

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: R3M Engineering, Inc. **SDG No.:** P5093
Contract: RTHR01 **Lab Code:** CHEM **Case No.:** P5093 **SAS No.:** P5093
Initial Calibration Source: EPA
Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV11	Mercury	3.84	4.0	96	90 - 110	CV	12/06/2024	11:38	LB133780

Metals

- 2a -

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Client: R3M Engineering, Inc. **SDG No.:** P5093

Contract: RTHR01 **Lab Code:** CHEM **Case No.:** P5093 **SAS No.:** P5093

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV95	Mercury	5.00	5.0	100	90 - 110	CV	12/06/2024	11:42	LB133780
CCV96	Mercury	5.40	5.0	108	90 - 110	CV	12/06/2024	12:36	LB133780
CCV97	Mercury	4.54	5.0	91	90 - 110	CV	12/06/2024	12:59	LB133780

Metals

- 2a -

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Contract: RTHR01 **Lab Code:** CHEM **Case No.:** P5093 **SAS No.:** P5093

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Aluminum	2680	2500	107	90 - 110	P	12/10/2024	11:04	LB133866
	Antimony	1030	1000	103	90 - 110	P	12/10/2024	11:04	LB133866
	Arsenic	1040	1000	104	90 - 110	P	12/10/2024	11:04	LB133866
	Barium	535	520	103	90 - 110	P	12/10/2024	11:04	LB133866
	Beryllium	530	510	104	90 - 110	P	12/10/2024	11:04	LB133866
	Cadmium	520	510	102	90 - 110	P	12/10/2024	11:04	LB133866
	Calcium	10600	10000	106	90 - 110	P	12/10/2024	11:04	LB133866
	Chromium	551	520	106	90 - 110	P	12/10/2024	11:04	LB133866
	Cobalt	529	520	102	90 - 110	P	12/10/2024	11:04	LB133866
	Copper	546	510	107	90 - 110	P	12/10/2024	11:04	LB133866
	Iron	10300	10000	103	90 - 110	P	12/10/2024	11:04	LB133866
	Lead	1030	1000	103	90 - 110	P	12/10/2024	11:04	LB133866
	Magnesium	6190	6000	103	90 - 110	P	12/10/2024	11:04	LB133866
	Manganese	539	520	104	90 - 110	P	12/10/2024	11:04	LB133866
	Nickel	531	530	100	90 - 110	P	12/10/2024	11:04	LB133866
	Potassium	10200	9900	103	90 - 110	P	12/10/2024	11:04	LB133866
	Selenium	1070	1000	107	90 - 110	P	12/10/2024	11:04	LB133866
	Silver	264	250	106	90 - 110	P	12/10/2024	11:04	LB133866
	Sodium	9810	10000	98	90 - 110	P	12/10/2024	11:04	LB133866
	Thallium	1100	1000	110	90 - 110	P	12/10/2024	11:04	LB133866
	Vanadium	524	500	105	90 - 110	P	12/10/2024	11:04	LB133866
	Zinc	1090	1000	108	90 - 110	P	12/10/2024	11:04	LB133866

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Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Aluminum	106	100	106	80 - 120	P	12/10/2024	11:08	LB133866
	Antimony	50.0	50.0	100	80 - 120	P	12/10/2024	11:08	LB133866
	Arsenic	21.8	20.0	109	80 - 120	P	12/10/2024	11:08	LB133866
	Barium	101	100	101	80 - 120	P	12/10/2024	11:08	LB133866
	Beryllium	6.27	6.0	104	80 - 120	P	12/10/2024	11:08	LB133866
	Cadmium	5.98	6.0	100	80 - 120	P	12/10/2024	11:08	LB133866
	Calcium	2140	2000	107	80 - 120	P	12/10/2024	11:08	LB133866
	Chromium	9.98	10.0	100	80 - 120	P	12/10/2024	11:08	LB133866
	Cobalt	29.9	30.0	100	80 - 120	P	12/10/2024	11:08	LB133866
	Copper	22.8	20.0	114	80 - 120	P	12/10/2024	11:08	LB133866
	Iron	98.9	100	99	80 - 120	P	12/10/2024	11:08	LB133866
	Lead	12.4	12.0	103	80 - 120	P	12/10/2024	11:08	LB133866
	Magnesium	2230	2000	111	80 - 120	P	12/10/2024	11:08	LB133866
	Manganese	21.4	20.0	107	80 - 120	P	12/10/2024	11:08	LB133866
	Nickel	39.8	40.0	99	80 - 120	P	12/10/2024	11:08	LB133866
	Potassium	1990	2000	100	80 - 120	P	12/10/2024	11:08	LB133866
	Selenium	20.4	20.0	102	80 - 120	P	12/10/2024	11:08	LB133866
	Silver	10.6	10.0	106	80 - 120	P	12/10/2024	11:08	LB133866
	Sodium	1850	2000	92	80 - 120	P	12/10/2024	11:08	LB133866
	Thallium	42.6	40.0	106	80 - 120	P	12/10/2024	11:08	LB133866
	Vanadium	42.5	40.0	106	80 - 120	P	12/10/2024	11:08	LB133866
	Zinc	45.5	40.0	114	80 - 120	P	12/10/2024	11:08	LB133866

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- 2a -

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Contract: RTHR01 **Lab Code:** CHEM **Case No.:** P5093 **SAS No.:** P5093

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Aluminum	9940	10000	99	90 - 110	P	12/10/2024	11:44	LB133866
	Antimony	4960	5000	99	90 - 110	P	12/10/2024	11:44	LB133866
	Arsenic	4920	5000	98	90 - 110	P	12/10/2024	11:44	LB133866
	Barium	9610	10000	96	90 - 110	P	12/10/2024	11:44	LB133866
	Beryllium	243	250	97	90 - 110	P	12/10/2024	11:44	LB133866
	Cadmium	2430	2500	97	90 - 110	P	12/10/2024	11:44	LB133866
	Calcium	24000	25000	96	90 - 110	P	12/10/2024	11:44	LB133866
	Chromium	1000	1000	100	90 - 110	P	12/10/2024	11:44	LB133866
	Cobalt	2430	2500	97	90 - 110	P	12/10/2024	11:44	LB133866
	Copper	1240	1250	100	90 - 110	P	12/10/2024	11:44	LB133866
	Iron	4810	5000	96	90 - 110	P	12/10/2024	11:44	LB133866
	Lead	4880	5000	98	90 - 110	P	12/10/2024	11:44	LB133866
	Magnesium	24200	25000	97	90 - 110	P	12/10/2024	11:44	LB133866
	Manganese	2350	2500	94	90 - 110	P	12/10/2024	11:44	LB133866
	Nickel	2430	2500	97	90 - 110	P	12/10/2024	11:44	LB133866
	Potassium	24600	25000	98	90 - 110	P	12/10/2024	11:44	LB133866
	Selenium	4990	5000	100	90 - 110	P	12/10/2024	11:44	LB133866
	Silver	1240	1250	99	90 - 110	P	12/10/2024	11:44	LB133866
	Sodium	24000	25000	96	90 - 110	P	12/10/2024	11:44	LB133866
	Thallium	5020	5000	100	90 - 110	P	12/10/2024	11:44	LB133866
	Vanadium	2450	2500	98	90 - 110	P	12/10/2024	11:44	LB133866
	Zinc	2520	2500	101	90 - 110	P	12/10/2024	11:44	LB133866
CCV02	Aluminum	9780	10000	98	90 - 110	P	12/10/2024	12:35	LB133866
	Antimony	4900	5000	98	90 - 110	P	12/10/2024	12:35	LB133866
	Arsenic	4840	5000	97	90 - 110	P	12/10/2024	12:35	LB133866
	Barium	9620	10000	96	90 - 110	P	12/10/2024	12:35	LB133866
	Beryllium	234	250	94	90 - 110	P	12/10/2024	12:35	LB133866
	Cadmium	2360	2500	95	90 - 110	P	12/10/2024	12:35	LB133866
	Calcium	23400	25000	94	90 - 110	P	12/10/2024	12:35	LB133866
	Chromium	969	1000	97	90 - 110	P	12/10/2024	12:35	LB133866
	Cobalt	2370	2500	95	90 - 110	P	12/10/2024	12:35	LB133866
	Copper	1230	1250	98	90 - 110	P	12/10/2024	12:35	LB133866
	Iron	4760	5000	95	90 - 110	P	12/10/2024	12:35	LB133866
	Lead	4760	5000	95	90 - 110	P	12/10/2024	12:35	LB133866

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- 2a -

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Client: R3M Engineering, Inc. **SDG No.:** P5093

Contract: RTHR01 **Lab Code:** CHEM **Case No.:** P5093 **SAS No.:** P5093

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV02	Magnesium	23500	25000	94	90 - 110	P	12/10/2024	12:35	LB133866
	Manganese	2320	2500	93	90 - 110	P	12/10/2024	12:35	LB133866
	Nickel	2370	2500	95	90 - 110	P	12/10/2024	12:35	LB133866
	Potassium	24700	25000	99	90 - 110	P	12/10/2024	12:35	LB133866
	Selenium	4920	5000	98	90 - 110	P	12/10/2024	12:35	LB133866
	Silver	1210	1250	97	90 - 110	P	12/10/2024	12:35	LB133866
	Sodium	24700	25000	99	90 - 110	P	12/10/2024	12:35	LB133866
	Thallium	4940	5000	99	90 - 110	P	12/10/2024	12:35	LB133866
	Vanadium	2400	2500	96	90 - 110	P	12/10/2024	12:35	LB133866
	Zinc	2480	2500	99	90 - 110	P	12/10/2024	12:35	LB133866
CCV03	Aluminum	9960	10000	100	90 - 110	P	12/10/2024	13:26	LB133866
	Antimony	4980	5000	100	90 - 110	P	12/10/2024	13:26	LB133866
	Arsenic	4920	5000	98	90 - 110	P	12/10/2024	13:26	LB133866
	Barium	9640	10000	96	90 - 110	P	12/10/2024	13:26	LB133866
	Beryllium	238	250	95	90 - 110	P	12/10/2024	13:26	LB133866
	Cadmium	2410	2500	96	90 - 110	P	12/10/2024	13:26	LB133866
	Calcium	23800	25000	95	90 - 110	P	12/10/2024	13:26	LB133866
	Chromium	996	1000	100	90 - 110	P	12/10/2024	13:26	LB133866
	Cobalt	2420	2500	97	90 - 110	P	12/10/2024	13:26	LB133866
	Copper	1250	1250	100	90 - 110	P	12/10/2024	13:26	LB133866
	Iron	4810	5000	96	90 - 110	P	12/10/2024	13:26	LB133866
	Lead	4850	5000	97	90 - 110	P	12/10/2024	13:26	LB133866
	Magnesium	24000	25000	96	90 - 110	P	12/10/2024	13:26	LB133866
	Manganese	2320	2500	93	90 - 110	P	12/10/2024	13:26	LB133866
	Nickel	2420	2500	97	90 - 110	P	12/10/2024	13:26	LB133866
	Potassium	25000	25000	100	90 - 110	P	12/10/2024	13:26	LB133866
	Selenium	5000	5000	100	90 - 110	P	12/10/2024	13:26	LB133866
	Silver	1240	1250	99	90 - 110	P	12/10/2024	13:26	LB133866
	Sodium	24000	25000	96	90 - 110	P	12/10/2024	13:26	LB133866
	Thallium	4910	5000	98	90 - 110	P	12/10/2024	13:26	LB133866
	Vanadium	2430	2500	97	90 - 110	P	12/10/2024	13:26	LB133866
	Zinc	2520	2500	101	90 - 110	P	12/10/2024	13:26	LB133866
CCV04	Aluminum	9890	10000	99	90 - 110	P	12/10/2024	14:19	LB133866
	Antimony	5000	5000	100	90 - 110	P	12/10/2024	14:19	LB133866

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- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: R3M Engineering, Inc. SDG No.: P5093
Contract: RTHR01 Lab Code: CHEM Case No.: P5093 SAS No.: P5093
Initial Calibration Source: EPA
Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV04	Arsenic	4920	5000	98	90 - 110	P	12/10/2024	14:19	LB133866
	Barium	9760	10000	98	90 - 110	P	12/10/2024	14:19	LB133866
	Beryllium	242	250	97	90 - 110	P	12/10/2024	14:19	LB133866
	Cadmium	2410	2500	96	90 - 110	P	12/10/2024	14:19	LB133866
	Calcium	24000	25000	96	90 - 110	P	12/10/2024	14:19	LB133866
	Chromium	991	1000	99	90 - 110	P	12/10/2024	14:19	LB133866
	Cobalt	2420	2500	97	90 - 110	P	12/10/2024	14:19	LB133866
	Copper	1250	1250	100	90 - 110	P	12/10/2024	14:19	LB133866
	Iron	4800	5000	96	90 - 110	P	12/10/2024	14:19	LB133866
	Lead	4850	5000	97	90 - 110	P	12/10/2024	14:19	LB133866
	Magnesium	24000	25000	96	90 - 110	P	12/10/2024	14:19	LB133866
	Manganese	2360	2500	94	90 - 110	P	12/10/2024	14:19	LB133866
	Nickel	2420	2500	97	90 - 110	P	12/10/2024	14:19	LB133866
	Potassium	24900	25000	99	90 - 110	P	12/10/2024	14:19	LB133866
	Selenium	4980	5000	100	90 - 110	P	12/10/2024	14:19	LB133866
	Silver	1230	1250	99	90 - 110	P	12/10/2024	14:19	LB133866
	Sodium	24600	25000	98	90 - 110	P	12/10/2024	14:19	LB133866
	Thallium	4830	5000	97	90 - 110	P	12/10/2024	14:19	LB133866
	Vanadium	2450	2500	98	90 - 110	P	12/10/2024	14:19	LB133866
	Zinc	2510	2500	100	90 - 110	P	12/10/2024	14:19	LB133866