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LAB CHRONICLE

OrderID:	P4861	**OrderDate:**	11/14/2024 1:44:00 PM
Client:	AECOM	**Project:**	Meeker Ave Plumes Superfund Site RI FS
Contact:	Amit Haryani	**Location:**	L41

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P4861-01	**WC-11-A-202411**	**TCLP**			**11/13/24**			**11/14/24**
			TCLP ICP Metals	6010D		11/18/24	11/18/24	
			TCLP Mercury	7470A		11/19/24	11/19/24	

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Hit Summary Sheet
SW-846

SDG No.: P4861 **Order ID:** P4861

Client: AECOM **Project ID:** Meeker Ave Plumes Superfund Site RI FS

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : WC-11-A-202411								
P4861-01	WC-11-A-202411	TCLP	Chromium	23.7	J	6.60	50.0	ug/L

SAMPLE DATA

Alliance TECHNICAL GROUP
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Report of Analysis

Client:	AECOM	Date Collected:	11/13/24
Project:	Meeker Ave Plumes Superfund Site RI FS	Date Received:	11/14/24
Client Sample ID:	WC-11-A-202411	SDG No.:	P4861
Lab Sample ID:	P4861-01	Matrix:	TCLP
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-38-2	Arsenic	34.8	U	1	34.8	100	ug/L	11/18/24 11:00	11/18/24 17:27	SW6010	SW3050
7440-39-3	Barium	62.8	U	1	62.8	500	ug/L	11/18/24 11:00	11/18/24 17:27	SW6010	SW3050
7440-43-9	Cadmium	0.94	U	1	0.94	30.0	ug/L	11/18/24 11:00	11/18/24 17:27	SW6010	SW3050
7440-47-3	Chromium	23.7	J	1	6.60	50.0	ug/L	11/18/24 11:00	11/18/24 17:27	SW6010	SW3050
7439-92-1	Lead	35.1	U	1	35.1	60.0	ug/L	11/18/24 11:00	11/18/24 17:27	SW6010	SW3050
7439-97-6	Mercury	0.81	U	1	0.81	2.00	ug/L	11/19/24 07:53	11/19/24 12:40	SW7470A	
7782-49-2	Selenium	58.8	U	1	58.8	100	ug/L	11/18/24 11:00	11/18/24 17:27	SW6010	SW3050
7440-22-4	Silver	5.80	U	1	5.80	50.0	ug/L	11/18/24 11:00	11/18/24 17:27	SW6010	SW3050

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	TCLP METALS				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

METAL CALIBRATION DATA

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

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
ICV90	Mercury	3.62	4.0	90	90 - 110	CV	11/19/2024	11:19	LB133509

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

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
CCV05	Mercury	5.35	5.0	107	90 - 110	CV	11/19/2024	11:26	LB133509
CCV06	Mercury	5.23	5.0	104	90 - 110	CV	11/19/2024	11:53	LB133509
CCV07	Mercury	5.03	5.0	101	90 - 110	CV	11/19/2024	12:20	LB133509
CCV08	Mercury	5.06	5.0	101	90 - 110	CV	11/19/2024	13:10	LB133509
CCV09	Mercury	5.33	5.0	107	90 - 110	CV	11/19/2024	13:33	LB133509

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

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	Arsenic	1040	1000	104	90 - 110	P	11/18/2024	12:57	LB133502
	Barium	533	520	102	90 - 110	P	11/18/2024	12:57	LB133502
	Cadmium	523	510	103	90 - 110	P	11/18/2024	12:57	LB133502
	Chromium	554	520	107	90 - 110	P	11/18/2024	12:57	LB133502
	Lead	1030	1000	104	90 - 110	P	11/18/2024	12:57	LB133502
	Selenium	1070	1000	107	90 - 110	P	11/18/2024	12:57	LB133502
	Silver	264	250	106	90 - 110	P	11/18/2024	12:57	LB133502

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

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	Arsenic	18.9	20.0	94	80 - 120	P	11/18/2024	13:11	LB133502
	Barium	101	100	101	80 - 120	P	11/18/2024	13:11	LB133502
	Cadmium	6.99	6.0	116	80 - 120	P	11/18/2024	13:11	LB133502
	Chromium	10.5	10.0	105	80 - 120	P	11/18/2024	13:11	LB133502
	Lead	12.1	12.0	101	80 - 120	P	11/18/2024	13:11	LB133502
	Selenium	20.9	20.0	105	80 - 120	P	11/18/2024	13:11	LB133502
	Silver	10.8	10.0	108	80 - 120	P	11/18/2024	13:11	LB133502

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

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	Arsenic	4990	5000	100	90 - 110	P	11/18/2024	13:52	LB133502
	Barium	9590	10000	96	90 - 110	P	11/18/2024	13:52	LB133502
	Cadmium	2460	2500	98	90 - 110	P	11/18/2024	13:52	LB133502
	Chromium	1020	1000	102	90 - 110	P	11/18/2024	13:52	LB133502
	Lead	4930	5000	99	90 - 110	P	11/18/2024	13:52	LB133502
	Selenium	5110	5000	102	90 - 110	P	11/18/2024	13:52	LB133502
	Silver	1250	1250	100	90 - 110	P	11/18/2024	13:52	LB133502
CCV02	Arsenic	5030	5000	101	90 - 110	P	11/18/2024	14:31	LB133502
	Barium	9540	10000	95	90 - 110	P	11/18/2024	14:31	LB133502
	Cadmium	2490	2500	100	90 - 110	P	11/18/2024	14:31	LB133502
	Chromium	1030	1000	103	90 - 110	P	11/18/2024	14:31	LB133502
	Lead	4980	5000	100	90 - 110	P	11/18/2024	14:31	LB133502
	Selenium	5160	5000	103	90 - 110	P	11/18/2024	14:31	LB133502
	Silver	1260	1250	100	90 - 110	P	11/18/2024	14:31	LB133502
CCV03	Arsenic	5000	5000	100	90 - 110	P	11/18/2024	15:35	LB133502
	Barium	9430	10000	94	90 - 110	P	11/18/2024	15:35	LB133502
	Cadmium	2450	2500	98	90 - 110	P	11/18/2024	15:35	LB133502
	Chromium	1020	1000	102	90 - 110	P	11/18/2024	15:35	LB133502
	Lead	4910	5000	98	90 - 110	P	11/18/2024	15:35	LB133502
	Selenium	5130	5000	103	90 - 110	P	11/18/2024	15:35	LB133502
	Silver	1240	1250	100	90 - 110	P	11/18/2024	15:35	LB133502
CCV04	Arsenic	5020	5000	100	90 - 110	P	11/18/2024	16:25	LB133502
	Barium	9440	10000	94	90 - 110	P	11/18/2024	16:25	LB133502
	Cadmium	2460	2500	98	90 - 110	P	11/18/2024	16:25	LB133502
	Chromium	1030	1000	103	90 - 110	P	11/18/2024	16:25	LB133502
	Lead	4910	5000	98	90 - 110	P	11/18/2024	16:25	LB133502
	Selenium	5210	5000	104	90 - 110	P	11/18/2024	16:25	LB133502
	Silver	1260	1250	101	90 - 110	P	11/18/2024	16:25	LB133502
CCV05	Arsenic	5120	5000	102	90 - 110	P	11/18/2024	17:01	LB133502
	Barium	9720	10000	97	90 - 110	P	11/18/2024	17:01	LB133502
	Cadmium	2500	2500	100	90 - 110	P	11/18/2024	17:01	LB133502
	Chromium	1040	1000	104	90 - 110	P	11/18/2024	17:01	LB133502
	Lead	5000	5000	100	90 - 110	P	11/18/2024	17:01	LB133502
	Selenium	5040	5000	101	90 - 110	P	11/18/2024	17:01	LB133502

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

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
CCV05	Silver	1280	1250	102	90 - 110	P	11/18/2024	17:01	LB133502
CCV06	Arsenic	5080	5000	102	90 - 110	P	11/18/2024	18:04	LB133502
	Barium	9550	10000	96	90 - 110	P	11/18/2024	18:04	LB133502
	Cadmium	2490	2500	100	90 - 110	P	11/18/2024	18:04	LB133502
	Chromium	1040	1000	104	90 - 110	P	11/18/2024	18:04	LB133502
	Lead	4980	5000	100	90 - 110	P	11/18/2024	18:04	LB133502
	Selenium	4980	5000	100	90 - 110	P	11/18/2024	18:04	LB133502
	Silver	1270	1250	102	90 - 110	P	11/18/2024	18:04	LB133502
CCV07	Arsenic	5290	5000	106	90 - 110	P	11/18/2024	18:54	LB133502
	Barium	9680	10000	97	90 - 110	P	11/18/2024	18:54	LB133502
	Cadmium	2570	2500	103	90 - 110	P	11/18/2024	18:54	LB133502
	Chromium	1070	1000	107	90 - 110	P	11/18/2024	18:54	LB133502
	Lead	5140	5000	103	90 - 110	P	11/18/2024	18:54	LB133502
	Selenium	5260	5000	105	90 - 110	P	11/18/2024	18:54	LB133502
	Silver	1300	1250	104	90 - 110	P	11/18/2024	18:54	LB133502

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

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	Arsenic	1020	1000	102	90 - 110	P	11/19/2024	11:25	LB133524
	Barium	542	520	104	90 - 110	P	11/19/2024	11:25	LB133524
	Cadmium	526	510	103	90 - 110	P	11/19/2024	11:25	LB133524
	Chromium	551	520	106	90 - 110	P	11/19/2024	11:25	LB133524
	Lead	1040	1000	104	90 - 110	P	11/19/2024	11:25	LB133524
	Selenium	1040	1000	104	90 - 110	P	11/19/2024	11:25	LB133524
	Silver	261	250	105	90 - 110	P	11/19/2024	11:25	LB133524

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

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	Arsenic	20.5	20.0	102	80 - 120	P	11/19/2024	11:34	LB133524
	Barium	104	100	104	80 - 120	P	11/19/2024	11:34	LB133524
	Cadmium	5.89	6.0	98	80 - 120	P	11/19/2024	11:34	LB133524
	Chromium	10.7	10.0	107	80 - 120	P	11/19/2024	11:34	LB133524
	Lead	12.4	12.0	103	80 - 120	P	11/19/2024	11:34	LB133524
	Selenium	20.6	20.0	103	80 - 120	P	11/19/2024	11:34	LB133524
	Silver	10.1	10.0	101	80 - 120	P	11/19/2024	11:34	LB133524

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

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	Arsenic	4970	5000	99	90 - 110	P	11/19/2024	12:43	LB133524
	Barium	10000	10000	100	90 - 110	P	11/19/2024	12:43	LB133524
	Cadmium	2490	2500	100	90 - 110	P	11/19/2024	12:43	LB133524
	Chromium	996	1000	100	90 - 110	P	11/19/2024	12:43	LB133524
	Lead	4990	5000	100	90 - 110	P	11/19/2024	12:43	LB133524
	Selenium	4950	5000	99	90 - 110	P	11/19/2024	12:43	LB133524
	Silver	1230	1250	98	90 - 110	P	11/19/2024	12:43	LB133524
CCV02	Arsenic	5320	5000	106	90 - 110	P	11/19/2024	13:34	LB133524
	Barium	10300	10000	103	90 - 110	P	11/19/2024	13:34	LB133524
	Cadmium	2610	2500	104	90 - 110	P	11/19/2024	13:34	LB133524
	Chromium	1070	1000	107	90 - 110	P	11/19/2024	13:34	LB133524
	Lead	5240	5000	105	90 - 110	P	11/19/2024	13:34	LB133524
	Selenium	5340	5000	107	90 - 110	P	11/19/2024	13:34	LB133524
	Silver	1320	1250	106	90 - 110	P	11/19/2024	13:34	LB133524
CCV03	Arsenic	5110	5000	102	90 - 110	P	11/19/2024	14:24	LB133524
	Barium	10300	10000	102	90 - 110	P	11/19/2024	14:24	LB133524
	Cadmium	2590	2500	104	90 - 110	P	11/19/2024	14:24	LB133524
	Chromium	1040	1000	104	90 - 110	P	11/19/2024	14:24	LB133524
	Lead	5200	5000	104	90 - 110	P	11/19/2024	14:24	LB133524
	Selenium	5080	5000	102	90 - 110	P	11/19/2024	14:24	LB133524
	Silver	1280	1250	102	90 - 110	P	11/19/2024	14:24	LB133524
CCV04	Arsenic	5260	5000	105	90 - 110	P	11/19/2024	15:31	LB133524
	Barium	10500	10000	105	90 - 110	P	11/19/2024	15:31	LB133524
	Cadmium	2610	2500	104	90 - 110	P	11/19/2024	15:31	LB133524
	Chromium	1050	1000	105	90 - 110	P	11/19/2024	15:31	LB133524
	Lead	5230	5000	105	90 - 110	P	11/19/2024	15:31	LB133524
	Selenium	5280	5000	106	90 - 110	P	11/19/2024	15:31	LB133524
	Silver	1290	1250	103	90 - 110	P	11/19/2024	15:31	LB133524
CCV05	Arsenic	5210	5000	104	90 - 110	P	11/19/2024	16:18	LB133524
	Barium	10300	10000	103	90 - 110	P	11/19/2024	16:18	LB133524
	Cadmium	2580	2500	103	90 - 110	P	11/19/2024	16:18	LB133524
	Chromium	1050	1000	105	90 - 110	P	11/19/2024	16:18	LB133524
	Lead	5170	5000	104	90 - 110	P	11/19/2024	16:18	LB133524
	Selenium	5240	5000	105	90 - 110	P	11/19/2024	16:18	LB133524

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

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
CCV05	Silver	1290	1250	103	90 - 110	P	11/19/2024	16:18	LB133524
CCV06	Arsenic	5270	5000	105	90 - 110	P	11/19/2024	17:19	LB133524
	Barium	10400	10000	104	90 - 110	P	11/19/2024	17:19	LB133524
	Cadmium	2610	2500	104	90 - 110	P	11/19/2024	17:19	LB133524
	Chromium	1060	1000	106	90 - 110	P	11/19/2024	17:19	LB133524
	Lead	5240	5000	105	90 - 110	P	11/19/2024	17:19	LB133524
	Selenium	5310	5000	106	90 - 110	P	11/19/2024	17:19	LB133524
	Silver	1310	1250	105	90 - 110	P	11/19/2024	17:19	LB133524
CCV07	Arsenic	5070	5000	101	90 - 110	P	11/19/2024	18:01	LB133524
	Barium	10600	10000	106	90 - 110	P	11/19/2024	18:01	LB133524
	Cadmium	2490	2500	99	90 - 110	P	11/19/2024	18:01	LB133524
	Chromium	1020	1000	102	90 - 110	P	11/19/2024	18:01	LB133524
	Lead	5020	5000	100	90 - 110	P	11/19/2024	18:01	LB133524
	Selenium	5100	5000	102	90 - 110	P	11/19/2024	18:01	LB133524
	Silver	1270	1250	101	90 - 110	P	11/19/2024	18:01	LB133524

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Metals

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CRDL STANDARD FOR AA & ICP

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Initial Calibration Source:

Continuing Calibration Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRI01	Arsenic	19.8	20.0	99	40 - 160	P	11/18/2024	13:20	LB133502
	Barium	98.9	100	99	40 - 160	P	11/18/2024	13:20	LB133502
	Cadmium	7.02	6.0	117	40 - 160	P	11/18/2024	13:20	LB133502
	Chromium	10.5	10.0	105	40 - 160	P	11/18/2024	13:20	LB133502
	Lead	11.7	12.0	97	40 - 160	P	11/18/2024	13:20	LB133502
	Selenium	21.8	20.0	109	40 - 160	P	11/18/2024	13:20	LB133502
	Silver	11.0	10.0	110	40 - 160	P	11/18/2024	13:20	LB133502
CRA	Mercury	0.17	0.2	87	40 - 160	CV	11/19/2024	11:30	LB133509
CRI01	Arsenic	19.4	20.0	97	40 - 160	P	11/19/2024	11:43	LB133524
	Barium	105	100	105	40 - 160	P	11/19/2024	11:43	LB133524
	Cadmium	5.78	6.0	96	40 - 160	P	11/19/2024	11:43	LB133524
	Chromium	10.2	10.0	102	40 - 160	P	11/19/2024	11:43	LB133524
	Lead	12.1	12.0	101	40 - 160	P	11/19/2024	11:43	LB133524
	Selenium	18.1	20.0	90	40 - 160	P	11/19/2024	11:43	LB133524
	Silver	10.1	10.0	101	40 - 160	P	11/19/2024	11:43	LB133524

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB90	Mercury	0.20	+/-0.20	U	0.20	CV	11/19/2024	11:21	LB133509

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB05	Mercury	0.20	+/-0.20	U	0.20	CV	11/19/2024	11:28	LB133509
CCB06	Mercury	0.20	+/-0.20	U	0.20	CV	11/19/2024	11:55	LB133509
CCB07	Mercury	0.20	+/-0.20	U	0.20	CV	11/19/2024	12:23	LB133509
CCB08	Mercury	0.20	+/-0.20	U	0.20	CV	11/19/2024	13:12	LB133509
CCB09	Mercury	0.20	+/-0.20	U	0.20	CV	11/19/2024	13:35	LB133509

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	13:15	LB133502
	Barium	100	+/-100	U	100	P	11/18/2024	13:15	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	13:15	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	13:15	LB133502
	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	13:15	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	13:15	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	13:15	LB133502

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	14:02	LB133502
	Barium	100	+/-100	U	100	P	11/18/2024	14:02	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	14:02	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	14:02	LB133502
	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	14:02	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	14:02	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	14:02	LB133502
CCB02	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	14:35	LB133502
	Barium	18.0	+/-100	J	100	P	11/18/2024	14:35	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	14:35	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	14:35	LB133502
	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	14:35	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	14:35	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	14:35	LB133502
CCB03	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	15:39	LB133502
	Barium	100	+/-100	U	100	P	11/18/2024	15:39	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	15:39	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	15:39	LB133502
	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	15:39	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	15:39	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	15:39	LB133502
CCB04	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	16:29	LB133502
	Barium	100	+/-100	U	100	P	11/18/2024	16:29	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	16:29	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	16:29	LB133502
	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	16:29	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	16:29	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	16:29	LB133502
CCB05	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	17:06	LB133502
	Barium	100	+/-100	U	100	P	11/18/2024	17:06	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	17:06	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	17:06	LB133502
	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	17:06	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	17:06	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	17:06	LB133502
CCB06	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	18:08	LB133502
	Barium	100	+/-100	U	100	P	11/18/2024	18:08	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	18:08	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	18:08	LB133502

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	18:08	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	18:08	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	18:08	LB133502
CCB07	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	18:58	LB133502
	Barium	100	+/-100	U	100	P	11/18/2024	18:58	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	18:58	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	18:58	LB133502
	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	18:58	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	18:58	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	18:58	LB133502

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	11:38	LB133524
	Barium	100	+/-100	U	100	P	11/19/2024	11:38	LB133524
	Cadmium	6.00	+/-6.00	U	6.00	P	11/19/2024	11:38	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	11:38	LB133524
	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	11:38	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	11:38	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	11:38	LB133524

Alliance TECHNICAL GROUP
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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	12:48	LB133524
	Barium	100	+/-100	U	100	P	11/19/2024	12:48	LB133524
	Cadmium	6.00	+/-6.00	U	6.00	P	11/19/2024	12:48	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	12:48	LB133524
	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	12:48	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	12:48	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	12:48	LB133524
CCB02	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	13:38	LB133524
	Barium	100	+/-100	U	100	P	11/19/2024	13:38	LB133524
	Cadmium	6.00	+/-6.00	U	6.00	P	11/19/2024	13:38	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	13:38	LB133524
	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	13:38	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	13:38	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	13:38	LB133524
CCB03	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	14:28	LB133524
	Barium	100	+/-100	U	100	P	11/19/2024	14:28	LB133524
	Cadmium	6.00	+/-6.00	U	6.00	P	11/19/2024	14:28	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	14:28	LB133524
	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	14:28	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	14:28	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	14:28	LB133524
CCB04	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	15:36	LB133524
	Barium	100	+/-100	U	100	P	11/19/2024	15:36	LB133524
	Cadmium	6.00	+/-6.00	U	6.00	P	11/19/2024	15:36	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	15:36	LB133524
	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	15:36	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	15:36	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	15:36	LB133524
CCB05	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	16:22	LB133524
	Barium	100	+/-100	U	100	P	11/19/2024	16:22	LB133524
	Cadmium	6.00	+/-6.00	U	6.00	P	11/19/2024	16:22	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	16:22	LB133524
	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	16:22	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	16:22	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	16:22	LB133524
CCB06	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	17:24	LB133524
	Barium	22.0	+/-100	J	100	P	11/19/2024	17:24	LB133524
	Cadmium	6.00	+/-6.00	U	6.00	P	11/19/2024	17:24	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	17:24	LB133524

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	17:24	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	17:24	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	17:24	LB133524
CCB07	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	18:05	LB133524
	Barium	25.8	+/-100	J	100	P	11/19/2024	18:05	LB133524
	Cadmium	0.62	+/-6.00	J	6.00	P	11/19/2024	18:05	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	18:05	LB133524
	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	18:05	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	18:05	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	18:05	LB133524

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Metals
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PREPARATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB165019TB		**WATER**		**Batch Number:**	**PB165080**		**Prep Date:**	**11/19/2024**	
	Mercury	2.00	<2.00	U	2.00	CV	11/19/2024	13:21	LB133509

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB165080BL		**WATER**		**Batch Number:**	**PB165080**		**Prep Date:**	**11/19/2024**	
	Mercury	0.20	<0.20	U	0.20	CV	11/19/2024	12:29	LB133509

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Metals
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PREPARATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB165019TB		**WATER**		**Batch Number:**	**PB165049**		**Prep Date:**	**11/18/2024**	
	Arsenic	100	<100	U	100	P	11/19/2024	15:00	LB133524
	Barium	500	<500	U	500	P	11/19/2024	15:00	LB133524
	Cadmium	30.0	<30.0	U	30.0	P	11/19/2024	15:00	LB133524
	Chromium	38.4	<50.0	J	50.0	P	11/19/2024	15:00	LB133524
	Lead	60.0	<60.0	U	60.0	P	11/19/2024	15:00	LB133524
	Selenium	100	<100	U	100	P	11/19/2024	15:00	LB133524
	Silver	50.0	<50.0	U	50.0	P	11/19/2024	15:00	LB133524

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB165049BL		**WATER**		**Batch Number:**	**PB165049**		**Prep Date:**	**11/18/2024**	
	Arsenic	100	<100	U	100	P	11/19/2024	15:44	LB133524
	Barium	500	<500	U	500	P	11/19/2024	15:44	LB133524
	Cadmium	30.0	<30.0	U	30.0	P	11/19/2024	15:44	LB133524
	Chromium	50.0	<50.0	U	50.0	P	11/19/2024	15:44	LB133524
	Lead	60.0	<60.0	U	60.0	P	11/19/2024	15:44	LB133524
	Selenium	100	<100	U	100	P	11/19/2024	15:44	LB133524
	Silver	50.0	<50.0	U	50.0	P	11/19/2024	15:44	LB133524

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Metals
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INTERFERENCE CHECK SAMPLE

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

ICS Source: EPA **Instrument ID:** P4

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Arsenic	6.18			-20	20	11/18/2024	13:30	LB133502
	Barium	2.50	6.0	42	-94	106	11/18/2024	13:30	LB133502
	Cadmium	4.50	1.0	450	-5	7	11/18/2024	13:30	LB133502
	Chromium	56.3	52.0	108	42	62	11/18/2024	13:30	LB133502
	Lead	8.39			-12	12	11/18/2024	13:30	LB133502
	Selenium	-16.2			-20	20	11/18/2024	13:30	LB133502
	Silver	-0.11			-10	10	11/18/2024	13:30	LB133502
ICSAB01	Arsenic	116	104	112	88.4	120	11/18/2024	13:42	LB133502
	Barium	493	537	92	437	637	11/18/2024	13:42	LB133502
	Cadmium	1020	972	105	826	1120	11/18/2024	13:42	LB133502
	Chromium	579	542	107	460	624	11/18/2024	13:42	LB133502
	Lead	57.7	49.0	118	37	61	11/18/2024	13:42	LB133502
	Selenium	32.7	46.0	71	26	66	11/18/2024	13:42	LB133502
	Silver	202	201	100	170	232	11/18/2024	13:42	LB133502
ICSA01	Arsenic	3.30			-20	20	11/19/2024	11:47	LB133524
	Barium	5.39	6.0	90	-94	106	11/19/2024	11:47	LB133524
	Cadmium	3.48	1.0	348	-5	7	11/19/2024	11:47	LB133524
	Chromium	57.2	52.0	110	42	62	11/19/2024	11:47	LB133524
	Lead	8.06			-12	12	11/19/2024	11:47	LB133524
	Selenium	-17.4			-20	20	11/19/2024	11:47	LB133524
	Silver	-0.45			-10	10	11/19/2024	11:47	LB133524
ICSAB01	Arsenic	116	104	112	88.4	120	11/19/2024	11:51	LB133524
	Barium	525	537	98	437	637	11/19/2024	11:51	LB133524
	Cadmium	832	972	86	826	1120	11/19/2024	11:51	LB133524
	Chromium	571	542	105	460	624	11/19/2024	11:51	LB133524
	Lead	57.8	49.0	118	37	61	11/19/2024	11:51	LB133524
	Selenium	31.5	46.0	68	26	66	11/19/2024	11:51	LB133524
	Silver	201	201	100	170	232	11/19/2024	11:51	LB133524

METAL QC DATA

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metals
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MATRIX SPIKE SUMMARY

client: AECOM **level:** low **sdg no.:** P4861

contract: AECO02 **lab code:** CHEM **case no.:** P4861 **sas no.:** P4861

matrix: Water **sample id:** P4861-01 **client id:** WC-11-A-202411MS

Percent Solids for Sample: NA **Spiked ID:** P4861-01MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	ug/L	75 - 125	3960		100	U	4000	99		P
Barium	ug/L	75 - 125	1010		500	U	1000	101		P
Cadmium	ug/L	75 - 125	939		30.0	U	1000	94		P
Chromium	ug/L	75 - 125	2080		23.7	J	2000	103		P
Lead	ug/L	75 - 125	4570		60.0	U	5000	91		P
Mercury	ug/L	75 - 125	44.7		2.00	U	40.0	112		CV
Selenium	ug/L	75 - 125	9400		100	U	10000	94		P
Silver	ug/L	75 - 125	355		50.0	U	380	93		P

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metals
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MATRIX SPIKE DUPLICATE SUMMARY

client: AECOM **level:** low **sdg no.:** P4861

contract: AECO02 **lab code:** CHEM **case no.:** P4861 **sas no.:** P4861

matrix: Water **sample id:** P4861-01 **client id:** WC-11-A-202411MSD

Percent Solids for Sample: NA **Spiked ID:** P4861-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	ug/L	75 - 125	3910		100	U	4000	98		P
Barium	ug/L	75 - 125	991		500	U	1000	99		P
Cadmium	ug/L	75 - 125	929		30.0	U	1000	93		P
Chromium	ug/L	75 - 125	2060		23.7	J	2000	102		P
Lead	ug/L	75 - 125	4520		60.0	U	5000	90		P
Mercury	ug/L	75 - 125	44.3		2.00	U	40.0	111		CV
Selenium	ug/L	75 - 125	9290		100	U	10000	93		P
Silver	ug/L	75 - 125	355		50.0	U	380	93		P

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Metals
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Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Matrix: **Level:** LOW **Client ID:**

Sample ID: **Spiked ID:**

Analyte	Units	Acceptance Limit %R	C	Sample Result	C	Spike Added	% Recovery	Qual	M

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: AECOM **Level:** LOW **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Matrix: Water **Sample ID:** P4861-01 **Client ID:** WC-11-A-202411DUP

Percent Solids for Sample: NA **Duplicate ID** P4861-01DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	ug/L	20	100	U	100	U			P
Barium	ug/L	20	500	U	500	U			P
Cadmium	ug/L	20	30.0	U	30.0	U			P
Chromium	ug/L	20	23.7	J	24.0	J	1		P
Lead	ug/L	20	60.0	U	60.0	U			P
Mercury	ug/L	20	2.00	U	2.00	U			CV
Selenium	ug/L	20	100	U	100	U			P
Silver	ug/L	20	50.0	U	50.0	U			P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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DUPLICATE SAMPLE SUMMARY

Client: AECOM **Level:** LOW **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Matrix: Water **Sample ID:** P4861-01MS **Client ID:** WC-11-A-202411MSD

Percent Solids for Sample: NA **Duplicate ID** P4861-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	ug/L	20	3960		3910		1		P
Barium	ug/L	20	1010		991		2		P
Cadmium	ug/L	20	939		929		1		P
Chromium	ug/L	20	2080		2060		1		P
Lead	ug/L	20	4570		4520		1		P
Mercury	ug/L	20	44.7		44.3		1		CV
Selenium	ug/L	20	9400		9290		1		P
Silver	ug/L	20	355		355		0		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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LABORATORY CONTROL SAMPLE SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB165049BS							
Arsenic	ug/L	4000	4010		100	80 - 120	P
Barium	ug/L	1000	1070		107	80 - 120	P
Cadmium	ug/L	1000	1020		102	80 - 120	P
Chromium	ug/L	2000	2120		106	80 - 120	P
Lead	ug/L	5000	5120		102	80 - 120	P
Selenium	ug/L	10000	10100		101	80 - 120	P
Silver	ug/L	380	390		103	80 - 120	P

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LABORATORY CONTROL SAMPLE SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB165080BS							
Mercury	ug/L	4.0	3.49		87	80 - 120	CV

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ICP SERIAL DILUTIONS

SAMPLE NO.

WC-11-A-202411L

Lab Name: Chemtech Consulting Group **Contract:** AECO02

Lab Code: CHEM **Lb No.:** lb133502 **Lab Sample ID :** P4861-01L **SDG No.:** P4861

Matrix (soil/water): Water **Level (low/med):** LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Arsenic	100	U	500	U			P
Barium	500	U	2500	U			P
Cadmium	30.0	U	150	U			P
Chromium	23.7	J	250	U	100.0		P
Lead	60.0	U	300	U			P
Mercury	2.00	U	10.0	U			CV
Selenium	100	U	500	U			P
Silver	50.0	U	250	U			P

METAL PREPARATION & INSTRUMENT DATA

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ICP INTERELEMENT CORRECTION FACTORS

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Al	Ca	Fe	Mg	Ag
Arsenic	193.759	0.0000000	0.0000000	-0.0000440	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000930	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0000920	0.0000000	0.0000380	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	-0.0001440	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	-0.0001490	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: As	Ba	Be	Cd	Co
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0002870
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0003170	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	-0.0003570
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Cr	Cu	K	Mn	Mo
Arsenic	193.759	-0.0029000	0.0000000	0.0000000	0.0000000	0.0004900
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000070	0.0002200	0.0000000
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0001400	-0.0008600
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0007460	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000120

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ICP INTERELEMENT CORRECTION FACTORS

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Na	Ni	Pb	Sb	Se
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0006580	0.0000000	0.0000000	0.0001290
Selenium	196.090	0.0000000	0.0000000	0.0003330	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Sn	Ti	Tl	V	Zn
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000630	0.0001280	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0001110	0.0000000
Lead	220.353	0.0000000	-0.0003610	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	-0.0007420	0.0000000	0.0000000	0.0000000

METAL PREPARATION & ANALYICAL SUMMARY

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SAMPLE PREPARATION SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Method:**

Case No.: P4861 **SAS No.:** P4861

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB165049**						
P4861-01	WC-11-A-202411	SAM	WATER	11/18/2024	5.0	25.0	
P4861-01DUP	WC-11-A-202411DUP	DUP	WATER	11/18/2024	5.0	25.0	
P4861-01MS	WC-11-A-202411MS	MS	WATER	11/18/2024	5.0	25.0	
P4861-01MSD	WC-11-A-202411MSD	MSD	WATER	11/18/2024	5.0	25.0	
PB165019TB	PB165019TB	MB	WATER	11/18/2024	5.0	25.0	
PB165049BL	PB165049BL	MB	WATER	11/18/2024	5.0	25.0	
PB165049BS	PB165049BS	LCS	WATER	11/18/2024	5.0	25.0	

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SAMPLE PREPARATION SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Method:**

Case No.: P4861 **SAS No.:** P4861

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB165080**						
P4861-01	WC-11-A-202411	SAM	WATER	11/19/2024	3.0	30.0	
P4861-01DUP	WC-11-A-202411DUP	DUP	WATER	11/19/2024	3.0	30.0	
P4861-01MS	WC-11-A-202411MS	MS	WATER	11/19/2024	3.0	30.0	
P4861-01MSD	WC-11-A-202411MSD	MSD	WATER	11/19/2024	3.0	30.0	
PB165019TB	PB165019TB	MB	WATER	11/19/2024	3.0	30.0	
PB165080BL	PB165080BL	MB	WATER	11/19/2024	30.0	30.0	
PB165080BS	PB165080BS	LCS	WATER	11/19/2024	30.0	30.0	

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ANALYSIS RUN LOG

Client: AECOM **Contract:** AECO02

Lab code: CHEM **Case no.:** P4861 **Sas no.:** P4861 **Sdg no.:** P4861

Instrument id number: **Method:** **Run number:** LB133502

Start date: 11/18/2024 **End date:** 11/18/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1231	Ag,As,Ba,Cd,Cr,Pb,Se
S1	S1	1	1236	Ag,As,Ba,Cd,Cr,Pb,Se
S2	S2	1	1240	Ag,As,Ba,Cd,Cr,Pb,Se
S3	S3	1	1244	Ag,As,Ba,Cd,Cr,Pb,Se
S4	S4	1	1249	Ag,As,Ba,Cd,Cr,Pb,Se
S5	S5	1	1253	Ag,As,Ba,Cd,Cr,Pb,Se
ICV01	ICV01	1	1257	Ag,As,Ba,Cd,Cr,Pb,Se
LLICV01	LLICV01	1	1311	Ag,As,Ba,Cd,Cr,Pb,Se
ICB01	ICB01	1	1315	Ag,As,Ba,Cd,Cr,Pb,Se
CRI01	CRI01	1	1320	Ag,As,Ba,Cd,Cr,Pb,Se
ICSA01	ICSA01	1	1330	Ag,As,Ba,Cd,Cr,Pb,Se
ICSAB01	ICSAB01	1	1342	Ag,As,Ba,Cd,Cr,Pb,Se
CCV01	CCV01	1	1352	Ag,As,Ba,Cd,Cr,Pb,Se
CCB01	CCB01	1	1402	Ag,As,Ba,Cd,Cr,Pb,Se
CCV02	CCV02	1	1431	Ag,As,Ba,Cd,Cr,Pb,Se
CCB02	CCB02	1	1435	Ag,As,Ba,Cd,Cr,Pb,Se
CCV03	CCV03	1	1535	Ag,As,Ba,Cd,Cr,Pb,Se
CCB03	CCB03	1	1539	Ag,As,Ba,Cd,Cr,Pb,Se
CCV04	CCV04	1	1625	Ag,As,Ba,Cd,Cr,Pb,Se
CCB04	CCB04	1	1629	Ag,As,Ba,Cd,Cr,Pb,Se
CCV05	CCV05	1	1701	Ag,As,Ba,Cd,Cr,Pb,Se
CCB05	CCB05	1	1706	Ag,As,Ba,Cd,Cr,Pb,Se
P4861-01	WC-11-A-202411	1	1727	Ag,As,Ba,Cd,Cr,Pb,Se
P4861-01DUP	WC-11-A-202411DUP	1	1731	Ag,As,Ba,Cd,Cr,Pb,Se
P4861-01L	WC-11-A-202411L	5	1735	Ag,As,Ba,Cd,Cr,Pb,Se
P4861-01MS	WC-11-A-202411MS	1	1740	Ag,As,Ba,Cd,Cr,Pb,Se
P4861-01MSD	WC-11-A-202411MSD	1	1744	Ag,As,Ba,Cd,Cr,Pb,Se
CCV06	CCV06	1	1804	Ag,As,Ba,Cd,Cr,Pb,Se
CCB06	CCB06	1	1808	Ag,As,Ba,Cd,Cr,Pb,Se
CCV07	CCV07	1	1854	Ag,As,Ba,Cd,Cr,Pb,Se
CCB07	CCB07	1	1858	Ag,As,Ba,Cd,Cr,Pb,Se

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ANALYSIS RUN LOG

Client: AECOM **Contract:** AECO02

Lab code: CHEM **Case no.:** P4861 **Sas no.:** P4861 **Sdg no.:** P4861

Instrument id number: **Method:** **Run number:** LB133509

Start date: 11/19/2024 **End date:** 11/19/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1105	HG
S0.2	S0.2	1	1107	HG
S2.5	S2.5	1	1109	HG
S5	S5	1	1111	HG
S7.5	S7.5	1	1114	HG
S10	S10	1	1116	HG
ICV90	ICV90	1	1119	HG
ICB90	ICB90	1	1121	HG
CCV05	CCV05	1	1126	HG
CCB05	CCB05	1	1128	HG
CRA	CRA	1	1130	HG
CCV06	CCV06	1	1153	HG
CCB06	CCB06	1	1155	HG
CCV07	CCV07	1	1220	HG
CCB07	CCB07	1	1223	HG
PB165080BL	PB165080BL	1	1229	HG
PB165080BS	PB165080BS	1	1238	HG
P4861-01	WC-11-A-202411	1	1240	HG
P4861-01DUP	WC-11-A-202411DUP	1	1243	HG
P4861-01MS	WC-11-A-202411MS	1	1301	HG
P4861-01MSD	WC-11-A-202411MSD	1	1303	HG
CCV08	CCV08	1	1310	HG
CCB08	CCB08	1	1312	HG
PB165019TB	PB165019TB	1	1321	HG
P4861-01L	WC-11-A-202411L	5	1328	HG
CCV09	CCV09	1	1333	HG
CCB09	CCB09	1	1335	HG

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ANALYSIS RUN LOG

Client: AECOM **Contract:** AECO02

Lab code: CHEM **Case no.:** P4861 **Sas no.:** P4861 **Sdg no.:** P4861

Instrument id number: **Method:** **Run number:** LB133524

Start date: 11/19/2024 **End date:** 11/19/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1055	Ag,As,Ba,Cd,Cr,Pb,Se
S1	S1	1	1100	Ag,As,Ba,Cd,Cr,Pb,Se
S2	S2	1	1104	Ag,As,Ba,Cd,Cr,Pb,Se
S3	S3	1	1108	Ag,As,Ba,Cd,Cr,Pb,Se
S4	S4	1	1113	Ag,As,Ba,Cd,Cr,Pb,Se
S5	S5	1	1117	Ag,As,Ba,Cd,Cr,Pb,Se
ICV01	ICV01	1	1125	Ag,As,Ba,Cd,Cr,Pb,Se
LLICV01	LLICV01	1	1134	Ag,As,Ba,Cd,Cr,Pb,Se
ICB01	ICB01	1	1138	Ag,As,Ba,Cd,Cr,Pb,Se
CRI01	CRI01	1	1143	Ag,As,Ba,Cd,Cr,Pb,Se
ICSA01	ICSA01	1	1147	Ag,As,Ba,Cd,Cr,Pb,Se
ICSAB01	ICSAB01	1	1151	Ag,As,Ba,Cd,Cr,Pb,Se
CCV01	CCV01	1	1243	Ag,As,Ba,Cd,Cr,Pb,Se
CCB01	CCB01	1	1248	Ag,As,Ba,Cd,Cr,Pb,Se
CCV02	CCV02	1	1334	Ag,As,Ba,Cd,Cr,Pb,Se
CCB02	CCB02	1	1338	Ag,As,Ba,Cd,Cr,Pb,Se
CCV03	CCV03	1	1424	Ag,As,Ba,Cd,Cr,Pb,Se
CCB03	CCB03	1	1428	Ag,As,Ba,Cd,Cr,Pb,Se
PB165019TB	PB165019TB	1	1500	Ag,As,Ba,Cd,Cr,Pb,Se
CCV04	CCV04	1	1531	Ag,As,Ba,Cd,Cr,Pb,Se
CCB04	CCB04	1	1536	Ag,As,Ba,Cd,Cr,Pb,Se
PB165049BL	PB165049BL	1	1544	Ag,As,Ba,Cd,Cr,Pb,Se
PB165049BS	PB165049BS	1	1549	Ag,As,Ba,Cd,Cr,Pb,Se
CCV05	CCV05	1	1618	Ag,As,Ba,Cd,Cr,Pb,Se
CCB05	CCB05	1	1622	Ag,As,Ba,Cd,Cr,Pb,Se
CCV06	CCV06	1	1719	Ag,As,Ba,Cd,Cr,Pb,Se
CCB06	CCB06	1	1724	Ag,As,Ba,Cd,Cr,Pb,Se
CCV07	CCV07	1	1801	Ag,As,Ba,Cd,Cr,Pb,Se
CCB07	CCB07	1	1805	Ag,As,Ba,Cd,Cr,Pb,Se