary Drinking Water Regulations; Flexibility in Existing Test Procedures and Streamlined Proposal of New Test Procedures; Proposed Rule	FR	3/28/97	75	62 FR 14976, March 28, 1997, U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology, 401 M St., SW., Washington, DC		
24 Performance-based Measurement System; Notice of Intent	FR	10/6/97	3	62 FR 52098; U.S. EPA Office of Solid Waste (5305W) 401 M Street, SW, Washington, DC		
25 Mercury, Total recoverable, atomic absorption spectrometric, flameless (1-3462-78)	MTH		3	U.S. Geological Survey		
26 Method 245.2 (Automated Cold Vapor Technique)	MTH	1/1/74	6	Methods for the Chemical Analysis of Water and Wastes (MCAWW) EPA 600-4-79-020, Revised		

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27 "Subnanogram Determination of Mercury by Two-Stage Gold Amalgamation and Gas Phase Detection Applied to Atmospheric Analysis"	MTH	9/1/79	6	Fitzgerald, William F. and Gary A. Gill, Marine Sciences Institute and Dept. of Geology and Geophysics, the University of Connecticut in Analytical Chemistry, Vol. 51 No. 11, September 1979.		
28 "Determination of Mercury in Seawater at Sub-Nanogram per Liter Levels"	MTH	2/15/83	11	Bloom, N.S., and E. A. Crecelius. Marine Chemistry, 14 (1983) pp. 49-59.		
29 "Determination of Volatile Mercury Species at the Picogram Level by Low-Temperature Gas Chromatography with Cold Vapour Atomic Fluorescence Detection"	MTH	10/23/87	3	Bloom, N.S.; Fitzgerald, W.F. Analytica Chimica Acta, 208 (1988) 151-161.		
30 "An International Intercomparison Exercise for Total Mercury in Seawater"	MTH	8/11/89	6	Cossa, D., and P. Courau in "App. Organomet. Chem. 1990, 4, 40".		
31 Method 245.1 Determination of Mercury in Water by Cold Vapor Atomic Absorption Spectrometry	MTH	4/1/91	12	Lobring, Larry B., and Billy B. Potter., ed. Environmental Monitoring Systems Laboratory Office of Research and Development, U.S. EPA, Cincinnati, OH 45268.		
32 "Total Mercury in Aqueous Media"	MTH	9/7/94	35	Nicholas Bloom, Frontier Geosciences, Inc. Environmental Research Corporation, Seattle,		

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33 "Method 1631: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry"	MTH	4/1/95	38	EPA-821-R-95-027, USEPA Office of Water, Engineering and Analysis Division (4303), Washington, DC		
34 Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels	MTH	1/1/96	43	Office of Water, Engineering and Analysis Division (4303) U.S. EPA Washington, DC. EPA 821-R-96-008.		
35 "Method 1631: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry"	MTH	7/1/96	37	EPA-821-R-96-012, USEPA Office of Water, Engineering and Analysis Division (4303), Washington, DC		
36 "Method 1631, Revision A: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry"	MTH	5/1/98	31	EPA-821-R-98-001, USEPA Office of Water, Engineering and Analysis Division (4303), Washington, DC		
37 Summary of comments on Trace Metals Guidance Documents received at the Low-Level Metals Sampling and Analytical Workshop conducted in Jan. 1995 by USEPA Region 2	RPT	4/18/96	153	USEPA Office of Water, Office of Science and Technology, Washington, DC	Region 2 Low-Level Metals Sampling and Analytical Workshop Participants	Tudor Davies, USEPA Office of Water, Office of Science and Technology, Washington, DC
38 "Results of the EPA Method 1631 Validation Study" (single laboratory)	RPT	7/1/96	9	US EPA Office of Water, Office of Science and Technology Engineering and Analysis Division, Washington DC		

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39 "Results of the EPA Method 1631 Interlaboratory Validation Study"	RPT	3/1/98	80	US EPA Office of Water, Office of Science and Technology Engineering and Analysis Division, Washington DC		
40 "Mercury Sampling of Open Ocean Waters at the Picomolar Level"	STD	1/1/85	11	Gill, G.A., and W.F. Fitzgerald. in Deep-Sea Research, Vol. 32, No.3 pp. 287-297, 1985.		
41 "Determination of Volatile Mercury Species at the Picogram Level by Low-Temperature Gas Chromatography With Cold-Vapour Atomic Fluorescence Detection"	STD	10/23/87	6	Bloom, N.S, and W.F. Fitzgerald. Analytica Chimica Acta, 208 (1988) 151-161.		
42 "Determination of Total Mercury by Single-stage Gold Amalgamation Cold Vapour Atomic Spectrometric Detection"	STD	6/1/93	4	Liang, Lian and N.S. Bloom. Journal of Analytical Atomic Spectrometry, June 1993, Vol. 8.		
43 "Influence of Analytical Conditions on the Observed 'Reactive Mercury' Concentrations in Natural Freshwaters"	STD	1/1/94	8	Bloom, N.S. Watras, C.J. Huckabee J.W. Ed., Mercury Pollution: integration and Synthesis. 1994.		
44 "Monitoring Trace Metals at Ambient Water Quality Criteria Levels: Issues, Plans, and Schedule"	STD	4/1/94	23	U.S. EPA Office of Water, Office of Science and Technology, Engineering and Analysis Division (4303) Washington, DC		

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45 "Monitoring Trace Metals at Ambient Water Quality Criteria Levels: Issues, Plans, and Schedule"	STD	10/1/94	23	U.S. EPA Office of Water, Office of Science and Technology, Engineering and Analysis Division (4303) Washington, DC		
46 Results of the International Aqueous Mercury Speciation Inercomparison Exercise	STD	1/1/95	7	Bloom, N.S., M. Horvat, C.J Watras. Water, Air, and Soil Pollution 80: 1257-1268, 1995.		
47 Fact Sheet: Proposal of EPA Method 1631, Revision A: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry	DOC	5/1/98	2	EPA-821-F-98-006, USEPA Office of Water, Engineering and Analysis Division (4303), Washington, DC		
48 Guidelines Establishing Test Procedures for the Analysis of Pollutants; Measurement of Mercury in Water	FR	5/26/98	18	63 FR, No.100, pp28868-28884.May 26,1998.U.S. Environmental Protection Agency. Office of Water, Office of Science and Technology, 401 M Street, SW, Washington,DC		