



LAB CHRONICLE

OrderID:	P3657	OrderDate:	8/16/2024 2:45:00 PM
Client:	JACOBS Engineering Group, Inc.	Project:	Former Schlumberger Site Princeton NJ
Contact:	Mary I. Murphy	Location:	G11,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P3657-01	917-J-WS-081624	Water	Mercury	7470A	08/16/24	08/21/24	08/22/24	08/16/24
			Metals Group4	6020B		09/04/24	09/04/24	

Hit Summary Sheet SW-846

SDG No.:	P3657	Order ID:	P3657
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 : 917-J-WS-081624								
P3657-01	917-J-WS-081624	Water	Aluminum	92.1		1.98	20.0	ug/L
P3657-01	917-J-WS-081624	Water	Antimony	0.23	J	0.11	2.00	ug/L
P3657-01	917-J-WS-081624	Water	Arsenic	1.85		0.090	1.00	ug/L
P3657-01	917-J-WS-081624	Water	Barium	58.0		0.30	10.0	ug/L
P3657-01	917-J-WS-081624	Water	Calcium	19400		62.5	500	ug/L
P3657-01	917-J-WS-081624	Water	Chromium	1.48	J	0.40	2.00	ug/L
P3657-01	917-J-WS-081624	Water	Cobalt	0.60	J	0.062	1.00	ug/L
P3657-01	917-J-WS-081624	Water	Copper	2.68		0.40	2.00	ug/L
P3657-01	917-J-WS-081624	Water	Iron	3070		9.60	50.0	ug/L
P3657-01	917-J-WS-081624	Water	Lead	1.67		0.11	1.00	ug/L
P3657-01	917-J-WS-081624	Water	Magnesium	3500		26.6	500	ug/L
P3657-01	917-J-WS-081624	Water	Manganese	362		0.24	1.00	ug/L
P3657-01	917-J-WS-081624	Water	Nickel	2.83		0.18	1.00	ug/L
P3657-01	917-J-WS-081624	Water	Potassium	2760		46.1	500	ug/L
P3657-01	917-J-WS-081624	Water	Sodium	72200		85.8	500	ug/L
P3657-01	917-J-WS-081624	Water	Vanadium	0.94	J	0.072	5.00	ug/L
P3657-01	917-J-WS-081624	Water	Zinc	11.7		0.56	5.00	ug/L



SAMPLE DATA

Report of Analysis

Client:	JACOBS Engineering Group, Inc.	Date Collected:	08/16/24
Project:	Former Schlumberger Site Princeton NJ	Date Received:	08/16/24
Client Sample ID:	917-J-WS-081624	SDG No.:	P3657
Lab Sample ID:	P3657-01	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	92.1		1	1.98	20.0	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7440-36-0	Antimony	0.23	J	1	0.11	2.00	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7440-38-2	Arsenic	1.85	*	1	0.090	1.00	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7440-39-3	Barium	58.0		1	0.30	10.0	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7440-41-7	Beryllium	0.16	U	1	0.16	1.00	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7440-43-9	Cadmium	0.30	U	1	0.30	1.00	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7440-70-2	Calcium	19400		1	62.5	500	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7440-47-3	Chromium	1.48	J	1	0.40	2.00	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7440-48-4	Cobalt	0.60	J	1	0.062	1.00	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7440-50-8	Copper	2.68		1	0.40	2.00	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7439-89-6	Iron	3070		1	9.60	50.0	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7439-92-1	Lead	1.67		1	0.11	1.00	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7439-95-4	Magnesium	3500		1	26.6	500	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7439-96-5	Manganese	362		1	0.24	1.00	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7439-97-6	Mercury	0.081	UN	1	0.081	0.20	ug/L	08/21/24 15:15	08/22/24 15:53	SW7470A	
7440-02-0	Nickel	2.83		1	0.18	1.00	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7440-09-7	Potassium	2760		1	46.1	500	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7782-49-2	Selenium	1.38	U	1	1.38	5.00	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7440-22-4	Silver	0.077	UN	1	0.077	1.00	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7440-23-5	Sodium	72200		1	85.8	500	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7440-28-0	Thallium	0.085	U	1	0.085	1.00	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7440-62-2	Vanadium	0.94	J	1	0.072	5.00	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A
7440-66-6	Zinc	11.7		1	0.56	5.00	ug/L	09/04/24 12:30	09/04/24 16:16	SW6020	3010A

Color Before:	Colorless	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
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



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

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client:

JACOBS Engineering Group, Inc.

SDG No.:

P3657

Contract:

JACO05

Lab Code:

CHEM

Case No.:

P3657

SAS No.:

P3657

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
ICV92	Mercury	3.78	4.0	95	90 - 110	CV	08/22/2024	14:26	LB132130

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3657
Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3657 **SAS No.:** P3657
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	Mercury	4.95	5.0	99	90 - 110	CV	08/22/2024	14:30	LB132130
CCV12	Mercury	4.83	5.0	96	90 - 110	CV	08/22/2024	14:58	LB132130
CCV13	Mercury	5.05	5.0	101	90 - 110	CV	08/22/2024	15:25	LB132130
CCV14	Mercury	4.60	5.0	92	90 - 110	CV	08/22/2024	15:58	LB132130
CCV15	Mercury	4.92	5.0	98	90 - 110	CV	08/22/2024	16:20	LB132130

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. SDG No.: P3657
Contract: JACO05 Lab Code: CHEM Case No.: P3657 SAS No.: P3657
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	536	500	107	90 - 110	P	09/04/2024	13:51	LB132280
	Antimony	196	200	98	90 - 110	P	09/04/2024	13:51	LB132280
	Arsenic	194	200	97	90 - 110	P	09/04/2024	13:51	LB132280
	Barium	97.8	100	98	90 - 110	P	09/04/2024	13:51	LB132280
	Beryllium	101	100	101	90 - 110	P	09/04/2024	13:51	LB132280
	Cadmium	103	100	103	90 - 110	P	09/04/2024	13:51	LB132280
	Calcium	2070	2000	103	90 - 110	P	09/04/2024	13:51	LB132280
	Chromium	97.1	100	97	90 - 110	P	09/04/2024	13:51	LB132280
	Cobalt	99.8	100	100	90 - 110	P	09/04/2024	13:51	LB132280
	Copper	99.7	100	100	90 - 110	P	09/04/2024	13:51	LB132280
	Iron	2110	2000	106	90 - 110	P	09/04/2024	13:51	LB132280
	Lead	190	200	95	90 - 110	P	09/04/2024	13:51	LB132280
	Magnesium	1200	1200	100	90 - 110	P	09/04/2024	13:51	LB132280
	Manganese	102	100	102	90 - 110	P	09/04/2024	13:51	LB132280
	Nickel	108	110	99	90 - 110	P	09/04/2024	13:51	LB132280
	Potassium	2030	2000	102	90 - 110	P	09/04/2024	13:51	LB132280
	Selenium	196	200	98	90 - 110	P	09/04/2024	13:51	LB132280
	Silver	50.3	50.0	101	90 - 110	P	09/04/2024	13:51	LB132280
	Sodium	2140	2000	107	90 - 110	P	09/04/2024	13:51	LB132280
	Thallium	201	210	96	90 - 110	P	09/04/2024	13:51	LB132280
	Vanadium	93.2	100	93	90 - 110	P	09/04/2024	13:51	LB132280
	Zinc	197	200	98	90 - 110	P	09/04/2024	13:51	LB132280

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. SDG No.: P3657
Contract: JACO05 Lab Code: CHEM Case No.: P3657 SAS No.: P3657
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	20.2	20.0	101	80 - 120	P	09/04/2024	14:06	LB132280
	Antimony	2.02	2.0	101	80 - 120	P	09/04/2024	14:06	LB132280
	Arsenic	1.06	1.0	106	80 - 120	P	09/04/2024	14:06	LB132280
	Barium	9.79	10.0	98	80 - 120	P	09/04/2024	14:06	LB132280
	Beryllium	1.02	1.0	102	80 - 120	P	09/04/2024	14:06	LB132280
	Cadmium	1.03	1.0	103	80 - 120	P	09/04/2024	14:06	LB132280
	Calcium	508	500	102	80 - 120	P	09/04/2024	14:06	LB132280
	Chromium	1.84	2.0	92	80 - 120	P	09/04/2024	14:06	LB132280
	Cobalt	1.11	1.0	111	80 - 120	P	09/04/2024	14:06	LB132280
	Copper	2.05	2.0	102	80 - 120	P	09/04/2024	14:06	LB132280
	Iron	49.1	50.0	98	80 - 120	P	09/04/2024	14:06	LB132280
	Lead	0.90	1.0	90	80 - 120	P	09/04/2024	14:06	LB132280
	Magnesium	541	500	108	80 - 120	P	09/04/2024	14:06	LB132280
	Manganese	0.96	1.0	96	80 - 120	P	09/04/2024	14:06	LB132280
	Nickel	0.93	1.0	93	80 - 120	P	09/04/2024	14:06	LB132280
	Potassium	524	500	105	80 - 120	P	09/04/2024	14:06	LB132280
	Selenium	4.28	5.0	86	80 - 120	P	09/04/2024	14:06	LB132280
	Silver	0.97	1.0	97	80 - 120	P	09/04/2024	14:06	LB132280
	Sodium	560	500	112	80 - 120	P	09/04/2024	14:06	LB132280
	Thallium	0.90	1.0	90	80 - 120	P	09/04/2024	14:06	LB132280
	Vanadium	5.08	5.0	102	80 - 120	P	09/04/2024	14:06	LB132280
	Zinc	5.19	5.0	104	80 - 120	P	09/04/2024	14:06	LB132280

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. SDG No.: P3657
Contract: JACO05 Lab Code: CHEM Case No.: P3657 SAS No.: P3657
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	50200	50000	100	90 - 110	P	09/04/2024	14:20	LB132280
	Antimony	501	500	100	90 - 110	P	09/04/2024	14:20	LB132280
	Arsenic	518	500	104	90 - 110	P	09/04/2024	14:20	LB132280
	Barium	2530	2500	101	90 - 110	P	09/04/2024	14:20	LB132280
	Beryllium	519	500	104	90 - 110	P	09/04/2024	14:20	LB132280
	Cadmium	498	500	100	90 - 110	P	09/04/2024	14:20	LB132280
	Calcium	254000	250000	102	90 - 110	P	09/04/2024	14:20	LB132280
	Chromium	507	500	101	90 - 110	P	09/04/2024	14:20	LB132280
	Cobalt	501	500	100	90 - 110	P	09/04/2024	14:20	LB132280
	Copper	4900	5000	98	90 - 110	P	09/04/2024	14:20	LB132280
	Iron	128000	125000	103	90 - 110	P	09/04/2024	14:20	LB132280
	Lead	2520	2500	101	90 - 110	P	09/04/2024	14:20	LB132280
	Magnesium	254000	250000	101	90 - 110	P	09/04/2024	14:20	LB132280
	Manganese	5060	5000	101	90 - 110	P	09/04/2024	14:20	LB132280
	Nickel	497	500	99	90 - 110	P	09/04/2024	14:20	LB132280
	Potassium	133000	125000	107	90 - 110	P	09/04/2024	14:20	LB132280
	Selenium	501	500	100	90 - 110	P	09/04/2024	14:20	LB132280
	Silver	494	500	99	90 - 110	P	09/04/2024	14:20	LB132280
	Sodium	256000	250000	102	90 - 110	P	09/04/2024	14:20	LB132280
	Thallium	512	500	102	90 - 110	P	09/04/2024	14:20	LB132280
	Vanadium	508	500	102	90 - 110	P	09/04/2024	14:20	LB132280
	Zinc	4890	5000	98	90 - 110	P	09/04/2024	14:20	LB132280
CCV02	Aluminum	52300	50000	105	90 - 110	P	09/04/2024	15:47	LB132280
	Antimony	498	500	100	90 - 110	P	09/04/2024	15:47	LB132280
	Arsenic	502	500	100	90 - 110	P	09/04/2024	15:47	LB132280
	Barium	2510	2500	100	90 - 110	P	09/04/2024	15:47	LB132280
	Beryllium	526	500	105	90 - 110	P	09/04/2024	15:47	LB132280
	Cadmium	493	500	99	90 - 110	P	09/04/2024	15:47	LB132280
	Calcium	256000	250000	102	90 - 110	P	09/04/2024	15:47	LB132280
	Chromium	512	500	102	90 - 110	P	09/04/2024	15:47	LB132280
	Cobalt	504	500	101	90 - 110	P	09/04/2024	15:47	LB132280
	Copper	5210	5000	104	90 - 110	P	09/04/2024	15:47	LB132280
	Iron	130000	125000	104	90 - 110	P	09/04/2024	15:47	LB132280
	Lead	2520	2500	101	90 - 110	P	09/04/2024	15:47	LB132280

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. SDG No.: P3657
 Contract: JACO05 Lab Code: CHEM Case No.: P3657 SAS No.: P3657
 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	261000	250000	104	90 - 110	P	09/04/2024	15:47	LB132280
	Manganese	5160	5000	103	90 - 110	P	09/04/2024	15:47	LB132280
	Nickel	495	500	99	90 - 110	P	09/04/2024	15:47	LB132280
	Potassium	129000	125000	103	90 - 110	P	09/04/2024	15:47	LB132280
	Selenium	504	500	101	90 - 110	P	09/04/2024	15:47	LB132280
	Silver	485	500	97	90 - 110	P	09/04/2024	15:47	LB132280
	Sodium	263000	250000	105	90 - 110	P	09/04/2024	15:47	LB132280
	Thallium	519	500	104	90 - 110	P	09/04/2024	15:47	LB132280
	Vanadium	514	500	103	90 - 110	P	09/04/2024	15:47	LB132280
	Zinc	5150	5000	103	90 - 110	P	09/04/2024	15:47	LB132280
CCV03	Aluminum	51400	50000	103	90 - 110	P	09/04/2024	16:30	LB132280
	Antimony	494	500	99	90 - 110	P	09/04/2024	16:30	LB132280
	Arsenic	499	500	100	90 - 110	P	09/04/2024	16:30	LB132280
	Barium	2510	2500	100	90 - 110	P	09/04/2024	16:30	LB132280
	Beryllium	516	500	103	90 - 110	P	09/04/2024	16:30	LB132280
	Cadmium	490	500	98	90 - 110	P	09/04/2024	16:30	LB132280
	Calcium	249000	250000	100	90 - 110	P	09/04/2024	16:30	LB132280
	Chromium	500	500	100	90 - 110	P	09/04/2024	16:30	LB132280
	Cobalt	496	500	99	90 - 110	P	09/04/2024	16:30	LB132280
	Copper	5020	5000	100	90 - 110	P	09/04/2024	16:30	LB132280
	Iron	130000	125000	104	90 - 110	P	09/04/2024	16:30	LB132280
	Lead	2560	2500	102	90 - 110	P	09/04/2024	16:30	LB132280
	Magnesium	256000	250000	102	90 - 110	P	09/04/2024	16:30	LB132280
	Manganese	5080	5000	102	90 - 110	P	09/04/2024	16:30	LB132280
	Nickel	489	500	98	90 - 110	P	09/04/2024	16:30	LB132280
	Potassium	128000	125000	102	90 - 110	P	09/04/2024	16:30	LB132280
	Selenium	494	500	99	90 - 110	P	09/04/2024	16:30	LB132280
	Silver	492	500	98	90 - 110	P	09/04/2024	16:30	LB132280
	Sodium	258000	250000	103	90 - 110	P	09/04/2024	16:30	LB132280
	Thallium	514	500	103	90 - 110	P	09/04/2024	16:30	LB132280
	Vanadium	504	500	101	90 - 110	P	09/04/2024	16:30	LB132280
	Zinc	4900	5000	98	90 - 110	P	09/04/2024	16:30	LB132280
CCV04	Aluminum	53100	50000	106	90 - 110	P	09/04/2024	17:28	LB132280
	Antimony	497	500	99	90 - 110	P	09/04/2024	17:28	LB132280

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. SDG No.: P3657
Contract: JACO05 Lab Code: CHEM Case No.: P3657 SAS No.: P3657
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	504	500	101	90 - 110	P	09/04/2024	17:28	LB132280
	Barium	2540	2500	102	90 - 110	P	09/04/2024	17:28	LB132280
	Beryllium	520	500	104	90 - 110	P	09/04/2024	17:28	LB132280
	Cadmium	495	500	99	90 - 110	P	09/04/2024	17:28	LB132280
	Calcium	250000	250000	100	90 - 110	P	09/04/2024	17:28	LB132280
	Chromium	509	500	102	90 - 110	P	09/04/2024	17:28	LB132280
	Cobalt	503	500	100	90 - 110	P	09/04/2024	17:28	LB132280
	Copper	4980	5000	100	90 - 110	P	09/04/2024	17:28	LB132280
	Iron	133000	125000	106	90 - 110	P	09/04/2024	17:28	LB132280
	Lead	2520	2500	101	90 - 110	P	09/04/2024	17:28	LB132280
	Magnesium	262000	250000	105	90 - 110	P	09/04/2024	17:28	LB132280
	Manganese	5180	5000	104	90 - 110	P	09/04/2024	17:28	LB132280
	Nickel	493	500	99	90 - 110	P	09/04/2024	17:28	LB132280
	Potassium	130000	125000	104	90 - 110	P	09/04/2024	17:28	LB132280
	Selenium	487	500	97	90 - 110	P	09/04/2024	17:28	LB132280
	Silver	488	500	98	90 - 110	P	09/04/2024	17:28	LB132280
	Sodium	261000	250000	104	90 - 110	P	09/04/2024	17:28	LB132280
	Thallium	520	500	104	90 - 110	P	09/04/2024	17:28	LB132280
	Vanadium	509	500	102	90 - 110	P	09/04/2024	17:28	LB132280
	Zinc	4890	5000	98	90 - 110	P	09/04/2024	17:28	LB132280
CCV05	Aluminum	52800	50000	106	90 - 110	P	09/04/2024	18:17	LB132280
	Antimony	508	500	102	90 - 110	P	09/04/2024	18:17	LB132280
	Arsenic	512	500	102	90 - 110	P	09/04/2024	18:17	LB132280
	Barium	2640	2500	106	90 - 110	P	09/04/2024	18:17	LB132280
	Beryllium	528	500	106	90 - 110	P	09/04/2024	18:17	LB132280
	Cadmium	505	500	101	90 - 110	P	09/04/2024	18:17	LB132280
	Calcium	258000	250000	103	90 - 110	P	09/04/2024	18:17	LB132280
	Chromium	510	500	102	90 - 110	P	09/04/2024	18:17	LB132280
	Cobalt	506	500	101	90 - 110	P	09/04/2024	18:17	LB132280
	Copper	5040	5000	101	90 - 110	P	09/04/2024	18:17	LB132280
	Iron	134000	125000	108	90 - 110	P	09/04/2024	18:17	LB132280
	Lead	2540	2500	102	90 - 110	P	09/04/2024	18:17	LB132280
	Magnesium	264000	250000	106	90 - 110	P	09/04/2024	18:17	LB132280
	Manganese	5120	5000	102	90 - 110	P	09/04/2024	18:17	LB132280

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3657

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3657 **SAS No.:** P3657

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	493	500	99	90 - 110	P	09/04/2024	18:17	LB132280
	Potassium	132000	125000	106	90 - 110	P	09/04/2024	18:17	LB132280
	Selenium	498	500	100	90 - 110	P	09/04/2024	18:17	LB132280
	Silver	512	500	102	90 - 110	P	09/04/2024	18:17	LB132280
	Sodium	264000	250000	105	90 - 110	P	09/04/2024	18:17	LB132280
	Thallium	520	500	104	90 - 110	P	09/04/2024	18:17	LB132280
	Vanadium	515	500	103	90 - 110	P	09/04/2024	18:17	LB132280
	Zinc	4930	5000	99	90 - 110	P	09/04/2024	18:17	LB132280



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

Metals

- 2b -

CRDL STANDARD FOR AA & ICP

Client: JACOBS Engineering Group, Inc.

SDG No.: P3657

Contract: JACO05

Lab Code: CHEM

Case No.: P3657

SAS No.: P3657

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	0.23	0.2	117	40 - 160	CV	08/22/2024	14:35	LB132130
CRI	Aluminum	20.0	20.0	100	70 - 130	P	09/04/2024	14:40	LB132280
	Antimony	1.94	2.0	97	70 - 130	P	09/04/2024	14:40	LB132280
	Arsenic	1.00	1.0	100	70 - 130	P	09/04/2024	14:40	LB132280
	Barium	9.47	10.0	95	70 - 130	P	09/04/2024	14:40	LB132280
	Beryllium	1.12	1.0	112	70 - 130	P	09/04/2024	14:40	LB132280
	Cadmium	0.97	1.0	97	70 - 130	P	09/04/2024	14:40	LB132280
	Calcium	479	500	96	70 - 130	P	09/04/2024	14:40	LB132280
	Chromium	1.92	2.0	96	70 - 130	P	09/04/2024	14:40	LB132280
	Cobalt	1.02	1.0	102	50 - 150	P	09/04/2024	14:40	LB132280
	Copper	2.04	2.0	102	70 - 130	P	09/04/2024	14:40	LB132280
	Iron	50.1	50.0	100	70 - 130	P	09/04/2024	14:40	LB132280
	Lead	0.91	1.0	91	70 - 130	P	09/04/2024	14:40	LB132280
	Magnesium	528	500	106	70 - 130	P	09/04/2024	14:40	LB132280
	Manganese	0.96	1.0	96	50 - 150	P	09/04/2024	14:40	LB132280
	Nickel	1.05	1.0	105	70 - 130	P	09/04/2024	14:40	LB132280
	Potassium	527	500	105	70 - 130	P	09/04/2024	14:40	LB132280
	Selenium	4.95	5.0	99	70 - 130	P	09/04/2024	14:40	LB132280
	Silver	0.95	1.0	95	70 - 130	P	09/04/2024	14:40	LB132280
	Sodium	554	500	111	70 - 130	P	09/04/2024	14:40	LB132280
	Thallium	0.87	1.0	87	70 - 130	P	09/04/2024	14:40	LB132280
	Vanadium	4.85	5.0	97	70 - 130	P	09/04/2024	14:40	LB132280
	Zinc	4.81	5.0	96	50 - 150	P	09/04/2024	14:40	LB132280



- 3a -

Client:	JACOBS Engineering Group, Inc.		SDG No.:	P3657	
Contract:	JACO05	Lab Code:	CHEM	Case No.:	P3657
				SAS No.:	P3657

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB92	Mercury	0.20	+/-0.20	U	0.20	CV	08/22/2024	14:28	LB132130

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3657

Contract: JACO05

Lab Code: CHEM

Case No.: P3657

SAS No.: P3657

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB11	Mercury	0.20	+/-0.20	U	0.20	CV	08/22/2024	14:33	LB132130
CCB12	Mercury	0.20	+/-0.20	U	0.20	CV	08/22/2024	15:00	LB132130
CCB13	Mercury	0.20	+/-0.20	U	0.20	CV	08/22/2024	15:27	LB132130
CCB14	Mercury	0.20	+/-0.20	U	0.20	CV	08/22/2024	16:00	LB132130
CCB15	Mercury	0.20	+/-0.20	U	0.20	CV	08/22/2024	16:23	LB132130

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3657

Contract: JACO05

Lab Code: CHEM

Case No.: P3657

SAS No.: P3657

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	09/04/2024	14:10	LB132280
	Antimony	2.00	+/-2.00	U	2.00	P	09/04/2024	14:10	LB132280
	Arsenic	1.00	+/-1.00	U	1.00	P	09/04/2024	14:10	LB132280
	Barium	10.0	+/-10.0	U	10.0	P	09/04/2024	14:10	LB132280
	Beryllium	1.00	+/-1.00	U	1.00	P	09/04/2024	14:10	LB132280
	Cadmium	1.00	+/-1.00	U	1.00	P	09/04/2024	14:10	LB132280
	Calcium	500	+/-500	U	500	P	09/04/2024	14:10	LB132280
	Chromium	2.00	+/-2.00	U	2.00	P	09/04/2024	14:10	LB132280
	Cobalt	1.00	+/-1.00	U	1.00	P	09/04/2024	14:10	LB132280
	Copper	2.00	+/-2.00	U	2.00	P	09/04/2024	14:10	LB132280
	Iron	50.0	+/-50.0	U	50.0	P	09/04/2024	14:10	LB132280
	Lead	1.00	+/-1.00	U	1.00	P	09/04/2024	14:10	LB132280
	Magnesium	500	+/-500	U	500	P	09/04/2024	14:10	LB132280
	Manganese	1.00	+/-1.00	U	1.00	P	09/04/2024	14:10	LB132280
	Nickel	1.00	+/-1.00	U	1.00	P	09/04/2024	14:10	LB132280
	Potassium	500	+/-500	U	500	P	09/04/2024	14:10	LB132280
	Selenium	5.00	+/-5.00	U	5.00	P	09/04/2024	14:10	LB132280
	Silver	1.00	+/-1.00	U	1.00	P	09/04/2024	14:10	LB132280
	Sodium	500	+/-500	U	500	P	09/04/2024	14:10	LB132280
	Thallium	1.00	+/-1.00	U	1.00	P	09/04/2024	14:10	LB132280
	Vanadium	5.00	+/-5.00	U	5.00	P	09/04/2024	14:10	LB132280
	Zinc	5.00	+/-5.00	U	5.00	P	09/04/2024	14:10	LB132280

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3657

Contract: JACO05

Lab Code: CHEM

Case No.: P3657

SAS No.: P3657

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	09/04/2024	14:34	LB132280
	Antimony	2.00	+/-2.00	U	2.00	P	09/04/2024	14:34	LB132280
	Arsenic	1.00	+/-1.00	U	1.00	P	09/04/2024	14:34	LB132280
	Barium	10.0	+/-10.0	U	10.0	P	09/04/2024	14:34	LB132280
	Beryllium	1.00	+/-1.00	U	1.00	P	09/04/2024	14:34	LB132280
	Cadmium	1.00	+/-1.00	U	1.00	P	09/04/2024	14:34	LB132280
	Calcium	500	+/-500	U	500	P	09/04/2024	14:34	LB132280
	Chromium	2.00	+/-2.00	U	2.00	P	09/04/2024	14:34	LB132280
	Cobalt	1.00	+/-1.00	U	1.00	P	09/04/2024	14:34	LB132280
	Copper	2.00	+/-2.00	U	2.00	P	09/04/2024	14:34	LB132280
	Iron	50.0	+/-50.0	U	50.0	P	09/04/2024	14:34	LB132280
	Lead	1.00	+/-1.00	U	1.00	P	09/04/2024	14:34	LB132280
	Magnesium	500	+/-500	U	500	P	09/04/2024	14:34	LB132280
	Manganese	1.00	+/-1.00	U	1.00	P	09/04/2024	14:34	LB132280
	Nickel	1.00	+/-1.00	U	1.00	P	09/04/2024	14:34	LB132280
	Potassium	500	+/-500	U	500	P	09/04/2024	14:34	LB132280
	Selenium	5.00	+/-5.00	U	5.00	P	09/04/2024	14:34	LB132280
	Silver	1.00	+/-1.00	U	1.00	P	09/04/2024	14:34	LB132280
	Sodium	500	+/-500	U	500	P	09/04/2024	14:34	LB132280
	Thallium	1.00	+/-1.00	U	1.00	P	09/04/2024	14:34	LB132280
	Vanadium	5.00	+/-5.00	U	5.00	P	09/04/2024	14:34	LB132280
	Zinc	5.00	+/-5.00	U	5.00	P	09/04/2024	14:34	LB132280
CCB02	Aluminum	20.0	+/-20.0	U	20.0	P	09/04/2024	15:54	LB132280
	Antimony	0.20	+/-2.00	J	2.00	P	09/04/2024	15:54	LB132280
	Arsenic	1.00	+/-1.00	U	1.00	P	09/04/2024	15:54	LB132280
	Barium	10.0	+/-10.0	U	10.0	P	09/04/2024	15:54	LB132280
	Beryllium	1.00	+/-1.00	U	1.00	P	09/04/2024	15:54	LB132280
	Cadmium	1.00	+/-1.00	U	1.00	P	09/04/2024	15:54	LB132280
	Calcium	500	+/-500	U	500	P	09/04/2024	15:54	LB132280
	Chromium	0.42	+/-2.00	J	2.00	P	09/04/2024	15:54	LB132280
	Cobalt	1.00	+/-1.00	U	1.00	P	09/04/2024	15:54	LB132280
	Copper	2.00	+/-2.00	U	2.00	P	09/04/2024	15:54	LB132280
	Iron	50.0	+/-50.0	U	50.0	P	09/04/2024	15:54	LB132280
	Lead	0.15	+/-1.00	J	1.00	P	09/04/2024	15:54	LB132280
	Magnesium	500	+/-500	U	500	P	09/04/2024	15:54	LB132280
	Manganese	1.00	+/-1.00	U	1.00	P	09/04/2024	15:54	LB132280
	Nickel	0.25	+/-1.00	J	1.00	P	09/04/2024	15:54	LB132280
	Potassium	500	+/-500	U	500	P	09/04/2024	15:54	LB132280
	Selenium	5.00	+/-5.00	U	5.00	P	09/04/2024	15:54	LB132280

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3657

Contract: JACO05

Lab Code: CHEM

Case No.: P3657

SAS No.: P3657

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	09/04/2024	15:54	LB132280
	Sodium	500	+/-500	U	500	P	09/04/2024	15:54	LB132280
	Thallium	1.00	+/-1.00	U	1.00	P	09/04/2024	15:54	LB132280
	Vanadium	5.00	+/-5.00	U	5.00	P	09/04/2024	15:54	LB132280
	Zinc	5.00	+/-5.00	U	5.00	P	09/04/2024	15:54	LB132280
CCB03	Aluminum	20.0	+/-20.0	U	20.0	P	09/04/2024	16:46	LB132280
	Antimony	2.00	+/-2.00	U	2.00	P	09/04/2024	16:46	LB132280
	Arsenic	1.00	+/-1.00	U	1.00	P	09/04/2024	16:46	LB132280
	Barium	10.0	+/-10.0	U	10.0	P	09/04/2024	16:46	LB132280
	Beryllium	1.00	+/-1.00	U	1.00	P	09/04/2024	16:46	LB132280
	Cadmium	1.00	+/-1.00	U	1.00	P	09/04/2024	16:46	LB132280
	Calcium	500	+/-500	U	500	P	09/04/2024	16:46	LB132280
	Chromium	0.45	+/-2.00	J	2.00	P	09/04/2024	16:46	LB132280
	Cobalt	1.00	+/-1.00	U	1.00	P	09/04/2024	16:46	LB132280
	Copper	2.00	+/-2.00	U	2.00	P	09/04/2024	16:46	LB132280
	Iron	50.0	+/-50.0	U	50.0	P	09/04/2024	16:46	LB132280
	Lead	1.00	+/-1.00	U	1.00	P	09/04/2024	16:46	LB132280
	Magnesium	500	+/-500	U	500	P	09/04/2024	16:46	LB132280
	Manganese	0.28	+/-1.00	J	1.00	P	09/04/2024	16:46	LB132280
	Nickel	0.29	+/-1.00	J	1.00	P	09/04/2024	16:46	LB132280
	Potassium	500	+/-500	U	500	P	09/04/2024	16:46	LB132280
	Selenium	5.00	+/-5.00	U	5.00	P	09/04/2024	16:46	LB132280
	Silver	1.00	+/-1.00	U	1.00	P	09/04/2024	16:46	LB132280
	Sodium	500	+/-500	U	500	P	09/04/2024	16:46	LB132280
	Thallium	1.00	+/-1.00	U	1.00	P	09/04/2024	16:46	LB132280
CCB04	Vanadium	5.00	+/-5.00	U	5.00	P	09/04/2024	16:46	LB132280
	Zinc	5.00	+/-5.00	U	5.00	P	09/04/2024	16:46	LB132280
	Aluminum	20.0	+/-20.0	U	20.0	P	09/04/2024	17:36	LB132280
	Antimony	0.18	+/-2.00	J	2.00	P	09/04/2024	17:36	LB132280
	Arsenic	1.00	+/-1.00	U	1.00	P	09/04/2024	17:36	LB132280
	Barium	10.0	+/-10.0	U	10.0	P	09/04/2024	17:36	LB132280
	Beryllium	1.00	+/-1.00	U	1.00	P	09/04/2024	17:36	LB132280
	Cadmium	1.00	+/-1.00	U	1.00	P	09/04/2024	17:36	LB132280
	Calcium	500	+/-500	U	500	P	09/04/2024	17:36	LB132280
	Chromium	0.47	+/-2.00	J	2.00	P	09/04/2024	17:36	LB132280
	Cobalt	1.00	+/-1.00	U	1.00	P	09/04/2024	17:36	LB132280
	Copper	2.00	+/-2.00	U	2.00	P	09/04/2024	17:36	LB132280
	Iron	50.0	+/-50.0	U	50.0	P	09/04/2024	17:36	LB132280
	Lead	0.19	+/-1.00	J	1.00	P	09/04/2024	17:36	LB132280

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3657

Contract: JACO05

Lab Code: CHEM

Case No.: P3657

SAS No.: P3657

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	09/04/2024	17:36	LB132280
	Manganese	0.38	+/-1.00	J	1.00	P	09/04/2024	17:36	LB132280
	Nickel	0.27	+/-1.00	J	1.00	P	09/04/2024	17:36	LB132280
	Potassium	500	+/-500	U	500	P	09/04/2024	17:36	LB132280
	Selenium	5.00	+/-5.00	U	5.00	P	09/04/2024	17:36	LB132280
	Silver	1.00	+/-1.00	U	1.00	P	09/04/2024	17:36	LB132280
	Sodium	500	+/-500	U	500	P	09/04/2024	17:36	LB132280
	Thallium	1.00	+/-1.00	U	1.00	P	09/04/2024	17:36	LB132280
	Vanadium	5.00	+/-5.00	U	5.00	P	09/04/2024	17:36	LB132280
	Zinc	5.00	+/-5.00	U	5.00	P	09/04/2024	17:36	LB132280
CCB05	Aluminum	20.0	+/-20.0	U	20.0	P	09/04/2024	18:24	LB132280
	Antimony	0.24	+/-2.00	J	2.00	P	09/04/2024	18:24	LB132280
	Arsenic	1.00	+/-1.00	U	1.00	P	09/04/2024	18:24	LB132280
	Barium	10.0	+/-10.0	U	10.0	P	09/04/2024	18:24	LB132280
	Beryllium	1.00	+/-1.00	U	1.00	P	09/04/2024	18:24	LB132280
	Cadmium	1.00	+/-1.00	U	1.00	P	09/04/2024	18:24	LB132280
	Calcium	500	+/-500	U	500	P	09/04/2024	18:24	LB132280
	Chromium	0.44	+/-2.00	J	2.00	P	09/04/2024	18:24	LB132280
	Cobalt	1.00	+/-1.00	U	1.00	P	09/04/2024	18:24	LB132280
	Copper	2.00	+/-2.00	U	2.00	P	09/04/2024	18:24	LB132280
	Iron	50.0	+/-50.0	U	50.0	P	09/04/2024	18:24	LB132280
	Lead	0.25	+/-1.00	J	1.00	P	09/04/2024	18:24	LB132280
	Magnesium	500	+/-500	U	500	P	09/04/2024	18:24	LB132280
	Manganese	1.00	+/-1.00	U	1.00	P	09/04/2024	18:24	LB132280
	Nickel	0.31	+/-1.00	J	1.00	P	09/04/2024	18:24	LB132280
	Potassium	500	+/-500	U	500	P	09/04/2024	18:24	LB132280
	Selenium	5.00	+/-5.00	U	5.00	P	09/04/2024	18:24	LB132280
	Silver	1.00	+/-1.00	U	1.00	P	09/04/2024	18:24	LB132280
	Sodium	500	+/-500	U	500	P	09/04/2024	18:24	LB132280
	Thallium	1.00	+/-1.00	U	1.00	P	09/04/2024	18:24	LB132280
	Vanadium	5.00	+/-5.00	U	5.00	P	09/04/2024	18:24	LB132280
	Zinc	5.00	+/-5.00	U	5.00	P	09/04/2024	18:24	LB132280

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3657

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB162924BL		WATER		Batch Number:	PB162924		Prep Date:	08/21/2024	
	Mercury	0.20	<0.20	U	0.20	CV	08/22/2024	15:39	LB132130

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3657

Instrument: P7

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB163150BL	WATER			Batch Number:	PB163150		Prep Date:	09/04/2024	
	Aluminum	20.0	<20.0	U	20.0	P	09/04/2024	14:56	LB132280
	Antimony	2.00	<2.00	U	2.00	P	09/04/2024	14:56	LB132280
	Arsenic	1.00	<1.00	U	1.00	P	09/04/2024	14:56	LB132280
	Barium	10.0	<10.0	U	10.0	P	09/04/2024	14:56	LB132280
	Beryllium	1.00	<1.00	U	1.00	P	09/04/2024	14:56	LB132280
	Cadmium	1.00	<1.00	U	1.00	P	09/04/2024	14:56	LB132280
	Calcium	500	<500	U	500	P	09/04/2024	14:56	LB132280
	Chromium	2.00	<2.00	U	2.00	P	09/04/2024	14:56	LB132280
	Cobalt	1.00	<1.00	U	1.00	P	09/04/2024	14:56	LB132280
	Copper	2.00	<2.00	U	2.00	P	09/04/2024	14:56	LB132280
	Iron	50.0	<50.0	U	50.0	P	09/04/2024	14:56	LB132280
	Lead	1.00	<1.00	U	1.00	P	09/04/2024	14:56	LB132280
	Magnesium	500	<500	U	500	P	09/04/2024	14:56	LB132280
	Manganese	1.00	<1.00	U	1.00	P	09/04/2024	14:56	LB132280
	Nickel	1.00	<1.00	U	1.00	P	09/04/2024	14:56	LB132280
	Potassium	500	<500	U	500	P	09/04/2024	14:56	LB132280
	Selenium	5.00	<5.00	U	5.00	P	09/04/2024	14:56	LB132280
	Silver	1.00	<1.00	U	1.00	P	09/04/2024	14:56	LB132280
	Sodium	500	<500	U	500	P	09/04/2024	14:56	LB132280
	Thallium	1.00	<1.00	U	1.00	P	09/04/2024	14:56	LB132280
	Vanadium	5.00	<5.00	U	5.00	P	09/04/2024	14:56	LB132280
	Zinc	5.00	<5.00	U	5.00	P	09/04/2024	14:56	LB132280

Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3657
Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3657 **SAS No.:** P3657
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	91600	100000	92	0	0	09/04/2024	14:13	LB132280
	Antimony	1.06	1.5	71	-2.5	5.5	09/04/2024	14:13	LB132280
	Arsenic	0.37	0.1	370	-1.9	2.1	09/04/2024	14:13	LB132280
	Barium	1.36	1.2	113	-18.8	21.2	09/04/2024	14:13	LB132280
	Beryllium	0.26			-2	2	09/04/2024	14:13	LB132280
	Cadmium	0.18	0.7	26	-1.3	2.7	09/04/2024	14:13	LB132280
	Calcium	96000	100000	96	0	0	09/04/2024	14:13	LB132280
	Chromium	19.6	21.0	93	17	25	09/04/2024	14:13	LB132280
	Cobalt	1.21	1.0	121	-1	3	09/04/2024	14:13	LB132280
	Copper	8.03	8.0	100	4	12	09/04/2024	14:13	LB132280
	Iron	101000	100000	101	0	0	09/04/2024	14:13	LB132280
	Lead	4.34	4.0	108	2	6	09/04/2024	14:13	LB132280
	Magnesium	91700	100000	92	0	0	09/04/2024	14:13	LB132280
	Manganese	8.04	7.0	115	5	9	09/04/2024	14:13	LB132280
	Nickel	5.26	6.0	88	4	8	09/04/2024	14:13	LB132280
	Potassium	97600	100000	98	0	0	09/04/2024	14:13	LB132280
	Selenium	0	0.3		-9.7	10	09/04/2024	14:13	LB132280
	Silver	0.080			-2	2	09/04/2024	14:13	LB132280
	Sodium	98300	100000	98	0	0	09/04/2024	14:13	LB132280
	Thallium	0.080			-2	2	09/04/2024	14:13	LB132280
	Vanadium	0.18	0.5	36	-9.5	10.5	09/04/2024	14:13	LB132280
	Zinc	11.0	11.0	100	7	15	09/04/2024	14:13	LB132280
ICSAB01	Aluminum	90900	100000	91	0	0	09/04/2024	14:17	LB132280
	Antimony	20.3	22.0	92	18	26	09/04/2024	14:17	LB132280
	Arsenic	19.5	19.0	103	16.2	21.9	09/04/2024	14:17	LB132280
	Barium	20.2	22.0	92	2	42	09/04/2024	14:17	LB132280
	Beryllium	19.6	19.0	103	16.2	21.9	09/04/2024	14:17	LB132280
	Cadmium	19.2	20.0	96	17	23	09/04/2024	14:17	LB132280
	Calcium	95100	100000	95	0	0	09/04/2024	14:17	LB132280
	Chromium	38.6	40.0	96	34	46	09/04/2024	14:17	LB132280
	Cobalt	21.1	20.0	106	17	23	09/04/2024	14:17	LB132280
	Copper	27.2	25.0	109	21	29	09/04/2024	14:17	LB132280
	Iron	101000	100000	101	0	0	09/04/2024	14:17	LB132280
	Lead	22.8	25.0	91	21.3	28.8	09/04/2024	14:17	LB132280
	Magnesium	91200	100000	91	0	0	09/04/2024	14:17	LB132280
	Manganese	28.3	27.0	105	23	31.1	09/04/2024	14:17	LB132280
	Nickel	25.1	24.0	105	20.4	27.6	09/04/2024	14:17	LB132280
	Potassium	98200	100000	98	0	0	09/04/2024	14:17	LB132280
	Selenium	19.0	19.0	100	9	29	09/04/2024	14:17	LB132280
	Silver	18.5	18.0	103	15.3	20.7	09/04/2024	14:17	LB132280
	Sodium	97000	100000	97	0	0	09/04/2024	14:17	LB132280
	Thallium	18.9	21.0	90	17.9	24.2	09/04/2024	14:17	LB132280

Metals

- 4 -

INTERFERENCE CHECK SAMPLE

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3657
Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3657 **SAS No.:** P3657
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	19.1	19.0	100	9	29	09/04/2024	14:17	LB132280
	Zinc	30.8	29.0	106	25	33	09/04/2024	14:17	LB132280



METAL QC DATA

metals
- 5a -
MATRIX SPIKE SUMMARY

client:	<u>JACOBS Engineering Group, Inc.</u>	level:	<u>low</u>	sdg no.:	<u>P3657</u>
contract:	<u>JACO05</u>	lab code:	<u>CHEM</u>	case no.:	<u>P3657</u>
matrix:	<u>Water</u>	sample id:	<u>P3596-02</u>	client id:	<u>918-J-WS-081324-FDMS</u>
Percent Solids for Sample:	<u>NA</u>	Spiked ID:	<u>P3596-02MS</u>	Percent Solids for Spike Sample:	<u>NA</u>

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	75 - 125	10000		88.2		10000	99		P
Antimony	ug/L	75 - 125	511		0.23	J	500	102		P
Arsenic	ug/L	75 - 125	530		1.74		500	106		P
Barium	ug/L	75 - 125	2510		57.6		2500	98		P
Beryllium	ug/L	75 - 125	556		1.00	U	500	111		P
Cadmium	ug/L	75 - 125	545		1.00	U	500	109		P
Calcium	ug/L	75 - 125	66000		19100		50000	94		P
Chromium	ug/L	75 - 125	510		1.21	J	500	102		P
Cobalt	ug/L	75 - 125	533		0.74	J	500	106		P
Copper	ug/L	75 - 125	5050		3.59		5000	101		P
Iron	ug/L	75 - 125	30200		3340		25000	107		P
Lead	ug/L	75 - 125	2550		1.75		2500	102		P
Magnesium	ug/L	75 - 125	53600		3440		50000	100		P
Manganese	ug/L	75 - 125	5510		511		5000	100		P
Nickel	ug/L	75 - 125	517		1.28		500	103		P
Potassium	ug/L	75 - 125	27600		2770		25000	100		P
Selenium	ug/L	75 - 125	525		5.00	U	500	105		P
Silver	ug/L	75 - 125	336		1.00	U	500	67	N	P
Sodium	ug/L	75 - 125	109000		68300		50000	82		P
Thallium	ug/L	75 - 125	522		1.00	U	500	104		P
Vanadium	ug/L	75 - 125	527		0.98	J	500	105		P
Zinc	ug/L	75 - 125	5140		36.8		5000	102		P

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client:	<u>JACOBS Engineering Group, Inc.</u>	level:	<u>low</u>	sdg no.:	<u>P3657</u>
contract:	<u>JACO05</u>	lab code:	<u>CHEM</u>	case no.:	<u>P3657</u>
matrix:	<u>Water</u>	sample id:	<u>P3596-02</u>	client id:	<u>918-J-WS-081324-FDMSD</u>
Percent Solids for Sample:	<u>NA</u>	Spiked ID:	<u>P3596-02MSD</u>	Percent Solids for Spike Sample:	<u>NA</u>

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	75 - 125	9970		88.2		10000	99		P
Antimony	ug/L	75 - 125	498		0.23	J	500	100		P
Arsenic	ug/L	75 - 125	529		1.74		500	105		P
Barium	ug/L	75 - 125	2440		57.6		2500	95		P
Beryllium	ug/L	75 - 125	533		1.00	U	500	107		P
Cadmium	ug/L	75 - 125	528		1.00	U	500	106		P
Calcium	ug/L	75 - 125	67000		19100		50000	96		P
Chromium	ug/L	75 - 125	503		1.21	J	500	100		P
Cobalt	ug/L	75 - 125	530		0.74	J	500	106		P
Copper	ug/L	75 - 125	5080		3.59		5000	101		P
Iron	ug/L	75 - 125	30100		3340		25000	107		P
Lead	ug/L	75 - 125	2490		1.75		2500	99		P
Magnesium	ug/L	75 - 125	52300		3440		50000	98		P
Manganese	ug/L	75 - 125	5480		511		5000	99		P
Nickel	ug/L	75 - 125	513		1.28		500	102		P
Potassium	ug/L	75 - 125	27000		2770		25000	97		P
Selenium	ug/L	75 - 125	507		5.00	U	500	101		P
Silver	ug/L	75 - 125	295		1.00	U	500	59	N	P
Sodium	ug/L	75 - 125	112000		68300		50000	87		P
Thallium	ug/L	75 - 125	509		1.00	U	500	102		P
Vanadium	ug/L	75 - 125	522		0.98	J	500	104		P
Zinc	ug/L	75 - 125	5050		36.8		5000	100		P

metals
- 5a -
MATRIX SPIKE SUMMARY

client: <u>JACOBS Engineering Group, Inc.</u>	level: <u>low</u>	sdg no.: <u>P3657</u>
contract: <u>JACO05</u>	lab code: <u>CHEM</u>	case no.: <u>P3657</u> sas no.: <u>P3657</u>
matrix: <u>Water</u>	sample id: <u>P3669-03</u>	client id: <u>1027MS</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>P3669-03MS</u>	Percent Solids for Spike Sample: <u>NA</u>

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75 - 125	2.95		0.24		4.0	68	N	CV

metals

- 5a -

MATRIX SPIKE DUPLICATE SUMMARY

client: JACOBS Engineering Group, Inc. level: low sdg no.: P3657
contract: JACO05 lab code: CHEM case no.: P3657 sas no.: P3657
matrix: Water sample id: P3669-03 client id: 1027MSD
Percent Solids for Sample: NA Spiked ID: P3669-03MSD Percent Solids for Spike Sample: NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75 - 125	2.78		0.24		4.0	64	N	CV

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3657
Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3657 **SAS No.:** P3657
Matrix: Water **Level:** LOW **Client ID:** 918-J-WS-081324-FDA
Sample ID: P3596-02 **Spiked ID:** P3596-02A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Silver	ug/L	75 - 125	376		1.00	U	500	75		P

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3657
Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3657 **SAS No.:** P3657
Matrix: Water **Level:** LOW **Client ID:** 1027A
Sample ID: P3669-03 **Spiked ID:** P3669-03A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75 - 125	3.80		0.24		4.00	89		CV

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc. **Level:** LOW **SDG No.:** P3657
Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3657 **SAS No.:** P3657
Matrix: Water **Sample ID:** P3596-02 **Client ID:** 918-J-WS-081324-FDDUP
Percent Solids for Sample: NA **Duplicate ID** P3596-02DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	20	88.2		74.8		16		P
Antimony	ug/L	20	0.23	J	0.20	J	14		P
Arsenic	ug/L	20	1.74		2.20		23	*	P
Barium	ug/L	20	57.6		58.6		2		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	19100		19300		1		P
Chromium	ug/L	20	1.21	J	1.16	J	4		P
Cobalt	ug/L	20	0.74	J	0.69	J	7		P
Copper	ug/L	20	3.59		3.54		1		P
Iron	ug/L	20	3340		3260		2		P
Lead	ug/L	20	1.75		1.78		2		P
Magnesium	ug/L	20	3440		3370		2		P
Manganese	ug/L	20	511		508		1		P
Nickel	ug/L	20	1.28		1.30		2		P
Potassium	ug/L	20	2770		2780		0		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	68300		67800		1		P
Thallium	ug/L	20	1.00	U	1.00	U			P
Vanadium	ug/L	20	0.98	J	1.06	J	8		P
Zinc	ug/L	20	36.8		36.1		2		P

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc. **Level:** LOW **SDG No.:** P3657
Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3657 **SAS No.:** P3657
Matrix: Water **Sample ID:** P3596-02MS **Client ID:** 918-J-WS-081324-FDMSD
Percent Solids for Sample: NA **Duplicate ID** P3596-02MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	20	10000		9970		0		P
Antimony	ug/L	20	511		498		3		P
Arsenic	ug/L	20	530		529		0		P
Barium	ug/L	20	2510		2440		3		P
Beryllium	ug/L	20	556		533		4		P
Cadmium	ug/L	20	545		528		3		P
Calcium	ug/L	20	66000		67000		2		P
Chromium	ug/L	20	510		503		1		P
Cobalt	ug/L	20	533		530		1		P
Copper	ug/L	20	5050		5080		1		P
Iron	ug/L	20	30200		30100		0		P
Lead	ug/L	20	2550		2490		2		P
Magnesium	ug/L	20	53600		52300		2		P
Manganese	ug/L	20	5510		5480		1		P
Nickel	ug/L	20	517		513		1		P
Potassium	ug/L	20	27600		27000		2		P
Selenium	ug/L	20	525		507		3		P
Silver	ug/L	20	336		295		13		P
Sodium	ug/L	20	109000		112000		3		P
Thallium	ug/L	20	522		509		3		P
Vanadium	ug/L	20	527		522		1		P
Zinc	ug/L	20	5140		5050		2		P

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client:	<u>JACOBS Engineering Group, Inc.</u>	Level:	<u>LOW</u>	SDG No.:	<u>P3657</u>
Contract:	<u>JACO05</u>	Lab Code:	<u>CHEM</u>	Case No.:	<u>P3657</u>
Matrix:	<u>Water</u>	Sample ID:	<u>P3669-03</u>	Client ID:	<u>1027DUP</u>
Percent Solids for Sample:	NA	Duplicate ID	P3669-03DUP	Percent Solids for Spike Sample:	NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L	20	0.24		0.22		10		CV

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client:	<u>JACOBS Engineering Group, Inc.</u>	Level:	<u>LOW</u>	SDG No.:	<u>P3657</u>
Contract:	<u>JACO05</u>	Lab Code:	<u>CHEM</u>	Case No.:	<u>P3657</u>
Matrix:	<u>Water</u>	Sample ID:	<u>P3669-03MS</u>	Client ID:	<u>1027MSD</u>
Percent Solids for Sample:	NA	Duplicate ID	P3669-03MSD	Percent Solids for Spike Sample:	NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L	20	2.95		2.78		6		CV

Metals

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3657

Contract: JACO05

Lab Code: CHEM

Case No.: P3657

SAS No.: P3657

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB162924BS Mercury	ug/L	4.0	3.72		93	80 - 120	CV

Metals

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3657
Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3657 **SAS No.:** P3657

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB163150BS							
Aluminum	ug/L	10000	10500		105	80 - 120	P
Antimony	ug/L	500	500		100	80 - 120	P
Arsenic	ug/L	500	504		101	80 - 120	P
Barium	ug/L	2500	2510		100	80 - 120	P
Beryllium	ug/L	500	534		107	80 - 120	P
Cadmium	ug/L	500	510		102	80 - 120	P
Calcium	ug/L	50000	51700		103	80 - 120	P
Chromium	ug/L	500	505		101	80 - 120	P
Cobalt	ug/L	500	512		102	80 - 120	P
Copper	ug/L	5000	5100		102	80 - 120	P
Iron	ug/L	25000	27900		112	80 - 120	P
Lead	ug/L	2500	2490		100	80 - 120	P
Magnesium	ug/L	50000	52300		105	80 - 120	P
Manganese	ug/L	5000	5030		101	80 - 120	P
Nickel	ug/L	500	508		102	80 - 120	P
Potassium	ug/L	25000	25600		102	80 - 120	P
Selenium	ug/L	500	500		100	80 - 120	P
Silver	ug/L	500	515		103	80 - 120	P
Sodium	ug/L	50000	52100		104	80 - 120	P
Thallium	ug/L	500	502		100	80 - 120	P
Vanadium	ug/L	500	502		100	80 - 120	P
Zinc	ug/L	5000	5080		102	80 - 120	P

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab Code: CHEM Case no.: P3657

Sas No.: P3657 SDG No.: P3657

Instrument ID: P7

Start Date : 09/04/2024

Run Number: LB132280

End Date : 09/04/2024

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	1316	100		100		100		100		100	
S2	S2	1319	100		100		99		97		97	
S3	S3	1323	103		100		102		96		99	
S4	S4	1326	108		101		101		97		102	
S5	S5	1329	114		103		101		97		102	
S6	S6	1332	117		100		99		95		103	
S7	S7	1335	116		103		101		94		105	
S8	S8	1338	116		95		94		85		102	
ICV01	ICV01	1351	110		98		97		94		97	
LLICV	LLICV	1406	106		96		96		95		98	
ICB01	ICB01	1410	104		96		93		92		96	
ICSA01	ICSA01	1413	108		97		96		90		102	
ICSAB01	ICSAB01	1417	107		97		98		90		102	
CCV01	CCV01	1420	108		97		97		89		101	
CCB01	CCB01	1434	99		96		96		94		99	
CRI	CRI	1440	101		98		97		95		99	
ZZZZZZ	ZZZZZZ	1444										
ZZZZZZ	ZZZZZZ	1447										
PB163150BL	PB163150BL	1456	107		99		95		93		98	
PB163150BS	PB163150BS	1512	109		99		99		93		101	
ZZZZZZ	ZZZZZZ	1520										
ZZZZZZ	ZZZZZZ	1523										
P3596-02DUP	918-J-WS-08	1526	110		94		93		88		96	
P3596-02L	918-J-WS-08	1530	111		97		95		93		98	
P3596-02MS	918-J-WS-08	1541	110		95		92		87		96	
CCV02	CCV02	1547	114		98		96		87		101	
CCB02	CCB02	1554	109		97		97		94		100	
P3596-02MSD	918-J-WS-08	1557	108		94		92		88		96	
P3596-02A	918-J-WS-08	1600	111		95		94		87		95	
ZZZZZZ	ZZZZZZ	1603										
ZZZZZZ	ZZZZZZ	1607										
ZZZZZZ	ZZZZZZ	1610										
ZZZZZZ	ZZZZZZ	1613										
P3657-01	917-J-WS-08	1616	109		95		95		89		95	
ZZZZZZ	ZZZZZZ	1620										
ZZZZZZ	ZZZZZZ	1623										

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.: P3657

Sas No.: P3657 SDG No.: P3657

Instrument ID: P7

Start Date : 09/04/2024

Run Number: LB132280

End Date : 09/04/2024

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	1626										
CCV03	CCV03	1630	115		100		98		89		102	
CCB03	CCB03	1646	102		97		96		93		96	

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab Code: CHEM Case no.: P3657

Sas No.: P3657 SDG No.: P3657

Instrument ID: P7

Start Date : 09/04/2024

Run Number: LB132280

End Date : 09/04/2024

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	1316	100		100		100		100		100	
S2	S2	1319	100		98		101		100		98	
S3	S3	1323	101		100		101		102		100	
S4	S4	1326	100		99		101		102		100	
S5	S5	1329	98		97		100		102		103	
S6	S6	1332	95		97		95		102		103	
S7	S7	1335	95		97		95		104		103	
S8	S8	1338	92		93		88		101		102	
ICV01	ICV01	1351	94		94		97		98		97	
LLICV	LLICV	1406	94		94		98		97		96	
ICB01	ICB01	1410	93		93		96		97		96	
ICSA01	ICSA01	1413	94		95		94		100		100	
ICSAB01	ICSAB01	1417	94		95		94		100		102	
CCV01	CCV01	1420	93		93		91		100		100	
CCB01	CCB01	1434	93		93		95		96		97	
CRI	CRI	1440	94		94		97		98		96	
ZZZZZZ	ZZZZZZ	1444										
ZZZZZZ	ZZZZZZ	1447										
PB163150BL	PB163150BL	1456	92		94		98		99		100	
PB163150BS	PB163150BS	1512	94		95		96		100		101	
ZZZZZZ	ZZZZZZ	1520										
ZZZZZZ	ZZZZZZ	1523										
P3596-02DUP	918-J-WS-08	1526	91		93		95		99		99	
P3596-02L	918-J-WS-08	1530	91		95		96		98		99	
P3596-02MS	918-J-WS-08	1541	90		91		93		99		101	
CCV02	CCV02	1547	91		93		91		100		100	
CCB02	CCB02	1554	94		94		98		99		100	
P3596-02MSD	918-J-WS-08	1557	89		90		91		96		96	
P3596-02A	918-J-WS-08	1600	90		91		94		98		98	
ZZZZZZ	ZZZZZZ	1603										
ZZZZZZ	ZZZZZZ	1607										
ZZZZZZ	ZZZZZZ	1610										
ZZZZZZ	ZZZZZZ	1613										
P3657-01	917-J-WS-08	1616	91		94		96		99		98	
ZZZZZZ	ZZZZZZ	1620										
ZZZZZZ	ZZZZZZ	1623										

Internal Standard %RI Limit: 70 - 130

FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: JACOBS Engineering Group, Inc.

Contract: JAC005

Lab Code: CHEM Case no.: P3657

Sas No.: P3657 SDG No.: P3657

Instrument ID: P7

Start Date : 09/04/2024

Run Number: LB132280

End Date : 09/04/2024

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	1626										
CCV03	CCV03	1630	93		94		92		102		103	
CCB03	CCB03	1646	94		94		98		98		98	

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab Code: CHEM Case no.: P3657

Sas No.: P3657 SDG No.: P3657

Instrument ID: P7

Start Date : 09/04/2024

Run Number: LB132280

End Date : 09/04/2024

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	1316	100		100							
S2	S2	1319	99		101							
S3	S3	1323	99		101							
S4	S4	1326	101		104							
S5	S5	1329	106		105							
S6	S6	1332	105		108							
S7	S7	1335	107		107							
S8	S8	1338	101		99							
ICV01	ICV01	1351	98		100							
LLICV	LLICV	1406	98		101							
ICB01	ICB01	1410	95		98							
ICSA01	ICSA01	1413	102		98							
ICSAB01	ICSAB01	1417	102		101							
CCV01	CCV01	1420	101		101							
CCB01	CCB01	1434	98		101							
CRI	CRI	1440	100		102							
ZZZZZZ	ZZZZZZ	1444										
ZZZZZZ	ZZZZZZ	1447										
PB163150BL	PB163150BL	1456	98		102							
PB163150BS	PB163150BS	1512	100		103							
ZZZZZZ	ZZZZZZ	1520										
ZZZZZZ	ZZZZZZ	1523										
P3596-02DUP	918-J-WS-081	1526	99		98							
P3596-02L	918-J-WS-081	1530	99		105							
P3596-02MS	918-J-WS-081	1541	96		99							
CCV02	CCV02	1547	100		99							
CCB02	CCB02	1554	100		103							
P3596-02MSD	918-J-WS-081	1557	96		96							
P3596-02A	918-J-WS-081	1600	98		100							
ZZZZZZ	ZZZZZZ	1603										
ZZZZZZ	ZZZZZZ	1607										
ZZZZZZ	ZZZZZZ	1610										
ZZZZZZ	ZZZZZZ	1613										
P3657-01	917-J-WS-081	1616	95		100							

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.: P3657

Sas No.: P3657 SDG No.: P3657

Instrument ID: P7

Start Date : 09/04/2024

Run Number: LB132280

End Date : 09/04/2024

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	1620										
ZZZZZZ	ZZZZZZ	1623										
ZZZZZZ	ZZZZZZ	1626										
CCV03	CCV03	1630	102		102							
CCB03	CCB03	1646	98		101							

FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: JACOBS Engineering Group, Inc.

Contract: JAC005

Lab Code: CHEM Case no.: P3657

Sas No.: P3657 SDG No.: P3657

Instrument ID: P7

Start Date : 09/04/2024

Run Number: LB132280

End Date : 09/04/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 209Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	S0	1316	100									
S2	S2	1319	100									
S3	S3	1323	99									
S4	S4	1326	99									
S5	S5	1329	102									
S6	S6	1332	101									
S7	S7	1335	99									
S8	S8	1338	89									
ICV01	ICV01	1351	98									
LLICV	LLICV	1406	92									
ICB01	ICB01	1410	92									
ICSA01	ICSA01	1413	92									
ICSAB01	ICSAB01	1417	89									
CCV01	CCV01	1420	95									
CCB01	CCB01	1434	98									
CRI	CRI	1440	93									
ZZZZZZ	ZZZZZZ	1444										
ZZZZZZ	ZZZZZZ	1447										
PB163150BL	PB163150BL	1456	99									
PB163150BS	PB163150BS	1512	97									
ZZZZZZ	ZZZZZZ	1520										
ZZZZZZ	ZZZZZZ	1523										
P3596-02DUP	918-J-WS-081	1526	96									
P3596-02L	918-J-WS-081	1530	97									
P3596-02MS	918-J-WS-081	1541	98									
CCV02	CCV02	1547	87									
CCB02	CCB02	1554	101									
P3596-02MSD	918-J-WS-081	1557	83									
P3596-02A	918-J-WS-081	1600	91									
ZZZZZZ	ZZZZZZ	1603										
ZZZZZZ	ZZZZZZ	1607										
ZZZZZZ	ZZZZZZ	1610										
ZZZZZZ	ZZZZZZ	1613										
P3657-01	917-J-WS-081	1616	96									

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.: P3657

Sas No.: P3657 SDG No.: P3657

Instrument ID: P7

Start Date : 09/04/2024

Run Number: LB132280

End Date : 09/04/2024

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element 209Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	ZZZZZZ	1620										
ZZZZZZ	ZZZZZZ	1623										
ZZZZZZ	ZZZZZZ	1626										
CCV03	CCV03	1630	97									
CCB03	CCB03	1646	93									

Metals
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ICP SERIAL DILUTIONS

SAMPLE NO.

918-J-WS-081324-FDL

Lab Name: Chemtech Consulting Group

Contract: JACO05

Lab Code: CHEM Lb No.: lb132280 Lab Sample ID : P3596-02L SDG No.: P3657

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)		Serial Dilution Result (S)		% Differ-ence	Q	M
		C		C			
Aluminum	88.2		2460		2687		P
Antimony	0.23	J	0.80	J	248		P
Arsenic	1.74		3.85	J	121		P
Barium	57.6		253		339		P
Beryllium	1.00	U	0.90	J	100.0		P
Cadmium	1.00	U	2.35	J	100.0		P
Calcium	19100		22100		16		P
Chromium	1.21	J	7.00	J	479		P
Cobalt	0.74	J	9.25		1150		P
Copper	3.59		30.8		758		P
Iron	3340		5680		70		P
Lead	1.75		59.8		3317		P
Magnesium	3440		3670		7		P
Manganese	511		4730		825		P
Nickel	1.28		13.6		963		P
Potassium	2770		2680		3		P
Selenium	5.00	U	25.0	U			P
Silver	1.00	U	5.00	U			P
Sodium	68300		66800		2		P
Thallium	1.00	U	5.00	U			P
Vanadium	0.98	J	8.95	J	813		P
Zinc	36.8		101		176		P

Metals
-9 -
ICP SERIAL DILUTIONS

SAMPLE NO.

1027L

Lab Name: Chemtech Consulting Group **Contract:** JACO05
Lab Code: CHEM **Lb No.:** lb132130 **Lab Sample ID :** P3669-03L **SDG No.:** P3657
Matrix (soil/water): Water **Level (low/med):** LOW
Concentration Units: ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Differ- ence	Q	M
Mercury	0.24	1.00 U	100.0		CV



METAL PREPARATION & INSTRUMENT DATA

METAL
PREPARATION &
ANALYICAL
SUMMARY

Metals

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SAMPLE PREPARATION SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3657

Contract: JACO05

Lab Code: CHEM

Method:

Case No.: P3657 **SAS No.:** P3657

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB162924							
P3657-01	917-J-WS-081624	SAM	WATER	08/21/2024	30.0	30.0	
P3669-03DUP	1027DUP	DUP	WATER	08/21/2024	30.0	30.0	
P3669-03MS	1027MS	MS	WATER	08/21/2024	30.0	30.0	
P3669-03MSD	1027MSD	MSD	WATER	08/21/2024	30.0	30.0	
PB162924BL	PB162924BL	MB	WATER	08/21/2024	30.0	30.0	
PB162924BS	PB162924BS	LCS	WATER	08/21/2024	30.0	30.0	

Metals

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SAMPLE PREPARATION SUMMARY

Client: JACOBS Engineering Group, Inc.

SDG No.: P3657

Contract: JACO05

Lab Code: CHEM

Method: _____

Case No.: P3657

SAS No.: P3657

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB163150							
P3596-02DUP	918-J-WS-081324-FDDUP	DUP	WATER	09/04/2024	50.0	50.0	
P3596-02MS	918-J-WS-081324-FDMS	MS	WATER	09/04/2024	50.0	50.0	
P3596-02MSD	918-J-WS-081324-FDMSD	MSD	WATER	09/04/2024	50.0	50.0	
P3657-01	917-J-WS-081624	SAM	WATER	09/04/2024	50.0	50.0	
PB163150BL	PB163150BL	MB	WATER	09/04/2024	50.0	50.0	
PB163150BS	PB163150BS	LCS	WATER	09/04/2024	50.0	50.0	

metals
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ANALYSIS RUN LOG

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab code: CHEM **Case no.:** P3657 **Sas no.:** P3657

Sdg no.: P3657

Instrument id number: _____ **Method:** _____

Run number: LB132130

Start date: 08/22/2024 **End date:** 08/22/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1402	HG
S0.2	S0.2	1	1405	HG
S2.5	S2.5	1	1407	HG
S5	S5	1	1409	HG
S7.5	S7.5	1	1411	HG
S10	S10	1	1422	HG
ICV92	ICV92	1	1426	HG
ICB92	ICB92	1	1428	HG
CCV11	CCV11	1	1430	HG
CCB11	CCB11	1	1433	HG
CRA	CRA	1	1435	HG
CCV12	CCV12	1	1458	HG
CCB12	CCB12	1	1500	HG
CCV13	CCV13	1	1525	HG
CCB13	CCB13	1	1527	HG
PB162924BL	PB162924BL	1	1539	HG
PB162924BS	PB162924BS	1	1542	HG
P3669-03DUP	1027DUP	1	1546	HG
P3669-03MS	1027MS	1	1549	HG
P3669-03MSD	1027MSD	1	1551	HG
P3657-01	917-J-WS-081624	1	1553	HG
CCV14	CCV14	1	1558	HG
CCB14	CCB14	1	1600	HG
P3669-03L	1027L	5	1616	HG
P3669-03A	1027A	1	1618	HG
CCV15	CCV15	1	1620	HG
CCB15	CCB15	1	1623	HG

metals
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ANALYSIS RUN LOG

Client: JACOBS Engineering Group, Inc.

Contract: JACO05

Lab code: CHEM **Case no.:** P3657 **Sas no.:** P3657

Sdg no.: P3657

Instrument id number: **Method:**

Run number: LB132280

Start date: 09/04/2024 **End date:** 09/04/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1316	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	1319	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	1323	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	1326	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	1329	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	1332	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	1335	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	1338	Al,Ca,Fe,K,Mg,Na
ICV01	ICV01	1	1351	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	1406	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	1410	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	1413	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	1417	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	1420	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	1434	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	1440	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB163150BL	PB163150BL	1	1456	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB163150BS	PB163150BS	1	1512	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P3596-02DUP	918-J-WS-081324-FDDUP	1	1526	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P3596-02L	918-J-WS-081324-FDL	5	1530	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P3596-02MS	918-J-WS-081324-FDMS	1	1541	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	1547	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	1554	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P3596-02MSD	918-J-WS-081324-FDMSD	1	1557	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P3596-02A	918-J-WS-081324-FDA	1	1600	Ag
P3657-01	917-J-WS-081624	1	1616	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	1630	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	1646	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	1728	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	1736	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	1817	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	1824	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn