

LAB CHRONICLE

OrderID:	Q1232	OrderDate:	1/30/2025 11:55:00 AM
Client:	RU2 Engineering, LLC	Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR
Contact:	Rutu Manani	Location:	E11,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1232-03	JPP-46.2-012925	SOIL			01/29/25			01/30/25
			Mercury	7471B		01/30/25	01/31/25	
			Metals ICP-TAL	6010D		01/30/25	01/31/25	
Q1232-07	JPP-46.1-012925	SOIL			01/29/25			01/30/25
			Mercury	7471B		01/30/25	01/31/25	
			Metals ICP-TAL	6010D		01/30/25	01/31/25	
Q1232-11	JPP-42.1-012925	SOIL			01/29/25			01/30/25
			Mercury	7471B		01/30/25	01/31/25	
			Metals ICP-TAL	6010D		01/30/25	01/31/25	
Q1232-15	JPP-42.2-012925	SOIL			01/29/25			01/30/25
			Mercury	7471B		01/30/25	01/31/25	
			Metals ICP-TAL	6010D		01/30/25	01/31/25	
Q1232-19	JPP-51.1-012925	SOIL			01/29/25			01/30/25
			Mercury	7471B		01/30/25	01/31/25	
			Metals ICP-TAL	6010D		01/30/25	01/31/25	

Hit Summary Sheet SW-846

SDG No.:	Q1232	Order ID:	Q1232
Client:	RU2 Engineering, LLC	Project ID:	NYCDDC SANTWOBR Brooklyn Bridge

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : JPP-46.2-012925								
Q1232-03	JPP-46.2-012925	SOIL	Aluminum	4460		2.51	5.21	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Antimony	0.20	J	0.16	2.61	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Arsenic	2.69		0.30	1.04	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Barium	45.2		0.67	5.21	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Beryllium	0.37		0.013	0.31	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Cadmium	0.21	J	0.017	0.31	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Calcium	7210		2.92	104	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Chromium	10.5		0.056	0.52	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Cobalt	5.10		0.060	1.56	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Copper	72.6		0.49	1.04	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Iron	10400		2.81	5.21	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Lead	109		0.16	0.63	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Magnesium	2260		3.58	104	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Manganese	213		0.074	1.04	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Mercury	0.29		0.0060	0.013	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Nickel	16.9		0.094	2.09	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Potassium	970		29.9	104	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Sodium	403		37.6	104	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Vanadium	15.2		0.28	2.09	mg/Kg
Q1232-03	JPP-46.2-012925	SOIL	Zinc	106		0.12	2.09	mg/Kg
Client ID : JPP-46.1-012925								
Q1232-07	JPP-46.1-012925	SOIL	Aluminum	3300		2.27	4.71	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Arsenic	2.04		0.27	0.94	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Barium	33.0		0.60	4.71	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Beryllium	0.35		0.011	0.28	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Cadmium	0.84		0.015	0.28	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Calcium	11800		2.64	94.1	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Chromium	9.90		0.051	0.47	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Cobalt	6.02		0.055	1.41	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Copper	31.7		0.44	0.94	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Iron	9810		2.53	4.71	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Lead	34.9		0.14	0.56	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Magnesium	4220		3.23	94.1	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Manganese	145		0.067	0.94	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Mercury	0.072		0.0060	0.014	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Nickel	14.0		0.085	1.88	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Potassium	1080		27.0	94.1	mg/Kg

Hit Summary Sheet
SW-846

SDG No.:	Q1232	Order ID:	Q1232
Client:	RU2 Engineering, LLC	Project ID:	NYCDDC SANTWOBR Brooklyn Bridge

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Q1232-07	JPP-46.1-012925	SOIL	Sodium	323		34.0	94.1	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Vanadium	12.1		0.25	1.88	mg/Kg
Q1232-07	JPP-46.1-012925	SOIL	Zinc	42.3		0.10	1.88	mg/Kg
Client ID : JPP-42.1-012925								
Q1232-11	JPP-42.1-012925	SOIL	Aluminum	4770		2.44	5.07	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Antimony	0.42	J	0.15	2.53	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Arsenic	3.68		0.29	1.01	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Barium	70.0		0.65	5.07	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Beryllium	0.33		0.012	0.30	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Cadmium	0.43		0.016	0.30	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Calcium	30500		2.84	101	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Chromium	13.1		0.055	0.51	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Cobalt	5.90		0.059	1.52	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Copper	40.7		0.48	1.01	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Iron	10500		2.73	5.07	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Lead	118		0.15	0.61	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Magnesium	3470		3.48	101	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Manganese	240		0.072	1.01	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Mercury	0.44		0.0060	0.014	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Nickel	16.1		0.091	2.03	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Potassium	1350		29.1	101	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Sodium	470		36.6	101	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Vanadium	17.6		0.27	2.03	mg/Kg
Q1232-11	JPP-42.1-012925	SOIL	Zinc	91.5		0.11	2.03	mg/Kg
Client ID : JPP-42.2-012925								
Q1232-15	JPP-42.2-012925	SOIL	Aluminum	3500		2.56	5.31	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Antimony	0.28	J	0.16	2.66	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Arsenic	2.80		0.31	1.06	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Barium	41.0		0.68	5.31	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Beryllium	0.29	J	0.013	0.32	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Cadmium	0.23	J	0.017	0.32	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Calcium	16600		2.97	106	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Chromium	9.32		0.057	0.53	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Cobalt	4.33		0.062	1.59	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Copper	32.4		0.50	1.06	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Iron	9530		2.86	5.31	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Lead	70.1		0.16	0.64	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Magnesium	2780		3.64	106	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Manganese	137		0.075	1.06	mg/Kg

Hit Summary Sheet
SW-846

SDG No.: Q1232

Order ID: Q1232

Client: RU2 Engineering, LLC

Project ID: NYCDDC SANTWOBR Brooklyn Bridge

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Q1232-15	JPP-42.2-012925	SOIL	Mercury	0.20		0.0060	0.013	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Nickel	14.9		0.096	2.12	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Potassium	958		30.5	106	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Sodium	244		38.4	106	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Vanadium	13.5		0.29	2.12	mg/Kg
Q1232-15	JPP-42.2-012925	SOIL	Zinc	61.0		0.12	2.12	mg/Kg

Client ID : JPP-51.1-012925

Q1232-19	JPP-51.1-012925	SOIL	Aluminum	5750		2.27	4.72	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Antimony	0.30	J	0.14	2.36	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Arsenic	4.88		0.27	0.94	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Barium	97.2		0.60	4.72	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Beryllium	0.44		0.011	0.28	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Cadmium	0.79		0.015	0.28	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Calcium	20800		2.64	94.3	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Chromium	14.9		0.051	0.47	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Cobalt	7.21		0.055	1.41	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Copper	70.6		0.44	0.94	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Iron	13800		2.54	4.72	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Lead	225		0.14	0.57	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Magnesium	4590		3.23	94.3	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Manganese	228		0.067	0.94	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Mercury	0.87	D	0.027	0.061	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Nickel	25.2		0.085	1.89	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Potassium	1230		27.1	94.3	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Sodium	590		34.0	94.3	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Vanadium	20.9		0.26	1.89	mg/Kg
Q1232-19	JPP-51.1-012925	SOIL	Zinc	160		0.10	1.89	mg/Kg



SAMPLE DATA

Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	01/29/25
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	01/30/25
Client Sample ID:	JPP-46.2-012925	SDG No.:	Q1232
Lab Sample ID:	Q1232-03	Matrix:	SOIL
Level (low/med):	low	% Solid:	89.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	4460		1	2.51	5.21	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7440-36-0	Antimony	0.20	JN	1	0.16	2.61	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7440-38-2	Arsenic	2.69		1	0.30	1.04	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7440-39-3	Barium	45.2		1	0.67	5.21	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7440-41-7	Beryllium	0.37		1	0.013	0.31	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7440-43-9	Cadmium	0.21	J	1	0.017	0.31	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7440-70-2	Calcium	7210		1	2.92	104	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7440-47-3	Chromium	10.5		1	0.056	0.52	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7440-48-4	Cobalt	5.10		1	0.060	1.56	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7440-50-8	Copper	72.6		1	0.49	1.04	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7439-89-6	Iron	10400		1	2.81	5.21	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7439-92-1	Lead	109	N	1	0.16	0.63	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7439-95-4	Magnesium	2260		1	3.58	104	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7439-96-5	Manganese	213		1	0.074	1.04	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7439-97-6	Mercury	0.29		1	0.0060	0.013	mg/Kg	01/30/25 16:50	01/31/25 14:01	SW7471B	
7440-02-0	Nickel	16.9		1	0.094	2.09	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7440-09-7	Potassium	970	N	1	29.9	104	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7782-49-2	Selenium	1.04	U	1	0.34	1.04	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7440-22-4	Silver	0.52	U	1	0.054	0.52	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7440-23-5	Sodium	403		1	37.6	104	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7440-28-0	Thallium	2.09	U	1	0.46	2.09	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7440-62-2	Vanadium	15.2	N	1	0.28	2.09	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050
7440-66-6	Zinc	106		1	0.12	2.09	mg/Kg	01/30/25 15:10	01/31/25 13:22	SW6010	SW3050

Color Before:	Brown	Clarity Before:	Texture:	Medium
Color After:	Yellow	Clarity After:	Artifacts:	
Comments:	METALS-TAL			

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

Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	01/29/25
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	01/30/25
Client Sample ID:	JPP-46.1-012925	SDG No.:	Q1232
Lab Sample ID:	Q1232-07	Matrix:	SOIL
Level (low/med):	low	% Solid:	94

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	3300		1	2.27	4.71	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7440-36-0	Antimony	2.35	UN	1	0.14	2.35	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7440-38-2	Arsenic	2.04		1	0.27	0.94	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7440-39-3	Barium	33.0		1	0.60	4.71	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7440-41-7	Beryllium	0.35		1	0.011	0.28	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7440-43-9	Cadmium	0.84		1	0.015	0.28	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7440-70-2	Calcium	11800		1	2.64	94.1	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7440-47-3	Chromium	9.90		1	0.051	0.47	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7440-48-4	Cobalt	6.02		1	0.055	1.41	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7440-50-8	Copper	31.7		1	0.44	0.94	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7439-89-6	Iron	9810		1	2.53	4.71	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7439-92-1	Lead	34.9	N	1	0.14	0.56	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7439-95-4	Magnesium	4220		1	3.23	94.1	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7439-96-5	Manganese	145		1	0.067	0.94	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7439-97-6	Mercury	0.072		1	0.0060	0.014	mg/Kg	01/30/25 16:50	01/31/25 14:03	SW7471B	
7440-02-0	Nickel	14.0		1	0.085	1.88	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7440-09-7	Potassium	1080	N	1	27.0	94.1	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7782-49-2	Selenium	0.94	U	1	0.31	0.94	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7440-22-4	Silver	0.47	U	1	0.049	0.47	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7440-23-5	Sodium	323		1	34.0	94.1	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7440-28-0	Thallium	1.88	U	1	0.41	1.88	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7440-62-2	Vanadium	12.1	N	1	0.25	1.88	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050
7440-66-6	Zinc	42.3		1	0.10	1.88	mg/Kg	01/30/25 15:10	01/31/25 13:27	SW6010	SW3050

Color Before:	Brown	Clarity Before:	Texture:	Medium
Color After:	Yellow	Clarity After:	Artifacts:	
Comments:	METALS-TAL			

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

Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	01/29/25
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	01/30/25
Client Sample ID:	JPP-42.1-012925	SDG No.:	Q1232
Lab Sample ID:	Q1232-11	Matrix:	SOIL
Level (low/med):	low	% Solid:	88.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	4770		1	2.44	5.07	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7440-36-0	Antimony	0.42	JN	1	0.15	2.53	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7440-38-2	Arsenic	3.68		1	0.29	1.01	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7440-39-3	Barium	70.0		1	0.65	5.07	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7440-41-7	Beryllium	0.33		1	0.012	0.30	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7440-43-9	Cadmium	0.43		1	0.016	0.30	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7440-70-2	Calcium	30500		1	2.84	101	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7440-47-3	Chromium	13.1		1	0.055	0.51	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7440-48-4	Cobalt	5.90		1	0.059	1.52	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7440-50-8	Copper	40.7		1	0.48	1.01	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7439-89-6	Iron	10500		1	2.73	5.07	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7439-92-1	Lead	118	N	1	0.15	0.61	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7439-95-4	Magnesium	3470		1	3.48	101	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7439-96-5	Manganese	240		1	0.072	1.01	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7439-97-6	Mercury	0.44		1	0.0060	0.014	mg/Kg	01/30/25 16:50	01/31/25 14:05	SW7471B	
7440-02-0	Nickel	16.1		1	0.091	2.03	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7440-09-7	Potassium	1350	N	1	29.1	101	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7782-49-2	Selenium	1.01	U	1	0.33	1.01	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7440-22-4	Silver	0.51	U	1	0.053	0.51	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7440-23-5	Sodium	470		1	36.6	101	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7440-28-0	Thallium	2.03	U	1	0.45	2.03	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7440-62-2	Vanadium	17.6	N	1	0.27	2.03	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050
7440-66-6	Zinc	91.5		1	0.11	2.03	mg/Kg	01/30/25 15:10	01/31/25 13:31	SW6010	SW3050

Color Before:	Brown	Clarity Before:	Texture:	Medium
Color After:	Yellow	Clarity After:	Artifacts:	
Comments:	METALS-TAL			

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

Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	01/29/25
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	01/30/25
Client Sample ID:	JPP-42.2-012925	SDG No.:	Q1232
Lab Sample ID:	Q1232-15	Matrix:	SOIL
Level (low/med):	low	% Solid:	93.2

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	3500		1	2.56	5.31	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7440-36-0	Antimony	0.28	JN	1	0.16	2.66	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7440-38-2	Arsenic	2.80		1	0.31	1.06	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7440-39-3	Barium	41.0		1	0.68	5.31	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7440-41-7	Beryllium	0.29	J	1	0.013	0.32	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7440-43-9	Cadmium	0.23	J	1	0.017	0.32	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7440-70-2	Calcium	16600		1	2.97	106	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7440-47-3	Chromium	9.32		1	0.057	0.53	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7440-48-4	Cobalt	4.33		1	0.062	1.59	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7440-50-8	Copper	32.4		1	0.50	1.06	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7439-89-6	Iron	9530		1	2.86	5.31	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7439-92-1	Lead	70.1	N	1	0.16	0.64	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7439-95-4	Magnesium	2780		1	3.64	106	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7439-96-5	Manganese	137		1	0.075	1.06	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7439-97-6	Mercury	0.20		1	0.0060	0.013	mg/Kg	01/30/25 16:50	01/31/25 14:08	SW7471B	
7440-02-0	Nickel	14.9		1	0.096	2.12	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7440-09-7	Potassium	958	N	1	30.5	106	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7782-49-2	Selenium	1.06	U	1	0.35	1.06	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7440-22-4	Silver	0.53	U	1	0.055	0.53	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7440-23-5	Sodium	244		1	38.4	106	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7440-28-0	Thallium	2.12	U	1	0.47	2.12	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7440-62-2	Vanadium	13.5	N	1	0.29	2.12	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050
7440-66-6	Zinc	61.0		1	0.12	2.12	mg/Kg	01/30/25 15:10	01/31/25 13:35	SW6010	SW3050

Color Before:	Brown	Clarity Before:	Texture:	Medium
Color After:	Yellow	Clarity After:	Artifacts:	
Comments:	METALS-TAL			

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

Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	01/29/25
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	01/30/25
Client Sample ID:	JPP-51.1-012925	SDG No.:	Q1232
Lab Sample ID:	Q1232-19	Matrix:	SOIL
Level (low/med):	low	% Solid:	95.1

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	5750		1	2.27	4.72	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7440-36-0	Antimony	0.30	JN	1	0.14	2.36	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7440-38-2	Arsenic	4.88		1	0.27	0.94	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7440-39-3	Barium	97.2		1	0.60	4.72	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7440-41-7	Beryllium	0.44		1	0.011	0.28	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7440-43-9	Cadmium	0.79		1	0.015	0.28	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7440-70-2	Calcium	20800		1	2.64	94.3	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7440-47-3	Chromium	14.9		1	0.051	0.47	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7440-48-4	Cobalt	7.21		1	0.055	1.41	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7440-50-8	Copper	70.6		1	0.44	0.94	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7439-89-6	Iron	13800		1	2.54	4.72	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7439-92-1	Lead	225	N	1	0.14	0.57	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7439-95-4	Magnesium	4590		1	3.23	94.3	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7439-96-5	Manganese	228		1	0.067	0.94	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7439-97-6	Mercury	0.87	D	5	0.027	0.061	mg/Kg	01/30/25 16:50	01/31/25 14:49	SW7471B	
7440-02-0	Nickel	25.2		1	0.085	1.89	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7440-09-7	Potassium	1230	N	1	27.1	94.3	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7782-49-2	Selenium	0.94	U	1	0.31	0.94	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7440-22-4	Silver	0.47	U	1	0.049	0.47	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7440-23-5	Sodium	590		1	34.0	94.3	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7440-28-0	Thallium	1.89	U	1	0.42	1.89	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7440-62-2	Vanadium	20.9	N	1	0.26	1.89	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050
7440-66-6	Zinc	160		1	0.10	1.89	mg/Kg	01/30/25 15:10	01/31/25 13:39	SW6010	SW3050

Color Before:	Brown	Clarity Before:	Texture:	Medium
Color After:	Yellow	Clarity After:	Artifacts:	
Comments:	METALS-TAL			

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

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: RU2 Engineering, LLC **SDG No.:** Q1232
Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1232 **SAS No.:** Q1232
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
ICV77	Mercury	3.97	4.0	99	90 - 110	CV	01/31/2025	13:15	LB134501

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: RU2 Engineering, LLC **SDG No.:** Q1232
Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1232 **SAS No.:** Q1232
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
CCV92	Mercury	4.92	5.0	98	90 - 110	CV	01/31/2025	13:19	LB134501
CCV93	Mercury	4.98	5.0	100	90 - 110	CV	01/31/2025	13:47	LB134501
CCV94	Mercury	5.01	5.0	100	90 - 110	CV	01/31/2025	14:15	LB134501
CCV95	Mercury	5.00	5.0	100	90 - 110	CV	01/31/2025	14:42	LB134501
CCV96	Mercury	5.03	5.0	100	90 - 110	CV	01/31/2025	14:52	LB134501

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: RU2 Engineering, LLC **SDG No.:** Q1232

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1232 **SAS No.:** Q1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Aluminum	2400	2500	96	90 - 110	P	01/31/2025	11:23	LB134505
	Antimony	1020	1000	102	90 - 110	P	01/31/2025	11:23	LB134505
	Arsenic	1030	1000	103	90 - 110	P	01/31/2025	11:23	LB134505
	Barium	478	520	92	90 - 110	P	01/31/2025	11:23	LB134505
	Beryllium	487	510	96	90 - 110	P	01/31/2025	11:23	LB134505
	Cadmium	496	510	97	90 - 110	P	01/31/2025	11:23	LB134505
	Calcium	9560	10000	96	90 - 110	P	01/31/2025	11:23	LB134505
	Chromium	519	520	100	90 - 110	P	01/31/2025	11:23	LB134505
	Cobalt	501	520	96	90 - 110	P	01/31/2025	11:23	LB134505
	Copper	515	510	101	90 - 110	P	01/31/2025	11:23	LB134505
	Iron	9830	10000	98	90 - 110	P	01/31/2025	11:23	LB134505
	Lead	997	1000	100	90 - 110	P	01/31/2025	11:23	LB134505
	Magnesium	5620	6000	94	90 - 110	P	01/31/2025	11:23	LB134505
	Manganese	488	520	94	90 - 110	P	01/31/2025	11:23	LB134505
	Nickel	504	530	95	90 - 110	P	01/31/2025	11:23	LB134505
	Potassium	9640	9900	97	90 - 110	P	01/31/2025	11:23	LB134505
	Selenium	1040	1000	104	90 - 110	P	01/31/2025	11:23	LB134505
	Silver	252	250	101	90 - 110	P	01/31/2025	11:23	LB134505
	Sodium	9160	10000	92	90 - 110	P	01/31/2025	11:23	LB134505
	Thallium	1020	1000	102	90 - 110	P	01/31/2025	11:23	LB134505
	Vanadium	481	500	96	90 - 110	P	01/31/2025	11:23	LB134505
	Zinc	1010	1000	101	90 - 110	P	01/31/2025	11:23	LB134505

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: RU2 Engineering, LLC **SDG No.:** Q1232

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1232 **SAS No.:** Q1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Aluminum	103	100	103	80 - 120	P	01/31/2025	11:27	LB134505
	Antimony	50.9	50.0	102	80 - 120	P	01/31/2025	11:27	LB134505
	Arsenic	23.2	20.0	116	80 - 120	P	01/31/2025	11:27	LB134505
	Barium	92.6	100	93	80 - 120	P	01/31/2025	11:27	LB134505
	Beryllium	5.53	6.0	92	80 - 120	P	01/31/2025	11:27	LB134505
	Cadmium	5.82	6.0	97	80 - 120	P	01/31/2025	11:27	LB134505
	Calcium	1920	2000	96	80 - 120	P	01/31/2025	11:27	LB134505
	Chromium	9.80	10.0	98	80 - 120	P	01/31/2025	11:27	LB134505
	Cobalt	29.1	30.0	97	80 - 120	P	01/31/2025	11:27	LB134505
	Copper	21.7	20.0	108	80 - 120	P	01/31/2025	11:27	LB134505
	Iron	103	100	103	80 - 120	P	01/31/2025	11:27	LB134505
	Lead	12.9	12.0	108	80 - 120	P	01/31/2025	11:27	LB134505
	Magnesium	2040	2000	102	80 - 120	P	01/31/2025	11:27	LB134505
	Manganese	19.5	20.0	98	80 - 120	P	01/31/2025	11:27	LB134505
	Nickel	39.2	40.0	98	80 - 120	P	01/31/2025	11:27	LB134505
	Potassium	2050	2000	102	80 - 120	P	01/31/2025	11:27	LB134505
	Selenium	19.2	20.0	96	80 - 120	P	01/31/2025	11:27	LB134505
	Silver	10.3	10.0	104	80 - 120	P	01/31/2025	11:27	LB134505
	Sodium	1950	2000	98	80 - 120	P	01/31/2025	11:27	LB134505
	Thallium	37.8	40.0	95	80 - 120	P	01/31/2025	11:27	LB134505
	Vanadium	39.9	40.0	100	80 - 120	P	01/31/2025	11:27	LB134505
	Zinc	41.2	40.0	103	80 - 120	P	01/31/2025	11:27	LB134505

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: RU2 Engineering, LLC SDG No.: Q1232
 Contract: RUTW01 Lab Code: CHEM Case No.: Q1232 SAS No.: Q1232
 Initial Calibration Source: EPA
 Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Aluminum	9490	10000	95	90 - 110	P	01/31/2025	12:16	LB134505
	Antimony	4880	5000	98	90 - 110	P	01/31/2025	12:16	LB134505
	Arsenic	4860	5000	97	90 - 110	P	01/31/2025	12:16	LB134505
	Barium	9620	10000	96	90 - 110	P	01/31/2025	12:16	LB134505
	Beryllium	251	250	100	90 - 110	P	01/31/2025	12:16	LB134505
	Cadmium	2380	2500	95	90 - 110	P	01/31/2025	12:16	LB134505
	Calcium	23600	25000	94	90 - 110	P	01/31/2025	12:16	LB134505
	Chromium	956	1000	96	90 - 110	P	01/31/2025	12:16	LB134505
	Cobalt	2380	2500	95	90 - 110	P	01/31/2025	12:16	LB134505
	Copper	1220	1250	98	90 - 110	P	01/31/2025	12:16	LB134505
	Iron	4860	5000	97	90 - 110	P	01/31/2025	12:16	LB134505
	Lead	4780	5000	96	90 - 110	P	01/31/2025	12:16	LB134505
	Magnesium	23200	25000	93	90 - 110	P	01/31/2025	12:16	LB134505
	Manganese	2340	2500	94	90 - 110	P	01/31/2025	12:16	LB134505
	Nickel	2380	2500	95	90 - 110	P	01/31/2025	12:16	LB134505
	Potassium	24500	25000	98	90 - 110	P	01/31/2025	12:16	LB134505
	Selenium	4910	5000	98	90 - 110	P	01/31/2025	12:16	LB134505
	Silver	1190	1250	96	90 - 110	P	01/31/2025	12:16	LB134505
	Sodium	24500	25000	98	90 - 110	P	01/31/2025	12:16	LB134505
	Thallium	5080	5000	102	90 - 110	P	01/31/2025	12:16	LB134505
	Vanadium	2370	2500	95	90 - 110	P	01/31/2025	12:16	LB134505
	Zinc	2410	2500	96	90 - 110	P	01/31/2025	12:16	LB134505
CCV02	Aluminum	9670	10000	97	90 - 110	P	01/31/2025	13:06	LB134505
	Antimony	4970	5000	100	90 - 110	P	01/31/2025	13:06	LB134505
	Arsenic	4930	5000	99	90 - 110	P	01/31/2025	13:06	LB134505
	Barium	9270	10000	93	90 - 110	P	01/31/2025	13:06	LB134505
	Beryllium	227	250	91	90 - 110	P	01/31/2025	13:06	LB134505
	Cadmium	2360	2500	94	90 - 110	P	01/31/2025	13:06	LB134505
	Calcium	23200	25000	93	90 - 110	P	01/31/2025	13:06	LB134505
	Chromium	971	1000	97	90 - 110	P	01/31/2025	13:06	LB134505
	Cobalt	2380	2500	95	90 - 110	P	01/31/2025	13:06	LB134505
	Copper	1240	1250	99	90 - 110	P	01/31/2025	13:06	LB134505
	Iron	4780	5000	96	90 - 110	P	01/31/2025	13:06	LB134505
	Lead	4760	5000	95	90 - 110	P	01/31/2025	13:06	LB134505

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: RU2 Engineering, LLC SDG No.: Q1232

Contract: RUTW01 Lab Code: CHEM Case No.: Q1232 SAS No.: Q1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV02	Magnesium	23400	25000	94	90 - 110	P	01/31/2025	13:06	LB134505
	Manganese	2260	2500	91	90 - 110	P	01/31/2025	13:06	LB134505
	Nickel	2380	2500	95	90 - 110	P	01/31/2025	13:06	LB134505
	Potassium	24600	25000	98	90 - 110	P	01/31/2025	13:06	LB134505
	Selenium	5020	5000	100	90 - 110	P	01/31/2025	13:06	LB134505
	Silver	1190	1250	95	90 - 110	P	01/31/2025	13:06	LB134505
	Sodium	24000	25000	96	90 - 110	P	01/31/2025	13:06	LB134505
	Thallium	5100	5000	102	90 - 110	P	01/31/2025	13:06	LB134505
	Vanadium	2370	2500	95	90 - 110	P	01/31/2025	13:06	LB134505
	Zinc	2410	2500	96	90 - 110	P	01/31/2025	13:06	LB134505
CCV03	Aluminum	9820	10000	98	90 - 110	P	01/31/2025	13:57	LB134505
	Antimony	4880	5000	98	90 - 110	P	01/31/2025	13:57	LB134505
	Arsenic	4840	5000	97	90 - 110	P	01/31/2025	13:57	LB134505
	Barium	9480	10000	95	90 - 110	P	01/31/2025	13:57	LB134505
	Beryllium	246	250	98	90 - 110	P	01/31/2025	13:57	LB134505
	Cadmium	2390	2500	96	90 - 110	P	01/31/2025	13:57	LB134505
	Calcium	23700	25000	95	90 - 110	P	01/31/2025	13:57	LB134505
	Chromium	982	1000	98	90 - 110	P	01/31/2025	13:57	LB134505
	Cobalt	2390	2500	96	90 - 110	P	01/31/2025	13:57	LB134505
	Copper	1230	1250	98	90 - 110	P	01/31/2025	13:57	LB134505
	Iron	4710	5000	94	90 - 110	P	01/31/2025	13:57	LB134505
	Lead	4790	5000	96	90 - 110	P	01/31/2025	13:57	LB134505
	Magnesium	23700	25000	95	90 - 110	P	01/31/2025	13:57	LB134505
	Manganese	2330	2500	93	90 - 110	P	01/31/2025	13:57	LB134505
	Nickel	2390	2500	96	90 - 110	P	01/31/2025	13:57	LB134505
	Potassium	23900	25000	96	90 - 110	P	01/31/2025	13:57	LB134505
	Selenium	4880	5000	98	90 - 110	P	01/31/2025	13:57	LB134505
	Silver	1220	1250	97	90 - 110	P	01/31/2025	13:57	LB134505
	Sodium	22600	25000	90	90 - 110	P	01/31/2025	13:57	LB134505
	Thallium	5160	5000	103	90 - 110	P	01/31/2025	13:57	LB134505
	Vanadium	2400	2500	96	90 - 110	P	01/31/2025	13:57	LB134505
	Zinc	2440	2500	98	90 - 110	P	01/31/2025	13:57	LB134505
CCV04	Aluminum	9870	10000	99	90 - 110	P	01/31/2025	14:47	LB134505
	Antimony	5050	5000	101	90 - 110	P	01/31/2025	14:47	LB134505

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: RU2 Engineering, LLC **SDG No.:** Q1232

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1232 **SAS No.:** Q1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV04	Arsenic	5030	5000	101	90 - 110	P	01/31/2025	14:47	LB134505
	Barium	9430	10000	94	90 - 110	P	01/31/2025	14:47	LB134505
	Beryllium	243	250	97	90 - 110	P	01/31/2025	14:47	LB134505
	Cadmium	2440	2500	97	90 - 110	P	01/31/2025	14:47	LB134505
	Calcium	23500	25000	94	90 - 110	P	01/31/2025	14:47	LB134505
	Chromium	1010	1000	101	90 - 110	P	01/31/2025	14:47	LB134505
	Cobalt	2430	2500	97	90 - 110	P	01/31/2025	14:47	LB134505
	Copper	1260	1250	101	90 - 110	P	01/31/2025	14:47	LB134505
	Iron	4760	5000	95	90 - 110	P	01/31/2025	14:47	LB134505
	Lead	4880	5000	98	90 - 110	P	01/31/2025	14:47	LB134505
	Magnesium	23700	25000	95	90 - 110	P	01/31/2025	14:47	LB134505
	Manganese	2280	2500	91	90 - 110	P	01/31/2025	14:47	LB134505
	Nickel	2430	2500	97	90 - 110	P	01/31/2025	14:47	LB134505
	Potassium	24300	25000	97	90 - 110	P	01/31/2025	14:47	LB134505
	Selenium	5090	5000	102	90 - 110	P	01/31/2025	14:47	LB134505
	Silver	1240	1250	99	90 - 110	P	01/31/2025	14:47	LB134505
	Sodium	22600	25000	90	90 - 110	P	01/31/2025	14:47	LB134505
	Thallium	5290	5000	106	90 - 110	P	01/31/2025	14:47	LB134505
	Vanadium	2400	2500	96	90 - 110	P	01/31/2025	14:47	LB134505
	Zinc	2510	2500	101	90 - 110	P	01/31/2025	14:47	LB134505
CCV05	Aluminum	9620	10000	96	90 - 110	P	01/31/2025	15:25	LB134505
	Antimony	4930	5000	98	90 - 110	P	01/31/2025	15:25	LB134505
	Arsenic	4900	5000	98	90 - 110	P	01/31/2025	15:25	LB134505
	Barium	9380	10000	94	90 - 110	P	01/31/2025	15:25	LB134505
	Beryllium	230	250	92	90 - 110	P	01/31/2025	15:25	LB134505
	Cadmium	2370	2500	95	90 - 110	P	01/31/2025	15:25	LB134505
	Calcium	23300	25000	93	90 - 110	P	01/31/2025	15:25	LB134505
	Chromium	979	1000	98	90 - 110	P	01/31/2025	15:25	LB134505
	Cobalt	2370	2500	95	90 - 110	P	01/31/2025	15:25	LB134505
	Copper	1230	1250	98	90 - 110	P	01/31/2025	15:25	LB134505
	Iron	4860	5000	97	90 - 110	P	01/31/2025	15:25	LB134505
	Lead	4750	5000	95	90 - 110	P	01/31/2025	15:25	LB134505
	Magnesium	23200	25000	93	90 - 110	P	01/31/2025	15:25	LB134505
	Manganese	2280	2500	91	90 - 110	P	01/31/2025	15:25	LB134505

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: RU2 Engineering, LLC **SDG No.:** Q1232

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1232 **SAS No.:** Q1232

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV05	Nickel	2370	2500	95	90 - 110	P	01/31/2025	15:25	LB134505
	Potassium	24900	25000	100	90 - 110	P	01/31/2025	15:25	LB134505
	Selenium	4970	5000	99	90 - 110	P	01/31/2025	15:25	LB134505
	Silver	1210	1250	97	90 - 110	P	01/31/2025	15:25	LB134505
	Sodium	23900	25000	96	90 - 110	P	01/31/2025	15:25	LB134505
	Thallium	5000	5000	100	90 - 110	P	01/31/2025	15:25	LB134505
	Vanadium	2370	2500	95	90 - 110	P	01/31/2025	15:25	LB134505
	Zinc	2420	2500	97	90 - 110	P	01/31/2025	15:25	LB134505

Metals

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CRDL STANDARD FOR AA & ICP

Client: RU2 Engineering, LLC **SDG No.:** Q1232
Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1232 **SAS No.:** Q1232
Initial Calibration Source: _____
Continuing Calibration Source: _____

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRI01	Aluminum	99.4	100	99	40 - 160	P	01/31/2025	11:36	LB134505
	Antimony	49.4	50.0	99	40 - 160	P	01/31/2025	11:36	LB134505
	Arsenic	21.0	20.0	105	40 - 160	P	01/31/2025	11:36	LB134505
	Barium	89.7	100	90	40 - 160	P	01/31/2025	11:36	LB134505
	Beryllium	5.63	6.0	94	40 - 160	P	01/31/2025	11:36	LB134505
	Cadmium	5.77	6.0	96	40 - 160	P	01/31/2025	11:36	LB134505
	Calcium	1900	2000	95	40 - 160	P	01/31/2025	11:36	LB134505
	Chromium	9.68	10.0	97	40 - 160	P	01/31/2025	11:36	LB134505
	Cobalt	28.8	30.0	96	40 - 160	P	01/31/2025	11:36	LB134505
	Copper	21.0	20.0	105	40 - 160	P	01/31/2025	11:36	LB134505
	Iron	94.7	100	95	40 - 160	P	01/31/2025	11:36	LB134505
	Lead	11.4	12.0	95	40 - 160	P	01/31/2025	11:36	LB134505
	Magnesium	2020	2000	101	40 - 160	P	01/31/2025	11:36	LB134505
	Manganese	19.3	20.0	97	40 - 160	P	01/31/2025	11:36	LB134505
	Nickel	38.4	40.0	96	40 - 160	P	01/31/2025	11:36	LB134505
	Potassium	1910	2000	96	40 - 160	P	01/31/2025	11:36	LB134505
	Selenium	20.7	20.0	103	40 - 160	P	01/31/2025	11:36	LB134505
	Silver	10.2	10.0	102	40 - 160	P	01/31/2025	11:36	LB134505
	Sodium	1810	2000	90	40 - 160	P	01/31/2025	11:36	LB134505
	Thallium	38.9	40.0	97	40 - 160	P	01/31/2025	11:36	LB134505
	Vanadium	39.6	40.0	99	40 - 160	P	01/31/2025	11:36	LB134505
	Zinc	40.8	40.0	102	40 - 160	P	01/31/2025	11:36	LB134505
CRA	Mercury	0.18	0.2	91	40 - 160	CV	01/31/2025	13:24	LB134501



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

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client:	RU2 Engineering, LLC				SDG No.:	Q1232			
Contract:	RUTW01	Lab Code:	CHEM	Case No.:	Q1232	SAS No.:	Q1232		
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB77	Mercury	0.20	+/-0.20	U	0.20	CV	01/31/2025	13:17	LB134501

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: RU2 Engineering, LLC **SDG No.:** Q1232
Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1232 **SAS No.:** Q1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB92	Mercury	0.20	+/-0.20	U	0.20	CV	01/31/2025	13:21	LB134501
CCB93	Mercury	0.20	+/-0.20	U	0.20	CV	01/31/2025	13:49	LB134501
CCB94	Mercury	0.20	+/-0.20	U	0.20	CV	01/31/2025	14:17	LB134501
CCB95	Mercury	0.20	+/-0.20	U	0.20	CV	01/31/2025	14:45	LB134501
CCB96	Mercury	0.20	+/-0.20	U	0.20	CV	01/31/2025	14:54	LB134501

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: RU2 Engineering, LLC **SDG No.:** Q1232
Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1232 **SAS No.:** Q1232

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	100	+/-100	U	100	P	01/31/2025	11:32	LB134505
	Antimony	50.0	+/-50.0	U	50.0	P	01/31/2025	11:32	LB134505
	Arsenic	20.0	+/-20.0	U	20.0	P	01/31/2025	11:32	LB134505
	Barium	100	+/-100	U	100	P	01/31/2025	11:32	LB134505
	Beryllium	6.00	+/-6.00	U	6.00	P	01/31/2025	11:32	LB134505
	Cadmium	6.00	+/-6.00	U	6.00	P	01/31/2025	11:32	LB134505
	Calcium	2000	+/-2000	U	2000	P	01/31/2025	11:32	LB134505
	Chromium	10.0	+/-10.0	U	10.0	P	01/31/2025	11:32	LB134505
	Cobalt	30.0	+/-30.0	U	30.0	P	01/31/2025	11:32	LB134505
	Copper	20.0	+/-20.0	U	20.0	P	01/31/2025	11:32	LB134505
	Iron	100	+/-100	U	100	P	01/31/2025	11:32	LB134505
	Lead	12.0	+/-12.0	U	12.0	P	01/31/2025	11:32	LB134505
	Magnesium	2000	+/-2000	U	2000	P	01/31/2025	11:32	LB134505
	Manganese	20.0	+/-20.0	U	20.0	P	01/31/2025	11:32	LB134505
	Nickel	40.0	+/-40.0	U	40.0	P	01/31/2025	11:32	LB134505
	Potassium	2000	+/-2000	U	2000	P	01/31/2025	11:32	LB134505
	Selenium	20.0	+/-20.0	U	20.0	P	01/31/2025	11:32	LB134505
	Silver	10.0	+/-10.0	U	10.0	P	01/31/2025	11:32	LB134505
	Sodium	2000	+/-2000	U	2000	P	01/31/2025	11:32	LB134505
	Thallium	40.0	+/-40.0	U	40.0	P	01/31/2025	11:32	LB134505
	Vanadium	40.0	+/-40.0	U	40.0	P	01/31/2025	11:32	LB134505
	Zinc	40.0	+/-40.0	U	40.0	P	01/31/2025	11:32	LB134505

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: <u>RU2 Engineering, LLC</u>		SDG No.: <u>Q1232</u>							
Contract: <u>RUTW01</u>	Lab Code: <u>CHEM</u>	Case No.: <u>Q1232</u>	SAS No.: <u>Q1232</u>						
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	100	+/-100	U	100	P	01/31/2025	12:20	LB134505
	Antimony	50.0	+/-50.0	U	50.0	P	01/31/2025	12:20	LB134505
	Arsenic	20.0	+/-20.0	U	20.0	P	01/31/2025	12:20	LB134505
	Barium	100	+/-100	U	100	P	01/31/2025	12:20	LB134505
	Beryllium	6.00	+/-6.00	U	6.00	P	01/31/2025	12:20	LB134505
	Cadmium	6.00	+/-6.00	U	6.00	P	01/31/2025	12:20	LB134505
	Calcium	2000	+/-2000	U	2000	P	01/31/2025	12:20	LB134505
	Chromium	10.0	+/-10.0	U	10.0	P	01/31/2025	12:20	LB134505
	Cobalt	30.0	+/-30.0	U	30.0	P	01/31/2025	12:20	LB134505
	Copper	20.0	+/-20.0	U	20.0	P	01/31/2025	12:20	LB134505
	Iron	100	+/-100	U	100	P	01/31/2025	12:20	LB134505
	Lead	12.0	+/-12.0	U	12.0	P	01/31/2025	12:20	LB134505
	Magnesium	2000	+/-2000	U	2000	P	01/31/2025	12:20	LB134505
	Manganese	20.0	+/-20.0	U	20.0	P	01/31/2025	12:20	LB134505
	Nickel	40.0	+/-40.0	U	40.0	P	01/31/2025	12:20	LB134505
	Potassium	2000	+/-2000	U	2000	P	01/31/2025	12:20	LB134505
	Selenium	20.0	+/-20.0	U	20.0	P	01/31/2025	12:20	LB134505
	Silver	10.0	+/-10.0	U	10.0	P	01/31/2025	12:20	LB134505
	Sodium	2000	+/-2000	U	2000	P	01/31/2025	12:20	LB134505
	Thallium	40.0	+/-40.0	U	40.0	P	01/31/2025	12:20	LB134505
	Vanadium	40.0	+/-40.0	U	40.0	P	01/31/2025	12:20	LB134505
	Zinc	40.0	+/-40.0	U	40.0	P	01/31/2025	12:20	LB134505
CCB02	Aluminum	100	+/-100	U	100	P	01/31/2025	13:10	LB134505
	Antimony	50.0	+/-50.0	U	50.0	P	01/31/2025	13:10	LB134505
	Arsenic	20.0	+/-20.0	U	20.0	P	01/31/2025	13:10	LB134505
	Barium	100	+/-100	U	100	P	01/31/2025	13:10	LB134505
	Beryllium	6.00	+/-6.00	U	6.00	P	01/31/2025	13:10	LB134505
	Cadmium	6.00	+/-6.00	U	6.00	P	01/31/2025	13:10	LB134505
	Calcium	2000	+/-2000	U	2000	P	01/31/2025	13:10	LB134505
	Chromium	10.0	+/-10.0	U	10.0	P	01/31/2025	13:10	LB134505
	Cobalt	30.0	+/-30.0	U	30.0	P	01/31/2025	13:10	LB134505
	Copper	20.0	+/-20.0	U	20.0	P	01/31/2025	13:10	LB134505
	Iron	100	+/-100	U	100	P	01/31/2025	13:10	LB134505
	Lead	12.0	+/-12.0	U	12.0	P	01/31/2025	13:10	LB134505
	Magnesium	2000	+/-2000	U	2000	P	01/31/2025	13:10	LB134505
	Manganese	20.0	+/-20.0	U	20.0	P	01/31/2025	13:10	LB134505
	Nickel	40.0	+/-40.0	U	40.0	P	01/31/2025	13:10	LB134505
	Potassium	2000	+/-2000	U	2000	P	01/31/2025	13:10	LB134505
	Selenium	20.0	+/-20.0	U	20.0	P	01/31/2025	13:10	LB134505

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: <u>RU2 Engineering, LLC</u>		SDG No.: <u>Q1232</u>							
Contract: <u>RUTW01</u>	Lab Code: <u>CHEM</u>	Case No.: <u>Q1232</u>	SAS No.: <u>Q1232</u>						
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Silver	10.0	+/-10.0	U	10.0	P	01/31/2025	13:10	LB134505
	Sodium	2000	+/-2000	U	2000	P	01/31/2025	13:10	LB134505
	Thallium	40.0	+/-40.0	U	40.0	P	01/31/2025	13:10	LB134505
	Vanadium	40.0	+/-40.0	U	40.0	P	01/31/2025	13:10	LB134505
	Zinc	40.0	+/-40.0	U	40.0	P	01/31/2025	13:10	LB134505
CCB03	Aluminum	100	+/-100	U	100	P	01/31/2025	14:01	LB134505
	Antimony	50.0	+/-50.0	U	50.0	P	01/31/2025	14:01	LB134505
	Arsenic	20.0	+/-20.0	U	20.0	P	01/31/2025	14:01	LB134505
	Barium	100	+/-100	U	100	P	01/31/2025	14:01	LB134505
	Beryllium	6.00	+/-6.00	U	6.00	P	01/31/2025	14:01	LB134505
	Cadmium	6.00	+/-6.00	U	6.00	P	01/31/2025	14:01	LB134505
	Calcium	2000	+/-2000	U	2000	P	01/31/2025	14:01	LB134505
	Chromium	10.0	+/-10.0	U	10.0	P	01/31/2025	14:01	LB134505
	Cobalt	30.0	+/-30.0	U	30.0	P	01/31/2025	14:01	LB134505
	Copper	20.0	+/-20.0	U	20.0	P	01/31/2025	14:01	LB134505
	Iron	100	+/-100	U	100	P	01/31/2025	14:01	LB134505
	Lead	12.0	+/-12.0	U	12.0	P	01/31/2025	14:01	LB134505
	Magnesium	2000	+/-2000	U	2000	P	01/31/2025	14:01	LB134505
	Manganese	20.0	+/-20.0	U	20.0	P	01/31/2025	14:01	LB134505
	Nickel	40.0	+/-40.0	U	40.0	P	01/31/2025	14:01	LB134505
	Potassium	2000	+/-2000	U	2000	P	01/31/2025	14:01	LB134505
	Selenium	20.0	+/-20.0	U	20.0	P	01/31/2025	14:01	LB134505
	Silver	10.0	+/-10.0	U	10.0	P	01/31/2025	14:01	LB134505
	Sodium	2000	+/-2000	U	2000	P	01/31/2025	14:01	LB134505
	Thallium	40.0	+/-40.0	U	40.0	P	01/31/2025	14:01	LB134505
	Vanadium	40.0	+/-40.0	U	40.0	P	01/31/2025	14:01	LB134505
	Zinc	40.0	+/-40.0	U	40.0	P	01/31/2025	14:01	LB134505
CCB04	Aluminum	100	+/-100	U	100	P	01/31/2025	14:52	LB134505
	Antimony	50.0	+/-50.0	U	50.0	P	01/31/2025	14:52	LB134505
	Arsenic	20.0	+/-20.0	U	20.0	P	01/31/2025	14:52	LB134505
	Barium	100	+/-100	U	100	P	01/31/2025	14:52	LB134505
	Beryllium	6.00	+/-6.00	U	6.00	P	01/31/2025	14:52	LB134505
	Cadmium	6.00	+/-6.00	U	6.00	P	01/31/2025	14:52	LB134505
	Calcium	2000	+/-2000	U	2000	P	01/31/2025	14:52	LB134505
	Chromium	10.0	+/-10.0	U	10.0	P	01/31/2025	14:52	LB134505
	Cobalt	30.0	+/-30.0	U	30.0	P	01/31/2025	14:52	LB134505
	Copper	20.0	+/-20.0	U	20.0	P	01/31/2025	14:52	LB134505
	Iron	100	+/-100	U	100	P	01/31/2025	14:52	LB134505
	Lead	12.0	+/-12.0	U	12.0	P	01/31/2025	14:52	LB134505

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: <u>RU2 Engineering, LLC</u>		SDG No.: <u>Q1232</u>							
Contract: <u>RUTW01</u>	Lab Code: <u>CHEM</u>	Case No.: <u>Q1232</u>	SAS No.: <u>Q1232</u>						
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB04	Magnesium	2000	+/-2000	U	2000	P	01/31/2025	14:52	LB134505
	Manganese	20.0	+/-20.0	U	20.0	P	01/31/2025	14:52	LB134505
	Nickel	40.0	+/-40.0	U	40.0	P	01/31/2025	14:52	LB134505
	Potassium	2000	+/-2000	U	2000	P	01/31/2025	14:52	LB134505
	Selenium	20.0	+/-20.0	U	20.0	P	01/31/2025	14:52	LB134505
	Silver	10.0	+/-10.0	U	10.0	P	01/31/2025	14:52	LB134505
	Sodium	2000	+/-2000	U	2000	P	01/31/2025	14:52	LB134505
	Thallium	40.0	+/-40.0	U	40.0	P	01/31/2025	14:52	LB134505
	Vanadium	40.0	+/-40.0	U	40.0	P	01/31/2025	14:52	LB134505
	Zinc	40.0	+/-40.0	U	40.0	P	01/31/2025	14:52	LB134505
CCB05	Aluminum	100	+/-100	U	100	P	01/31/2025	15:29	LB134505
	Antimony	50.0	+/-50.0	U	50.0	P	01/31/2025	15:29	LB134505
	Arsenic	20.0	+/-20.0	U	20.0	P	01/31/2025	15:29	LB134505
	Barium	100	+/-100	U	100	P	01/31/2025	15:29	LB134505
	Beryllium	6.00	+/-6.00	U	6.00	P	01/31/2025	15:29	LB134505
	Cadmium	6.00	+/-6.00	U	6.00	P	01/31/2025	15:29	LB134505
	Calcium	2000	+/-2000	U	2000	P	01/31/2025	15:29	LB134505
	Chromium	10.0	+/-10.0	U	10.0	P	01/31/2025	15:29	LB134505
	Cobalt	30.0	+/-30.0	U	30.0	P	01/31/2025	15:29	LB134505
	Copper	20.0	+/-20.0	U	20.0	P	01/31/2025	15:29	LB134505
	Iron	100	+/-100	U	100	P	01/31/2025	15:29	LB134505
	Lead	12.0	+/-12.0	U	12.0	P	01/31/2025	15:29	LB134505
	Magnesium	2000	+/-2000	U	2000	P	01/31/2025	15:29	LB134505
	Manganese	20.0	+/-20.0	U	20.0	P	01/31/2025	15:29	LB134505
	Nickel	40.0	+/-40.0	U	40.0	P	01/31/2025	15:29	LB134505
	Potassium	2000	+/-2000	U	2000	P	01/31/2025	15:29	LB134505
	Selenium	20.0	+/-20.0	U	20.0	P	01/31/2025	15:29	LB134505
	Silver	10.0	+/-10.0	U	10.0	P	01/31/2025	15:29	LB134505
	Sodium	2000	+/-2000	U	2000	P	01/31/2025	15:29	LB134505
	Thallium	40.0	+/-40.0	U	40.0	P	01/31/2025	15:29	LB134505
	Vanadium	40.0	+/-40.0	U	40.0	P	01/31/2025	15:29	LB134505
	Zinc	40.0	+/-40.0	U	40.0	P	01/31/2025	15:29	LB134505

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: RU2 Engineering, LLC

SDG No.: Q1232

Instrument: CV1

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB166402BL		SOLID		Batch Number:	PB166402		Prep Date:	01/30/2025	
	Mercury	0.013	<0.013	U	0.013	CV	01/31/2025	13:31	LB134501

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: RU2 Engineering, LLC

SDG No.: Q1232

Instrument: P4

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB166387BL	SOLID			Batch Number:	PB166387		Prep Date:	01/30/2025	
	Aluminum	4.08	<4.08	U	4.08	P	01/31/2025	14:22	LB134505
	Antimony	2.04	<2.04	U	2.04	P	01/31/2025	14:22	LB134505
	Arsenic	0.82	<0.82	U	0.82	P	01/31/2025	14:22	LB134505
	Barium	4.08	<4.08	U	4.08	P	01/31/2025	14:22	LB134505
	Beryllium	0.25	<0.25	U	0.25	P	01/31/2025	14:22	LB134505
	Cadmium	0.25	<0.25	U	0.25	P	01/31/2025	14:22	LB134505
	Calcium	81.6	<81.6	U	81.6	P	01/31/2025	14:22	LB134505
	Chromium	0.41	<0.41	U	0.41	P	01/31/2025	14:22	LB134505
	Cobalt	1.22	<1.22	U	1.22	P	01/31/2025	14:22	LB134505
	Copper	0.82	<0.82	U	0.82	P	01/31/2025	14:22	LB134505
	Iron	4.08	<4.08	U	4.08	P	01/31/2025	14:22	LB134505
	Lead	0.49	<0.49	U	0.49	P	01/31/2025	14:22	LB134505
	Magnesium	81.6	<81.6	U	81.6	P	01/31/2025	14:22	LB134505
	Manganese	0.82	<0.82	U	0.82	P	01/31/2025	14:22	LB134505
	Nickel	1.63	<1.63	U	1.63	P	01/31/2025	14:22	LB134505
	Potassium	81.6	<81.6	U	81.6	P	01/31/2025	14:22	LB134505
	Selenium	0.82	<0.82	U	0.82	P	01/31/2025	14:22	LB134505
	Silver	0.41	<0.41	U	0.41	P	01/31/2025	14:22	LB134505
	Sodium	81.6	<81.6	U	81.6	P	01/31/2025	14:22	LB134505
	Thallium	1.63	<1.63	U	1.63	P	01/31/2025	14:22	LB134505
	Vanadium	1.63	<1.63	U	1.63	P	01/31/2025	14:22	LB134505
	Zinc	1.63	<1.63	U	1.63	P	01/31/2025	14:22	LB134505

Metals
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INTERFERENCE CHECK SAMPLE

Client:	<u>RU2 Engineering, LLC</u>	SDG No.:	<u>Q1232</u>
Contract:	<u>RUTW01</u>	Lab Code:	<u>CHEM</u>
ICS Source:	<u>EPA</u>	Case No.:	<u>Q1232</u>
		SAS No.:	<u>Q1232</u>
		Instrument ID:	<u>P4</u>

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	240000	255000	94	216000	294000	01/31/2025	11:47	LB134505
	Antimony	-2.70			-50	50	01/31/2025	11:47	LB134505
	Arsenic	2.15			-20	20	01/31/2025	11:47	LB134505
	Barium	2.86	6.0	48	-94	106	01/31/2025	11:47	LB134505
	Beryllium	1.33			-6	6	01/31/2025	11:47	LB134505
	Cadmium	-0.026	1.0	3	-5	7	01/31/2025	11:47	LB134505
	Calcium	225000	245000	92	208000	282000	01/31/2025	11:47	LB134505
	Chromium	55.5	52.0	107	42	62	01/31/2025	11:47	LB134505
	Cobalt	1.61			-30	30	01/31/2025	11:47	LB134505
	Copper	11.8	2.0	590	-18	22	01/31/2025	11:47	LB134505
	Iron	98700	101000	98	85600	116500	01/31/2025	11:47	LB134505
	Lead	8.45			-12	12	01/31/2025	11:47	LB134505
	Magnesium	242000	255000	95	216000	294000	01/31/2025	11:47	LB134505
	Manganese	6.39	7.0	91	-13	27	01/31/2025	11:47	LB134505
	Nickel	2.95	2.0	148	-38	42	01/31/2025	11:47	LB134505
	Potassium	97.3			0	0	01/31/2025	11:47	LB134505
	Selenium	-19.7			-20	20	01/31/2025	11:47	LB134505
	Silver	-3.42			-10	10	01/31/2025	11:47	LB134505
	Sodium	62.8			0	0	01/31/2025	11:47	LB134505
	Thallium	9.31			-40	40	01/31/2025	11:47	LB134505
	Vanadium	5.36			-40	40	01/31/2025	11:47	LB134505
	Zinc	3.14			-40	40	01/31/2025	11:47	LB134505
ICSAB01	Aluminum	239000	247000	97	209000	285000	01/31/2025	11:53	LB134505
	Antimony	621	618	100	525	711	01/31/2025	11:53	LB134505
	Arsenic	113	104	109	88.4	120	01/31/2025	11:53	LB134505
	Barium	479	537	89	437	637	01/31/2025	11:53	LB134505
	Beryllium	483	495	98	420	570	01/31/2025	11:53	LB134505
	Cadmium	992	972	102	826	1120	01/31/2025	11:53	LB134505
	Calcium	226000	235000	96	199000	271000	01/31/2025	11:53	LB134505
	Chromium	552	542	102	460	624	01/31/2025	11:53	LB134505
	Cobalt	502	476	106	404	548	01/31/2025	11:53	LB134505
	Copper	497	511	97	434	588	01/31/2025	11:53	LB134505
	Iron	96700	99300	97	84400	114500	01/31/2025	11:53	LB134505
	Lead	58.4	49.0	119	37	61	01/31/2025	11:53	LB134505
	Magnesium	242000	248000	98	210000	286000	01/31/2025	11:53	LB134505
	Manganese	469	507	92	430	584	01/31/2025	11:53	LB134505
	Nickel	991	954	104	810	1100	01/31/2025	11:53	LB134505
	Potassium	112			0	0	01/31/2025	11:53	LB134505
	Selenium	35.4	46.0	77	26	66	01/31/2025	11:53	LB134505
	Silver	211	201	105	170	232	01/31/2025	11:53	LB134505
	Sodium	46.6			0	0	01/31/2025	11:53	LB134505
	Thallium	94.3	108	87	68	148	01/31/2025	11:53	LB134505

Metals
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INTERFERENCE CHECK SAMPLE

Client: <u>RU2 Engineering, LLC</u>	SDG No.: <u>Q1232</u>
Contract: <u>RUTW01</u> Lab Code: <u>CHEM</u>	Case No.: <u>Q1232</u> SAS No.: <u>Q1232</u>
ICS Source: <u>EPA</u>	Instrument ID: <u>P4</u>

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	469	491	96	417	565	01/31/2025	11:53	LB134505
	Zinc	1040	952	109	809	1095	01/31/2025	11:53	LB134505



METAL QC DATA

metals
- 5a -
MATRIX SPIKE SUMMARY

client:	<u>RU2 Engineering, LLC</u>	level:	<u>low</u>	sdg no.:	<u>Q1232</u>
contract:	<u>RUTW01</u>	lab code:	<u>CHEM</u>	case no.:	<u>Q1232</u>
matrix:	<u>Solid</u>	sample id:	<u>Q1235-07</u>	client id:	<u>JPP-16.1-012925MS</u>
Percent Solids for Sample:	89.2	Spiked ID:	Q1235-07MS	Percent Solids for Spike Sample:	89.2

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	4430		4460		110	-22		P
Antimony	mg/Kg	75 - 125	21.9		0.90	J	43.3	49	N	P
Arsenic	mg/Kg	75 - 125	45.7		4.60		43.3	95		P
Barium	mg/Kg	75 - 125	89.2		80.4		10.8	81		P
Beryllium	mg/Kg	75 - 125	9.17		0.34		10.8	82		P
Cadmium	mg/Kg	75 - 125	10.8		0.44		10.8	95		P
Calcium	mg/Kg	75 - 125	30000		28600		54.2	2576		P
Chromium	mg/Kg	75 - 125	33.7		13.0		21.7	96		P
Cobalt	mg/Kg	75 - 125	16.0		4.72		10.8	105		P
Copper	mg/Kg	75 - 125	68.9		72.0		16.2	-19		P
Iron	mg/Kg	75 - 125	9930		9910		160	11		P
Lead	mg/Kg	75 - 125	236		184		54.2	96		P
Magnesium	mg/Kg	75 - 125	9850		7860		110	1806		P
Manganese	mg/Kg	75 - 125	174		156		10.8	171		P
Mercury	mg/Kg	80 - 120	0.55		0.31		0.27	87		CV
Nickel	mg/Kg	75 - 125	41.9		15.4		27.1	98		P
Potassium	mg/Kg	75 - 125	1660		1160		540	94		P
Selenium	mg/Kg	75 - 125	94.1		0.92	U	110	86		P
Silver	mg/Kg	75 - 125	3.81		0.068	J	4.1	91		P
Sodium	mg/Kg	75 - 125	1250		1180		160	46		P
Thallium	mg/Kg	75 - 125	104		1.84	U	110	94		P
Vanadium	mg/Kg	75 - 125	31.1		18.0		16.2	81		P
Zinc	mg/Kg	75 - 125	130		117		10.8	114		P

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client:	<u>RU2 Engineering, LLC</u>	level:	<u>low</u>	sdg no.:	<u>Q1232</u>
contract:	<u>RUTW01</u>	lab code:	<u>CHEM</u>	case no.:	<u>Q1232</u>
matrix:	<u>Solid</u>	sample id:	<u>Q1235-07</u>	client id:	<u>JPP-16.1-012925MSD</u>
Percent Solids for Sample:	89.2	Spiked ID:	Q1235-07MSD	Percent Solids for Spike Sample:	89.2

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	3840		4460		93.4	-655		P
Antimony	mg/Kg	75 - 125	18.8		0.90	J	37.4	48	N	P
Arsenic	mg/Kg	75 - 125	39.3		4.60		37.4	93		P
Barium	mg/Kg	75 - 125	79.2		80.4		9.3	-13		P
Beryllium	mg/Kg	75 - 125	7.94		0.34		9.3	82		P
Cadmium	mg/Kg	75 - 125	9.25		0.44		9.3	95		P
Calcium	mg/Kg	75 - 125	26100		28600		46.7	-5216		P
Chromium	mg/Kg	75 - 125	28.6		13.0		18.7	84		P
Cobalt	mg/Kg	75 - 125	13.8		4.72		9.3	98		P
Copper	mg/Kg	75 - 125	59.4		72.0		14.0	-90		P
Iron	mg/Kg	75 - 125	8620		9910		140	-925		P
Lead	mg/Kg	75 - 125	204		184		46.7	42	N	P
Magnesium	mg/Kg	75 - 125	8590		7860		93.4	783		P
Manganese	mg/Kg	75 - 125	155		156		9.3	-11		P
Mercury	mg/Kg	80 - 120	0.60		0.31		0.27	106		CV
Nickel	mg/Kg	75 - 125	36.2		15.4		23.4	89		P
Potassium	mg/Kg	75 - 125	1440		1160		470	59	N	P
Selenium	mg/Kg	75 - 125	80.6		0.92	U	93.4	86		P
Silver	mg/Kg	75 - 125	3.27		0.068	J	3.5	92		P
Sodium	mg/Kg	75 - 125	1100		1180		140	-54		P
Thallium	mg/Kg	75 - 125	89.2		1.84	U	93.4	96		P
Vanadium	mg/Kg	75 - 125	27.2		18.0		14.0	65	N	P
Zinc	mg/Kg	75 - 125	110		117		9.3	-82		P

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: <u>RU2 Engineering, LLC</u>	SDG No.: <u>Q1232</u>	
Contract: <u>RUTW01</u>	Lab Code: <u>CHEM</u>	Case No.: <u>Q1232</u> SAS No.: <u>Q1232</u>
Matrix: <u>Solid</u>	Level: <u>LOW</u>	Client ID: <u>JPP-16.1-012925A</u>
Sample ID: <u>Q1235-07</u>	Spiked ID: <u>Q1235-07A</u>	

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Antimony	mg/Kg	75 - 125	18.0		0.90	J	36.8	46		P
Lead	mg/Kg	75 - 125	197		184		45.9	29		P
Potassium	mg/Kg	75 - 125	1350		1160		460	42		P
Vanadium	mg/Kg	75 - 125	26.2		18.0		13.8	59		P

Metals

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DUPLICATE SAMPLE SUMMARY

Client: RU2 Engineering, LLC **Level:** LOW **SDG No.:** Q1232
Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1232 **SAS No.:** Q1232
Matrix: Solid **Sample ID:** Q1235-07 **Client ID:** JPP-16.1-012925DUP
Percent Solids for Sample: 89.2 **Duplicate ID** Q1235-07DUP **Percent Solids for Spike Sample:** 89.2

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	mg/Kg	20	4460		5000		11		P
Antimony	mg/Kg	20	0.90	J	1.15	J	24		P
Arsenic	mg/Kg	20	4.60		5.04		9		P
Barium	mg/Kg	20	80.4		91.6		13		P
Beryllium	mg/Kg	20	0.34		0.38		12		P
Cadmium	mg/Kg	20	0.44		0.49		10		P
Calcium	mg/Kg	20	28600		32600		13		P
Chromium	mg/Kg	20	13.0		14.4		10		P
Cobalt	mg/Kg	20	4.72		5.30		12		P
Copper	mg/Kg	20	72.0		80.6		11		P
Iron	mg/Kg	20	9910		11200		12		P
Lead	mg/Kg	20	184		207		12		P
Magnesium	mg/Kg	20	7860		8870		12		P
Manganese	mg/Kg	20	156		178		13		P
Mercury	mg/Kg	20	0.31		0.32		2		CV
Nickel	mg/Kg	20	15.4		17.4		12		P
Potassium	mg/Kg	20	1160		1290		11		P
Selenium	mg/Kg	20	0.92	U	1.03	U			P
Silver	mg/Kg	20	0.068	J	0.11	J	43		P
Sodium	mg/Kg	20	1180		1330		12		P
Thallium	mg/Kg	20	1.84	U	2.06	U			P
Vanadium	mg/Kg	20	18.0		20.4		12		P
Zinc	mg/Kg	20	117		130		11		P

Metals

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DUPLICATE SAMPLE SUMMARY

Client: RU2 Engineering, LLC **Level:** LOW **SDG No.:** Q1232
Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1232 **SAS No.:** Q1232
Matrix: Solid **Sample ID:** Q1235-07MS **Client ID:** JPP-16.1-012925MSD
Percent Solids for Sample: 89.2 **Duplicate ID** Q1235-07MSD **Percent Solids for Spike Sample:** 89.2

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	mg/Kg	20	4430		3840		14		P
Antimony	mg/Kg	20	21.9		18.8		15		P
Arsenic	mg/Kg	20	45.7		39.3		15		P
Barium	mg/Kg	20	89.2		79.2		12		P
Beryllium	mg/Kg	20	9.17		7.94		14		P
Cadmium	mg/Kg	20	10.8		9.25		15		P
Calcium	mg/Kg	20	30000		26100		14		P
Chromium	mg/Kg	20	33.7		28.6		16		P
Cobalt	mg/Kg	20	16.0		13.8		15		P
Copper	mg/Kg	20	68.9		59.4		15		P
Iron	mg/Kg	20	9930		8620		14		P
Lead	mg/Kg	20	236		204		15		P
Magnesium	mg/Kg	20	9850		8590		14		P
Manganese	mg/Kg	20	174		155		12		P
Mercury	mg/Kg	20	0.55		0.60		9		CV
Nickel	mg/Kg	20	41.9		36.2		15		P
Potassium	mg/Kg	20	1660		1440		14		P
Selenium	mg/Kg	20	94.1		80.6		15		P
Silver	mg/Kg	20	3.81		3.27		15		P
Sodium	mg/Kg	20	1250		1100		13		P
Thallium	mg/Kg	20	104		89.2		15		P
Vanadium	mg/Kg	20	31.1		27.2		13		P
Zinc	mg/Kg	20	130		110		17		P

Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: RU2 Engineering, LLC **SDG No.:** Q1232
Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1232 **SAS No.:** Q1232

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB166387BS							
Aluminum	mg/Kg	81.6	78.6		96	80 - 120	P
Antimony	mg/Kg	32.7	31.7		97	80 - 120	P
Arsenic	mg/Kg	32.7	32.7		100	80 - 120	P
Barium	mg/Kg	8.2	7.43		91	80 - 120	P
Beryllium	mg/Kg	8.2	7.66		93	80 - 120	P
Cadmium	mg/Kg	8.2	7.67		94	80 - 120	P
Calcium	mg/Kg	40.8	40.3	J	99	80 - 120	P
Chromium	mg/Kg	16.3	16.2		99	80 - 120	P
Cobalt	mg/Kg	8.2	7.72		94	80 - 120	P
Copper	mg/Kg	12.2	12.4		102	80 - 120	P
Iron	mg/Kg	120	119		99	80 - 120	P
Lead	mg/Kg	40.8	38.7		95	80 - 120	P
Magnesium	mg/Kg	81.6	76.2	J	93	80 - 120	P
Manganese	mg/Kg	8.2	7.63		93	80 - 120	P
Nickel	mg/Kg	20.4	19.4		95	80 - 120	P
Potassium	mg/Kg	410	398		97	80 - 120	P
Selenium	mg/Kg	81.6	80.8		99	80 - 120	P
Silver	mg/Kg	3.1	3.01		97	80 - 120	P
Sodium	mg/Kg	120	111		92	80 - 120	P
Thallium	mg/Kg	81.6	84.5		104	80 - 120	P
Vanadium	mg/Kg	12.2	11.6		95	80 - 120	P
Zinc	mg/Kg	8.2	8.22		100	80 - 120	P

Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: RU2 Engineering, LLC **SDG No.:** Q1232
Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1232 **SAS No.:** Q1232

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB166402BS Mercury	mg/Kg	0.25	0.28		114	80 - 120	CV

Metals
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ICP SERIAL DILUTIONS

SAMPLE NO.

JPP-16.1-012925L

Lab Name: Chemtech Consulting Group

Contract: RUTW01

Lab Code: CHEM Lb No.: lb134505 Lab Sample ID : Q1235-07L SDG No.: Q1232

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

Concentration Units: mg/Kg

Analyte	Initial Sample Result (I)		Serial Dilution Result (S)		% Differ-ence		Q	M
		C		C				
Aluminum		4460		4780		7		P
Antimony		0.90	J	11.5	U	100.0		P
Arsenic		4.60		5.03		9		P
Barium		80.4		85.9		7		P
Beryllium		0.34		0.41	J	22		P
Cadmium		0.44		0.19	J	58		P
Calcium		28600		32700		15		P
Chromium		13.0		14.8		14		P
Cobalt		4.72		4.80	J	2		P
Copper		72.0		86.5		20		P
Iron		9910		10600		7		P
Lead		184		196		7		P
Magnesium		7860		8700		11		P
Manganese		156		180		16		P
Mercury		0.31		0.33		7		CV
Nickel		15.4		16.2		5		P
Potassium		1160		1170		1		P
Selenium		0.92	U	4.59	U			P
Silver		0.068	J	2.30	U	100.0		P
Sodium		1180		1090		7		P
Thallium		1.84	U	9.19	U			P
Vanadium		18.0		20.3		13		P
Zinc		117		130		11		P



METAL PREPARATION & INSTRUMENT DATA

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: RU2 Engineering, LLC

SDG No.: Q1232

Contract: RUTW01

Lab Code: CHEM

Case No.: Q1232

SAS No.: Q1232

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Al	Ca	Fe	Mg	Ag
Aluminum	396.100	0.0000000	-0.0002060	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0000000	-0.0000440	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000930	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	-0.0075970	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0007850	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0000920	0.0000000	0.0000380	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	-0.0001440	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	-0.0001490	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0001050	0.0000000	0.0000000

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: RU2 Engineering, LLC

SDG No.: Q1232

Contract: RUTW01

Lab Code: CHEM

Case No.: Q1232

SAS No.: Q1232

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		As	Ba	Be	Cd	Co
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0002870
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0009530
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	-0.0039600
Lead	220.353	0.0000000	0.0003170	0.0000000	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	-0.0003570
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0054900
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: RU2 Engineering, LLC

SDG No.: Q1232

Contract: RUTW01

Lab Code: CHEM

Case No.: Q1232

SAS No.: Q1232

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Cr	Cu	K	Mn	Mo
Aluminum	396.100	0.0000000	0.0000000	0.0000590	0.0000000	0.0396900
Antimony	206.833	0.0122000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	-0.0029000	0.0000000	0.0000000	0.0000000	0.0004900
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	-0.0000710	-0.0003400
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000070	0.0002200	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	-0.0007860
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0006510	0.0020500
Iron	240.488	0.0000000	0.0000000	0.0000730	0.0000000	-0.0015250
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0001400	-0.0008600
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0007460	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000120
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0017400	-0.0100400
Vanadium	292.402	-0.0025100	0.0000000	0.0000000	0.0000000	-0.0072000
Zinc	213.800	0.0000000	0.0009010	0.0000000	0.0000000	0.0000000

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: RU2 Engineering, LLC

SDG No.: Q1232

Contract: RUTW01

Lab Code: CHEM

Case No.: Q1232

SAS No.: Q1232

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Na	Ni	Pb	Sb	Se
Aluminum	396.100	0.0000000	0.0000000	0.0012800	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	-0.0047000	0.0036100	0.0000000	0.0000000
Iron	240.488	0.0000000	-0.0017000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0006580	0.0000000	0.0000000	0.0001290
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0003330	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0067600	0.0000000	0.0000000	0.0000000

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: RU2 Engineering, LLC

SDG No.: Q1232

Contract: RUTW01

Lab Code: CHEM

Case No.: Q1232

SAS No.: Q1232

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Sn	Ti	Tl	V	Zn
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	-0.0035600	-0.0007970	0.0000000	-0.0018900	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000630	0.0001280	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0001110	0.0000000
Cobalt	228.616	0.0000000	0.0018800	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0003840	0.0000000	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	-0.0003610	0.0000000	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	-0.0007420	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	-0.0039700	0.0000000	-0.0115600	0.0000000
Vanadium	292.402	0.0000000	0.0005320	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

METAL PREPARATION & ANALYICAL SUMMARY

Metals

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SAMPLE PREPARATION SUMMARY

Client:	<u>RU2 Engineering, LLC</u>	SDG No.:	<u>Q1232</u>
Contract:	<u>RUTW01</u>	Lab Code:	<u>CHEM</u>
		Method:	<u></u>
		Case No.:	<u>Q1232</u>
		SAS No.:	<u>Q1232</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB166387							
PB166387BL	PB166387BL	MB	SOLID	01/30/2025	2.45	100.0	100.00
PB166387BS	PB166387BS	LCS	SOLID	01/30/2025	2.45	100.0	100.00
Q1232-03	JPP-46.2-012925	SAM	SOLID	01/30/2025	2.15	100.0	89.20
Q1232-07	JPP-46.1-012925	SAM	SOLID	01/30/2025	2.26	100.0	94.00
Q1232-11	JPP-42.1-012925	SAM	SOLID	01/30/2025	2.24	100.0	88.10
Q1232-15	JPP-42.2-012925	SAM	SOLID	01/30/2025	2.02	100.0	93.20
Q1232-19	JPP-51.1-012925	SAM	SOLID	01/30/2025	2.23	100.0	95.10
Q1235-07DUP	JPP-16.1-012925DUP	DUP	SOLID	01/30/2025	2.18	100.0	89.20
Q1235-07MS	JPP-16.1-012925MS	MS	SOLID	01/30/2025	2.07	100.0	89.20
Q1235-07MSD	JPP-16.1-012925MSD	MSD	SOLID	01/30/2025	2.40	100.0	89.20

Metals

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SAMPLE PREPARATION SUMMARY

Client:	<u>RU2 Engineering, LLC</u>	SDG No.:	<u>Q1232</u>
Contract:	<u>RUTW01</u>	Lab Code:	<u>CHEM</u>
		Method:	<u></u>
		Case No.:	<u>Q1232</u>
		SAS No.:	<u>Q1232</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB166402							
PB166402BL	PB166402BL	MB	SOLID	01/30/2025	0.54	35.0	100.00
PB166402BS	PB166402BS	LCS	SOLID	01/30/2025	0.55	35.0	100.00
Q1232-03	JPP-46.2-012925	SAM	SOLID	01/30/2025	0.60	35.0	89.20
Q1232-07	JPP-46.1-012925	SAM	SOLID	01/30/2025	0.54	35.0	94.00
Q1232-11	JPP-42.1-012925	SAM	SOLID	01/30/2025	0.58	35.0	88.10
Q1232-15	JPP-42.2-012925	SAM	SOLID	01/30/2025	0.59	35.0	93.20
Q1232-19	JPP-51.1-012925	SAM	SOLID	01/30/2025	0.60	35.0	95.10
Q1235-07DUP	JPP-16.1-012925DUP	DUP	SOLID	01/30/2025	0.56	35.0	89.20
Q1235-07MS	JPP-16.1-012925MS	MS	SOLID	01/30/2025	0.59	35.0	89.20
Q1235-07MSD	JPP-16.1-012925MSD	MSD	SOLID	01/30/2025	0.58	35.0	89.20

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ANALYSIS RUN LOG

Client: RU2 Engineering, LLC **Contract:** RUTW01

Lab code: CHEM **Case no.:** Q1232 **Sas no.:** Q1232 **Sdg no.:** Q1232

Instrument id number: **Method:** **Run number:** LB134501

Start date: 01/31/2025 **End date:** 01/31/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1247	HG
S0.2	S0.2	1	1249	HG
S2.5	S2.5	1	1252	HG
S5	S5	1	1254	HG
S7.5	S7.5	1	1256	HG
S10	S10	1	1301	HG
ICV77	ICV77	1	1315	HG
ICB77	ICB77	1	1317	HG
CCV92	CCV92	1	1319	HG
CCB92	CCB92	1	1321	HG
CRA	CRA	1	1324	HG
PB166402BL	PB166402BL	1	1331	HG
PB166402BS	PB166402BS	1	1333	HG
CCV93	CCV93	1	1347	HG
CCB93	CCB93	1	1349	HG
Q1232-03	JPP-46.2-012925	1	1401	HG
Q1232-07	JPP-46.1-012925	1	1403	HG
Q1232-11	JPP-42.1-012925	1	1405	HG
Q1232-15	JPP-42.2-012925	1	1408	HG
CCV94	CCV94	1	1415	HG
CCB94	CCB94	1	1417	HG
Q1235-07DUP	JPP-16.1-012925DUP	1	1422	HG
Q1235-07MS	JPP-16.1-012925MS	1	1424	HG
Q1235-07MSD	JPP-16.1-012925MSD	1	1426	HG
Q1235-07L	JPP-16.1-012925L	5	1438	HG
CCV95	CCV95	1	1442	HG
CCB95	CCB95	1	1445	HG
Q1232-19	JPP-51.1-012925	5	1449	HG
CCV96	CCV96	1	1452	HG
CCB96	CCB96	1	1454	HG

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ANALYSIS RUN LOG

Client: RU2 Engineering, LLC **Contract:** RUTW01

Lab code: CHEM **Case no.:** Q1232 **Sas no.:** Q1232 **Sdg no.:** Q1232

Instrument id number: **Method:** **Run number:** LB134505

Start date: 01/31/2025 **End date:** 01/31/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1057	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S1	S1	1	1102	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	1106	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	1110	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	1115	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	1119	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICV01	ICV01	1	1123	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLICV01	LLICV01	1	1127	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	1132	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CRI01	CRI01	1	1136	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	1147	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	1153	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	1216	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	1220	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	1306	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	1310	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q1232-03	JPP-46.2-012925	1	1322	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q1232-07	JPP-46.1-012925	1	1327	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q1232-11	JPP-42.1-012925	1	1331	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q1232-15	JPP-42.2-012925	1	1335	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q1232-19	JPP-51.1-012925	1	1339	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q1235-07DUP	JPP-16.1-012925DUP	1	1352	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	1357	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	1401	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q1235-07L	JPP-16.1-012925L	5	1405	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q1235-07MS	JPP-16.1-012925MS	1	1409	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q1235-07MSD	JPP-16.1-012925MSD	1	1414	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q1235-07A	JPP-16.1-012925A	1	1418	K,Pb,Sb,V
PB166387BL	PB166387BL	1	1422	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB166387BS	PB166387BS	1	1426	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	1447	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	1452	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	1525	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	1529	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn