

LAB CHRONICLE

OrderID:	P3451	OrderDate:	8/1/2024 4:38:00 PM
Client:	JACOBS Engineering Group, Inc.	Project:	Former Schlumberger Site Princeton NJ
Contact:	Mary I. Murphy	Location:	D31,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P3451-01	921-J-WS-080124	Water			08/01/24			08/01/24
			Mercury	7470A		08/12/24	08/13/24	
			Metals Group4	6020B		08/23/24	08/25/24	



284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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Hit Summary Sheet SW-846

SDG No.: P3451

Order ID: P3451

Client: JACOBS Engineering Group, Inc.

Project ID: Former Schlumberger Site Princeton NJ

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : 921-J-WS-080124								
P3451-01	921-J-WS-080124	Water	Aluminum	151		1.98	20.0	ug/L
P3451-01	921-J-WS-080124	Water	Antimony	0.23	J	0.11	2.00	ug/L
P3451-01	921-J-WS-080124	Water	Arsenic	2.11		0.090	1.00	ug/L
P3451-01	921-J-WS-080124	Water	Barium	48.7		0.30	10.0	ug/L
P3451-01	921-J-WS-080124	Water	Calcium	14700		62.5	500	ug/L
P3451-01	921-J-WS-080124	Water	Cobalt	0.46	J	0.062	1.00	ug/L
P3451-01	921-J-WS-080124	Water	Copper	2.72		0.40	2.00	ug/L
P3451-01	921-J-WS-080124	Water	Iron	3270		9.60	50.0	ug/L
P3451-01	921-J-WS-080124	Water	Lead	2.52		0.11	1.00	ug/L
P3451-01	921-J-WS-080124	Water	Magnesium	2500		26.6	500	ug/L
P3451-01	921-J-WS-080124	Water	Manganese	352		0.24	1.00	ug/L
P3451-01	921-J-WS-080124	Water	Nickel	0.67	J	0.18	1.00	ug/L
P3451-01	921-J-WS-080124	Water	Potassium	2540		46.1	500	ug/L
P3451-01	921-J-WS-080124	Water	Sodium	51300		85.8	500	ug/L
P3451-01	921-J-WS-080124	Water	Vanadium	1.61	J	0.072	5.00	ug/L
P3451-01	921-J-WS-080124	Water	Zinc	7.82		0.56	5.00	ug/L



SAMPLE DATA

Report of Analysis

Client:	JACOBS Engineering Group, Inc.	Date Collected:	08/01/24
Project:	Former Schlumberger Site Princeton NJ	Date Received:	08/01/24
Client Sample ID:	921-J-WS-080124	SDG No.:	P3451
Lab Sample ID:	P3451-01	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	151		1	1.98	20.0	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7440-36-0	Antimony	0.23	J	1	0.11	2.00	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7440-38-2	Arsenic	2.11		1	0.090	1.00	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7440-39-3	Barium	48.7		1	0.30	10.0	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7440-41-7	Beryllium	0.16	U	1	0.16	1.00	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7440-43-9	Cadmium	0.30	U	1	0.30	1.00	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7440-70-2	Calcium	14700		1	62.5	500	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7440-47-3	Chromium	0.40	U	1	0.40	2.00	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7440-48-4	Cobalt	0.46	J	1	0.062	1.00	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7440-50-8	Copper	2.72		1	0.40	2.00	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7439-89-6	Iron	3270		1	9.60	50.0	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7439-92-1	Lead	2.52		1	0.11	1.00	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7439-95-4	Magnesium	2500		1	26.6	500	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7439-96-5	Manganese	352		1	0.24	1.00	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7439-97-6	Mercury	0.081	U	1	0.081	0.20	ug/L	08/12/24 16:13	08/13/24 10:42	SW7470A	
7440-02-0	Nickel	0.67	J	1	0.18	1.00	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7440-09-7	Potassium	2540		1	46.1	500	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7782-49-2	Selenium	1.38	U	1	1.38	5.00	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7440-22-4	Silver	0.077	UN	1	0.077	1.00	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7440-23-5	Sodium	51300		1	85.8	500	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7440-28-0	Thallium	0.085	U	1	0.085	1.00	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7440-62-2	Vanadium	1.61	J	1	0.072	5.00	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A
7440-66-6	Zinc	7.82		1	0.56	5.00	ug/L	08/23/24 15:00	08/25/24 17:57	SW6020	3010A

Color Before:	Colorless	Clarity Before:	Clear	Texture:	Medium
Color After:	Colorless	Clarity After:	N/A	Artifacts:	N/A
Comments:	Mercury				

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

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3451
Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3451 **SAS No.:** P3451
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
ICV72	Mercury	4.01	4.0	100	90 - 110	CV	08/13/2024	08:53	LB131960

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3451
Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3451 **SAS No.:** P3451
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
CCV35	Mercury	4.53	5.0	91	90 - 110	CV	08/13/2024	08:58	LB131960
CCV36	Mercury	4.77	5.0	95	90 - 110	CV	08/13/2024	09:33	LB131960
CCV37	Mercury	4.95	5.0	99	90 - 110	CV	08/13/2024	10:00	LB131960
CCV38	Mercury	4.86	5.0	97	90 - 110	CV	08/13/2024	10:30	LB131960
CCV39	Mercury	5.18	5.0	104	90 - 110	CV	08/13/2024	10:58	LB131960
CCV40	Mercury	5.09	5.0	102	90 - 110	CV	08/13/2024	11:24	LB131960

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. SDG No.: P3451
Contract: JACO05 Lab Code: CHEM Case No.: P3451 SAS No.: P3451
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
ICV01	Aluminum	494	500	99	90 - 110	P	08/25/2024	16:38	LB132155
	Antimony	187	200	93	90 - 110	P	08/25/2024	16:38	LB132155
	Arsenic	195	200	97	90 - 110	P	08/25/2024	16:38	LB132155
	Barium	93.7	100	94	90 - 110	P	08/25/2024	16:38	LB132155
	Beryllium	106	100	106	90 - 110	P	08/25/2024	16:38	LB132155
	Cadmium	103	100	103	90 - 110	P	08/25/2024	16:38	LB132155
	Calcium	2180	2000	109	90 - 110	P	08/25/2024	16:38	LB132155
	Chromium	97.2	100	97	90 - 110	P	08/25/2024	16:38	LB132155
	Cobalt	98.1	100	98	90 - 110	P	08/25/2024	16:38	LB132155
	Copper	99.5	100	100	90 - 110	P	08/25/2024	16:38	LB132155
	Iron	2100	2000	105	90 - 110	P	08/25/2024	16:38	LB132155
	Lead	189	200	94	90 - 110	P	08/25/2024	16:38	LB132155
	Magnesium	1150	1200	96	90 - 110	P	08/25/2024	16:38	LB132155
	Manganese	98.8	100	99	90 - 110	P	08/25/2024	16:38	LB132155
	Nickel	107	110	97	90 - 110	P	08/25/2024	16:38	LB132155
	Potassium	2070	2000	103	90 - 110	P	08/25/2024	16:38	LB132155
	Selenium	197	200	98	90 - 110	P	08/25/2024	16:38	LB132155
	Silver	48.7	50.0	98	90 - 110	P	08/25/2024	16:38	LB132155
	Sodium	2060	2000	103	90 - 110	P	08/25/2024	16:38	LB132155
	Thallium	205	210	98	90 - 110	P	08/25/2024	16:38	LB132155
	Vanadium	94.6	100	95	90 - 110	P	08/25/2024	16:38	LB132155
	Zinc	200	200	100	90 - 110	P	08/25/2024	16:38	LB132155

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. SDG No.: P3451
Contract: JACO05 Lab Code: CHEM Case No.: P3451 SAS No.: P3451
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
LLICV	Aluminum	19.3	20.0	97	80 - 120	P	08/25/2024	17:02	LB132155
	Antimony	1.91	2.0	96	80 - 120	P	08/25/2024	17:02	LB132155
	Arsenic	0.97	1.0	97	80 - 120	P	08/25/2024	17:02	LB132155
	Barium	9.43	10.0	94	80 - 120	P	08/25/2024	17:02	LB132155
	Beryllium	1.11	1.0	111	80 - 120	P	08/25/2024	17:02	LB132155
	Cadmium	0.88	1.0	88	80 - 120	P	08/25/2024	17:02	LB132155
	Calcium	543	500	109	80 - 120	P	08/25/2024	17:02	LB132155
	Chromium	1.79	2.0	90	80 - 120	P	08/25/2024	17:02	LB132155
	Cobalt	1.05	1.0	105	80 - 120	P	08/25/2024	17:02	LB132155
	Copper	2.00	2.0	100	80 - 120	P	08/25/2024	17:02	LB132155
	Iron	57.4	50.0	115	80 - 120	P	08/25/2024	17:02	LB132155
	Lead	0.82	1.0	82	80 - 120	P	08/25/2024	17:02	LB132155
	Magnesium	524	500	105	80 - 120	P	08/25/2024	17:02	LB132155
	Manganese	0.92	1.0	92	80 - 120	P	08/25/2024	17:02	LB132155
	Nickel	0.85	1.0	85	80 - 120	P	08/25/2024	17:02	LB132155
	Potassium	546	500	109	80 - 120	P	08/25/2024	17:02	LB132155
	Selenium	5.25	5.0	105	80 - 120	P	08/25/2024	17:02	LB132155
	Silver	1.00	1.0	100	80 - 120	P	08/25/2024	17:02	LB132155
	Sodium	541	500	108	80 - 120	P	08/25/2024	17:02	LB132155
	Thallium	0.85	1.0	85	80 - 120	P	08/25/2024	17:02	LB132155
	Vanadium	5.09	5.0	102	80 - 120	P	08/25/2024	17:02	LB132155
	Zinc	4.65	5.0	93	80 - 120	P	08/25/2024	17:02	LB132155

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3451

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3451 **SAS No.:** P3451

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
CCV01	Aluminum	49900	50000	100	90 - 110	P	08/25/2024	17:14	LB132155
	Antimony	510	500	102	90 - 110	P	08/25/2024	17:14	LB132155
	Arsenic	486	500	97	90 - 110	P	08/25/2024	17:14	LB132155
	Barium	2460	2500	98	90 - 110	P	08/25/2024	17:14	LB132155
	Beryllium	527	500	105	90 - 110	P	08/25/2024	17:14	LB132155
	Cadmium	464	500	93	90 - 110	P	08/25/2024	17:14	LB132155
	Calcium	255000	250000	102	90 - 110	P	08/25/2024	17:14	LB132155
	Chromium	489	500	98	90 - 110	P	08/25/2024	17:14	LB132155
	Cobalt	474	500	95	90 - 110	P	08/25/2024	17:14	LB132155
	Copper	4740	5000	95	90 - 110	P	08/25/2024	17:14	LB132155
	Iron	127000	125000	102	90 - 110	P	08/25/2024	17:14	LB132155
	Lead	2460	2500	98	90 - 110	P	08/25/2024	17:14	LB132155
	Magnesium	251000	250000	101	90 - 110	P	08/25/2024	17:14	LB132155
	Manganese	4830	5000	97	90 - 110	P	08/25/2024	17:14	LB132155
	Nickel	469	500	94	90 - 110	P	08/25/2024	17:14	LB132155
	Potassium	126000	125000	100	90 - 110	P	08/25/2024	17:14	LB132155
	Selenium	476	500	95	90 - 110	P	08/25/2024	17:14	LB132155
	Silver	474	500	95	90 - 110	P	08/25/2024	17:14	LB132155
	Sodium	258000	250000	103	90 - 110	P	08/25/2024	17:14	LB132155
	Thallium	490	500	98	90 - 110	P	08/25/2024	17:14	LB132155
	Vanadium	495	500	99	90 - 110	P	08/25/2024	17:14	LB132155
	Zinc	4690	5000	94	90 - 110	P	08/25/2024	17:14	LB132155
CCV02	Aluminum	50300	50000	101	90 - 110	P	08/25/2024	18:03	LB132155
	Antimony	500	500	100	90 - 110	P	08/25/2024	18:03	LB132155
	Arsenic	480	500	96	90 - 110	P	08/25/2024	18:03	LB132155
	Barium	2400	2500	96	90 - 110	P	08/25/2024	18:03	LB132155
	Beryllium	520	500	104	90 - 110	P	08/25/2024	18:03	LB132155
	Cadmium	461	500	92	90 - 110	P	08/25/2024	18:03	LB132155
	Calcium	254000	250000	102	90 - 110	P	08/25/2024	18:03	LB132155
	Chromium	486	500	97	90 - 110	P	08/25/2024	18:03	LB132155
	Cobalt	471	500	94	90 - 110	P	08/25/2024	18:03	LB132155
	Copper	4740	5000	95	90 - 110	P	08/25/2024	18:03	LB132155
	Iron	126000	125000	101	90 - 110	P	08/25/2024	18:03	LB132155
	Lead	2440	2500	98	90 - 110	P	08/25/2024	18:03	LB132155

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3451

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3451 **SAS No.:** P3451

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
CCV02	Magnesium	253000	250000	101	90 - 110	P	08/25/2024	18:03	LB132155
	Manganese	4790	5000	96	90 - 110	P	08/25/2024	18:03	LB132155
	Nickel	468	500	94	90 - 110	P	08/25/2024	18:03	LB132155
	Potassium	127000	125000	101	90 - 110	P	08/25/2024	18:03	LB132155
	Selenium	469	500	94	90 - 110	P	08/25/2024	18:03	LB132155
	Silver	469	500	94	90 - 110	P	08/25/2024	18:03	LB132155
	Sodium	258000	250000	103	90 - 110	P	08/25/2024	18:03	LB132155
	Thallium	494	500	99	90 - 110	P	08/25/2024	18:03	LB132155
	Vanadium	496	500	99	90 - 110	P	08/25/2024	18:03	LB132155
	Zinc	4700	5000	94	90 - 110	P	08/25/2024	18:03	LB132155
CCV03	Aluminum	49400	50000	99	90 - 110	P	08/25/2024	18:43	LB132155
	Antimony	486	500	97	90 - 110	P	08/25/2024	18:43	LB132155
	Arsenic	491	500	98	90 - 110	P	08/25/2024	18:43	LB132155
	Barium	2390	2500	96	90 - 110	P	08/25/2024	18:43	LB132155
	Beryllium	501	500	100	90 - 110	P	08/25/2024	18:43	LB132155
	Cadmium	469	500	94	90 - 110	P	08/25/2024	18:43	LB132155
	Calcium	250000	250000	100	90 - 110	P	08/25/2024	18:43	LB132155
	Chromium	480	500	96	90 - 110	P	08/25/2024	18:43	LB132155
	Cobalt	469	500	94	90 - 110	P	08/25/2024	18:43	LB132155
	Copper	4740	5000	95	90 - 110	P	08/25/2024	18:43	LB132155
	Iron	125000	125000	100	90 - 110	P	08/25/2024	18:43	LB132155
	Lead	2440	2500	97	90 - 110	P	08/25/2024	18:43	LB132155
	Magnesium	246000	250000	98	90 - 110	P	08/25/2024	18:43	LB132155
	Manganese	4730	5000	94	90 - 110	P	08/25/2024	18:43	LB132155
	Nickel	459	500	92	90 - 110	P	08/25/2024	18:43	LB132155
	Potassium	124000	125000	99	90 - 110	P	08/25/2024	18:43	LB132155
	Selenium	486	500	97	90 - 110	P	08/25/2024	18:43	LB132155
	Silver	478	500	96	90 - 110	P	08/25/2024	18:43	LB132155
	Sodium	254000	250000	102	90 - 110	P	08/25/2024	18:43	LB132155
	Thallium	493	500	99	90 - 110	P	08/25/2024	18:43	LB132155
	Vanadium	485	500	97	90 - 110	P	08/25/2024	18:43	LB132155
	Zinc	4750	5000	95	90 - 110	P	08/25/2024	18:43	LB132155
CCV04	Aluminum	50000	50000	100	90 - 110	P	08/25/2024	19:27	LB132155
	Antimony	513	500	102	90 - 110	P	08/25/2024	19:27	LB132155

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3451

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3451 **SAS No.:** P3451

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
CCV04	Arsenic	494	500	99	90 - 110	P	08/25/2024	19:27	LB132155
	Barium	2520	2500	101	90 - 110	P	08/25/2024	19:27	LB132155
	Beryllium	521	500	104	90 - 110	P	08/25/2024	19:27	LB132155
	Cadmium	489	500	98	90 - 110	P	08/25/2024	19:27	LB132155
	Calcium	254000	250000	101	90 - 110	P	08/25/2024	19:27	LB132155
	Chromium	489	500	98	90 - 110	P	08/25/2024	19:27	LB132155
	Cobalt	483	500	97	90 - 110	P	08/25/2024	19:27	LB132155
	Copper	4850	5000	97	90 - 110	P	08/25/2024	19:27	LB132155
	Iron	127000	125000	102	90 - 110	P	08/25/2024	19:27	LB132155
	Lead	2450	2500	98	90 - 110	P	08/25/2024	19:27	LB132155
	Magnesium	250000	250000	100	90 - 110	P	08/25/2024	19:27	LB132155
	Manganese	4810	5000	96	90 - 110	P	08/25/2024	19:27	LB132155
	Nickel	472	500	94	90 - 110	P	08/25/2024	19:27	LB132155
	Potassium	125000	125000	100	90 - 110	P	08/25/2024	19:27	LB132155
	Selenium	489	500	98	90 - 110	P	08/25/2024	19:27	LB132155
	Silver	495	500	99	90 - 110	P	08/25/2024	19:27	LB132155
	Sodium	254000	250000	102	90 - 110	P	08/25/2024	19:27	LB132155
	Thallium	491	500	98	90 - 110	P	08/25/2024	19:27	LB132155
	Vanadium	495	500	99	90 - 110	P	08/25/2024	19:27	LB132155
	Zinc	4830	5000	97	90 - 110	P	08/25/2024	19:27	LB132155
CCV05	Aluminum	49700	50000	99	90 - 110	P	08/25/2024	20:14	LB132155
	Antimony	496	500	99	90 - 110	P	08/25/2024	20:14	LB132155
	Arsenic	487	500	97	90 - 110	P	08/25/2024	20:14	LB132155
	Barium	2420	2500	97	90 - 110	P	08/25/2024	20:14	LB132155
	Beryllium	519	500	104	90 - 110	P	08/25/2024	20:14	LB132155
	Cadmium	476	500	95	90 - 110	P	08/25/2024	20:14	LB132155
	Calcium	252000	250000	101	90 - 110	P	08/25/2024	20:14	LB132155
	Chromium	491	500	98	90 - 110	P	08/25/2024	20:14	LB132155
	Cobalt	489	500	98	90 - 110	P	08/25/2024	20:14	LB132155
	Copper	4840	5000	97	90 - 110	P	08/25/2024	20:14	LB132155
	Iron	127000	125000	102	90 - 110	P	08/25/2024	20:14	LB132155
	Lead	2460	2500	98	90 - 110	P	08/25/2024	20:14	LB132155
	Magnesium	249000	250000	100	90 - 110	P	08/25/2024	20:14	LB132155
	Manganese	4810	5000	96	90 - 110	P	08/25/2024	20:14	LB132155

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3451

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3451 **SAS No.:** P3451

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	Nickel	470	500	94	90 - 110	P	08/25/2024	20:14	LB132155
	Potassium	125000	125000	100	90 - 110	P	08/25/2024	20:14	LB132155
	Selenium	484	500	97	90 - 110	P	08/25/2024	20:14	LB132155
	Silver	486	500	97	90 - 110	P	08/25/2024	20:14	LB132155
	Sodium	255000	250000	102	90 - 110	P	08/25/2024	20:14	LB132155
	Thallium	496	500	99	90 - 110	P	08/25/2024	20:14	LB132155
	Vanadium	499	500	100	90 - 110	P	08/25/2024	20:14	LB132155
	Zinc	4840	5000	97	90 - 110	P	08/25/2024	20:14	LB132155
CCV06	Aluminum	50000	50000	100	90 - 110	P	08/25/2024	21:02	LB132155
	Antimony	493	500	99	90 - 110	P	08/25/2024	21:02	LB132155
	Arsenic	483	500	96	90 - 110	P	08/25/2024	21:02	LB132155
	Barium	2400	2500	96	90 - 110	P	08/25/2024	21:02	LB132155
	Beryllium	504	500	101	90 - 110	P	08/25/2024	21:02	LB132155
	Cadmium	471	500	94	90 - 110	P	08/25/2024	21:02	LB132155
	Calcium	252000	250000	101	90 - 110	P	08/25/2024	21:02	LB132155
	Chromium	483	500	97	90 - 110	P	08/25/2024	21:02	LB132155
	Cobalt	475	500	95	90 - 110	P	08/25/2024	21:02	LB132155
	Copper	4800	5000	96	90 - 110	P	08/25/2024	21:02	LB132155
	Iron	127000	125000	102	90 - 110	P	08/25/2024	21:02	LB132155
	Lead	2440	2500	98	90 - 110	P	08/25/2024	21:02	LB132155
	Magnesium	250000	250000	100	90 - 110	P	08/25/2024	21:02	LB132155
	Manganese	4800	5000	96	90 - 110	P	08/25/2024	21:02	LB132155
	Nickel	463	500	92	90 - 110	P	08/25/2024	21:02	LB132155
	Potassium	123000	125000	99	90 - 110	P	08/25/2024	21:02	LB132155
	Selenium	481	500	96	90 - 110	P	08/25/2024	21:02	LB132155
	Silver	477	500	95	90 - 110	P	08/25/2024	21:02	LB132155
	Sodium	254000	250000	102	90 - 110	P	08/25/2024	21:02	LB132155
	Thallium	487	500	97	90 - 110	P	08/25/2024	21:02	LB132155
	Vanadium	491	500	98	90 - 110	P	08/25/2024	21:02	LB132155
	Zinc	4830	5000	96	90 - 110	P	08/25/2024	21:02	LB132155
CCV07	Aluminum	49600	50000	99	90 - 110	P	08/25/2024	21:47	LB132155
	Antimony	488	500	98	90 - 110	P	08/25/2024	21:47	LB132155
	Arsenic	471	500	94	90 - 110	P	08/25/2024	21:47	LB132155
	Barium	2440	2500	98	90 - 110	P	08/25/2024	21:47	LB132155

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3451

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3451 **SAS No.:** P3451

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
CCV07	Beryllium	504	500	101	90 - 110	P	08/25/2024	21:47	LB132155
	Cadmium	468	500	94	90 - 110	P	08/25/2024	21:47	LB132155
	Calcium	252000	250000	101	90 - 110	P	08/25/2024	21:47	LB132155
	Chromium	482	500	96	90 - 110	P	08/25/2024	21:47	LB132155
	Cobalt	474	500	95	90 - 110	P	08/25/2024	21:47	LB132155
	Copper	4710	5000	94	90 - 110	P	08/25/2024	21:47	LB132155
	Iron	127000	125000	101	90 - 110	P	08/25/2024	21:47	LB132155
	Lead	2470	2500	99	90 - 110	P	08/25/2024	21:47	LB132155
	Magnesium	246000	250000	98	90 - 110	P	08/25/2024	21:47	LB132155
	Manganese	4720	5000	94	90 - 110	P	08/25/2024	21:47	LB132155
	Nickel	463	500	93	90 - 110	P	08/25/2024	21:47	LB132155
	Potassium	124000	125000	99	90 - 110	P	08/25/2024	21:47	LB132155
	Selenium	475	500	95	90 - 110	P	08/25/2024	21:47	LB132155
	Silver	475	500	95	90 - 110	P	08/25/2024	21:47	LB132155
	Sodium	253000	250000	101	90 - 110	P	08/25/2024	21:47	LB132155
	Thallium	499	500	100	90 - 110	P	08/25/2024	21:47	LB132155
	Vanadium	488	500	98	90 - 110	P	08/25/2024	21:47	LB132155
	Zinc	4740	5000	95	90 - 110	P	08/25/2024	21:47	LB132155
CCV08	Aluminum	49700	50000	100	90 - 110	P	08/25/2024	22:31	LB132155
	Antimony	489	500	98	90 - 110	P	08/25/2024	22:31	LB132155
	Arsenic	477	500	95	90 - 110	P	08/25/2024	22:31	LB132155
	Barium	2410	2500	96	90 - 110	P	08/25/2024	22:31	LB132155
	Beryllium	508	500	102	90 - 110	P	08/25/2024	22:31	LB132155
	Cadmium	467	500	93	90 - 110	P	08/25/2024	22:31	LB132155
	Calcium	255000	250000	102	90 - 110	P	08/25/2024	22:31	LB132155
	Chromium	484	500	97	90 - 110	P	08/25/2024	22:31	LB132155
	Cobalt	479	500	96	90 - 110	P	08/25/2024	22:31	LB132155
	Copper	4790	5000	96	90 - 110	P	08/25/2024	22:31	LB132155
	Iron	128000	125000	102	90 - 110	P	08/25/2024	22:31	LB132155
	Lead	2460	2500	98	90 - 110	P	08/25/2024	22:31	LB132155
	Magnesium	248000	250000	99	90 - 110	P	08/25/2024	22:31	LB132155
	Manganese	4780	5000	96	90 - 110	P	08/25/2024	22:31	LB132155
	Nickel	466	500	93	90 - 110	P	08/25/2024	22:31	LB132155
	Potassium	125000	125000	100	90 - 110	P	08/25/2024	22:31	LB132155

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3451

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3451 **SAS No.:** P3451

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
CCV08	Selenium	470	500	94	90 - 110	P	08/25/2024	22:31	LB132155
	Silver	480	500	96	90 - 110	P	08/25/2024	22:31	LB132155
	Sodium	251000	250000	100	90 - 110	P	08/25/2024	22:31	LB132155
	Thallium	494	500	99	90 - 110	P	08/25/2024	22:31	LB132155
	Vanadium	494	500	99	90 - 110	P	08/25/2024	22:31	LB132155
	Zinc	4770	5000	95	90 - 110	P	08/25/2024	22:31	LB132155
CCV09	Aluminum	51800	50000	104	90 - 110	P	08/25/2024	23:34	LB132155
	Antimony	508	500	102	90 - 110	P	08/25/2024	23:34	LB132155
	Arsenic	483	500	96	90 - 110	P	08/25/2024	23:34	LB132155
	Barium	2440	2500	98	90 - 110	P	08/25/2024	23:34	LB132155
	Beryllium	534	500	107	90 - 110	P	08/25/2024	23:34	LB132155
	Cadmium	485	500	97	90 - 110	P	08/25/2024	23:34	LB132155
	Calcium	248000	250000	99	90 - 110	P	08/25/2024	23:34	LB132155
	Chromium	487	500	97	90 - 110	P	08/25/2024	23:34	LB132155
	Cobalt	480	500	96	90 - 110	P	08/25/2024	23:34	LB132155
	Copper	4980	5000	100	90 - 110	P	08/25/2024	23:34	LB132155
	Iron	127000	125000	101	90 - 110	P	08/25/2024	23:34	LB132155
	Lead	2470	2500	99	90 - 110	P	08/25/2024	23:34	LB132155
	Magnesium	246000	250000	98	90 - 110	P	08/25/2024	23:34	LB132155
	Manganese	4830	5000	96	90 - 110	P	08/25/2024	23:34	LB132155
	Nickel	467	500	94	90 - 110	P	08/25/2024	23:34	LB132155
	Potassium	124000	125000	99	90 - 110	P	08/25/2024	23:34	LB132155
	Selenium	495	500	99	90 - 110	P	08/25/2024	23:34	LB132155
	Silver	499	500	100	90 - 110	P	08/25/2024	23:34	LB132155
	Sodium	251000	250000	100	90 - 110	P	08/25/2024	23:34	LB132155
	Thallium	507	500	101	90 - 110	P	08/25/2024	23:34	LB132155
	Vanadium	495	500	99	90 - 110	P	08/25/2024	23:34	LB132155
	Zinc	4930	5000	98	90 - 110	P	08/25/2024	23:34	LB132155
CCV10	Aluminum	52300	50000	105	90 - 110	P	08/26/2024	00:42	LB132155
	Antimony	501	500	100	90 - 110	P	08/26/2024	00:42	LB132155
	Arsenic	475	500	95	90 - 110	P	08/26/2024	00:42	LB132155
	Barium	2410	2500	96	90 - 110	P	08/26/2024	00:42	LB132155
	Beryllium	529	500	106	90 - 110	P	08/26/2024	00:42	LB132155
	Cadmium	472	500	94	90 - 110	P	08/26/2024	00:42	LB132155

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3451

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3451 **SAS No.:** P3451

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
CCV10	Calcium	246000	250000	98	90 - 110	P	08/26/2024	00:42	LB132155
	Chromium	485	500	97	90 - 110	P	08/26/2024	00:42	LB132155
	Cobalt	483	500	96	90 - 110	P	08/26/2024	00:42	LB132155
	Copper	4970	5000	99	90 - 110	P	08/26/2024	00:42	LB132155
	Iron	128000	125000	102	90 - 110	P	08/26/2024	00:42	LB132155
	Lead	2440	2500	98	90 - 110	P	08/26/2024	00:42	LB132155
	Magnesium	247000	250000	99	90 - 110	P	08/26/2024	00:42	LB132155
	Manganese	4880	5000	98	90 - 110	P	08/26/2024	00:42	LB132155
	Nickel	464	500	93	90 - 110	P	08/26/2024	00:42	LB132155
	Potassium	123000	125000	98	90 - 110	P	08/26/2024	00:42	LB132155
	Selenium	481	500	96	90 - 110	P	08/26/2024	00:42	LB132155
	Silver	492	500	98	90 - 110	P	08/26/2024	00:42	LB132155
	Sodium	251000	250000	100	90 - 110	P	08/26/2024	00:42	LB132155
	Thallium	491	500	98	90 - 110	P	08/26/2024	00:42	LB132155
	Vanadium	494	500	99	90 - 110	P	08/26/2024	00:42	LB132155
	Zinc	4850	5000	97	90 - 110	P	08/26/2024	00:42	LB132155
CCV11	Aluminum	52200	50000	104	90 - 110	P	08/26/2024	01:17	LB132155
	Antimony	502	500	100	90 - 110	P	08/26/2024	01:17	LB132155
	Arsenic	475	500	95	90 - 110	P	08/26/2024	01:17	LB132155
	Barium	2420	2500	97	90 - 110	P	08/26/2024	01:17	LB132155
	Beryllium	517	500	104	90 - 110	P	08/26/2024	01:17	LB132155
	Cadmium	478	500	96	90 - 110	P	08/26/2024	01:17	LB132155
	Calcium	249000	250000	100	90 - 110	P	08/26/2024	01:17	LB132155
	Chromium	488	500	98	90 - 110	P	08/26/2024	01:17	LB132155
	Cobalt	481	500	96	90 - 110	P	08/26/2024	01:17	LB132155
	Copper	5040	5000	101	90 - 110	P	08/26/2024	01:17	LB132155
	Iron	127000	125000	102	90 - 110	P	08/26/2024	01:17	LB132155
	Lead	2420	2500	97	90 - 110	P	08/26/2024	01:17	LB132155
	Magnesium	249000	250000	100	90 - 110	P	08/26/2024	01:17	LB132155
	Manganese	4880	5000	98	90 - 110	P	08/26/2024	01:17	LB132155
	Nickel	470	500	94	90 - 110	P	08/26/2024	01:17	LB132155
	Potassium	123000	125000	98	90 - 110	P	08/26/2024	01:17	LB132155
	Selenium	477	500	95	90 - 110	P	08/26/2024	01:17	LB132155
	Silver	489	500	98	90 - 110	P	08/26/2024	01:17	LB132155

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3451

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3451 **SAS No.:** P3451

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
CCV11	Sodium	255000	250000	102	90 - 110	P	08/26/2024	01:17	LB132155
	Thallium	493	500	99	90 - 110	P	08/26/2024	01:17	LB132155
	Vanadium	494	500	99	90 - 110	P	08/26/2024	01:17	LB132155
	Zinc	4940	5000	99	90 - 110	P	08/26/2024	01:17	LB132155



284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

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CRDL STANDARD FOR AA & ICP

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Contract: JACO05

Lab Code: CHEM

Case No.: P3451

SAS No.: P3451

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
CRA	Mercury	0.24	0.2	118	40 - 160	CV	08/13/2024	09:10	LB131960
CRI	Aluminum	20.3	20.0	102	70 - 130	P	08/25/2024	17:26	LB132155
	Antimony	1.95	2.0	98	70 - 130	P	08/25/2024	17:26	LB132155
	Arsenic	1.13	1.0	113	70 - 130	P	08/25/2024	17:26	LB132155
	Barium	9.42	10.0	94	70 - 130	P	08/25/2024	17:26	LB132155
	Beryllium	1.12	1.0	112	70 - 130	P	08/25/2024	17:26	LB132155
	Cadmium	0.88	1.0	88	70 - 130	P	08/25/2024	17:26	LB132155
	Calcium	553	500	110	70 - 130	P	08/25/2024	17:26	LB132155
	Chromium	1.77	2.0	88	70 - 130	P	08/25/2024	17:26	LB132155
	Cobalt	1.06	1.0	106	50 - 150	P	08/25/2024	17:26	LB132155
	Copper	2.06	2.0	103	70 - 130	P	08/25/2024	17:26	LB132155
	Iron	57.0	50.0	114	70 - 130	P	08/25/2024	17:26	LB132155
	Lead	0.88	1.0	88	70 - 130	P	08/25/2024	17:26	LB132155
	Magnesium	528	500	106	70 - 130	P	08/25/2024	17:26	LB132155
	Manganese	0.99	1.0	99	50 - 150	P	08/25/2024	17:26	LB132155
	Nickel	0.88	1.0	88	70 - 130	P	08/25/2024	17:26	LB132155
	Potassium	541	500	108	70 - 130	P	08/25/2024	17:26	LB132155
	Selenium	5.09	5.0	102	70 - 130	P	08/25/2024	17:26	LB132155
	Silver	0.97	1.0	97	70 - 130	P	08/25/2024	17:26	LB132155
	Sodium	557	500	112	70 - 130	P	08/25/2024	17:26	LB132155
	Thallium	0.87	1.0	87	70 - 130	P	08/25/2024	17:26	LB132155
	Vanadium	5.03	5.0	101	70 - 130	P	08/25/2024	17:26	LB132155
	Zinc	4.84	5.0	97	50 - 150	P	08/25/2024	17:26	LB132155



284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Contract: JACO05

Lab Code: CHEM

Case No.: P3451

SAS No.: P3451

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB72	Mercury	0.20	+/-0.20	U	0.20	CV	08/13/2024	08:55	LB131960

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Contract: JACO05

Lab Code: CHEM

Case No.: P3451

SAS No.: P3451

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB35	Mercury	0.20	+/-0.20	U	0.20	CV	08/13/2024	09:03	LB131960
CCB36	Mercury	0.20	+/-0.20	U	0.20	CV	08/13/2024	09:35	LB131960
CCB37	Mercury	0.20	+/-0.20	U	0.20	CV	08/13/2024	10:05	LB131960
CCB38	Mercury	0.20	+/-0.20	U	0.20	CV	08/13/2024	10:35	LB131960
CCB39	Mercury	0.20	+/-0.20	U	0.20	CV	08/13/2024	11:04	LB131960
CCB40	Mercury	0.20	+/-0.20	U	0.20	CV	08/13/2024	11:26	LB131960

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Contract: JACO05

Lab Code: CHEM

Case No.: P3451

SAS No.: P3451

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	20.0	+/-20.0	U	20.0	P	08/25/2024	17:05	LB132155
	Antimony	2.00	+/-2.00	U	2.00	P	08/25/2024	17:05	LB132155
	Arsenic	1.00	+/-1.00	U	1.00	P	08/25/2024	17:05	LB132155
	Barium	10.0	+/-10.0	U	10.0	P	08/25/2024	17:05	LB132155
	Beryllium	1.00	+/-1.00	U	1.00	P	08/25/2024	17:05	LB132155
	Cadmium	1.00	+/-1.00	U	1.00	P	08/25/2024	17:05	LB132155
	Calcium	500	+/-500	U	500	P	08/25/2024	17:05	LB132155
	Chromium	2.00	+/-2.00	U	2.00	P	08/25/2024	17:05	LB132155
	Cobalt	1.00	+/-1.00	U	1.00	P	08/25/2024	17:05	LB132155
	Copper	2.00	+/-2.00	U	2.00	P	08/25/2024	17:05	LB132155
	Iron	50.0	+/-50.0	U	50.0	P	08/25/2024	17:05	LB132155
	Lead	1.00	+/-1.00	U	1.00	P	08/25/2024	17:05	LB132155
	Magnesium	500	+/-500	U	500	P	08/25/2024	17:05	LB132155
	Manganese	1.00	+/-1.00	U	1.00	P	08/25/2024	17:05	LB132155
	Nickel	1.00	+/-1.00	U	1.00	P	08/25/2024	17:05	LB132155
	Potassium	500	+/-500	U	500	P	08/25/2024	17:05	LB132155
	Selenium	5.00	+/-5.00	U	5.00	P	08/25/2024	17:05	LB132155
	Silver	1.00	+/-1.00	U	1.00	P	08/25/2024	17:05	LB132155
	Sodium	500	+/-500	U	500	P	08/25/2024	17:05	LB132155
	Thallium	1.00	+/-1.00	U	1.00	P	08/25/2024	17:05	LB132155
	Vanadium	5.00	+/-5.00	U	5.00	P	08/25/2024	17:05	LB132155
	Zinc	5.00	+/-5.00	U	5.00	P	08/25/2024	17:05	LB132155

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Contract: JACO05

Lab Code: CHEM

Case No.: P3451

SAS No.: P3451

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	20.0	+/-20.0	U	20.0	P	08/25/2024	17:23	LB132155
	Antimony	2.00	+/-2.00	U	2.00	P	08/25/2024	17:23	LB132155
	Arsenic	1.00	+/-1.00	U	1.00	P	08/25/2024	17:23	LB132155
	Barium	10.0	+/-10.0	U	10.0	P	08/25/2024	17:23	LB132155
	Beryllium	1.00	+/-1.00	U	1.00	P	08/25/2024	17:23	LB132155
	Cadmium	1.00	+/-1.00	U	1.00	P	08/25/2024	17:23	LB132155
	Calcium	500	+/-500	U	500	P	08/25/2024	17:23	LB132155
	Chromium	2.00	+/-2.00	U	2.00	P	08/25/2024	17:23	LB132155
	Cobalt	1.00	+/-1.00	U	1.00	P	08/25/2024	17:23	LB132155
	Copper	2.00	+/-2.00	U	2.00	P	08/25/2024	17:23	LB132155
	Iron	50.0	+/-50.0	U	50.0	P	08/25/2024	17:23	LB132155
	Lead	1.00	+/-1.00	U	1.00	P	08/25/2024	17:23	LB132155
	Magnesium	500	+/-500	U	500	P	08/25/2024	17:23	LB132155
	Manganese	1.00	+/-1.00	U	1.00	P	08/25/2024	17:23	LB132155
	Nickel	1.00	+/-1.00	U	1.00	P	08/25/2024	17:23	LB132155
	Potassium	500	+/-500	U	500	P	08/25/2024	17:23	LB132155
	Selenium	5.00	+/-5.00	U	5.00	P	08/25/2024	17:23	LB132155
	Silver	1.00	+/-1.00	U	1.00	P	08/25/2024	17:23	LB132155
	Sodium	500	+/-500	U	500	P	08/25/2024	17:23	LB132155
	Thallium	1.00	+/-1.00	U	1.00	P	08/25/2024	17:23	LB132155
	Vanadium	5.00	+/-5.00	U	5.00	P	08/25/2024	17:23	LB132155
	Zinc	5.00	+/-5.00	U	5.00	P	08/25/2024	17:23	LB132155
CCB02	Aluminum	20.0	+/-20.0	U	20.0	P	08/25/2024	18:09	LB132155
	Antimony	0.14	+/-2.00	J	2.00	P	08/25/2024	18:09	LB132155
	Arsenic	1.00	+/-1.00	U	1.00	P	08/25/2024	18:09	LB132155
	Barium	10.0	+/-10.0	U	10.0	P	08/25/2024	18:09	LB132155
	Beryllium	1.00	+/-1.00	U	1.00	P	08/25/2024	18:09	LB132155
	Cadmium	1.00	+/-1.00	U	1.00	P	08/25/2024	18:09	LB132155
	Calcium	500	+/-500	U	500	P	08/25/2024	18:09	LB132155
	Chromium	2.00	+/-2.00	U	2.00	P	08/25/2024	18:09	LB132155
	Cobalt	1.00	+/-1.00	U	1.00	P	08/25/2024	18:09	LB132155
	Copper	2.00	+/-2.00	U	2.00	P	08/25/2024	18:09	LB132155
	Iron	50.0	+/-50.0	U	50.0	P	08/25/2024	18:09	LB132155
	Lead	1.00	+/-1.00	U	1.00	P	08/25/2024	18:09	LB132155
	Magnesium	500	+/-500	U	500	P	08/25/2024	18:09	LB132155
	Manganese	1.00	+/-1.00	U	1.00	P	08/25/2024	18:09	LB132155
	Nickel	1.00	+/-1.00	U	1.00	P	08/25/2024	18:09	LB132155
	Potassium	500	+/-500	U	500	P	08/25/2024	18:09	LB132155
	Selenium	5.00	+/-5.00	U	5.00	P	08/25/2024	18:09	LB132155

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Contract: JACO05

Lab Code: CHEM

Case No.: P3451

SAS No.: P3451

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Silver	1.00	+/-1.00	U	1.00	P	08/25/2024	18:09	LB132155
	Sodium	500	+/-500	U	500	P	08/25/2024	18:09	LB132155
	Thallium	1.00	+/-1.00	U	1.00	P	08/25/2024	18:09	LB132155
	Vanadium	5.00	+/-5.00	U	5.00	P	08/25/2024	18:09	LB132155
	Zinc	5.00	+/-5.00	U	5.00	P	08/25/2024	18:09	LB132155
CCB03	Aluminum	20.0	+/-20.0	U	20.0	P	08/25/2024	18:49	LB132155
	Antimony	0.20	+/-2.00	J	2.00	P	08/25/2024	18:49	LB132155
	Arsenic	1.00	+/-1.00	U	1.00	P	08/25/2024	18:49	LB132155
	Barium	10.0	+/-10.0	U	10.0	P	08/25/2024	18:49	LB132155
	Beryllium	1.00	+/-1.00	U	1.00	P	08/25/2024	18:49	LB132155
	Cadmium	1.00	+/-1.00	U	1.00	P	08/25/2024	18:49	LB132155
	Calcium	500	+/-500	U	500	P	08/25/2024	18:49	LB132155
	Chromium	2.00	+/-2.00	U	2.00	P	08/25/2024	18:49	LB132155
	Cobalt	1.00	+/-1.00	U	1.00	P	08/25/2024	18:49	LB132155
	Copper	2.00	+/-2.00	U	2.00	P	08/25/2024	18:49	LB132155
	Iron	50.0	+/-50.0	U	50.0	P	08/25/2024	18:49	LB132155
	Lead	1.00	+/-1.00	U	1.00	P	08/25/2024	18:49	LB132155
	Magnesium	500	+/-500	U	500	P	08/25/2024	18:49	LB132155
	Manganese	1.00	+/-1.00	U	1.00	P	08/25/2024	18:49	LB132155
	Nickel	1.00	+/-1.00	U	1.00	P	08/25/2024	18:49	LB132155
	Potassium	500	+/-500	U	500	P	08/25/2024	18:49	LB132155
	Selenium	5.00	+/-5.00	U	5.00	P	08/25/2024	18:49	LB132155
	Silver	1.00	+/-1.00	U	1.00	P	08/25/2024	18:49	LB132155
	Sodium	500	+/-500	U	500	P	08/25/2024	18:49	LB132155
	Thallium	1.00	+/-1.00	U	1.00	P	08/25/2024	18:49	LB132155
	Vanadium	5.00	+/-5.00	U	5.00	P	08/25/2024	18:49	LB132155
	Zinc	5.00	+/-5.00	U	5.00	P	08/25/2024	18:49	LB132155
CCB04	Aluminum	20.0	+/-20.0	U	20.0	P	08/25/2024	19:33	LB132155
	Antimony	0.15	+/-2.00	J	2.00	P	08/25/2024	19:33	LB132155
	Arsenic	1.00	+/-1.00	U	1.00	P	08/25/2024	19:33	LB132155
	Barium	10.0	+/-10.0	U	10.0	P	08/25/2024	19:33	LB132155
	Beryllium	1.00	+/-1.00	U	1.00	P	08/25/2024	19:33	LB132155
	Cadmium	1.00	+/-1.00	U	1.00	P	08/25/2024	19:33	LB132155
	Calcium	500	+/-500	U	500	P	08/25/2024	19:33	LB132155
	Chromium	2.00	+/-2.00	U	2.00	P	08/25/2024	19:33	LB132155
	Cobalt	1.00	+/-1.00	U	1.00	P	08/25/2024	19:33	LB132155
	Copper	2.00	+/-2.00	U	2.00	P	08/25/2024	19:33	LB132155
	Iron	50.0	+/-50.0	U	50.0	P	08/25/2024	19:33	LB132155
	Lead	1.00	+/-1.00	U	1.00	P	08/25/2024	19:33	LB132155

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Contract: JACO05

Lab Code: CHEM

Case No.: P3451

SAS No.: P3451

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB04	Magnesium	500	+/-500	U	500	P	08/25/2024	19:33	LB132155
	Manganese	1.00	+/-1.00	U	1.00	P	08/25/2024	19:33	LB132155
	Nickel	1.00	+/-1.00	U	1.00	P	08/25/2024	19:33	LB132155
	Potassium	500	+/-500	U	500	P	08/25/2024	19:33	LB132155
	Selenium	5.00	+/-5.00	U	5.00	P	08/25/2024	19:33	LB132155
	Silver	1.00	+/-1.00	U	1.00	P	08/25/2024	19:33	LB132155
	Sodium	500	+/-500	U	500	P	08/25/2024	19:33	LB132155
	Thallium	1.00	+/-1.00	U	1.00	P	08/25/2024	19:33	LB132155
	Vanadium	5.00	+/-5.00	U	5.00	P	08/25/2024	19:33	LB132155
	Zinc	5.00	+/-5.00	U	5.00	P	08/25/2024	19:33	LB132155
CCB05	Aluminum	20.0	+/-20.0	U	20.0	P	08/25/2024	20:29	LB132155
	Antimony	2.00	+/-2.00	U	2.00	P	08/25/2024	20:29	LB132155
	Arsenic	1.00	+/-1.00	U	1.00	P	08/25/2024	20:29	LB132155
	Barium	10.0	+/-10.0	U	10.0	P	08/25/2024	20:29	LB132155
	Beryllium	1.00	+/-1.00	U	1.00	P	08/25/2024	20:29	LB132155
	Cadmium	1.00	+/-1.00	U	1.00	P	08/25/2024	20:29	LB132155
	Calcium	500	+/-500	U	500	P	08/25/2024	20:29	LB132155
	Chromium	2.00	+/-2.00	U	2.00	P	08/25/2024	20:29	LB132155
	Cobalt	1.00	+/-1.00	U	1.00	P	08/25/2024	20:29	LB132155
	Copper	2.00	+/-2.00	U	2.00	P	08/25/2024	20:29	LB132155
	Iron	50.0	+/-50.0	U	50.0	P	08/25/2024	20:29	LB132155
	Lead	1.00	+/-1.00	U	1.00	P	08/25/2024	20:29	LB132155
	Magnesium	500	+/-500	U	500	P	08/25/2024	20:29	LB132155
	Manganese	1.00	+/-1.00	U	1.00	P	08/25/2024	20:29	LB132155
	Nickel	1.00	+/-1.00	U	1.00	P	08/25/2024	20:29	LB132155
	Potassium	500	+/-500	U	500	P	08/25/2024	20:29	LB132155
	Selenium	5.00	+/-5.00	U	5.00	P	08/25/2024	20:29	LB132155
	Silver	1.00	+/-1.00	U	1.00	P	08/25/2024	20:29	LB132155
	Sodium	500	+/-500	U	500	P	08/25/2024	20:29	LB132155
	Thallium	1.00	+/-1.00	U	1.00	P	08/25/2024	20:29	LB132155
CCB06	Vanadium	5.00	+/-5.00	U	5.00	P	08/25/2024	20:29	LB132155
	Zinc	5.00	+/-5.00	U	5.00	P	08/25/2024	20:29	LB132155
	Aluminum	20.0	+/-20.0	U	20.0	P	08/25/2024	21:14	LB132155
	Antimony	2.00	+/-2.00	U	2.00	P	08/25/2024	21:14	LB132155
	Arsenic	1.00	+/-1.00	U	1.00	P	08/25/2024	21:14	LB132155
	Barium	10.0	+/-10.0	U	10.0	P	08/25/2024	21:14	LB132155
	Beryllium	1.00	+/-1.00	U	1.00	P	08/25/2024	21:14	LB132155
	Cadmium	1.00	+/-1.00	U	1.00	P	08/25/2024	21:14	LB132155
	Calcium	500	+/-500	U	500	P	08/25/2024	21:14	LB132155

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Contract: JACO05

Lab Code: CHEM

Case No.: P3451

SAS No.: P3451

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Chromium	2.00	+/-2.00	U	2.00	P	08/25/2024	21:14	LB132155
	Cobalt	1.00	+/-1.00	U	1.00	P	08/25/2024	21:14	LB132155
	Copper	2.00	+/-2.00	U	2.00	P	08/25/2024	21:14	LB132155
	Iron	50.0	+/-50.0	U	50.0	P	08/25/2024	21:14	LB132155
	Lead	1.00	+/-1.00	U	1.00	P	08/25/2024	21:14	LB132155
	Magnesium	500	+/-500	U	500	P	08/25/2024	21:14	LB132155
	Manganese	1.00	+/-1.00	U	1.00	P	08/25/2024	21:14	LB132155
	Nickel	1.00	+/-1.00	U	1.00	P	08/25/2024	21:14	LB132155
	Potassium	500	+/-500	U	500	P	08/25/2024	21:14	LB132155
	Selenium	5.00	+/-5.00	U	5.00	P	08/25/2024	21:14	LB132155
	Silver	1.00	+/-1.00	U	1.00	P	08/25/2024	21:14	LB132155
	Sodium	500	+/-500	U	500	P	08/25/2024	21:14	LB132155
	Thallium	1.00	+/-1.00	U	1.00	P	08/25/2024	21:14	LB132155
	Vanadium	5.00	+/-5.00	U	5.00	P	08/25/2024	21:14	LB132155
	Zinc	5.00	+/-5.00	U	5.00	P	08/25/2024	21:14	LB132155
CCB07	Aluminum	20.0	+/-20.0	U	20.0	P	08/25/2024	21:55	LB132155
	Antimony	0.13	+/-2.00	J	2.00	P	08/25/2024	21:55	LB132155
	Arsenic	1.00	+/-1.00	U	1.00	P	08/25/2024	21:55	LB132155
	Barium	10.0	+/-10.0	U	10.0	P	08/25/2024	21:55	LB132155
	Beryllium	1.00	+/-1.00	U	1.00	P	08/25/2024	21:55	LB132155
	Cadmium	1.00	+/-1.00	U	1.00	P	08/25/2024	21:55	LB132155
	Calcium	500	+/-500	U	500	P	08/25/2024	21:55	LB132155
	Chromium	2.00	+/-2.00	U	2.00	P	08/25/2024	21:55	LB132155
	Cobalt	1.00	+/-1.00	U	1.00	P	08/25/2024	21:55	LB132155
	Copper	2.00	+/-2.00	U	2.00	P	08/25/2024	21:55	LB132155
	Iron	50.0	+/-50.0	U	50.0	P	08/25/2024	21:55	LB132155
	Lead	1.00	+/-1.00	U	1.00	P	08/25/2024	21:55	LB132155
	Magnesium	500	+/-500	U	500	P	08/25/2024	21:55	LB132155
	Manganese	1.00	+/-1.00	U	1.00	P	08/25/2024	21:55	LB132155
	Nickel	1.00	+/-1.00	U	1.00	P	08/25/2024	21:55	LB132155
	Potassium	500	+/-500	U	500	P	08/25/2024	21:55	LB132155
	Selenium	5.00	+/-5.00	U	5.00	P	08/25/2024	21:55	LB132155
	Silver	1.00	+/-1.00	U	1.00	P	08/25/2024	21:55	LB132155
	Sodium	500	+/-500	U	500	P	08/25/2024	21:55	LB132155
	Thallium	1.00	+/-1.00	U	1.00	P	08/25/2024	21:55	LB132155
	Vanadium	5.00	+/-5.00	U	5.00	P	08/25/2024	21:55	LB132155
	Zinc	5.00	+/-5.00	U	5.00	P	08/25/2024	21:55	LB132155
CCB08	Aluminum	20.0	+/-20.0	U	20.0	P	08/25/2024	22:50	LB132155
	Antimony	2.00	+/-2.00	U	2.00	P	08/25/2024	22:50	LB132155

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Contract: JACO05

Lab Code: CHEM

Case No.: P3451

SAS No.: P3451

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB08	Arsenic	1.00	+/-1.00	U	1.00	P	08/25/2024	22:50	LB132155
	Barium	10.0	+/-10.0	U	10.0	P	08/25/2024	22:50	LB132155
	Beryllium	1.00	+/-1.00	U	1.00	P	08/25/2024	22:50	LB132155
	Cadmium	1.00	+/-1.00	U	1.00	P	08/25/2024	22:50	LB132155
	Calcium	500	+/-500	U	500	P	08/25/2024	22:50	LB132155
	Chromium	2.00	+/-2.00	U	2.00	P	08/25/2024	22:50	LB132155
	Cobalt	1.00	+/-1.00	U	1.00	P	08/25/2024	22:50	LB132155
	Copper	2.00	+/-2.00	U	2.00	P	08/25/2024	22:50	LB132155
	Iron	50.0	+/-50.0	U	50.0	P	08/25/2024	22:50	LB132155
	Lead	1.00	+/-1.00	U	1.00	P	08/25/2024	22:50	LB132155
	Magnesium	500	+/-500	U	500	P	08/25/2024	22:50	LB132155
	Manganese	1.00	+/-1.00	U	1.00	P	08/25/2024	22:50	LB132155
	Nickel	1.00	+/-1.00	U	1.00	P	08/25/2024	22:50	LB132155
	Potassium	500	+/-500	U	500	P	08/25/2024	22:50	LB132155
	Selenium	5.00	+/-5.00	U	5.00	P	08/25/2024	22:50	LB132155
	Silver	1.00	+/-1.00	U	1.00	P	08/25/2024	22:50	LB132155
	Sodium	500	+/-500	U	500	P	08/25/2024	22:50	LB132155
	Thallium	1.00	+/-1.00	U	1.00	P	08/25/2024	22:50	LB132155
	Vanadium	5.00	+/-5.00	U	5.00	P	08/25/2024	22:50	LB132155
	Zinc	5.00	+/-5.00	U	5.00	P	08/25/2024	22:50	LB132155
CCB09	Aluminum	20.0	+/-20.0	U	20.0	P	08/25/2024	23:43	LB132155
	Antimony	2.00	+/-2.00	U	2.00	P	08/25/2024	23:43	LB132155
	Arsenic	1.00	+/-1.00	U	1.00	P	08/25/2024	23:43	LB132155
	Barium	10.0	+/-10.0	U	10.0	P	08/25/2024	23:43	LB132155
	Beryllium	1.00	+/-1.00	U	1.00	P	08/25/2024	23:43	LB132155
	Cadmium	1.00	+/-1.00	U	1.00	P	08/25/2024	23:43	LB132155
	Calcium	500	+/-500	U	500	P	08/25/2024	23:43	LB132155
	Chromium	2.00	+/-2.00	U	2.00	P	08/25/2024	23:43	LB132155
	Cobalt	1.00	+/-1.00	U	1.00	P	08/25/2024	23:43	LB132155
	Copper	2.00	+/-2.00	U	2.00	P	08/25/2024	23:43	LB132155
	Iron	50.0	+/-50.0	U	50.0	P	08/25/2024	23:43	LB132155
	Lead	1.00	+/-1.00	U	1.00	P	08/25/2024	23:43	LB132155
	Magnesium	500	+/-500	U	500	P	08/25/2024	23:43	LB132155
	Manganese	1.00	+/-1.00	U	1.00	P	08/25/2024	23:43	LB132155
	Nickel	1.00	+/-1.00	U	1.00	P	08/25/2024	23:43	LB132155
	Potassium	500	+/-500	U	500	P	08/25/2024	23:43	LB132155
	Selenium	5.00	+/-5.00	U	5.00	P	08/25/2024	23:43	LB132155
	Silver	1.00	+/-1.00	U	1.00	P	08/25/2024	23:43	LB132155
	Sodium	500	+/-500	U	500	P	08/25/2024	23:43	LB132155

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Contract: JACO05

Lab Code: CHEM

Case No.: P3451

SAS No.: P3451

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB09	Thallium	1.00	+/-1.00	U	1.00	P	08/25/2024	23:43	LB132155
	Vanadium	5.00	+/-5.00	U	5.00	P	08/25/2024	23:43	LB132155
	Zinc	5.00	+/-5.00	U	5.00	P	08/25/2024	23:43	LB132155
CCB10	Aluminum	20.0	+/-20.0	U	20.0	P	08/26/2024	00:52	LB132155
	Antimony	2.00	+/-2.00	U	2.00	P	08/26/2024	00:52	LB132155
	Arsenic	1.00	+/-1.00	U	1.00	P	08/26/2024	00:52	LB132155
	Barium	10.0	+/-10.0	U	10.0	P	08/26/2024	00:52	LB132155
	Beryllium	1.00	+/-1.00	U	1.00	P	08/26/2024	00:52	LB132155
	Cadmium	1.00	+/-1.00	U	1.00	P	08/26/2024	00:52	LB132155
	Calcium	500	+/-500	U	500	P	08/26/2024	00:52	LB132155
	Chromium	2.00	+/-2.00	U	2.00	P	08/26/2024	00:52	LB132155
	Cobalt	1.00	+/-1.00	U	1.00	P	08/26/2024	00:52	LB132155
	Copper	2.00	+/-2.00	U	2.00	P	08/26/2024	00:52	LB132155
	Iron	50.0	+/-50.0	U	50.0	P	08/26/2024	00:52	LB132155
	Lead	1.00	+/-1.00	U	1.00	P	08/26/2024	00:52	LB132155
	Magnesium	500	+/-500	U	500	P	08/26/2024	00:52	LB132155
	Manganese	1.00	+/-1.00	U	1.00	P	08/26/2024	00:52	LB132155
	Nickel	1.00	+/-1.00	U	1.00	P	08/26/2024	00:52	LB132155
	Potassium	500	+/-500	U	500	P	08/26/2024	00:52	LB132155
	Selenium	5.00	+/-5.00	U	5.00	P	08/26/2024	00:52	LB132155
	Silver	1.00	+/-1.00	U	1.00	P	08/26/2024	00:52	LB132155
	Sodium	500	+/-500	U	500	P	08/26/2024	00:52	LB132155
	Thallium	1.00	+/-1.00	U	1.00	P	08/26/2024	00:52	LB132155
	Vanadium	5.00	+/-5.00	U	5.00	P	08/26/2024	00:52	LB132155
	Zinc	5.00	+/-5.00	U	5.00	P	08/26/2024	00:52	LB132155
	Aluminum	20.0	+/-20.0	U	20.0	P	08/26/2024	01:30	LB132155
	Antimony	0.12	+/-2.00	J	2.00	P	08/26/2024	01:30	LB132155
	Arsenic	1.00	+/-1.00	U	1.00	P	08/26/2024	01:30	LB132155
	Barium	10.0	+/-10.0	U	10.0	P	08/26/2024	01:30	LB132155
	Beryllium	1.00	+/-1.00	U	1.00	P	08/26/2024	01:30	LB132155
	Cadmium	1.00	+/-1.00	U	1.00	P	08/26/2024	01:30	LB132155
	Calcium	500	+/-500	U	500	P	08/26/2024	01:30	LB132155
	Chromium	2.00	+/-2.00	U	2.00	P	08/26/2024	01:30	LB132155
	Cobalt	1.00	+/-1.00	U	1.00	P	08/26/2024	01:30	LB132155
	Copper	2.00	+/-2.00	U	2.00	P	08/26/2024	01:30	LB132155
	Iron	50.0	+/-50.0	U	50.0	P	08/26/2024	01:30	LB132155
	Lead	1.00	+/-1.00	U	1.00	P	08/26/2024	01:30	LB132155
	Magnesium	500	+/-500	U	500	P	08/26/2024	01:30	LB132155
	Manganese	1.00	+/-1.00	U	1.00	P	08/26/2024	01:30	LB132155

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Contract: JACO05

Lab Code: CHEM

Case No.: P3451

SAS No.: P3451

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB11	Nickel	1.00	+/-1.00	U	1.00	P	08/26/2024	01:30	LB132155
	Potassium	500	+/-500	U	500	P	08/26/2024	01:30	LB132155
	Selenium	5.00	+/-5.00	U	5.00	P	08/26/2024	01:30	LB132155
	Silver	1.00	+/-1.00	U	1.00	P	08/26/2024	01:30	LB132155
	Sodium	500	+/-500	U	500	P	08/26/2024	01:30	LB132155
	Thallium	1.00	+/-1.00	U	1.00	P	08/26/2024	01:30	LB132155
	Vanadium	5.00	+/-5.00	U	5.00	P	08/26/2024	01:30	LB132155
	Zinc	5.00	+/-5.00	U	5.00	P	08/26/2024	01:30	LB132155

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB162680BL		WATER		Batch Number:	PB162680		Prep Date:	08/12/2024	
	Mercury	0.20	<0.20	U	0.20	CV	08/13/2024	10:07	LB131960

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Instrument: P7

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB162950BL	WATER			Batch Number:	PB162950		Prep Date:	08/23/2024	
	Aluminum	20.0	<20.0	U	20.0	P	08/25/2024	17:31	LB132155
	Antimony	2.00	<2.00	U	2.00	P	08/25/2024	17:31	LB132155
	Arsenic	1.00	<1.00	U	1.00	P	08/25/2024	17:31	LB132155
	Barium	10.0	<10.0	U	10.0	P	08/25/2024	17:31	LB132155
	Beryllium	1.00	<1.00	U	1.00	P	08/25/2024	17:31	LB132155
	Cadmium	1.00	<1.00	U	1.00	P	08/25/2024	17:31	LB132155
	Calcium	500	<500	U	500	P	08/25/2024	17:31	LB132155
	Chromium	2.00	<2.00	U	2.00	P	08/25/2024	17:31	LB132155
	Cobalt	1.00	<1.00	U	1.00	P	08/25/2024	17:31	LB132155
	Copper	2.00	<2.00	U	2.00	P	08/25/2024	17:31	LB132155
	Iron	50.0	<50.0	U	50.0	P	08/25/2024	17:31	LB132155
	Lead	1.00	<1.00	U	1.00	P	08/25/2024	17:31	LB132155
	Magnesium	500	<500	U	500	P	08/25/2024	17:31	LB132155
	Manganese	1.00	<1.00	U	1.00	P	08/25/2024	17:31	LB132155
	Nickel	1.00	<1.00	U	1.00	P	08/25/2024	17:31	LB132155
	Potassium	500	<500	U	500	P	08/25/2024	17:31	LB132155
	Selenium	5.00	<5.00	U	5.00	P	08/25/2024	17:31	LB132155
	Silver	1.00	<1.00	U	1.00	P	08/25/2024	17:31	LB132155
	Sodium	500	<500	U	500	P	08/25/2024	17:31	LB132155
	Thallium	1.00	<1.00	U	1.00	P	08/25/2024	17:31	LB132155
	Vanadium	5.00	<5.00	U	5.00	P	08/25/2024	17:31	LB132155
	Zinc	5.00	<5.00	U	5.00	P	08/25/2024	17:31	LB132155

Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3451
Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3451 **SAS No.:** P3451
ICS Source: EPA **Instrument ID:** P7

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	Aluminum	88700	100000	89	0	0	08/25/2024	17:08	LB132155
	Antimony	1.02	1.5	68	-2.5	5.5	08/25/2024	17:08	LB132155
	Arsenic	0.37	0.1	370	-1.9	2.1	08/25/2024	17:08	LB132155
	Barium	1.31	1.2	109	-18.8	21.2	08/25/2024	17:08	LB132155
	Beryllium	0.28			-2	2	08/25/2024	17:08	LB132155
	Cadmium	0.15	0.7	21	-1.3	2.7	08/25/2024	17:08	LB132155
	Calcium	93300	100000	93	0	0	08/25/2024	17:08	LB132155
	Chromium	19.1	21.0	91	17	25	08/25/2024	17:08	LB132155
	Cobalt	1.15	1.0	115	-1	3	08/25/2024	17:08	LB132155
	Copper	7.67	8.0	96	4	12	08/25/2024	17:08	LB132155
	Iron	98300	100000	98	0	0	08/25/2024	17:08	LB132155
	Lead	4.48	4.0	112	2	6	08/25/2024	17:08	LB132155
	Magnesium	89300	100000	89	0	0	08/25/2024	17:08	LB132155
	Manganese	7.51	7.0	107	5	9	08/25/2024	17:08	LB132155
	Nickel	5.16	6.0	86	4	8	08/25/2024	17:08	LB132155
	Potassium	94300	100000	94	0	0	08/25/2024	17:08	LB132155
	Selenium	0.40	0.3	133	-9.7	10	08/25/2024	17:08	LB132155
	Silver	0.080			-2	2	08/25/2024	17:08	LB132155
	Sodium	95900	100000	96	0	0	08/25/2024	17:08	LB132155
	Thallium	0.050			-2	2	08/25/2024	17:08	LB132155
	Vanadium	0.17	0.5	34	-9.5	10.5	08/25/2024	17:08	LB132155
	Zinc	9.97	11.0	91	7	15	08/25/2024	17:08	LB132155
ICSAB01	Aluminum	89800	100000	90	0	0	08/25/2024	17:11	LB132155
	Antimony	18.9	22.0	86	18	26	08/25/2024	17:11	LB132155
	Arsenic	19.4	19.0	102	16.2	21.9	08/25/2024	17:11	LB132155
	Barium	19.2	22.0	87	2	42	08/25/2024	17:11	LB132155
	Beryllium	21.1	19.0	111	16.2	21.9	08/25/2024	17:11	LB132155
	Cadmium	18.4	20.0	92	17	23	08/25/2024	17:11	LB132155
	Calcium	97300	100000	97	0	0	08/25/2024	17:11	LB132155
	Chromium	38.2	40.0	96	34	46	08/25/2024	17:11	LB132155
	Cobalt	20.2	20.0	101	17	23	08/25/2024	17:11	LB132155
	Copper	26.9	25.0	108	21	29	08/25/2024	17:11	LB132155
	Iron	102000	100000	102	0	0	08/25/2024	17:11	LB132155
	Lead	22.0	25.0	88	21.3	28.8	08/25/2024	17:11	LB132155
	Magnesium	96000	100000	96	0	0	08/25/2024	17:11	LB132155
	Manganese	27.1	27.0	100	23	31.1	08/25/2024	17:11	LB132155
	Nickel	23.9	24.0	100	20.4	27.6	08/25/2024	17:11	LB132155
	Potassium	96800	100000	97	0	0	08/25/2024	17:11	LB132155
	Selenium	19.5	19.0	103	9	29	08/25/2024	17:11	LB132155
	Silver	17.6	18.0	98	15.3	20.7	08/25/2024	17:11	LB132155
	Sodium	97600	100000	98	0	0	08/25/2024	17:11	LB132155
	Thallium	18.5	21.0	88	17.9	24.2	08/25/2024	17:11	LB132155

Metals

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INTERFERENCE CHECK SAMPLE

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3451
Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3451 **SAS No.:** P3451
ICS Source: EPA **Instrument ID:** P7

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
ICSAB01	Vanadium	19.2	19.0	101	9	29	08/25/2024	17:11	LB132155
	Zinc	31.6	29.0	109	25	33	08/25/2024	17:11	LB132155



METAL QC DATA

metals
- 5a -
MATRIX SPIKE SUMMARY

client: JACOBS Engineering Group, Inc. **level:** low **sdg no.:** P3451
contract: JACO05 **lab code:** CHEM **case no.:** P3451 **sas no.:** P3451
matrix: Water **sample id:** P3440-01 **client id:** 923-K1-WS-080124MS
Percent Solids for Sample: NA **Spiked ID:** P3440-02 **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	75 - 125	9730		62.5		10000	97		P
Antimony	ug/L	75 - 125	519		2.00	U	500	104		P
Arsenic	ug/L	75 - 125	539		0.79	J	500	108		P
Barium	ug/L	75 - 125	2470		64.4		2500	96		P
Beryllium	ug/L	75 - 125	565		1.00	U	500	113		P
Cadmium	ug/L	75 - 125	537		1.00	U	500	107		P
Calcium	ug/L	75 - 125	71200		22300		50000	98		P
Chromium	ug/L	75 - 125	514		2.00	U	500	103		P
Cobalt	ug/L	75 - 125	531		0.62	J	500	106		P
Copper	ug/L	75 - 125	4950		0.83	J	5000	99		P
Iron	ug/L	75 - 125	29100		3220		25000	103		P
Lead	ug/L	75 - 125	2490		0.52	J	2500	100		P
Magnesium	ug/L	75 - 125	53900		4260		50000	99		P
Manganese	ug/L	75 - 125	5740		859		5000	98		P
Nickel	ug/L	75 - 125	510		0.65	J	500	102		P
Mercury	ug/L	75 - 125	3.28		0.20	U	4.0	82		CV
Potassium	ug/L	75 - 125	28500		3940		25000	98		P
Selenium	ug/L	75 - 125	543		5.00	U	500	109		P
Silver	ug/L	75 - 125	336		1.00	U	500	67	N	P
Sodium	ug/L	75 - 125	144000		96900		50000	95		P
Thallium	ug/L	75 - 125	521		1.00	U	500	104		P
Vanadium	ug/L	75 - 125	539		0.53	J	500	108		P
Zinc	ug/L	75 - 125	5050		3.92	J	5000	101		P

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: JACOBS Engineering Group, Inc. **level:** low **sdg no.:** P3451

contract: JACO05 **lab code:** CHEM **case no.:** P3451 **sas no.:** P3451

matrix: Water **sample id:** P3440-01 **client id:** 923-K1-WS-080124MSD

Percent Solids for Sample: NA **Spiked ID:** P3440-03 **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	75 - 125	9820		62.5		10000	98		P
Antimony	ug/L	75 - 125	528		2.00	U	500	106		P
Arsenic	ug/L	75 - 125	539		0.79	J	500	108		P
Barium	ug/L	75 - 125	2450		64.4		2500	95		P
Beryllium	ug/L	75 - 125	571		1.00	U	500	114		P
Cadmium	ug/L	75 - 125	540		1.00	U	500	108		P
Calcium	ug/L	75 - 125	72100		22300		50000	100		P
Chromium	ug/L	75 - 125	522		2.00	U	500	104		P
Cobalt	ug/L	75 - 125	540		0.62	J	500	108		P
Copper	ug/L	75 - 125	5030		0.83	J	5000	101		P
Iron	ug/L	75 - 125	29900		3220		25000	107		P
Lead	ug/L	75 - 125	2510		0.52	J	2500	100		P
Magnesium	ug/L	75 - 125	54400		4260		50000	100		P
Manganese	ug/L	75 - 125	5790		859		5000	99		P
Nickel	ug/L	75 - 125	522		0.65	J	500	104		P
Mercury	ug/L	75 - 125	3.17		0.20	U	4.0	79		CV
Potassium	ug/L	75 - 125	28900		3940		25000	100		P
Selenium	ug/L	75 - 125	537		5.00	U	500	107		P
Silver	ug/L	75 - 125	342		1.00	U	500	68	N	P
Sodium	ug/L	75 - 125	148000		96900		50000	102		P
Thallium	ug/L	75 - 125	532		1.00	U	500	106		P
Vanadium	ug/L	75 - 125	547		0.53	J	500	109		P
Zinc	ug/L	75 - 125	5150		3.92	J	5000	103		P

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3451
Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3451 **SAS No.:** P3451
Matrix: Water **Level:** LOW **Client ID:** 923-K1-WS-080124A
Sample ID: P3440-01 **Spiked ID:** P3440-01A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Silver	ug/L	75 - 125	321		1.00	U	500	64		P

Metals

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DUPLICATE SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc. **Level:** LOW **SDG No.:** P3451
Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3451 **SAS No.:** P3451
Matrix: Water **Sample ID:** P3440-01 **Client ID:** 923-K1-WS-080124DUP
Percent Solids for Sample: NA **Duplicate ID** P3440-01DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	20	62.5		65.1		4		P
Antimony	ug/L	20	2.00	U	2.00	U			P
Arsenic	ug/L	20	0.79	J	0.85	J	7		P
Barium	ug/L	20	64.4		64.8		1		P
Beryllium	ug/L	20	1.00	U	1.00	U			P
Cadmium	ug/L	20	1.00	U	1.00	U			P
Calcium	ug/L	20	22300		22600		1		P
Chromium	ug/L	20	2.00	U	2.00	U			P
Cobalt	ug/L	20	0.62	J	0.61	J	2		P
Copper	ug/L	20	0.83	J	0.78	J	6		P
Iron	ug/L	20	3220		3290		2		P
Lead	ug/L	20	0.52	J	0.46	J	12		P
Magnesium	ug/L	20	4260		4320		1		P
Manganese	ug/L	20	859		883		3		P
Nickel	ug/L	20	0.65	J	0.55	J	17		P
Mercury	ug/L	20	0.20	U	0.20	U			CV
Potassium	ug/L	20	3940		4010		2		P
Selenium	ug/L	20	5.00	U	5.00	U			P
Silver	ug/L	20	1.00	U	1.00	U			P
Sodium	ug/L	20	96900		99600		3		P
Thallium	ug/L	20	1.00	U	1.00	U			P
Vanadium	ug/L	20	0.53	J	0.54	J	2		P
Zinc	ug/L	20	3.92	J	3.37	J	15		P

Metals

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DUPLICATE SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc. **Level:** LOW **SDG No.:** P3451
Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3451 **SAS No.:** P3451
Matrix: Water **Sample ID:** P3440-02 **Client ID:** 923-K1-WS-080124MSD
Percent Solids for Sample: NA **Duplicate ID** P3440-03 **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	20	9730		9820		1		P
Antimony	ug/L	20	519		528		2		P
Arsenic	ug/L	20	539		539		0		P
Barium	ug/L	20	2470		2450		1		P
Beryllium	ug/L	20	565		571		1		P
Cadmium	ug/L	20	537		540		1		P
Calcium	ug/L	20	71200		72100		1		P
Chromium	ug/L	20	514		522		2		P
Cobalt	ug/L	20	531		540		2		P
Copper	ug/L	20	4950		5030		2		P
Iron	ug/L	20	29100		29900		3		P
Lead	ug/L	20	2490		2510		1		P
Magnesium	ug/L	20	53900		54400		1		P
Manganese	ug/L	20	5740		5790		1		P
Nickel	ug/L	20	510		522		2		P
Mercury	ug/L	20	3.28		3.17		3		CV
Potassium	ug/L	20	28500		28900		1		P
Selenium	ug/L	20	543		537		1		P
Silver	ug/L	20	336		342		2		P
Sodium	ug/L	20	144000		148000		3		P
Thallium	ug/L	20	521		532		2		P
Vanadium	ug/L	20	539		547		1		P
Zinc	ug/L	20	5050		5150		2		P

Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Contract: JACO05

Lab Code: CHEM

Case No.: P3451

SAS No.: P3451

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB162680BS Mercury	ug/L	4.0	3.62		90	80 - 120	CV

Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Contract: JACO05

Lab Code: CHEM

Case No.: P3451

SAS No.: P3451

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB162950BS							
Aluminum	ug/L	10000	10500		105	80 - 120	P
Antimony	ug/L	500	499		100	80 - 120	P
Arsenic	ug/L	500	506		101	80 - 120	P
Barium	ug/L	2500	2510		100	80 - 120	P
Beryllium	ug/L	500	540		108	80 - 120	P
Cadmium	ug/L	500	500		100	80 - 120	P
Calcium	ug/L	50000	54500		109	80 - 120	P
Chromium	ug/L	500	516		103	80 - 120	P
Cobalt	ug/L	500	519		104	80 - 120	P
Copper	ug/L	5000	5230		105	80 - 120	P
Iron	ug/L	25000	28600		114	80 - 120	P
Lead	ug/L	2500	2530		101	80 - 120	P
Magnesium	ug/L	50000	53000		106	80 - 120	P
Manganese	ug/L	5000	5120		102	80 - 120	P
Nickel	ug/L	500	519		104	80 - 120	P
Potassium	ug/L	25000	25900		104	80 - 120	P
Selenium	ug/L	500	510		102	80 - 120	P
Silver	ug/L	500	518		104	80 - 120	P
Sodium	ug/L	50000	53800		108	80 - 120	P
Thallium	ug/L	500	508		102	80 - 120	P
Vanadium	ug/L	500	513		103	80 - 120	P
Zinc	ug/L	5000	5260		105	80 - 120	P

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Non-Collision Cell									
			Element 6Li	Q	Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q
S0	S0	1438	100		100		100		100		100	
S2	S2	1442	101		102		103		102		100	
S3	S3	1445	105		103		103		101		103	
S4	S4	1448	109		104		104		102		104	
S5	S5	1451	111		104		101		100		105	
S6	S6	1454	114		101		103		99		105	
S7	S7	1457	112		104		105		98		105	
S8	S8	1459	110		101		99		88		101	
ICV01	ICV01	1638	107		105		105		104		103	
LLICV	LLICV	1702	103		104		104		103		102	
ICB01	ICB01	1705	105		105		106		105		105	
ICSA01	ICSA01	1708	114		106		103		97		104	
ICSAB01	ICSAB01	1711	107		105		105		98		107	
CCV01	CCV01	1714	109		105		105		96		105	
CCB01	CCB01	1723	106		103		103		103		103	
CRI	CRI	1726	105		102		101		102		103	
PB162950BL	PB162950BL	1731	107		103		102		99		101	
PB162950BS	PB162950BS	1734	110		105		104		98		105	
ZZZZZZ	ZZZZZZ	1741										
ZZZZZZ	ZZZZZZ	1744										
ZZZZZZ	ZZZZZZ	1747										
ZZZZZZ	ZZZZZZ	1750										
ZZZZZZ	ZZZZZZ	1753										
P3451-01	921-J-WS-08	1757	115		104		100		99		102	
ZZZZZZ	ZZZZZZ	1800										
CCV02	CCV02	1803	113		104		104		94		104	
CCB02	CCB02	1809	108		104		103		102		102	
ZZZZZZ	ZZZZZZ	1813										
P3440-01DUP	923-K1-WS-0	1816	113		107		105		101		105	
P3440-01L	923-K1-WS-0	1819	114		106		105		105		104	
ZZZZZZ	ZZZZZZ	1822										
P3440-02	923-K1-WS-0	1825	116		109		106		103		108	
P3440-03	923-K1-WS-0	1828	115		108		105		100		106	
P3440-01A	923-K1-WS-0	1831	117		109		106		102		107	
ZZZZZZ	ZZZZZZ	1834										
ZZZZZZ	ZZZZZZ	1837										

Internal Standard %RI Limit: 70 - 130

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Non-Collision Cell									
			Element 6Li	Q	Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q
ZZZZZZ	ZZZZZZ	1840										
CCV03	CCV03	1843	118		107		105		96		106	
CCB03	CCB03	1849	109		103		102		102		101	
ZZZZZZ	ZZZZZZ	1855										
ZZZZZZ	ZZZZZZ	1858										
ZZZZZZ	ZZZZZZ	1902										
ZZZZZZ	ZZZZZZ	1905										
ZZZZZZ	ZZZZZZ	1908										
ZZZZZZ	ZZZZZZ	1911										
ZZZZZZ	ZZZZZZ	1914										
ZZZZZZ	ZZZZZZ	1917										
ZZZZZZ	ZZZZZZ	1921										
ZZZZZZ	ZZZZZZ	1924										
CCV04	CCV04	1927	108		106		105		98		104	
CCB04	CCB04	1933	107		108		104		105		104	
ZZZZZZ	ZZZZZZ	1937										
ZZZZZZ	ZZZZZZ	1940										
ZZZZZZ	ZZZZZZ	1948										
ZZZZZZ	ZZZZZZ	1951										
ZZZZZZ	ZZZZZZ	1954										
ZZZZZZ	ZZZZZZ	1958										
ZZZZZZ	ZZZZZZ	2001										
ZZZZZZ	ZZZZZZ	2004										
ZZZZZZ	ZZZZZZ	2007										
ZZZZZZ	ZZZZZZ	2011										
CCV05	CCV05	2014	109		107		106		97		105	
CCB05	CCB05	2029	101		105		103		101		99	
ZZZZZZ	ZZZZZZ	2032										
ZZZZZZ	ZZZZZZ	2035										
ZZZZZZ	ZZZZZZ	2039										
ZZZZZZ	ZZZZZZ	2042										
ZZZZZZ	ZZZZZZ	2045										
ZZZZZZ	ZZZZZZ	2048										
ZZZZZZ	ZZZZZZ	2051										
ZZZZZZ	ZZZZZZ	2054										
ZZZZZZ	ZZZZZZ	2056										

Internal Standard %RI Limit: 70 - 130

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Non-Collision Cell									
			Element 6Li	Q	Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q
P3440-02	923-K1-WS-0	2059	113		104		104		98		104	
CCV06	CCV06	2102	119		108		105		96		105	
CCB06	CCB06	2114	109		105		102		102		101	
P3440-03	923-K1-WS-0	2117	112		107		104		99		104	
P3440-01A	923-K1-WS-0	2120	89		82		80		76		80	
ZZZZZZ	ZZZZZZ	2122										
ZZZZZZ	ZZZZZZ	2126										
ZZZZZZ	ZZZZZZ	2129										
ZZZZZZ	ZZZZZZ	2132										
ZZZZZZ	ZZZZZZ	2135										
ZZZZZZ	ZZZZZZ	2138										
ZZZZZZ	ZZZZZZ	2141										
ZZZZZZ	ZZZZZZ	2144										
CCV07	CCV07	2147	115		108		106		95		105	
CCB07	CCB07	2155	109		108		107		105		105	
ZZZZZZ	ZZZZZZ	2200										
ZZZZZZ	ZZZZZZ	2203										
ZZZZZZ	ZZZZZZ	2206										
ZZZZZZ	ZZZZZZ	2209										
ZZZZZZ	ZZZZZZ	2212										
ZZZZZZ	ZZZZZZ	2216										
ZZZZZZ	ZZZZZZ	2219										
ZZZZZZ	ZZZZZZ	2222										
ZZZZZZ	ZZZZZZ	2225										
ZZZZZZ	ZZZZZZ	2228										
CCV08	CCV08	2231	110		109		108		100		107	
CCB08	CCB08	2250	103		108		105		104		102	
ZZZZZZ	ZZZZZZ	2254										
ZZZZZZ	ZZZZZZ	2257										
ZZZZZZ	ZZZZZZ	2300										
ZZZZZZ	ZZZZZZ	2303										
ZZZZZZ	ZZZZZZ	2306										
ZZZZZZ	ZZZZZZ	2309										
ZZZZZZ	ZZZZZZ	2312										
ZZZZZZ	ZZZZZZ	2315										
ZZZZZZ	ZZZZZZ	2319										

Internal Standard %RI Limit: 70 - 130

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Non-Collision Cell									
			Element 6Li	Q	Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q
ZZZZZZ	ZZZZZZ	2322										
CCV09	CCV09	2334	106		107		102		94		101	
CCB09	CCB09	2343	107		109		105		103		101	
ZZZZZZ	ZZZZZZ	2346										
ZZZZZZ	ZZZZZZ	2350										
ZZZZZZ	ZZZZZZ	2353										
ZZZZZZ	ZZZZZZ	2356										
ZZZZZZ	ZZZZZZ	2359										
ZZZZZZ	ZZZZZZ	0003										
ZZZZZZ	ZZZZZZ	0006										
ZZZZZZ	ZZZZZZ	0009										
ZZZZZZ	ZZZZZZ	0012										
ZZZZZZ	ZZZZZZ	0014										
CCV10	CCV10	0042	110		108		104		95		102	
CCB10	CCB10	0052	114		109		105		103		102	
ZZZZZZ	ZZZZZZ	0055										
ZZZZZZ	ZZZZZZ	0058										
P3440-01A	923-K1-WS-0	0115	119		110		104		98		103	
CCV11	CCV11	0117	120		107		103		94		102	
CCB11	CCB11	0130	109		107		102		102		100	

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q	Element 165Ho	Q
S0	S0	1438	100		100		100		100		100	
S2	S2	1442	103		102		102		101		103	
S3	S3	1445	104		103		102		103		105	
S4	S4	1448	102		102		102		104		106	
S5	S5	1451	99		98		98		104		105	
S6	S6	1454	97		99		97		105		106	
S7	S7	1457	99		100		98		106		108	
S8	S8	1459	98		97		88		101		103	
ICV01	ICV01	1638	102		101		101		103		104	
LLICV	LLICV	1702	104		104		104		103		104	
ICB01	ICB01	1705	105		103		103		103		106	
ICSA01	ICSA01	1708	98		99		96		104		107	
ICSAB01	ICSAB01	1711	99		101		98		104		105	
CCV01	CCV01	1714	100		100		95		105		107	
CCB01	CCB01	1723	99		100		102		102		104	
CRI	CRI	1726	99		99		103		102		104	
PB162950BL	PB162950BL	1731	99		99		101		101		102	
PB162950BS	PB162950BS	1734	97		99		97		104		106	
ZZZZZZ	ZZZZZZ	1741										
ZZZZZZ	ZZZZZZ	1744										
ZZZZZZ	ZZZZZZ	1747										
ZZZZZZ	ZZZZZZ	1750										
ZZZZZZ	ZZZZZZ	1753										
P3451-01	921-J-WS-08	1757	97		100		100		103		105	
ZZZZZZ	ZZZZZZ	1800										
CCV02	CCV02	1803	98		99		94		105		106	
CCB02	CCB02	1809	101		101		102		103		106	
ZZZZZZ	ZZZZZZ	1813										
P3440-01DUP	923-K1-WS-0	1816	101		102		102		105		107	
P3440-01L	923-K1-WS-0	1819	101		102		104		105		106	
ZZZZZZ	ZZZZZZ	1822										
P3440-02	923-K1-WS-0	1825	104		104		101		108		110	
P3440-03	923-K1-WS-0	1828	101		103		100		106		109	
P3440-01A	923-K1-WS-0	1831	103		102		100		107		110	
ZZZZZZ	ZZZZZZ	1834										
ZZZZZZ	ZZZZZZ	1837										

Internal Standard %RI Limit: 70 - 130

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q	Element 165Ho	Q
ZZZZZZ	ZZZZZZ	1840										
CCV03	CCV03	1843	101		99		95		105		109	
CCB03	CCB03	1849	102		102		104		104		106	
ZZZZZZ	ZZZZZZ	1855										
ZZZZZZ	ZZZZZZ	1858										
ZZZZZZ	ZZZZZZ	1902										
ZZZZZZ	ZZZZZZ	1905										
ZZZZZZ	ZZZZZZ	1908										
ZZZZZZ	ZZZZZZ	1911										
ZZZZZZ	ZZZZZZ	1914										
ZZZZZZ	ZZZZZZ	1917										
ZZZZZZ	ZZZZZZ	1921										
ZZZZZZ	ZZZZZZ	1924										
CCV04	CCV04	1927	100		100		96		105		107	
CCB04	CCB04	1933	103		105		106		105		106	
ZZZZZZ	ZZZZZZ	1937										
ZZZZZZ	ZZZZZZ	1940										
ZZZZZZ	ZZZZZZ	1948										
ZZZZZZ	ZZZZZZ	1951										
ZZZZZZ	ZZZZZZ	1954										
ZZZZZZ	ZZZZZZ	1958										
ZZZZZZ	ZZZZZZ	2001										
ZZZZZZ	ZZZZZZ	2004										
ZZZZZZ	ZZZZZZ	2007										
ZZZZZZ	ZZZZZZ	2011										
CCV05	CCV05	2014	99		101		95		106		106	
CCB05	CCB05	2029	102		104		104		104		104	
ZZZZZZ	ZZZZZZ	2032										
ZZZZZZ	ZZZZZZ	2035										
ZZZZZZ	ZZZZZZ	2039										
ZZZZZZ	ZZZZZZ	2042										
ZZZZZZ	ZZZZZZ	2045										
ZZZZZZ	ZZZZZZ	2048										
ZZZZZZ	ZZZZZZ	2051										
ZZZZZZ	ZZZZZZ	2054										
ZZZZZZ	ZZZZZZ	2056										

Internal Standard %RI Limit: 70 - 130

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q	Element 165Ho	Q
P3440-02	923-K1-WS-0	2059	98		100		97		104		107	
CCV06	CCV06	2102	99		101		97		107		109	
CCB06	CCB06	2114	99		100		102		102		104	
P3440-03	923-K1-WS-0	2117	99		102		99		104		106	
P3440-01A	923-K1-WS-0	2120	100		102		100		106		107	
ZZZZZZ	ZZZZZZ	2122										
ZZZZZZ	ZZZZZZ	2126										
ZZZZZZ	ZZZZZZ	2129										
ZZZZZZ	ZZZZZZ	2132										
ZZZZZZ	ZZZZZZ	2135										
ZZZZZZ	ZZZZZZ	2138										
ZZZZZZ	ZZZZZZ	2141										
ZZZZZZ	ZZZZZZ	2144										
CCV07	CCV07	2147	101		103		96		104		108	
CCB07	CCB07	2155	103		105		105		106		107	
ZZZZZZ	ZZZZZZ	2200										
ZZZZZZ	ZZZZZZ	2203										
ZZZZZZ	ZZZZZZ	2206										
ZZZZZZ	ZZZZZZ	2209										
ZZZZZZ	ZZZZZZ	2212										
ZZZZZZ	ZZZZZZ	2216										
ZZZZZZ	ZZZZZZ	2219										
ZZZZZZ	ZZZZZZ	2222										
ZZZZZZ	ZZZZZZ	2225										
ZZZZZZ	ZZZZZZ	2228										
CCV08	CCV08	2231	101		105		98		108		110	
CCB08	CCB08	2250	104		105		107		105		105	
ZZZZZZ	ZZZZZZ	2254										
ZZZZZZ	ZZZZZZ	2257										
ZZZZZZ	ZZZZZZ	2300										
ZZZZZZ	ZZZZZZ	2303										
ZZZZZZ	ZZZZZZ	2306										
ZZZZZZ	ZZZZZZ	2309										
ZZZZZZ	ZZZZZZ	2312										
ZZZZZZ	ZZZZZZ	2315										
ZZZZZZ	ZZZZZZ	2319										

Internal Standard %RI Limit: 70 - 130

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q	Element 165Ho	Q
ZZZZZZ	ZZZZZZ	2322										
CCV09	CCV09	2334	98		101		95		103		105	
CCB09	CCB09	2343	102		105		106		104		107	
ZZZZZZ	ZZZZZZ	2346										
ZZZZZZ	ZZZZZZ	2350										
ZZZZZZ	ZZZZZZ	2353										
ZZZZZZ	ZZZZZZ	2356										
ZZZZZZ	ZZZZZZ	2359										
ZZZZZZ	ZZZZZZ	0003										
ZZZZZZ	ZZZZZZ	0006										
ZZZZZZ	ZZZZZZ	0009										
ZZZZZZ	ZZZZZZ	0012										
ZZZZZZ	ZZZZZZ	0014										
CCV10	CCV10	0042	99		103		96		106		107	
CCB10	CCB10	0052	100		105		105		104		106	
ZZZZZZ	ZZZZZZ	0055										
ZZZZZZ	ZZZZZZ	0058										
P3440-01A	923-K1-WS-0	0115	98		101		99		105		106	
CCV11	CCV11	0117	96		100		95		104		109	
CCB11	CCB11	0130	100		105		106		107		108	

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: JACOBS Engineering Group, Inc.

Contract: JAC005

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Non-Collision Cell									
			Element 165Ho	Q	Element 209Bi	Q	Element	Q	Element	Q	Element	Q
S0	S0	1438	100		100							
S2	S2	1442	103		103							
S3	S3	1445	104		104							
S4	S4	1448	104		103							
S5	S5	1451	105		105							
S6	S6	1454	107		105							
S7	S7	1457	107		104							
S8	S8	1459	104		93							
ICV01	ICV01	1638	105		107							
LLICV	LLICV	1702	103		105							
ICB01	ICB01	1705	104		105							
ICSA01	ICSA01	1708	107		104							
ICSAB01	ICSAB01	1711	108		105							
CCV01	CCV01	1714	108		104							
CCB01	CCB01	1723	103		106							
CRI	CRI	1726	103		105							
PB162950BL	PB162950BL	1731	102		105							
PB162950BS	PB162950BS	1734	106		105							
ZZZZZZ	ZZZZZZ	1741										
ZZZZZZ	ZZZZZZ	1744										
ZZZZZZ	ZZZZZZ	1747										
ZZZZZZ	ZZZZZZ	1750										
ZZZZZZ	ZZZZZZ	1753										
P3451-01	921-J-WS-080	1757	103		104							
ZZZZZZ	ZZZZZZ	1800										
CCV02	CCV02	1803	106		102							
CCB02	CCB02	1809	103		106							
ZZZZZZ	ZZZZZZ	1813										
P3440-01DUP	923-K1-WS-080	1816	105		105							
P3440-01L	923-K1-WS-080	1819	105		108							
ZZZZZZ	ZZZZZZ	1822										
P3440-02	923-K1-WS-080	1825	109		107							
P3440-03	923-K1-WS-080	1828	107		105							
P3440-01A	923-K1-WS-080	1831	110		106							

Internal Standard %RI Limit: 70 -130

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: JACOBS Engineering Group, Inc.

Contract: JAC005

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Non-Collision Cell									
			Element 165Ho	Q	Element 209Bi	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	ZZZZZZ	1834										
ZZZZZZ	ZZZZZZ	1837										
ZZZZZZ	ZZZZZZ	1840										
CCV03	CCV03	1843	107		103							
CCB03	CCB03	1849	101		105							
ZZZZZZ	ZZZZZZ	1855										
ZZZZZZ	ZZZZZZ	1858										
ZZZZZZ	ZZZZZZ	1902										
ZZZZZZ	ZZZZZZ	1905										
ZZZZZZ	ZZZZZZ	1908										
ZZZZZZ	ZZZZZZ	1911										
ZZZZZZ	ZZZZZZ	1914										
ZZZZZZ	ZZZZZZ	1917										
ZZZZZZ	ZZZZZZ	1921										
ZZZZZZ	ZZZZZZ	1924										
CCV04	CCV04	1927	107		102							
CCB04	CCB04	1933	104		107							
ZZZZZZ	ZZZZZZ	1937										
ZZZZZZ	ZZZZZZ	1940										
ZZZZZZ	ZZZZZZ	1948										
ZZZZZZ	ZZZZZZ	1951										
ZZZZZZ	ZZZZZZ	1954										
ZZZZZZ	ZZZZZZ	1958										
ZZZZZZ	ZZZZZZ	2001										
ZZZZZZ	ZZZZZZ	2004										
ZZZZZZ	ZZZZZZ	2007										
ZZZZZZ	ZZZZZZ	2011										
CCV05	CCV05	2014	106		102							
CCB05	CCB05	2029	99		104							
ZZZZZZ	ZZZZZZ	2032										
ZZZZZZ	ZZZZZZ	2035										
ZZZZZZ	ZZZZZZ	2039										
ZZZZZZ	ZZZZZZ	2042										
ZZZZZZ	ZZZZZZ	2045										

Internal Standard %RI Limit: 70 -130

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Non-Collision Cell									
			Element 165Ho	Q	Element 209Bi	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	ZZZZZZ	2048										
ZZZZZZ	ZZZZZZ	2051										
ZZZZZZ	ZZZZZZ	2054										
ZZZZZZ	ZZZZZZ	2056										
P3440-02	923-K1-WS-08	2059	104		104							
CCV06	CCV06	2102	107		103							
CCB06	CCB06	2114	100		106							
P3440-03	923-K1-WS-08	2117	106		105							
P3440-01A	923-K1-WS-08	2120	80		80							
ZZZZZZ	ZZZZZZ	2122										
ZZZZZZ	ZZZZZZ	2126										
ZZZZZZ	ZZZZZZ	2129										
ZZZZZZ	ZZZZZZ	2132										
ZZZZZZ	ZZZZZZ	2135										
ZZZZZZ	ZZZZZZ	2138										
ZZZZZZ	ZZZZZZ	2141										
ZZZZZZ	ZZZZZZ	2144										
CCV07	CCV07	2147	106		101							
CCB07	CCB07	2155	106		109							
ZZZZZZ	ZZZZZZ	2200										
ZZZZZZ	ZZZZZZ	2203										
ZZZZZZ	ZZZZZZ	2206										
ZZZZZZ	ZZZZZZ	2209										
ZZZZZZ	ZZZZZZ	2212										
ZZZZZZ	ZZZZZZ	2216										
ZZZZZZ	ZZZZZZ	2219										
ZZZZZZ	ZZZZZZ	2222										
ZZZZZZ	ZZZZZZ	2225										
ZZZZZZ	ZZZZZZ	2228										
CCV08	CCV08	2231	108		103							
CCB08	CCB08	2250	101		105							
ZZZZZZ	ZZZZZZ	2254										
ZZZZZZ	ZZZZZZ	2257										
ZZZZZZ	ZZZZZZ	2300										

Internal Standard %RI Limit: 70 -130

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Non-Collision Cell									
			Element 165Ho	Q	Element 209Bi	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	ZZZZZZ	2303										
ZZZZZZ	ZZZZZZ	2306										
ZZZZZZ	ZZZZZZ	2309										
ZZZZZZ	ZZZZZZ	2312										
ZZZZZZ	ZZZZZZ	2315										
ZZZZZZ	ZZZZZZ	2319										
ZZZZZZ	ZZZZZZ	2322										
CCV09	CCV09	2334	102		97							
CCB09	CCB09	2343	103		105							
ZZZZZZ	ZZZZZZ	2346										
ZZZZZZ	ZZZZZZ	2350										
ZZZZZZ	ZZZZZZ	2353										
ZZZZZZ	ZZZZZZ	2356										
ZZZZZZ	ZZZZZZ	2359										
ZZZZZZ	ZZZZZZ	0003										
ZZZZZZ	ZZZZZZ	0006										
ZZZZZZ	ZZZZZZ	0009										
ZZZZZZ	ZZZZZZ	0012										
ZZZZZZ	ZZZZZZ	0014										
CCV10	CCV10	0042	103		98							
CCB10	CCB10	0052	102		106							
ZZZZZZ	ZZZZZZ	0055										
ZZZZZZ	ZZZZZZ	0058										
P3440-01A	923-K1-WS-08	0115	102		102							
CCV11	CCV11	0117	104		100							
CCB11	CCB11	0130	102		102							

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: JACOBS Engineering Group, Inc.

Contract: JAC005

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 209Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	S0	1438	100									
S2	S2	1442	102									
S3	S3	1445	103									
S4	S4	1448	104									
S5	S5	1451	102									
S6	S6	1454	101									
S7	S7	1457	102									
S8	S8	1459	92									
ICV01	ICV01	1638	105									
LLICV	LLICV	1702	104									
ICB01	ICB01	1705	105									
ICSA01	ICSA01	1708	102									
ICSAB01	ICSAB01	1711	100									
CCV01	CCV01	1714	100									
CCB01	CCB01	1723	104									
CRI	CRI	1726	103									
PB162950BL	PB162950BL	1731	104									
PB162950BS	PB162950BS	1734	103									
ZZZZZZ	ZZZZZZ	1741										
ZZZZZZ	ZZZZZZ	1744										
ZZZZZZ	ZZZZZZ	1747										
ZZZZZZ	ZZZZZZ	1750										
ZZZZZZ	ZZZZZZ	1753										
P3451-01	921-J-WS-080	1757	104									
ZZZZZZ	ZZZZZZ	1800										
CCV02	CCV02	1803	100									
CCB02	CCB02	1809	106									
ZZZZZZ	ZZZZZZ	1813										
P3440-01DUP	923-K1-WS-080	1816	106									
P3440-01L	923-K1-WS-080	1819	106									
ZZZZZZ	ZZZZZZ	1822										
P3440-02	923-K1-WS-080	1825	106									
P3440-03	923-K1-WS-080	1828	105									
P3440-01A	923-K1-WS-080	1831	106									

Internal Standard %RI Limit: 70 -130

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: JACOBS Engineering Group, Inc.

Contract: JAC005

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 209Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	ZZZZZZ	1834										
ZZZZZZ	ZZZZZZ	1837										
ZZZZZZ	ZZZZZZ	1840										
CCV03	CCV03	1843	101									
CCB03	CCB03	1849	108									
ZZZZZZ	ZZZZZZ	1855										
ZZZZZZ	ZZZZZZ	1858										
ZZZZZZ	ZZZZZZ	1902										
ZZZZZZ	ZZZZZZ	1905										
ZZZZZZ	ZZZZZZ	1908										
ZZZZZZ	ZZZZZZ	1911										
ZZZZZZ	ZZZZZZ	1914										
ZZZZZZ	ZZZZZZ	1917										
ZZZZZZ	ZZZZZZ	1921										
ZZZZZZ	ZZZZZZ	1924										
CCV04	CCV04	1927	100									
CCB04	CCB04	1933	108									
ZZZZZZ	ZZZZZZ	1937										
ZZZZZZ	ZZZZZZ	1940										
ZZZZZZ	ZZZZZZ	1948										
ZZZZZZ	ZZZZZZ	1951										
ZZZZZZ	ZZZZZZ	1954										
ZZZZZZ	ZZZZZZ	1958										
ZZZZZZ	ZZZZZZ	2001										
ZZZZZZ	ZZZZZZ	2004										
ZZZZZZ	ZZZZZZ	2007										
ZZZZZZ	ZZZZZZ	2011										
CCV05	CCV05	2014	100									
CCB05	CCB05	2029	105									
ZZZZZZ	ZZZZZZ	2032										
ZZZZZZ	ZZZZZZ	2035										
ZZZZZZ	ZZZZZZ	2039										
ZZZZZZ	ZZZZZZ	2042										
ZZZZZZ	ZZZZZZ	2045										

Internal Standard %RI Limit: 70 -130

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: JACOBS Engineering Group, Inc.

Contract: JAC005

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 209Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	ZZZZZZ	2048										
ZZZZZZ	ZZZZZZ	2051										
ZZZZZZ	ZZZZZZ	2054										
ZZZZZZ	ZZZZZZ	2056										
P3440-02	923-K1-WS-08	2059	103									
CCV06	CCV06	2102	102									
CCB06	CCB06	2114	106									
P3440-03	923-K1-WS-08	2117	104									
P3440-01A	923-K1-WS-08	2120	105									
ZZZZZZ	ZZZZZZ	2122										
ZZZZZZ	ZZZZZZ	2126										
ZZZZZZ	ZZZZZZ	2129										
ZZZZZZ	ZZZZZZ	2132										
ZZZZZZ	ZZZZZZ	2135										
ZZZZZZ	ZZZZZZ	2138										
ZZZZZZ	ZZZZZZ	2141										
ZZZZZZ	ZZZZZZ	2144										
CCV07	CCV07	2147	103									
CCB07	CCB07	2155	109									
ZZZZZZ	ZZZZZZ	2200										
ZZZZZZ	ZZZZZZ	2203										
ZZZZZZ	ZZZZZZ	2206										
ZZZZZZ	ZZZZZZ	2209										
ZZZZZZ	ZZZZZZ	2212										
ZZZZZZ	ZZZZZZ	2216										
ZZZZZZ	ZZZZZZ	2219										
ZZZZZZ	ZZZZZZ	2222										
ZZZZZZ	ZZZZZZ	2225										
ZZZZZZ	ZZZZZZ	2228										
CCV08	CCV08	2231	103									
CCB08	CCB08	2250	107									
ZZZZZZ	ZZZZZZ	2254										
ZZZZZZ	ZZZZZZ	2257										
ZZZZZZ	ZZZZZZ	2300										

Internal Standard %RI Limit: 70 -130

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: JACOBS Engineering Group, Inc.

Contract: JAC005

Lab Code: CHEM Case no.: P3451

Sas No.: P3451 SDG No.: P3451

Instrument ID: P7

Start Date : 08/25/2024

Run Number: LB132155

End Date : 08/26/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 209Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	ZZZZZZ	2303										
ZZZZZZ	ZZZZZZ	2306										
ZZZZZZ	ZZZZZZ	2309										
ZZZZZZ	ZZZZZZ	2312										
ZZZZZZ	ZZZZZZ	2315										
ZZZZZZ	ZZZZZZ	2319										
ZZZZZZ	ZZZZZZ	2322										
CCV09	CCV09	2334	98									
CCB09	CCB09	2343	108									
ZZZZZZ	ZZZZZZ	2346										
ZZZZZZ	ZZZZZZ	2350										
ZZZZZZ	ZZZZZZ	2353										
ZZZZZZ	ZZZZZZ	2356										
ZZZZZZ	ZZZZZZ	2359										
ZZZZZZ	ZZZZZZ	0003										
ZZZZZZ	ZZZZZZ	0006										
ZZZZZZ	ZZZZZZ	0009										
ZZZZZZ	ZZZZZZ	0012										
ZZZZZZ	ZZZZZZ	0014										
CCV10	CCV10	0042	100									
CCB10	CCB10	0052	107									
ZZZZZZ	ZZZZZZ	0055										
ZZZZZZ	ZZZZZZ	0058										
P3440-01A	923-K1-WS-08	0115	105									
CCV11	CCV11	0117	100									
CCB11	CCB11	0130	109									

Metals
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ICP SERIAL DILUTIONS

SAMPLE NO.

923-K1-WS-080124L

Lab Name: Chemtech Consulting Group

Contract: JACO05

Lab Code: CHEM **Lb No.:** lb132155 **Lab Sample ID :** P3440-01L **SDG No.:** P3451

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)		Serial Dilution Result (S)		% Difference	Q	M
		C		C			
Aluminum	62.5		169		171		P
Antimony	2.00	U	10.0	U			P
Arsenic	0.79	J	0.90	J	14		P
Barium	64.4		61.2		5		P
Beryllium	1.00	U	5.00	U			P
Cadmium	1.00	U	5.00	U			P
Calcium	22300		21500		3		P
Chromium	2.00	U	10.0	U			P
Cobalt	0.62	J	0.50	J	19		P
Copper	0.83	J	10.0	U	100.0		P
Iron	3220		3150		2		P
Lead	0.52	J	5.00	U	100.0		P
Magnesium	4260		4100		4		P
Manganese	859		857		0		P
Nickel	0.65	J	5.00	U	100.0		P
Mercury	0.20	U	1.00	U			CV
Potassium	3940		3780		4		P
Selenium	5.00	U	25.0	U			P
Silver	1.00	U	5.00	U			P
Sodium	96900		92900		4		P
Thallium	1.00	U	5.00	U			P
Vanadium	0.53	J	0.50	J	6		P
Zinc	3.92	J	8.10	J	107		P



METAL PREPARATION & INSTRUMENT DATA



METAL PREPARATION & ANALYICAL SUMMARY

Metals

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SAMPLE PREPARATION SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Contract: JACO05

Lab Code: CHEM

Method: _____

Case No.: P3451

SAS No.: P3451

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB162680							
P3440-01DUP	923-K1-WS-080124DUP	DUP	WATER	08/12/2024	30.0	30.0	
P3440-02	923-K1-WS-080124MS	MS	WATER	08/12/2024	30.0	30.0	
P3440-03	923-K1-WS-080124MSD	MSD	WATER	08/12/2024	30.0	30.0	
P3451-01	921-J-WS-080124	SAM	WATER	08/12/2024	30.0	30.0	
PB162680BL	PB162680BL	MB	WATER	08/12/2024	30.0	30.0	
PB162680BS	PB162680BS	LCS	WATER	08/12/2024	30.0	30.0	

Metals

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SAMPLE PREPARATION SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3451

Contract: JACO05

Lab Code: CHEM

Method:

Case No.: P3451 **SAS No.:** P3451

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB162950							
P3440-01DUP	923-K1-WS-080124DUP	DUP	WATER	08/23/2024	50.0	50.0	
P3440-02	923-K1-WS-080124MS	MS	WATER	08/23/2024	50.0	50.0	
P3440-03	923-K1-WS-080124MSD	MSD	WATER	08/23/2024	50.0	50.0	
P3451-01	921-J-WS-080124	SAM	WATER	08/23/2024	50.0	50.0	
PB162950BL	PB162950BL	MB	WATER	08/23/2024	50.0	50.0	
PB162950BS	PB162950BS	LCS	WATER	08/23/2024	50.0	50.0	

metals
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ANALYSIS RUN LOG

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab code: CHEM **Case no.:** P3451 **Sas no.:** P3451

Sdg no.: P3451

Instrument id number: **Method:**

Run number: LB131960

Start date: 08/13/2024 **End date:** 08/13/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	0836	HG
S0.2	S0.2	1	0839	HG
S2.5	S2.5	1	0841	HG
S5	S5	1	0843	HG
S7.5	S7.5	1	0845	HG
S10	S10	1	0850	HG
ICV72	ICV72	1	0853	HG
ICB72	ICB72	1	0855	HG
CCV35	CCV35	1	0858	HG
CCB35	CCB35	1	0903	HG
CRA	CRA	1	0910	HG
CCV36	CCV36	1	0933	HG
CCB36	CCB36	1	0935	HG
CCV37	CCV37	1	1000	HG
CCB37	CCB37	1	1005	HG
PB162680BL	PB162680BL	1	1007	HG
PB162680BS	PB162680BS	1	1009	HG
P3440-01DUP	923-K1-WS-080124DUP	1	1025	HG
P3440-02	923-K1-WS-080124MS	1	1028	HG
CCV38	CCV38	1	1030	HG
CCB38	CCB38	1	1035	HG
P3440-03	923-K1-WS-080124MSD	1	1037	HG
P3451-01	921-J-WS-080124	1	1042	HG
CCV39	CCV39	1	1058	HG
CCB39	CCB39	1	1104	HG
P3440-01L	923-K1-WS-080124L	5	1119	HG
CCV40	CCV40	1	1124	HG
CCB40	CCB40	1	1126	HG

metals
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ANALYSIS RUN LOG

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab code: CHEM **Case no.:** P3451

Sas no.: P3451

Sdg no.: P3451

Instrument id number: **Method:**

Run number: LB132155

Start date: 08/25/2024 **End date:** 08/26/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1438	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S2	S2	1	1442	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S3	S3	1	1445	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S4	S4	1	1448	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S5	S5	1	1451	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S6	S6	1	1454	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S7	S7	1	1457	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S8	S8	1	1459	Al,Ca,Fe,K,Mg,Na
ICV01	ICV01	1	1638	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLICV	LLICV	1	1702	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICB01	ICB01	1	1705	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSA01	ICSA01	1	1708	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSAB01	ICSAB01	1	1711	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV01	CCV01	1	1714	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB01	CCB01	1	1723	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CRI	CRI	1	1726	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB162950BL	PB162950BL	1	1731	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB162950BS	PB162950BS	1	1734	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P3451-01	921-J-WS-080124	1	1757	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV02	CCV02	1	1803	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB02	CCB02	1	1809	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P3440-01DUP	923-K1-WS-080124DUP	1	1816	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P3440-01L	923-K1-WS-080124L	5	1819	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P3440-02	923-K1-WS-080124MS	1	1825	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P3440-03	923-K1-WS-080124MSD	1	1828	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV03	CCV03	1	1843	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB03	CCB03	1	1849	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV04	CCV04	1	1927	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB04	CCB04	1	1933	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV05	CCV05	1	2014	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB05	CCB05	1	2029	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV06	CCV06	1	2102	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB06	CCB06	1	2114	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV07	CCV07	1	2147	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB07	CCB07	1	2155	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV08	CCV08	1	2231	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB08	CCB08	1	2250	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV09	CCV09	1	2334	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB09	CCB09	1	2343	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV10	CCV10	1	0042	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB10	CCB10	1	0052	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn

metals
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ANALYSIS RUN LOG

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab code: CHEM **Case no.:** P3451 **Sas no.:** P3451

Sdg no.: P3451

Instrument id number: **Method:**

Run number: LB132155

Start date: 08/25/2024 **End date:** 08/26/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
P3440-01A	923-K1-WS-080124A	1	0115	Ag
CCV11	CCV11	1	0117	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB11	CCB11	1	0130	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn