



Roy F. Weston, Inc.
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Lionville, Pennsylvania 19341-1333
610-701-6100 • Fax 610-701-6140

30 November 1994

Dr. Michael Dennis
Metcalf and Eddy
2800 Corporate Exchange Drive
Suite 250
Columbus, OH 43231

**Subject: Missed Holding Times for Hexavalent Chromium
RFW#: 9410L737**

Dear Dr. Dennis:

Please find enclosed the Sample Discrepancy Report (SDR) for the missed holding times for Hexavalent Chromium. The samples were received on 10/25/94 at 9:30 am but by the time samples were opened and processed, the samples were not delivered to the laboratory until 12:30. Sample analyses were done at 13:45, resulting in missed holding times for 5 of the 7 samples received.

Login processing delayed sample receipt in the laboratory, however, samples were analyzed as soon as possible following receipt. Sample collection later in the day provides a longer time for laboratory to analyze the samples within the holding time. A review of ways to process quick holding time samples in login will be done to improve performance.

Please call me at (610) 701-6100 if you have any questions, or need any additional information.

Very truly yours,

ROY F. WESTON, INC.

Gail E. DeRuzzo
Sr. Project Manager

Enclosure:

003150





ROY F. WESTON, INC.
LIONVILLE ANALYTICAL LABORATORY
ANALYTICAL CASE NARRATIVE

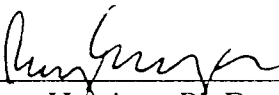
Client : M&E SPARTON
RFW# : 9410L737

W.O. #: 03272-036-002-9999-00
Date Received: 10-25-94

INORGANIC

The following is a summary of the quality control results and a description of any problems encountered during the analysis of this batch of samples:

1. All sample holding times as required by the method were met with the exception of Chromium VI, which was analyzed past hold.
2. All preparation blank results were below the required detection limits.
3. All calibration verification checks were within the required control limits of 90-110%. Calibration verification is performed using independent standards.
4. Matrix spike recoveries are summarized on the Inorganic Accuracy Report contained within this document. All recoveries were within the 75-125% guidance limits. The %RPD was within the 20% guidance limit.
5. Replicate results are summarized on the Inorganic Precision Report contained within this document. The result was within the 20% RPD guidance limit.
6. The analytical methods applied by the laboratory for analyses herein, are derived from the USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020) and Standard Methods for the Examination of Water and Wastewater 16 ed.



J. Peter Henshey, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

11.21.94
Date



ROY F. WESTON, INC.
GLOSSARY OF TERMS - INORGANIC REPORTS

DATA QUALIFIERS

- U - Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.
- * - Indicates that the original sample result is greater than 4x the spike amount added. The USEPA-CLP has determined that spike results on samples where this occurs may be unreliable and therefore, the control limits are not applicable.

ABBREVIATIONS

- MB - Method or preparation blank.
- MS - Matrix Spike.
- MSD - Matrix Spike Duplicate.
- REP - Sample Replicate.
- LC - Indicates a method LCS or Blank Spike.
- NC - Not calculable, result below the detection limit.

A suffix of -R or -S following these codes indicates a replicate or spike analysis respectively.

NOTES

For solid samples, all results are reported on a dry weight basis with the exception of Extractable Organic Halides, which are reported on a wet weight basis.

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 11/17/94

CLIENT: M&E SPARTON

WESTON BATCH #: 9410L737

WORK ORDER: 03272-036-002-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	501 MW-55	Chromium VI	0.48	MG/L	0.020	1.0
-002	502 MW-13	Chromium VI	0.47	MG/L	0.020	1.0
-003	503 MW-56	Chromium VI	0.37	MG/L	0.020	1.0
-004	504 MW-57	Chromium VI	0.020u	MG/L	0.020	1.0
-005	505 MW-60	Chromium VI	0.020u	MG/L	0.020	1.0
-006	506 MW-64	Chromium VI	0.020u	MG/L	0.020	1.0
-007	507 MW-14	Chromium VI	0.020u	MG/L	0.020	1.0



↑
No Defect
@ 20 PPH DL

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INORGANICS METHOD BLANK DATA SUMMARY PAGE 11/17/94

CLIENT: M&E SPARTON
WORK ORDER: 03272-036-002-9999-00

WESTON BATCH #: 9410L737

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	94LV1051-MB1	Chromium VI	0.020u	MG/L	0.020	1.0
BLANK20	94LV1051-MB2	Chromium VI	0.020u	MG/L	0.020	1.0

*no detect
@ 20 ppb*

003154

ROY F. WESTON INC.

INORGANICS ACCURACY REPORT 11/17/94

CLIENT: M&E SPARTON

WESTON BATCH #: 9410L737

WORK ORDER: 03272-036-002-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-003	503 MW-56	Chromium VI	1.3	0.37	1.0	91.9	1.0
		Chromium VI MSD	1.3	0.37	1.0	92.0	1.0
BLANK10	94LV1051-MB1	Chromium VI	0.92	0.02u	1.0	92.4	1.0
		Chromium VI MSD	0.92	0.02u	1.0	92.4	1.0
BLANK20	94LV1051-MB2	Chromium VI	0.92	0.02u	1.0	92.2	1.0

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ROY F. WESTON INC.

INORGANICS DUPLICATE SPIKE REPORT 11/17/94

CLIENT: M&E SPARTON

WESTON BATCH #: 9410L737

WORK ORDER: 03272-036-002-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKE#1		SPIKE#2	
			%RECOV	%RECOV	%RECOV	%DIFF
-003	503 MW-56	Chromium VI	91.9	92.0	0.11	
BLANK10	94LV1051-MB1	Chromium VI	92.4	92.4	0.00	

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ROY F. WESTON INC.

INORGANICS PRECISION REPORT 11/17/94

CLIENT: M&E SPARTON

WESTON BATCH #: 9410L737

WORK ORDER: 03272-036-002-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
-003REP	503 MW-56	Chromium VI	0.37	0.37	0.00	1.0

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LIONVILLE ANALYTICAL LABORATORY
ANALYTICAL CASE NARRATIVE

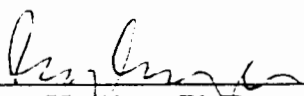
Client : M&E SPARTON
RFW# : 9410L747

W.O. #: 03272-036-002-9999-00
Date Received: 10-26-94

INORGANIC

The following is a summary of the quality control results and a description of any problems encountered during the analysis of this batch of samples:

1. All sample holding times as required by the method were met.
2. All preparation blank results were below the required detection limits.
3. All calibration verification checks were within the required control limits of 90-110%. Calibration verification is performed using independent standards.
4. Matrix spike recoveries are summarized on the Inorganic Accuracy Report contained within this document. All recoveries were within the 75-125% guidance limits. The %RPD was within the 20% guidance limit.
5. Replicate results are summarized on the Inorganic Precision Report contained within this document. The result was within the 20% RPD guidance limit.
6. The analytical methods applied by the laboratory for analyses herein, are derived from the USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020) and Standard Methods for the Examination of Water and Wastewater 16 ed.



J. Peter Hershey, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

11.11.94

Date

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 11/10/94

CLIENT: M&E SPARTON

WESTON BATCH #: 9410L747

WORK ORDER: 03272-036-002-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	MW-53	Chromium VI	0.078	MG/L	0.020	1.0
-003	MW-61	Chromium VI	0.020u	MG/L	0.020	1.0
-004	MW-41	Chromium VI	0.020u	MG/L	0.020	1.0
-005	MW-32	Chromium VI	0.020u	MG/L	0.020	1.0
-006	MW-15	Chromium VI	0.020u	MG/L	0.020	1.0

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INORGANICS METHOD BLANK DATA SUMMARY PAGE 11/10/94

CLIENT: M&E SPARTON

WESTON BATCH #: 9410L747

WORK ORDER: 03272-036-002-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	94LVI052-MB1	Chromium VI	0.020u	MG/L	0.020	1.0
BLANK20	94LVI052-MB2	Chromium VI	0.020u	MG/L	0.020	1.0

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ROY F. WESTON INC.

INORGANICS ACCURACY REPORT 11/10/94

CLIENT: M&E SPARTON

WESTON BATCH #: 9410L747

WORK ORDER: 03272-036-002-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED	INITIAL	SPIKED	%RECOV	DILUTION
			SAMPLE	RESULT	AMOUNT		FACTOR (SPK)
-002	MW-53	Chromium VI	0.96	0.078	1.0	88.5	1.0
		Chromium VI MSD	0.96	0.078	1.0	88.6	1.0
BLANK10	94LVI052-MB1	Chromium VI	0.95	0.02u	1.0	94.7	1.0
		Chromium VI MSD	0.95	0.02u	1.0	94.7	1.0
BLANK20	94LVI052-MB2	Chromium VI	0.92	0.02u	1.0	92.0	1.0

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ROY F. WESTON INC.

INORGANICS DUPLICATE SPIKE REPORT 11/10/94

CLIENT: M&E SPARTON

WESTON BATCH #: 9410L747

WORK ORDER: 03272-036-002-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKE#1 SPIKE#2		
			%RECOV	%RECOV	%DIFF
-002	MW-53	Chromium VI	88.5	88.6	0.11
BLANK10	94LVI052-MB1	Chromium VI	94.7	94.7	0.00

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ROY F. WESTON INC.

INORGANICS PRECISION REPORT 11/10/94

CLIENT: M&E SPARTON

WESTON BATCH #: 9410L747

WORK ORDER: 03272-036-002-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL			DILUTION FACTOR (REP)
			RESULT	REPLICATE RPD		
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-002REP	MW-53	Chromium VI	0.078	0.082	5.0	1.0

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