CHEMTECH

284 Sheffield Street, Mountainside, New Jersey - 07092

Phone: (908) 789 8900 Fax: (908) 789 8922

LAB CHRONICLE

OrderID:	O1233	**OrderDate:**	1/19/2023 1:53:00 PM
Client:	Louis Berger U.S., Inc., A WSP Company	**Project:**	NYCDDC Phase II SCI Arthur Kill Road CEQR
Contact:	Jonathan Ganz	**Location:**	N11,VOA Ref. #2 Soil,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1233-02	**B-P34A**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/24/23	
O1233-03	**B-P34B**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/24/23	
O1233-04	**B-P36A**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/24/23	
O1233-05	**B-P36B**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/24/23	
O1233-06	**B-P37A**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/24/23	
O1233-07	**B-P37B**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/24/23	
O1233-08	**B-P38A**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/24/23	
O1233-09	**B-P38B**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/24/23	
O1233-10	**WC-38**	**TCLP**			**01/18/23**			**01/19/23**
			TCLP ICP Metals	6010D		01/24/23	01/25/23	

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			TCLP Mercury	7470A		01/23/23	01/24/23	
O1233-11	**B-P38C**	**SOIL**			**01/18/23**			**01/19/23**
			Mercury	7471B		01/20/23	01/23/23	
			Metals ICP-TAL	6010D		01/20/23	01/24/23	

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Hit Summary Sheet
SW-846

SDG No.: O1233 **Order ID:** O1233

Client: Louis Berger U.S., Inc., A WSP Company **Project ID:** NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : B-P34A								
O1233-02	B-P34A	SOIL	Aluminum	10800		2.44	5.53	mg/Kg
O1233-02	B-P34A	SOIL	Arsenic	7.51		0.23	1.11	mg/Kg
O1233-02	B-P34A	SOIL	Barium	39.6		0.80	5.53	mg/Kg
O1233-02	B-P34A	SOIL	Beryllium	0.68		0.023	0.33	mg/Kg
O1233-02	B-P34A	SOIL	Cadmium	0.13	J	0.030	0.33	mg/Kg
O1233-02	B-P34A	SOIL	Calcium	1060		7.90	111	mg/Kg
O1233-02	B-P34A	SOIL	Chromium	30.9		0.10	0.55	mg/Kg
O1233-02	B-P34A	SOIL	Cobalt	12.2		0.083	1.66	mg/Kg
O1233-02	B-P34A	SOIL	Copper	17.3		0.47	1.11	mg/Kg
O1233-02	B-P34A	SOIL	Iron	20900		4.35	5.53	mg/Kg
O1233-02	B-P34A	SOIL	Lead	19.1		0.29	0.66	mg/Kg
O1233-02	B-P34A	SOIL	Magnesium	2210		10.1	111	mg/Kg
O1233-02	B-P34A	SOIL	Manganese	286		0.12	1.11	mg/Kg
O1233-02	B-P34A	SOIL	Mercury	0.018		0.0040	0.015	mg/Kg
O1233-02	B-P34A	SOIL	Nickel	56.2		0.20	2.21	mg/Kg
O1233-02	B-P34A	SOIL	Potassium	715		25.8	111	mg/Kg
O1233-02	B-P34A	SOIL	Silver	1.24		0.086	0.55	mg/Kg
O1233-02	B-P34A	SOIL	Sodium	61.2	J	25.9	111	mg/Kg
O1233-02	B-P34A	SOIL	Vanadium	24.4		0.35	2.21	mg/Kg
O1233-02	B-P34A	SOIL	Zinc	46.0		0.22	2.21	mg/Kg
Client ID : B-P34B								
O1233-03	B-P34B	SOIL	Aluminum	3100		2.42	5.49	mg/Kg
O1233-03	B-P34B	SOIL	Arsenic	3.13		0.23	1.10	mg/Kg
O1233-03	B-P34B	SOIL	Barium	24.2		0.79	5.49	mg/Kg
O1233-03	B-P34B	SOIL	Beryllium	0.51		0.023	0.33	mg/Kg
O1233-03	B-P34B	SOIL	Cadmium	0.17	J	0.030	0.33	mg/Kg
O1233-03	B-P34B	SOIL	Calcium	1520		7.83	110	mg/Kg
O1233-03	B-P34B	SOIL	Chromium	54.3		0.099	0.55	mg/Kg
O1233-03	B-P34B	SOIL	Cobalt	9.66		0.082	1.65	mg/Kg
O1233-03	B-P34B	SOIL	Copper	7.54		0.46	1.10	mg/Kg
O1233-03	B-P34B	SOIL	Iron	10800		4.31	5.49	mg/Kg
O1233-03	B-P34B	SOIL	Lead	240		0.28	0.66	mg/Kg
O1233-03	B-P34B	SOIL	Magnesium	3560		9.99	110	mg/Kg
O1233-03	B-P34B	SOIL	Manganese	331		0.12	1.10	mg/Kg
O1233-03	B-P34B	SOIL	Mercury	0.0070	J	0.0030	0.014	mg/Kg
O1233-03	B-P34B	SOIL	Nickel	128		0.20	2.19	mg/Kg
O1233-03	B-P34B	SOIL	Potassium	620		25.6	110	mg/Kg
O1233-03	B-P34B	SOIL	Silver	0.60		0.086	0.55	mg/Kg

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Hit Summary Sheet
SW-846

SDG No.: O1233 **Order ID:** O1233

Client: Louis Berger U.S., Inc., A WSP Company **Project ID:** NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
O1233-03	B-P34B	SOIL	Sodium	117		25.7	110	mg/Kg
O1233-03	B-P34B	SOIL	Vanadium	10.3		0.35	2.19	mg/Kg
O1233-03	B-P34B	SOIL	Zinc	52.8		0.22	2.19	mg/Kg
Client ID :	**B-P36A**							
O1233-04	B-P36A	SOIL	Aluminum	7380		2.25	5.10	mg/Kg
O1233-04	B-P36A	SOIL	Arsenic	8.08		0.21	1.02	mg/Kg
O1233-04	B-P36A	SOIL	Barium	60.2		0.73	5.10	mg/Kg
O1233-04	B-P36A	SOIL	Beryllium	0.82		0.021	0.31	mg/Kg
O1233-04	B-P36A	SOIL	Cadmium	0.63		0.028	0.31	mg/Kg
O1233-04	B-P36A	SOIL	Calcium	1650		7.28	102	mg/Kg
O1233-04	B-P36A	SOIL	Chromium	20.8		0.092	0.51	mg/Kg
O1233-04	B-P36A	SOIL	Cobalt	10.1		0.076	1.53	mg/Kg
O1233-04	B-P36A	SOIL	Copper	24.8		0.43	1.02	mg/Kg
O1233-04	B-P36A	SOIL	Iron	17500		4.01	5.10	mg/Kg
O1233-04	B-P36A	SOIL	Lead	69.2		0.27	0.61	mg/Kg
O1233-04	B-P36A	SOIL	Magnesium	3010		9.29	102	mg/Kg
O1233-04	B-P36A	SOIL	Manganese	202		0.11	1.02	mg/Kg
O1233-04	B-P36A	SOIL	Mercury	0.0070	J	0.0030	0.014	mg/Kg
O1233-04	B-P36A	SOIL	Nickel	53.4		0.18	2.04	mg/Kg
O1233-04	B-P36A	SOIL	Potassium	789		23.7	102	mg/Kg
O1233-04	B-P36A	SOIL	Silver	1.08		0.080	0.51	mg/Kg
O1233-04	B-P36A	SOIL	Sodium	89.6	J	23.9	102	mg/Kg
O1233-04	B-P36A	SOIL	Vanadium	20.7		0.33	2.04	mg/Kg
O1233-04	B-P36A	SOIL	Zinc	88.8		0.20	2.04	mg/Kg
Client ID :	**B-P36B**							
O1233-05	B-P36B	SOIL	Aluminum	3890		2.26	5.12	mg/Kg
O1233-05	B-P36B	SOIL	Arsenic	1.69		0.22	1.02	mg/Kg
O1233-05	B-P36B	SOIL	Barium	24.5		0.74	5.12	mg/Kg
O1233-05	B-P36B	SOIL	Beryllium	0.40		0.022	0.31	mg/Kg
O1233-05	B-P36B	SOIL	Cadmium	0.18	J	0.028	0.31	mg/Kg
O1233-05	B-P36B	SOIL	Calcium	6970		7.31	102	mg/Kg
O1233-05	B-P36B	SOIL	Chromium	10.0		0.092	0.51	mg/Kg
O1233-05	B-P36B	SOIL	Cobalt	5.02		0.077	1.54	mg/Kg
O1233-05	B-P36B	SOIL	Copper	8.78		0.43	1.02	mg/Kg
O1233-05	B-P36B	SOIL	Iron	9590		4.03	5.12	mg/Kg
O1233-05	B-P36B	SOIL	Lead	5.23		0.27	0.62	mg/Kg
O1233-05	B-P36B	SOIL	Magnesium	4880		9.33	102	mg/Kg
O1233-05	B-P36B	SOIL	Manganese	261		0.11	1.02	mg/Kg
O1233-05	B-P36B	SOIL	Nickel	15.9		0.18	2.05	mg/Kg
O1233-05	B-P36B	SOIL	Potassium	603		23.9	102	mg/Kg
O1233-05	B-P36B	SOIL	Silver	0.56		0.080	0.51	mg/Kg

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Hit Summary Sheet
SW-846

SDG No.: O1233 **Order ID:** O1233

Client: Louis Berger U.S., Inc., A WSP Company **Project ID:** NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
O1233-05	B-P36B	SOIL	Sodium	156		24.0	102	mg/Kg
O1233-05	B-P36B	SOIL	Vanadium	11.6		0.33	2.05	mg/Kg
O1233-05	B-P36B	SOIL	Zinc	19.8		0.21	2.05	mg/Kg
Client ID :	**B-P37A**							
O1233-06	B-P37A	SOIL	Aluminum	5130		2.24	5.08	mg/Kg
O1233-06	B-P37A	SOIL	Arsenic	4.27		0.21	1.02	mg/Kg
O1233-06	B-P37A	SOIL	Barium	47.5		0.73	5.08	mg/Kg
O1233-06	B-P37A	SOIL	Beryllium	0.60		0.021	0.31	mg/Kg
O1233-06	B-P37A	SOIL	Cadmium	0.40		0.027	0.31	mg/Kg
O1233-06	B-P37A	SOIL	Calcium	890		7.25	102	mg/Kg
O1233-06	B-P37A	SOIL	Chromium	18.1		0.091	0.51	mg/Kg
O1233-06	B-P37A	SOIL	Cobalt	9.11		0.076	1.52	mg/Kg
O1233-06	B-P37A	SOIL	Copper	29.7		0.43	1.02	mg/Kg
O1233-06	B-P37A	SOIL	Iron	13600		3.99	5.08	mg/Kg
O1233-06	B-P37A	SOIL	Lead	33.5		0.26	0.61	mg/Kg
O1233-06	B-P37A	SOIL	Magnesium	2200		9.25	102	mg/Kg
O1233-06	B-P37A	SOIL	Manganese	328		0.11	1.02	mg/Kg
O1233-06	B-P37A	SOIL	Mercury	0.032		0.0040	0.015	mg/Kg
O1233-06	B-P37A	SOIL	Nickel	54.5		0.18	2.03	mg/Kg
O1233-06	B-P37A	SOIL	Potassium	569		23.7	102	mg/Kg
O1233-06	B-P37A	SOIL	Silver	0.87		0.079	0.51	mg/Kg
O1233-06	B-P37A	SOIL	Sodium	71.8	J	23.8	102	mg/Kg
O1233-06	B-P37A	SOIL	Vanadium	17.5		0.33	2.03	mg/Kg
O1233-06	B-P37A	SOIL	Zinc	50.8		0.20	2.03	mg/Kg
Client ID :	**B-P37B**							
O1233-07	B-P37B	SOIL	Aluminum	4240		2.40	5.42	mg/Kg
O1233-07	B-P37B	SOIL	Arsenic	1.84		0.23	1.08	mg/Kg
O1233-07	B-P37B	SOIL	Barium	15.8		0.78	5.42	mg/Kg
O1233-07	B-P37B	SOIL	Beryllium	0.51		0.023	0.33	mg/Kg
O1233-07	B-P37B	SOIL	Cadmium	0.23	J	0.029	0.33	mg/Kg
O1233-07	B-P37B	SOIL	Calcium	1010		7.74	108	mg/Kg
O1233-07	B-P37B	SOIL	Chromium	14.6		0.098	0.54	mg/Kg
O1233-07	B-P37B	SOIL	Cobalt	6.49		0.081	1.63	mg/Kg
O1233-07	B-P37B	SOIL	Copper	14.4		0.46	1.08	mg/Kg
O1233-07	B-P37B	SOIL	Iron	13300		4.26	5.42	mg/Kg
O1233-07	B-P37B	SOIL	Lead	7.88		0.28	0.65	mg/Kg
O1233-07	B-P37B	SOIL	Magnesium	2070		9.87	108	mg/Kg
O1233-07	B-P37B	SOIL	Manganese	71.3		0.12	1.08	mg/Kg
O1233-07	B-P37B	SOIL	Mercury	0.021		0.0040	0.015	mg/Kg
O1233-07	B-P37B	SOIL	Nickel	37.7		0.20	2.17	mg/Kg
O1233-07	B-P37B	SOIL	Potassium	569		25.3	108	mg/Kg

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Hit Summary Sheet
SW-846

SDG No.: O1233 **Order ID:** O1233

Client: Louis Berger U.S., Inc., A WSP Company **Project ID:** NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
O1233-07	B-P37B	SOIL	Silver	0.82		0.085	0.54	mg/Kg
O1233-07	B-P37B	SOIL	Sodium	59.0	J	25.4	108	mg/Kg
O1233-07	B-P37B	SOIL	Vanadium	17.1		0.35	2.17	mg/Kg
O1233-07	B-P37B	SOIL	Zinc	29.3		0.22	2.17	mg/Kg
Client ID :	**B-P38A**							
O1233-08	B-P38A	SOIL	Aluminum	9770		2.07	4.69	mg/Kg
O1233-08	B-P38A	SOIL	Arsenic	5.73		0.20	0.94	mg/Kg
O1233-08	B-P38A	SOIL	Barium	54.3		0.68	4.69	mg/Kg
O1233-08	B-P38A	SOIL	Beryllium	0.93		0.020	0.28	mg/Kg
O1233-08	B-P38A	SOIL	Cadmium	0.79		0.025	0.28	mg/Kg
O1233-08	B-P38A	SOIL	Calcium	2820		6.69	93.7	mg/Kg
O1233-08	B-P38A	SOIL	Chromium	40.9		0.084	0.47	mg/Kg
O1233-08	B-P38A	SOIL	Cobalt	20.6		0.070	1.41	mg/Kg
O1233-08	B-P38A	SOIL	Copper	21.6		0.39	0.94	mg/Kg
O1233-08	B-P38A	SOIL	Iron	25800		3.68	4.69	mg/Kg
O1233-08	B-P38A	SOIL	Lead	25.0		0.24	0.56	mg/Kg
O1233-08	B-P38A	SOIL	Magnesium	4700		8.54	93.7	mg/Kg
O1233-08	B-P38A	SOIL	Manganese	872		0.10	0.94	mg/Kg
O1233-08	B-P38A	SOIL	Mercury	0.049		0.0040	0.015	mg/Kg
O1233-08	B-P38A	SOIL	Nickel	207		0.17	1.87	mg/Kg
O1233-08	B-P38A	SOIL	Potassium	877		21.8	93.7	mg/Kg
O1233-08	B-P38A	SOIL	Silver	1.67		0.073	0.47	mg/Kg
O1233-08	B-P38A	SOIL	Sodium	62.0	J	21.9	93.7	mg/Kg
O1233-08	B-P38A	SOIL	Vanadium	29.6		0.30	1.87	mg/Kg
O1233-08	B-P38A	SOIL	Zinc	47.9		0.19	1.87	mg/Kg
Client ID :	**B-P38B**							
O1233-09	B-P38B	SOIL	Aluminum	2410		2.41	5.46	mg/Kg
O1233-09	B-P38B	SOIL	Arsenic	4.14		0.23	1.09	mg/Kg
O1233-09	B-P38B	SOIL	Barium	41.9		0.79	5.46	mg/Kg
O1233-09	B-P38B	SOIL	Beryllium	0.66		0.023	0.33	mg/Kg
O1233-09	B-P38B	SOIL	Cadmium	0.37		0.029	0.33	mg/Kg
O1233-09	B-P38B	SOIL	Calcium	1190		7.80	109	mg/Kg
O1233-09	B-P38B	SOIL	Chromium	19.3		0.098	0.55	mg/Kg
O1233-09	B-P38B	SOIL	Cobalt	12.1		0.082	1.64	mg/Kg
O1233-09	B-P38B	SOIL	Copper	20.3		0.46	1.09	mg/Kg
O1233-09	B-P38B	SOIL	Iron	15000		4.29	5.46	mg/Kg
O1233-09	B-P38B	SOIL	Lead	9.01		0.28	0.66	mg/Kg
O1233-09	B-P38B	SOIL	Magnesium	5140		9.95	109	mg/Kg
O1233-09	B-P38B	SOIL	Manganese	391		0.12	1.09	mg/Kg
O1233-09	B-P38B	SOIL	Nickel	120		0.20	2.18	mg/Kg
O1233-09	B-P38B	SOIL	Potassium	640		25.4	109	mg/Kg

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Hit Summary Sheet
SW-846

SDG No.: O1233 **Order ID:** O1233

Client: Louis Berger U.S., Inc., A WSP Company **Project ID:** NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
O1233-09	B-P38B	SOIL	Silver	0.87		0.085	0.55	mg/Kg
O1233-09	B-P38B	SOIL	Sodium	75.2	J	25.5	109	mg/Kg
O1233-09	B-P38B	SOIL	Vanadium	14.3		0.35	2.18	mg/Kg
O1233-09	B-P38B	SOIL	Zinc	31.3		0.22	2.18	mg/Kg
Client ID :	**B-P38C**							
O1233-11	B-P38C	SOIL	Aluminum	2800		2.40	5.44	mg/Kg
O1233-11	B-P38C	SOIL	Arsenic	3.54		0.23	1.09	mg/Kg
O1233-11	B-P38C	SOIL	Barium	29.2		0.78	5.44	mg/Kg
O1233-11	B-P38C	SOIL	Beryllium	0.69		0.023	0.33	mg/Kg
O1233-11	B-P38C	SOIL	Cadmium	0.43		0.029	0.33	mg/Kg
O1233-11	B-P38C	SOIL	Calcium	549		7.77	109	mg/Kg
O1233-11	B-P38C	SOIL	Chromium	15.3		0.098	0.54	mg/Kg
O1233-11	B-P38C	SOIL	Cobalt	9.31		0.082	1.63	mg/Kg
O1233-11	B-P38C	SOIL	Copper	19.2		0.46	1.09	mg/Kg
O1233-11	B-P38C	SOIL	Iron	15000		4.28	5.44	mg/Kg
O1233-11	B-P38C	SOIL	Lead	9.68		0.28	0.65	mg/Kg
O1233-11	B-P38C	SOIL	Magnesium	2330		9.91	109	mg/Kg
O1233-11	B-P38C	SOIL	Manganese	551		0.12	1.09	mg/Kg
O1233-11	B-P38C	SOIL	Nickel	95.3		0.20	2.18	mg/Kg
O1233-11	B-P38C	SOIL	Potassium	692		25.4	109	mg/Kg
O1233-11	B-P38C	SOIL	Silver	0.87		0.085	0.54	mg/Kg
O1233-11	B-P38C	SOIL	Sodium	33.2	J	25.5	109	mg/Kg
O1233-11	B-P38C	SOIL	Vanadium	15.9		0.35	2.18	mg/Kg
O1233-11	B-P38C	SOIL	Zinc	33.2		0.22	2.18	mg/Kg

CHEMTECH

SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34A	SDG No.:	O1233
Lab Sample ID:	O1233-02	Matrix:	SOIL
Level (low/med):	low	% Solid:	85.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	10800		1	2.44	5.53	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-36-0	Antimony	0.39	UN	1	0.39	2.76	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-38-2	Arsenic	7.51		1	0.23	1.11	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-39-3	Barium	39.6		1	0.80	5.53	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-41-7	Beryllium	0.68	N	1	0.023	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-43-9	Cadmium	0.13	J	1	0.030	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-70-2	Calcium	1060		1	7.90	111	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-47-3	Chromium	30.9		1	0.10	0.55	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-48-4	Cobalt	12.2		1	0.083	1.66	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-50-8	Copper	17.3	N	1	0.47	1.11	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7439-89-6	Iron	20900		1	4.35	5.53	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7439-92-1	Lead	19.1		1	0.29	0.66	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7439-95-4	Magnesium	2210		1	10.1	111	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7439-96-5	Manganese	286		1	0.12	1.11	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7439-97-6	Mercury	0.018		1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:36	SW7471B	
7440-02-0	Nickel	56.2		1	0.20	2.21	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-09-7	Potassium	715		1	25.8	111	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7782-49-2	Selenium	0.48	U	1	0.48	1.11	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-22-4	Silver	1.24		1	0.086	0.55	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-23-5	Sodium	61.2	J	1	25.9	111	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-28-0	Thallium	0.34	U	1	0.34	2.21	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-62-2	Vanadium	24.4		1	0.35	2.21	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050
7440-66-6	Zinc	46.0		1	0.22	2.21	mg/Kg	01/20/23 15:00	01/24/23 14:04	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
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

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P34B	SDG No.:	O1233
Lab Sample ID:	O1233-03	Matrix:	SOIL
Level (low/med):	low	% Solid:	90.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	3100		1	2.42	5.49	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-36-0	Antimony	0.39	UN	1	0.39	2.74	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-38-2	Arsenic	3.13		1	0.23	1.10	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-39-3	Barium	24.2		1	0.79	5.49	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-41-7	Beryllium	0.51	N	1	0.023	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-43-9	Cadmium	0.17	J	1	0.030	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-70-2	Calcium	1520		1	7.83	110	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-47-3	Chromium	54.3		1	0.099	0.55	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-48-4	Cobalt	9.66		1	0.082	1.65	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-50-8	Copper	7.54	N	1	0.46	1.10	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7439-89-6	Iron	10800		1	4.31	5.49	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7439-92-1	Lead	240		1	0.28	0.66	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7439-95-4	Magnesium	3560		1	9.99	110	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7439-96-5	Manganese	331		1	0.12	1.10	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7439-97-6	Mercury	0.0070	J	1	0.0030	0.014	mg/Kg	01/20/23 16:35	01/23/23 11:38	SW7471B	
7440-02-0	Nickel	128		1	0.20	2.19	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-09-7	Potassium	620		1	25.6	110	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7782-49-2	Selenium	0.47	U	1	0.47	1.10	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-22-4	Silver	0.60		1	0.086	0.55	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-23-5	Sodium	117		1	25.7	110	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-28-0	Thallium	0.34	U	1	0.34	2.19	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-62-2	Vanadium	10.3		1	0.35	2.19	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050
7440-66-6	Zinc	52.8		1	0.22	2.19	mg/Kg	01/20/23 15:00	01/24/23 14:08	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
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

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P36A	SDG No.:	O1233
Lab Sample ID:	O1233-04	Matrix:	SOIL
Level (low/med):	low	% Solid:	89.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	7380		1	2.25	5.10	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-36-0	Antimony	0.36	UN	1	0.36	2.55	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-38-2	Arsenic	8.08		1	0.21	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-39-3	Barium	60.2		1	0.73	5.10	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-41-7	Beryllium	0.82	N	1	0.021	0.31	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-43-9	Cadmium	0.63		1	0.028	0.31	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-70-2	Calcium	1650		1	7.28	102	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-47-3	Chromium	20.8		1	0.092	0.51	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-48-4	Cobalt	10.1		1	0.076	1.53	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-50-8	Copper	24.8	N	1	0.43	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7439-89-6	Iron	17500		1	4.01	5.10	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7439-92-1	Lead	69.2		1	0.27	0.61	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7439-95-4	Magnesium	3010		1	9.29	102	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7439-96-5	Manganese	202		1	0.11	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7439-97-6	Mercury	0.0070	J	1	0.0030	0.014	mg/Kg	01/20/23 16:35	01/23/23 11:40	SW7471B	
7440-02-0	Nickel	53.4		1	0.18	2.04	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-09-7	Potassium	789		1	23.7	102	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7782-49-2	Selenium	0.44	U	1	0.44	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-22-4	Silver	1.08		1	0.080	0.51	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-23-5	Sodium	89.6	J	1	23.9	102	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-28-0	Thallium	0.32	U	1	0.32	2.04	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-62-2	Vanadium	20.7		1	0.33	2.04	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050
7440-66-6	Zinc	88.8		1	0.20	2.04	mg/Kg	01/20/23 15:00	01/24/23 14:12	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

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

J = Estimated Value
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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P36B	SDG No.:	O1233
Lab Sample ID:	O1233-05	Matrix:	SOIL
Level (low/med):	low	% Solid:	90.4

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	3890		1	2.26	5.12	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-36-0	Antimony	0.36	UN	1	0.36	2.56	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-38-2	Arsenic	1.69		1	0.22	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-39-3	Barium	24.5		1	0.74	5.12	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-41-7	Beryllium	0.40	N	1	0.022	0.31	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-43-9	Cadmium	0.18	J	1	0.028	0.31	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-70-2	Calcium	6970		1	7.31	102	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-47-3	Chromium	10.0		1	0.092	0.51	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-48-4	Cobalt	5.02		1	0.077	1.54	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-50-8	Copper	8.78	N	1	0.43	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7439-89-6	Iron	9590		1	4.03	5.12	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7439-92-1	Lead	5.23		1	0.27	0.62	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7439-95-4	Magnesium	4880		1	9.33	102	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7439-96-5	Manganese	261		1	0.11	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7439-97-6	Mercury	0.0030	U	1	0.0030	0.014	mg/Kg	01/20/23 16:35	01/23/23 11:43	SW7471B	
7440-02-0	Nickel	15.9		1	0.18	2.05	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-09-7	Potassium	603		1	23.9	102	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7782-49-2	Selenium	0.44	U	1	0.44	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-22-4	Silver	0.56		1	0.080	0.51	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-23-5	Sodium	156		1	24.0	102	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-28-0	Thallium	0.32	U	1	0.32	2.05	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-62-2	Vanadium	11.6		1	0.33	2.05	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050
7440-66-6	Zinc	19.8		1	0.21	2.05	mg/Kg	01/20/23 15:00	01/24/23 14:15	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

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

J = Estimated Value
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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P37A	SDG No.:	O1233
Lab Sample ID:	O1233-06	Matrix:	SOIL
Level (low/med):	low	% Solid:	87.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	5130		1	2.24	5.08	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-36-0	Antimony	0.36	UN	1	0.36	2.54	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-38-2	Arsenic	4.27		1	0.21	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-39-3	Barium	47.5		1	0.73	5.08	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-41-7	Beryllium	0.60	N	1	0.021	0.31	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-43-9	Cadmium	0.40		1	0.027	0.31	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-70-2	Calcium	890		1	7.25	102	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-47-3	Chromium	18.1		1	0.091	0.51	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-48-4	Cobalt	9.11		1	0.076	1.52	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-50-8	Copper	29.7	N	1	0.43	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7439-89-6	Iron	13600		1	3.99	5.08	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7439-92-1	Lead	33.5		1	0.26	0.61	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7439-95-4	Magnesium	2200		1	9.25	102	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7439-96-5	Manganese	328		1	0.11	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7439-97-6	Mercury	0.032		1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:45	SW7471B	
7440-02-0	Nickel	54.5		1	0.18	2.03	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-09-7	Potassium	569		1	23.7	102	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7782-49-2	Selenium	0.44	U	1	0.44	1.02	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-22-4	Silver	0.87		1	0.079	0.51	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-23-5	Sodium	71.8	J	1	23.8	102	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-28-0	Thallium	0.32	U	1	0.32	2.03	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-62-2	Vanadium	17.5		1	0.33	2.03	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050
7440-66-6	Zinc	50.8		1	0.20	2.03	mg/Kg	01/20/23 15:00	01/24/23 14:19	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
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

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P37B	SDG No.:	O1233
Lab Sample ID:	O1233-07	Matrix:	SOIL
Level (low/med):	low	% Solid:	83.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	4240		1	2.40	5.42	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-36-0	Antimony	0.38	UN	1	0.38	2.71	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-38-2	Arsenic	1.84		1	0.23	1.08	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-39-3	Barium	15.8		1	0.78	5.42	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-41-7	Beryllium	0.51	N	1	0.023	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-43-9	Cadmium	0.23	J	1	0.029	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-70-2	Calcium	1010		1	7.74	108	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-47-3	Chromium	14.6		1	0.098	0.54	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-48-4	Cobalt	6.49		1	0.081	1.63	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-50-8	Copper	14.4	N	1	0.46	1.08	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7439-89-6	Iron	13300		1	4.26	5.42	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7439-92-1	Lead	7.88		1	0.28	0.65	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7439-95-4	Magnesium	2070		1	9.87	108	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7439-96-5	Manganese	71.3		1	0.12	1.08	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7439-97-6	Mercury	0.021		1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:47	SW7471B	
7440-02-0	Nickel	37.7		1	0.20	2.17	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-09-7	Potassium	569		1	25.3	108	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7782-49-2	Selenium	0.47	U	1	0.47	1.08	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-22-4	Silver	0.82		1	0.085	0.54	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-23-5	Sodium	59.0	J	1	25.4	108	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-28-0	Thallium	0.34	U	1	0.34	2.17	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-62-2	Vanadium	17.1		1	0.35	2.17	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050
7440-66-6	Zinc	29.3		1	0.22	2.17	mg/Kg	01/20/23 15:00	01/24/23 14:23	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
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
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OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P38A	SDG No.:	O1233
Lab Sample ID:	O1233-08	Matrix:	SOIL
Level (low/med):	low	% Solid:	89.3

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	9770		1	2.07	4.69	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-36-0	Antimony	0.33	UN	1	0.33	2.34	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-38-2	Arsenic	5.73		1	0.20	0.94	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-39-3	Barium	54.3		1	0.68	4.69	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-41-7	Beryllium	0.93	N	1	0.020	0.28	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-43-9	Cadmium	0.79		1	0.025	0.28	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-70-2	Calcium	2820		1	6.69	93.7	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-47-3	Chromium	40.9		1	0.084	0.47	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-48-4	Cobalt	20.6		1	0.070	1.41	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-50-8	Copper	21.6	N	1	0.39	0.94	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7439-89-6	Iron	25800		1	3.68	4.69	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7439-92-1	Lead	25.0		1	0.24	0.56	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7439-95-4	Magnesium	4700		1	8.54	93.7	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7439-96-5	Manganese	872		1	0.10	0.94	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7439-97-6	Mercury	0.049		1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:50	SW7471B	
7440-02-0	Nickel	207		1	0.17	1.87	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-09-7	Potassium	877		1	21.8	93.7	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7782-49-2	Selenium	0.40	U	1	0.40	0.94	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-22-4	Silver	1.67		1	0.073	0.47	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-23-5	Sodium	62.0	J	1	21.9	93.7	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-28-0	Thallium	0.29	U	1	0.29	1.87	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-62-2	Vanadium	29.6		1	0.30	1.87	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050
7440-66-6	Zinc	47.9		1	0.19	1.87	mg/Kg	01/20/23 15:00	01/24/23 14:42	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

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

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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P38B	SDG No.:	O1233
Lab Sample ID:	O1233-09	Matrix:	SOIL
Level (low/med):	low	% Solid:	80.7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	2410		1	2.41	5.46	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-36-0	Antimony	0.39	UN	1	0.39	2.73	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-38-2	Arsenic	4.14		1	0.23	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-39-3	Barium	41.9		1	0.79	5.46	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-41-7	Beryllium	0.66	N	1	0.023	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-43-9	Cadmium	0.37		1	0.029	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-70-2	Calcium	1190		1	7.80	109	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-47-3	Chromium	19.3		1	0.098	0.55	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-48-4	Cobalt	12.1		1	0.082	1.64	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-50-8	Copper	20.3	N	1	0.46	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7439-89-6	Iron	15000		1	4.29	5.46	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7439-92-1	Lead	9.01		1	0.28	0.66	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7439-95-4	Magnesium	5140		1	9.95	109	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7439-96-5	Manganese	391		1	0.12	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7439-97-6	Mercury	0.0040	U	1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:52	SW7471B	
7440-02-0	Nickel	120		1	0.20	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-09-7	Potassium	640		1	25.4	109	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7782-49-2	Selenium	0.47	U	1	0.47	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-22-4	Silver	0.87		1	0.085	0.55	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-23-5	Sodium	75.2	J	1	25.5	109	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-28-0	Thallium	0.34	U	1	0.34	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-62-2	Vanadium	14.3		1	0.35	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050
7440-66-6	Zinc	31.3		1	0.22	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:46	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23
Client Sample ID:	B-P38C	SDG No.:	O1233
Lab Sample ID:	O1233-11	Matrix:	SOIL
Level (low/med):	low	% Solid:	85.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	2800		1	2.40	5.44	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-36-0	Antimony	0.38	UN	1	0.38	2.72	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-38-2	Arsenic	3.54		1	0.23	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-39-3	Barium	29.2		1	0.78	5.44	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-41-7	Beryllium	0.69	N	1	0.023	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-43-9	Cadmium	0.43		1	0.029	0.33	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-70-2	Calcium	549		1	7.77	109	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-47-3	Chromium	15.3		1	0.098	0.54	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-48-4	Cobalt	9.31		1	0.082	1.63	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-50-8	Copper	19.2	N	1	0.46	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7439-89-6	Iron	15000		1	4.28	5.44	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7439-92-1	Lead	9.68		1	0.28	0.65	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7439-95-4	Magnesium	2330		1	9.91	109	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7439-96-5	Manganese	551		1	0.12	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7439-97-6	Mercury	0.0040	U	1	0.0040	0.015	mg/Kg	01/20/23 16:35	01/23/23 11:59	SW7471B	
7440-02-0	Nickel	95.3		1	0.20	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-09-7	Potassium	692		1	25.4	109	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7782-49-2	Selenium	0.47	U	1	0.47	1.09	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-22-4	Silver	0.87		1	0.085	0.54	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-23-5	Sodium	33.2	J	1	25.5	109	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-28-0	Thallium	0.34	U	1	0.34	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-62-2	Vanadium	15.9		1	0.35	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050
7440-66-6	Zinc	33.2		1	0.22	2.18	mg/Kg	01/20/23 15:00	01/24/23 14:50	SW6010	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Brown	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
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METAL CALIBRATION DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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
ICV12	Mercury	3.91	4.0	98	90 - 110	CV	01/23/2023	10:28	LB123763

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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
CCV93	Mercury	4.87	5.0	97	90 - 110	CV	01/23/2023	10:33	LB123763
CCV94	Mercury	4.70	5.0	94	90 - 110	CV	01/23/2023	11:00	LB123763
CCV95	Mercury	4.66	5.0	93	90 - 110	CV	01/23/2023	11:27	LB123763
CCV96	Mercury	4.90	5.0	98	90 - 110	CV	01/23/2023	11:54	LB123763
CCV97	Mercury	4.96	5.0	99	90 - 110	CV	01/23/2023	12:21	LB123763
CCV98	Mercury	4.71	5.0	94	90 - 110	CV	01/23/2023	12:35	LB123763

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	2530	2500	101	90 - 110	P	01/20/2023	12:38	LB123754
	Antimony	999	1000	100	90 - 110	P	01/20/2023	12:38	LB123754
	Arsenic	1040	1000	104	90 - 110	P	01/20/2023	12:38	LB123754
	Barium	505	520	97	90 - 110	P	01/20/2023	12:38	LB123754
	Beryllium	512	510	100	90 - 110	P	01/20/2023	12:38	LB123754
	Cadmium	509	510	100	90 - 110	P	01/20/2023	12:38	LB123754
	Calcium	9870	10000	99	90 - 110	P	01/20/2023	12:38	LB123754
	Chromium	524	520	101	90 - 110	P	01/20/2023	12:38	LB123754
	Cobalt	502	520	97	90 - 110	P	01/20/2023	12:38	LB123754
	Copper	525	510	103	90 - 110	P	01/20/2023	12:38	LB123754
	Iron	10100	10000	101	90 - 110	P	01/20/2023	12:38	LB123754
	Lead	1020	1000	102	90 - 110	P	01/20/2023	12:38	LB123754
	Magnesium	5910	6000	98	90 - 110	P	01/20/2023	12:38	LB123754
	Manganese	514	520	99	90 - 110	P	01/20/2023	12:38	LB123754
	Nickel	506	530	95	90 - 110	P	01/20/2023	12:38	LB123754
	Potassium	9940	9900	100	90 - 110	P	01/20/2023	12:38	LB123754
	Selenium	1040	1000	104	90 - 110	P	01/20/2023	12:38	LB123754
	Silver	255	250	102	90 - 110	P	01/20/2023	12:38	LB123754
	Sodium	9970	10000	100	90 - 110	P	01/20/2023	12:38	LB123754
	Thallium	1040	1000	104	90 - 110	P	01/20/2023	12:38	LB123754
	Vanadium	493	500	99	90 - 110	P	01/20/2023	12:38	LB123754
	Zinc	1020	1000	102	90 - 110	P	01/20/2023	12:38	LB123754

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	9850	10000	98	90 - 110	P	01/20/2023	13:42	LB123754
	Antimony	4950	5000	99	90 - 110	P	01/20/2023	13:42	LB123754
	Arsenic	5070	5000	101	90 - 110	P	01/20/2023	13:42	LB123754
	Barium	10600	10000	106	90 - 110	P	01/20/2023	13:42	LB123754
	Beryllium	238	250	95	90 - 110	P	01/20/2023	13:42	LB123754
	Cadmium	2490	2500	100	90 - 110	P	01/20/2023	13:42	LB123754
	Calcium	25100	25000	100	90 - 110	P	01/20/2023	13:42	LB123754
	Chromium	964	1000	96	90 - 110	P	01/20/2023	13:42	LB123754
	Cobalt	2440	2500	98	90 - 110	P	01/20/2023	13:42	LB123754
	Copper	1230	1250	99	90 - 110	P	01/20/2023	13:42	LB123754
	Iron	5090	5000	102	90 - 110	P	01/20/2023	13:42	LB123754
	Lead	4940	5000	99	90 - 110	P	01/20/2023	13:42	LB123754
	Magnesium	24400	25000	98	90 - 110	P	01/20/2023	13:42	LB123754
	Manganese	2520	2500	101	90 - 110	P	01/20/2023	13:42	LB123754
	Nickel	2500	2500	100	90 - 110	P	01/20/2023	13:42	LB123754
	Potassium	25300	25000	101	90 - 110	P	01/20/2023	13:42	LB123754
	Selenium	5020	5000	100	90 - 110	P	01/20/2023	13:42	LB123754
	Silver	1210	1250	97	90 - 110	P	01/20/2023	13:42	LB123754
	Sodium	24200	25000	97	90 - 110	P	01/20/2023	13:42	LB123754
	Thallium	5070	5000	101	90 - 110	P	01/20/2023	13:42	LB123754
	Vanadium	2530	2500	101	90 - 110	P	01/20/2023	13:42	LB123754
	Zinc	2510	2500	100	90 - 110	P	01/20/2023	13:42	LB123754

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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
LLCCV01	Aluminum	105	100	105	80 - 120	P	01/20/2023	13:46	LB123754
	Antimony	52.1	50.0	104	80 - 120	P	01/20/2023	13:46	LB123754
	Arsenic	20.6	20.0	103	80 - 120	P	01/20/2023	13:46	LB123754
	Barium	102	100	102	80 - 120	P	01/20/2023	13:46	LB123754
	Beryllium	6.28	6.0	105	80 - 120	P	01/20/2023	13:46	LB123754
	Cadmium	6.60	6.0	110	80 - 120	P	01/20/2023	13:46	LB123754
	Calcium	2000	2000	100	80 - 120	P	01/20/2023	13:46	LB123754
	Chromium	9.74	10.0	97	80 - 120	P	01/20/2023	13:46	LB123754
	Cobalt	29.3	30.0	98	80 - 120	P	01/20/2023	13:46	LB123754
	Copper	22.4	20.0	112	80 - 120	P	01/20/2023	13:46	LB123754
	Iron	112	100	112	80 - 120	P	01/20/2023	13:46	LB123754
	Lead	11.7	12.0	98	80 - 120	P	01/20/2023	13:46	LB123754
	Magnesium	2130	2000	107	80 - 120	P	01/20/2023	13:46	LB123754
	Manganese	21.5	20.0	108	80 - 120	P	01/20/2023	13:46	LB123754
	Nickel	39.9	40.0	100	80 - 120	P	01/20/2023	13:46	LB123754
	Potassium	2070	2000	104	80 - 120	P	01/20/2023	13:46	LB123754
	Selenium	19.2	20.0	96	80 - 120	P	01/20/2023	13:46	LB123754
	Silver	11.8	10.0	118	80 - 120	P	01/20/2023	13:46	LB123754
	Sodium	1990	2000	100	80 - 120	P	01/20/2023	13:46	LB123754
	Thallium	42.0	40.0	105	80 - 120	P	01/20/2023	13:46	LB123754
	Vanadium	36.3	40.0	91	80 - 120	P	01/20/2023	13:46	LB123754
	Zinc	43.0	40.0	108	80 - 120	P	01/20/2023	13:46	LB123754

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	Aluminum	10500	10000	105	90 - 110	P	01/20/2023	14:37	LB123754
	Antimony	5270	5000	105	90 - 110	P	01/20/2023	14:37	LB123754
	Arsenic	5370	5000	108	90 - 110	P	01/20/2023	14:37	LB123754
	Barium	10900	10000	109	90 - 110	P	01/20/2023	14:37	LB123754
	Beryllium	245	250	98	90 - 110	P	01/20/2023	14:37	LB123754
	Cadmium	2610	2500	104	90 - 110	P	01/20/2023	14:37	LB123754
	Calcium	26000	25000	104	90 - 110	P	01/20/2023	14:37	LB123754
	Chromium	1030	1000	103	90 - 110	P	01/20/2023	14:37	LB123754
	Cobalt	2560	2500	102	90 - 110	P	01/20/2023	14:37	LB123754
	Copper	1290	1250	104	90 - 110	P	01/20/2023	14:37	LB123754
	Iron	5370	5000	107	90 - 110	P	01/20/2023	14:37	LB123754
	Lead	5170	5000	103	90 - 110	P	01/20/2023	14:37	LB123754
	Magnesium	25700	25000	103	90 - 110	P	01/20/2023	14:37	LB123754
	Manganese	2570	2500	103	90 - 110	P	01/20/2023	14:37	LB123754
	Nickel	2620	2500	105	90 - 110	P	01/20/2023	14:37	LB123754
	Potassium	26700	25000	107	90 - 110	P	01/20/2023	14:37	LB123754
	Selenium	5250	5000	105	90 - 110	P	01/20/2023	14:37	LB123754
	Silver	1290	1250	103	90 - 110	P	01/20/2023	14:37	LB123754
	Sodium	25100	25000	101	90 - 110	P	01/20/2023	14:37	LB123754
	Thallium	5390	5000	108	90 - 110	P	01/20/2023	14:37	LB123754
	Vanadium	2660	2500	106	90 - 110	P	01/20/2023	14:37	LB123754
	Zinc	2700	2500	108	90 - 110	P	01/20/2023	14:37	LB123754
CCV03	Aluminum	10100	10000	101	90 - 110	P	01/20/2023	15:29	LB123754
	Antimony	5210	5000	104	90 - 110	P	01/20/2023	15:29	LB123754
	Arsenic	5270	5000	106	90 - 110	P	01/20/2023	15:29	LB123754
	Barium	10500	10000	105	90 - 110	P	01/20/2023	15:29	LB123754
	Beryllium	235	250	94	90 - 110	P	01/20/2023	15:29	LB123754
	Cadmium	2570	2500	103	90 - 110	P	01/20/2023	15:29	LB123754
	Calcium	25100	25000	100	90 - 110	P	01/20/2023	15:29	LB123754
	Chromium	994	1000	99	90 - 110	P	01/20/2023	15:29	LB123754
	Cobalt	2540	2500	102	90 - 110	P	01/20/2023	15:29	LB123754
	Copper	1280	1250	103	90 - 110	P	01/20/2023	15:29	LB123754
	Iron	5210	5000	104	90 - 110	P	01/20/2023	15:29	LB123754
	Lead	5110	5000	102	90 - 110	P	01/20/2023	15:29	LB123754

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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
CCV03	Magnesium	24500	25000	98	90 - 110	P	01/20/2023	15:29	LB123754
	Manganese	2480	2500	99	90 - 110	P	01/20/2023	15:29	LB123754
	Nickel	2580	2500	103	90 - 110	P	01/20/2023	15:29	LB123754
	Potassium	25900	25000	104	90 - 110	P	01/20/2023	15:29	LB123754
	Selenium	5200	5000	104	90 - 110	P	01/20/2023	15:29	LB123754
	Silver	1240	1250	99	90 - 110	P	01/20/2023	15:29	LB123754
	Sodium	25100	25000	100	90 - 110	P	01/20/2023	15:29	LB123754
	Thallium	5300	5000	106	90 - 110	P	01/20/2023	15:29	LB123754
	Vanadium	2560	2500	102	90 - 110	P	01/20/2023	15:29	LB123754
	Zinc	2570	2500	103	90 - 110	P	01/20/2023	15:29	LB123754
CCV04	Aluminum	10000	10000	100	90 - 110	P	01/20/2023	16:15	LB123754
	Antimony	5240	5000	105	90 - 110	P	01/20/2023	16:15	LB123754
	Arsenic	5290	5000	106	90 - 110	P	01/20/2023	16:15	LB123754
	Barium	10300	10000	103	90 - 110	P	01/20/2023	16:15	LB123754
	Beryllium	238	250	95	90 - 110	P	01/20/2023	16:15	LB123754
	Cadmium	2590	2500	104	90 - 110	P	01/20/2023	16:15	LB123754
	Calcium	24900	25000	100	90 - 110	P	01/20/2023	16:15	LB123754
	Chromium	997	1000	100	90 - 110	P	01/20/2023	16:15	LB123754
	Cobalt	2560	2500	102	90 - 110	P	01/20/2023	16:15	LB123754
	Copper	1290	1250	103	90 - 110	P	01/20/2023	16:15	LB123754
	Iron	5180	5000	104	90 - 110	P	01/20/2023	16:15	LB123754
	Lead	5140	5000	103	90 - 110	P	01/20/2023	16:15	LB123754
	Magnesium	24600	25000	98	90 - 110	P	01/20/2023	16:15	LB123754
	Manganese	2460	2500	98	90 - 110	P	01/20/2023	16:15	LB123754
	Nickel	2600	2500	104	90 - 110	P	01/20/2023	16:15	LB123754
	Potassium	25800	25000	103	90 - 110	P	01/20/2023	16:15	LB123754
	Selenium	5220	5000	104	90 - 110	P	01/20/2023	16:15	LB123754
	Silver	1250	1250	100	90 - 110	P	01/20/2023	16:15	LB123754
	Sodium	25300	25000	101	90 - 110	P	01/20/2023	16:15	LB123754
	Thallium	5320	5000	106	90 - 110	P	01/20/2023	16:15	LB123754
	Vanadium	2530	2500	101	90 - 110	P	01/20/2023	16:15	LB123754
	Zinc	2580	2500	103	90 - 110	P	01/20/2023	16:15	LB123754
CCV05	Aluminum	9970	10000	100	90 - 110	P	01/20/2023	17:11	LB123754
	Antimony	4970	5000	99	90 - 110	P	01/20/2023	17:11	LB123754

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	Arsenic	5020	5000	100	90 - 110	P	01/20/2023	17:11	LB123754
	Barium	10100	10000	101	90 - 110	P	01/20/2023	17:11	LB123754
	Beryllium	236	250	94	90 - 110	P	01/20/2023	17:11	LB123754
	Cadmium	2460	2500	98	90 - 110	P	01/20/2023	17:11	LB123754
	Calcium	24600	25000	98	90 - 110	P	01/20/2023	17:11	LB123754
	Chromium	980	1000	98	90 - 110	P	01/20/2023	17:11	LB123754
	Cobalt	2430	2500	97	90 - 110	P	01/20/2023	17:11	LB123754
	Copper	1230	1250	98	90 - 110	P	01/20/2023	17:11	LB123754
	Iron	5130	5000	103	90 - 110	P	01/20/2023	17:11	LB123754
	Lead	4900	5000	98	90 - 110	P	01/20/2023	17:11	LB123754
	Magnesium	24300	25000	97	90 - 110	P	01/20/2023	17:11	LB123754
	Manganese	2420	2500	97	90 - 110	P	01/20/2023	17:11	LB123754
	Nickel	2470	2500	99	90 - 110	P	01/20/2023	17:11	LB123754
	Potassium	25100	25000	100	90 - 110	P	01/20/2023	17:11	LB123754
	Selenium	4930	5000	99	90 - 110	P	01/20/2023	17:11	LB123754
	Silver	1220	1250	98	90 - 110	P	01/20/2023	17:11	LB123754
	Sodium	24600	25000	98	90 - 110	P	01/20/2023	17:11	LB123754
	Thallium	5040	5000	101	90 - 110	P	01/20/2023	17:11	LB123754
	Vanadium	2480	2500	99	90 - 110	P	01/20/2023	17:11	LB123754
	Zinc	2530	2500	101	90 - 110	P	01/20/2023	17:11	LB123754
CCV06	Aluminum	10000	10000	100	90 - 110	P	01/20/2023	18:47	LB123754
	Antimony	5000	5000	100	90 - 110	P	01/20/2023	18:47	LB123754
	Arsenic	5190	5000	104	90 - 110	P	01/20/2023	18:47	LB123754
	Barium	11000	10000	110	90 - 110	P	01/20/2023	18:47	LB123754
	Beryllium	229	250	92	90 - 110	P	01/20/2023	18:47	LB123754
	Cadmium	2480	2500	99	90 - 110	P	01/20/2023	18:47	LB123754
	Calcium	25200	25000	101	90 - 110	P	01/20/2023	18:47	LB123754
	Chromium	965	1000	96	90 - 110	P	01/20/2023	18:47	LB123754
	Cobalt	2380	2500	95	90 - 110	P	01/20/2023	18:47	LB123754
	Copper	1210	1250	97	90 - 110	P	01/20/2023	18:47	LB123754
	Iron	5370	5000	108	90 - 110	P	01/20/2023	18:47	LB123754
	Lead	4910	5000	98	90 - 110	P	01/20/2023	18:47	LB123754
	Magnesium	24600	25000	99	90 - 110	P	01/20/2023	18:47	LB123754
	Manganese	2530	2500	101	90 - 110	P	01/20/2023	18:47	LB123754

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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
CCV06	Nickel	2510	2500	100	90 - 110	P	01/20/2023	18:47	LB123754
	Potassium	26900	25000	108	90 - 110	P	01/20/2023	18:47	LB123754
	Selenium	5070	5000	102	90 - 110	P	01/20/2023	18:47	LB123754
	Silver	1220	1250	98	90 - 110	P	01/20/2023	18:47	LB123754
	Sodium	23700	25000	95	90 - 110	P	01/20/2023	18:47	LB123754
	Thallium	5190	5000	104	90 - 110	P	01/20/2023	18:47	LB123754
	Vanadium	2580	2500	103	90 - 110	P	01/20/2023	18:47	LB123754
	Zinc	2580	2500	103	90 - 110	P	01/20/2023	18:47	LB123754
CCV07	Aluminum	9640	10000	96	90 - 110	P	01/20/2023	19:44	LB123754
	Antimony	4890	5000	98	90 - 110	P	01/20/2023	19:44	LB123754
	Arsenic	5060	5000	101	90 - 110	P	01/20/2023	19:44	LB123754
	Barium	10600	10000	106	90 - 110	P	01/20/2023	19:44	LB123754
	Beryllium	251	250	100	90 - 110	P	01/20/2023	19:44	LB123754
	Cadmium	2400	2500	96	90 - 110	P	01/20/2023	19:44	LB123754
	Calcium	24200	25000	97	90 - 110	P	01/20/2023	19:44	LB123754
	Chromium	935	1000	94	90 - 110	P	01/20/2023	19:44	LB123754
	Cobalt	2300	2500	92	90 - 110	P	01/20/2023	19:44	LB123754
	Copper	1170	1250	94	90 - 110	P	01/20/2023	19:44	LB123754
	Iron	5220	5000	104	90 - 110	P	01/20/2023	19:44	LB123754
	Lead	4750	5000	95	90 - 110	P	01/20/2023	19:44	LB123754
	Magnesium	23700	25000	95	90 - 110	P	01/20/2023	19:44	LB123754
	Manganese	2440	2500	97	90 - 110	P	01/20/2023	19:44	LB123754
	Nickel	2440	2500	98	90 - 110	P	01/20/2023	19:44	LB123754
	Potassium	25500	25000	102	90 - 110	P	01/20/2023	19:44	LB123754
	Selenium	4950	5000	99	90 - 110	P	01/20/2023	19:44	LB123754
	Silver	1180	1250	95	90 - 110	P	01/20/2023	19:44	LB123754
	Sodium	23300	25000	93	90 - 110	P	01/20/2023	19:44	LB123754
	Thallium	5060	5000	101	90 - 110	P	01/20/2023	19:44	LB123754
	Vanadium	2510	2500	100	90 - 110	P	01/20/2023	19:44	LB123754
	Zinc	2490	2500	100	90 - 110	P	01/20/2023	19:44	LB123754
CCV08	Aluminum	9870	10000	99	90 - 110	P	01/20/2023	20:30	LB123754
	Antimony	5000	5000	100	90 - 110	P	01/20/2023	20:30	LB123754
	Arsenic	5200	5000	104	90 - 110	P	01/20/2023	20:30	LB123754
	Barium	10700	10000	107	90 - 110	P	01/20/2023	20:30	LB123754

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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
CCV08	Beryllium	257	250	103	90 - 110	P	01/20/2023	20:30	LB123754
	Cadmium	2460	2500	99	90 - 110	P	01/20/2023	20:30	LB123754
	Calcium	24700	25000	99	90 - 110	P	01/20/2023	20:30	LB123754
	Chromium	941	1000	94	90 - 110	P	01/20/2023	20:30	LB123754
	Cobalt	2360	2500	94	90 - 110	P	01/20/2023	20:30	LB123754
	Copper	1200	1250	96	90 - 110	P	01/20/2023	20:30	LB123754
	Iron	5230	5000	105	90 - 110	P	01/20/2023	20:30	LB123754
	Lead	4890	5000	98	90 - 110	P	01/20/2023	20:30	LB123754
	Magnesium	24200	25000	97	90 - 110	P	01/20/2023	20:30	LB123754
	Manganese	2470	2500	99	90 - 110	P	01/20/2023	20:30	LB123754
	Nickel	2510	2500	100	90 - 110	P	01/20/2023	20:30	LB123754
	Potassium	25100	25000	100	90 - 110	P	01/20/2023	20:30	LB123754
	Selenium	5060	5000	101	90 - 110	P	01/20/2023	20:30	LB123754
	Silver	1190	1250	95	90 - 110	P	01/20/2023	20:30	LB123754
	Sodium	23100	25000	92	90 - 110	P	01/20/2023	20:30	LB123754
	Thallium	5190	5000	104	90 - 110	P	01/20/2023	20:30	LB123754
	Vanadium	2540	2500	102	90 - 110	P	01/20/2023	20:30	LB123754
	Zinc	2510	2500	101	90 - 110	P	01/20/2023	20:30	LB123754
CCV09	Aluminum	9620	10000	96	90 - 110	P	01/20/2023	21:16	LB123754
	Antimony	4940	5000	99	90 - 110	P	01/20/2023	21:16	LB123754
	Arsenic	5120	5000	102	90 - 110	P	01/20/2023	21:16	LB123754
	Barium	10500	10000	105	90 - 110	P	01/20/2023	21:16	LB123754
	Beryllium	255	250	102	90 - 110	P	01/20/2023	21:16	LB123754
	Cadmium	2430	2500	97	90 - 110	P	01/20/2023	21:16	LB123754
	Calcium	24100	25000	96	90 - 110	P	01/20/2023	21:16	LB123754
	Chromium	929	1000	93	90 - 110	P	01/20/2023	21:16	LB123754
	Cobalt	2320	2500	93	90 - 110	P	01/20/2023	21:16	LB123754
	Copper	1180	1250	94	90 - 110	P	01/20/2023	21:16	LB123754
	Iron	5100	5000	102	90 - 110	P	01/20/2023	21:16	LB123754
	Lead	4820	5000	96	90 - 110	P	01/20/2023	21:16	LB123754
	Magnesium	23800	25000	95	90 - 110	P	01/20/2023	21:16	LB123754
	Manganese	2410	2500	96	90 - 110	P	01/20/2023	21:16	LB123754
	Nickel	2480	2500	99	90 - 110	P	01/20/2023	21:16	LB123754
	Potassium	24700	25000	99	90 - 110	P	01/20/2023	21:16	LB123754

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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
CCV09	Selenium	5000	5000	100	90 - 110	P	01/20/2023	21:16	LB123754
	Silver	1180	1250	94	90 - 110	P	01/20/2023	21:16	LB123754
	Sodium	22900	25000	92	90 - 110	P	01/20/2023	21:16	LB123754
	Thallium	5120	5000	102	90 - 110	P	01/20/2023	21:16	LB123754
	Vanadium	2490	2500	100	90 - 110	P	01/20/2023	21:16	LB123754
	Zinc	2490	2500	99	90 - 110	P	01/20/2023	21:16	LB123754

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	2520	2500	101	90 - 110	P	01/24/2023	13:12	LB123785
	Antimony	1000	1000	100	90 - 110	P	01/24/2023	13:12	LB123785
	Arsenic	1050	1000	105	90 - 110	P	01/24/2023	13:12	LB123785
	Barium	497	520	96	90 - 110	P	01/24/2023	13:12	LB123785
	Beryllium	507	510	100	90 - 110	P	01/24/2023	13:12	LB123785
	Cadmium	511	510	100	90 - 110	P	01/24/2023	13:12	LB123785
	Calcium	9880	10000	99	90 - 110	P	01/24/2023	13:12	LB123785
	Chromium	519	520	100	90 - 110	P	01/24/2023	13:12	LB123785
	Cobalt	504	520	97	90 - 110	P	01/24/2023	13:12	LB123785
	Copper	528	510	104	90 - 110	P	01/24/2023	13:12	LB123785
	Iron	9840	10000	98	90 - 110	P	01/24/2023	13:12	LB123785
	Lead	1020	1000	102	90 - 110	P	01/24/2023	13:12	LB123785
	Magnesium	6000	6000	100	90 - 110	P	01/24/2023	13:12	LB123785
	Manganese	510	520	98	90 - 110	P	01/24/2023	13:12	LB123785
	Nickel	508	530	96	90 - 110	P	01/24/2023	13:12	LB123785
	Potassium	9640	9900	97	90 - 110	P	01/24/2023	13:12	LB123785
	Selenium	1050	1000	105	90 - 110	P	01/24/2023	13:12	LB123785
	Silver	252	250	101	90 - 110	P	01/24/2023	13:12	LB123785
	Sodium	9740	10000	97	90 - 110	P	01/24/2023	13:12	LB123785
	Thallium	1050	1000	105	90 - 110	P	01/24/2023	13:12	LB123785
	Vanadium	503	500	101	90 - 110	P	01/24/2023	13:12	LB123785
	Zinc	1010	1000	101	90 - 110	P	01/24/2023	13:12	LB123785

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	9760	10000	98	90 - 110	P	01/24/2023	13:33	LB123785
	Antimony	4880	5000	98	90 - 110	P	01/24/2023	13:33	LB123785
	Arsenic	4860	5000	97	90 - 110	P	01/24/2023	13:33	LB123785
	Barium	9840	10000	98	90 - 110	P	01/24/2023	13:33	LB123785
	Beryllium	241	250	96	90 - 110	P	01/24/2023	13:33	LB123785
	Cadmium	2420	2500	97	90 - 110	P	01/24/2023	13:33	LB123785
	Calcium	24300	25000	97	90 - 110	P	01/24/2023	13:33	LB123785
	Chromium	984	1000	98	90 - 110	P	01/24/2023	13:33	LB123785
	Cobalt	2420	2500	97	90 - 110	P	01/24/2023	13:33	LB123785
	Copper	1230	1250	98	90 - 110	P	01/24/2023	13:33	LB123785
	Iron	5000	5000	100	90 - 110	P	01/24/2023	13:33	LB123785
	Lead	4840	5000	97	90 - 110	P	01/24/2023	13:33	LB123785
	Magnesium	24200	25000	97	90 - 110	P	01/24/2023	13:33	LB123785
	Manganese	2440	2500	97	90 - 110	P	01/24/2023	13:33	LB123785
	Nickel	2420	2500	97	90 - 110	P	01/24/2023	13:33	LB123785
	Potassium	24800	25000	99	90 - 110	P	01/24/2023	13:33	LB123785
	Selenium	4880	5000	98	90 - 110	P	01/24/2023	13:33	LB123785
	Silver	1220	1250	98	90 - 110	P	01/24/2023	13:33	LB123785
	Sodium	24800	25000	99	90 - 110	P	01/24/2023	13:33	LB123785
	Thallium	4880	5000	98	90 - 110	P	01/24/2023	13:33	LB123785
	Vanadium	2440	2500	98	90 - 110	P	01/24/2023	13:33	LB123785
	Zinc	2460	2500	98	90 - 110	P	01/24/2023	13:33	LB123785

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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
LLCCV01	Aluminum	90.7	100	91	80 - 120	P	01/24/2023	13:41	LB123785
	Antimony	48.3	50.0	97	80 - 120	P	01/24/2023	13:41	LB123785
	Arsenic	21.7	20.0	109	80 - 120	P	01/24/2023	13:41	LB123785
	Barium	100	100	100	80 - 120	P	01/24/2023	13:41	LB123785
	Beryllium	6.49	6.0	108	80 - 120	P	01/24/2023	13:41	LB123785
	Cadmium	6.42	6.0	107	80 - 120	P	01/24/2023	13:41	LB123785
	Calcium	1930	2000	97	80 - 120	P	01/24/2023	13:41	LB123785
	Chromium	10.7	10.0	107	80 - 120	P	01/24/2023	13:41	LB123785
	Cobalt	29.7	30.0	99	80 - 120	P	01/24/2023	13:41	LB123785
	Copper	23.0	20.0	115	80 - 120	P	01/24/2023	13:41	LB123785
	Iron	88.9	100	89	80 - 120	P	01/24/2023	13:41	LB123785
	Lead	11.4	12.0	95	80 - 120	P	01/24/2023	13:41	LB123785
	Magnesium	2150	2000	107	80 - 120	P	01/24/2023	13:41	LB123785
	Manganese	19.9	20.0	100	80 - 120	P	01/24/2023	13:41	LB123785
	Nickel	39.0	40.0	98	80 - 120	P	01/24/2023	13:41	LB123785
	Potassium	1960	2000	98	80 - 120	P	01/24/2023	13:41	LB123785
	Selenium	21.8	20.0	109	80 - 120	P	01/24/2023	13:41	LB123785
	Silver	10.5	10.0	105	80 - 120	P	01/24/2023	13:41	LB123785
	Sodium	2040	2000	102	80 - 120	P	01/24/2023	13:41	LB123785
	Thallium	40.2	40.0	100	80 - 120	P	01/24/2023	13:41	LB123785
	Vanadium	39.1	40.0	98	80 - 120	P	01/24/2023	13:41	LB123785
	Zinc	42.2	40.0	106	80 - 120	P	01/24/2023	13:41	LB123785

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	Aluminum	9780	10000	98	90 - 110	P	01/24/2023	14:35	LB123785
	Antimony	5010	5000	100	90 - 110	P	01/24/2023	14:35	LB123785
	Arsenic	4980	5000	100	90 - 110	P	01/24/2023	14:35	LB123785
	Barium	9860	10000	99	90 - 110	P	01/24/2023	14:35	LB123785
	Beryllium	259	250	103	90 - 110	P	01/24/2023	14:35	LB123785
	Cadmium	2460	2500	98	90 - 110	P	01/24/2023	14:35	LB123785
	Calcium	24300	25000	97	90 - 110	P	01/24/2023	14:35	LB123785
	Chromium	1010	1000	101	90 - 110	P	01/24/2023	14:35	LB123785
	Cobalt	2440	2500	98	90 - 110	P	01/24/2023	14:35	LB123785
	Copper	1250	1250	100	90 - 110	P	01/24/2023	14:35	LB123785
	Iron	4980	5000	100	90 - 110	P	01/24/2023	14:35	LB123785
	Lead	4970	5000	99	90 - 110	P	01/24/2023	14:35	LB123785
	Magnesium	24200	25000	97	90 - 110	P	01/24/2023	14:35	LB123785
	Manganese	2420	2500	97	90 - 110	P	01/24/2023	14:35	LB123785
	Nickel	2470	2500	99	90 - 110	P	01/24/2023	14:35	LB123785
	Potassium	25000	25000	100	90 - 110	P	01/24/2023	14:35	LB123785
	Selenium	5000	5000	100	90 - 110	P	01/24/2023	14:35	LB123785
	Silver	1260	1250	101	90 - 110	P	01/24/2023	14:35	LB123785
	Sodium	25100	25000	100	90 - 110	P	01/24/2023	14:35	LB123785
	Thallium	5000	5000	100	90 - 110	P	01/24/2023	14:35	LB123785
	Vanadium	2440	2500	98	90 - 110	P	01/24/2023	14:35	LB123785
	Zinc	2520	2500	101	90 - 110	P	01/24/2023	14:35	LB123785
CCV03	Aluminum	9370	10000	94	90 - 110	P	01/24/2023	17:46	LB123785
	Antimony	4930	5000	98	90 - 110	P	01/24/2023	17:46	LB123785
	Arsenic	4940	5000	99	90 - 110	P	01/24/2023	17:46	LB123785
	Barium	10200	10000	102	90 - 110	P	01/24/2023	17:46	LB123785
	Beryllium	234	250	94	90 - 110	P	01/24/2023	17:46	LB123785
	Cadmium	2320	2500	93	90 - 110	P	01/24/2023	17:46	LB123785
	Calcium	23700	25000	95	90 - 110	P	01/24/2023	17:46	LB123785
	Chromium	959	1000	96	90 - 110	P	01/24/2023	17:46	LB123785
	Cobalt	2500	2500	100	90 - 110	P	01/24/2023	17:46	LB123785
	Copper	1160	1250	93	90 - 110	P	01/24/2023	17:46	LB123785
	Iron	5200	5000	104	90 - 110	P	01/24/2023	17:46	LB123785
	Lead	4930	5000	99	90 - 110	P	01/24/2023	17:46	LB123785

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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
CCV03	Magnesium	23600	25000	95	90 - 110	P	01/24/2023	17:46	LB123785
	Manganese	2440	2500	98	90 - 110	P	01/24/2023	17:46	LB123785
	Nickel	2380	2500	95	90 - 110	P	01/24/2023	17:46	LB123785
	Potassium	25300	25000	101	90 - 110	P	01/24/2023	17:46	LB123785
	Selenium	5070	5000	101	90 - 110	P	01/24/2023	17:46	LB123785
	Silver	1250	1250	100	90 - 110	P	01/24/2023	17:46	LB123785
	Sodium	24000	25000	96	90 - 110	P	01/24/2023	17:46	LB123785
	Thallium	4890	5000	98	90 - 110	P	01/24/2023	17:46	LB123785
	Vanadium	2420	2500	97	90 - 110	P	01/24/2023	17:46	LB123785
	Zinc	2400	2500	96	90 - 110	P	01/24/2023	17:46	LB123785
CCV04	Aluminum	10800	10000	108	90 - 110	P	01/24/2023	18:37	LB123785
	Antimony	4850	5000	97	90 - 110	P	01/24/2023	18:37	LB123785
	Arsenic	4820	5000	96	90 - 110	P	01/24/2023	18:37	LB123785
	Barium	10200	10000	102	90 - 110	P	01/24/2023	18:37	LB123785
	Beryllium	235	250	94	90 - 110	P	01/24/2023	18:37	LB123785
	Cadmium	2260	2500	90	90 - 110	P	01/24/2023	18:37	LB123785
	Calcium	23700	25000	95	90 - 110	P	01/24/2023	18:37	LB123785
	Chromium	953	1000	95	90 - 110	P	01/24/2023	18:37	LB123785
	Cobalt	2730	2500	109	90 - 110	P	01/24/2023	18:37	LB123785
	Copper	1290	1250	103	90 - 110	P	01/24/2023	18:37	LB123785
	Iron	5140	5000	103	90 - 110	P	01/24/2023	18:37	LB123785
	Lead	4850	5000	97	90 - 110	P	01/24/2023	18:37	LB123785
	Magnesium	23800	25000	95	90 - 110	P	01/24/2023	18:37	LB123785
	Manganese	2450	2500	98	90 - 110	P	01/24/2023	18:37	LB123785
	Nickel	2340	2500	94	90 - 110	P	01/24/2023	18:37	LB123785
	Potassium	25100	25000	100	90 - 110	P	01/24/2023	18:37	LB123785
	Selenium	4930	5000	99	90 - 110	P	01/24/2023	18:37	LB123785
	Silver	1250	1250	100	90 - 110	P	01/24/2023	18:37	LB123785
	Sodium	23600	25000	94	90 - 110	P	01/24/2023	18:37	LB123785
	Thallium	4820	5000	96	90 - 110	P	01/24/2023	18:37	LB123785
	Vanadium	2430	2500	97	90 - 110	P	01/24/2023	18:37	LB123785
	Zinc	2380	2500	95	90 - 110	P	01/24/2023	18:37	LB123785

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Metals

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CRDL STANDARD FOR AA & ICP

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	110	100	110	40 - 160	P	01/20/2023	17:07	LB123754
	Antimony	50.4	50.0	101	40 - 160	P	01/20/2023	17:07	LB123754
	Arsenic	20.2	20.0	101	40 - 160	P	01/20/2023	17:07	LB123754
	Barium	94.4	100	94	40 - 160	P	01/20/2023	17:07	LB123754
	Beryllium	6.17	6.0	103	40 - 160	P	01/20/2023	17:07	LB123754
	Cadmium	6.40	6.0	107	40 - 160	P	01/20/2023	17:07	LB123754
	Calcium	1910	2000	96	40 - 160	P	01/20/2023	17:07	LB123754
	Chromium	9.67	10.0	97	40 - 160	P	01/20/2023	17:07	LB123754
	Cobalt	29.1	30.0	97	40 - 160	P	01/20/2023	17:07	LB123754
	Copper	22.3	20.0	112	40 - 160	P	01/20/2023	17:07	LB123754
	Iron	107	100	107	40 - 160	P	01/20/2023	17:07	LB123754
	Lead	11.3	12.0	94	40 - 160	P	01/20/2023	17:07	LB123754
	Magnesium	2060	2000	103	40 - 160	P	01/20/2023	17:07	LB123754
	Manganese	19.9	20.0	100	40 - 160	P	01/20/2023	17:07	LB123754
	Nickel	39.2	40.0	98	40 - 160	P	01/20/2023	17:07	LB123754
	Potassium	2060	2000	103	40 - 160	P	01/20/2023	17:07	LB123754
	Selenium	17.2	20.0	86	40 - 160	P	01/20/2023	17:07	LB123754
	Silver	11.3	10.0	113	40 - 160	P	01/20/2023	17:07	LB123754
	Sodium	2140	2000	107	40 - 160	P	01/20/2023	17:07	LB123754
	Thallium	39.8	40.0	100	40 - 160	P	01/20/2023	17:07	LB123754
	Vanadium	36.8	40.0	92	40 - 160	P	01/20/2023	17:07	LB123754
	Zinc	42.1	40.0	105	40 - 160	P	01/20/2023	17:07	LB123754
CRA	Mercury	0.16	0.2	82	40 - 160	CV	01/23/2023	10:37	LB123763
CRI01	Aluminum	93.4	100	93	40 - 160	P	01/24/2023	13:20	LB123785
	Antimony	51.7	50.0	104	40 - 160	P	01/24/2023	13:20	LB123785
	Arsenic	22.2	20.0	111	40 - 160	P	01/24/2023	13:20	LB123785
	Barium	101	100	101	40 - 160	P	01/24/2023	13:20	LB123785
	Beryllium	6.48	6.0	108	40 - 160	P	01/24/2023	13:20	LB123785
	Cadmium	6.52	6.0	109	40 - 160	P	01/24/2023	13:20	LB123785
	Calcium	1980	2000	99	40 - 160	P	01/24/2023	13:20	LB123785
	Chromium	10.7	10.0	107	40 - 160	P	01/24/2023	13:20	LB123785
	Cobalt	29.9	30.0	100	40 - 160	P	01/24/2023	13:20	LB123785
	Copper	23.0	20.0	115	40 - 160	P	01/24/2023	13:20	LB123785
	Iron	90.6	100	91	40 - 160	P	01/24/2023	13:20	LB123785
	Lead	12.1	12.0	100	40 - 160	P	01/24/2023	13:20	LB123785

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Metals

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CRDL STANDARD FOR AA & ICP

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	Magnesium	2190	2000	110	40 - 160	P	01/24/2023	13:20	LB123785
	Manganese	21.0	20.0	105	40 - 160	P	01/24/2023	13:20	LB123785
	Nickel	39.8	40.0	100	40 - 160	P	01/24/2023	13:20	LB123785
	Potassium	1960	2000	98	40 - 160	P	01/24/2023	13:20	LB123785
	Selenium	22.7	20.0	114	40 - 160	P	01/24/2023	13:20	LB123785
	Silver	10.5	10.0	105	40 - 160	P	01/24/2023	13:20	LB123785
	Sodium	2000	2000	100	40 - 160	P	01/24/2023	13:20	LB123785
	Thallium	40.7	40.0	102	40 - 160	P	01/24/2023	13:20	LB123785
	Vanadium	42.2	40.0	106	40 - 160	P	01/24/2023	13:20	LB123785
	Zinc	42.0	40.0	105	40 - 160	P	01/24/2023	13:20	LB123785

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB12	Mercury	0.20	+/-0.20	U	0.20	CV	01/23/2023	10:30	LB123763

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB93	Mercury	0.20	+/-0.20	U	0.20	CV	01/23/2023	10:35	LB123763
CCB94	Mercury	0.20	+/-0.20	U	0.20	CV	01/23/2023	11:02	LB123763
CCB95	Mercury	0.20	+/-0.20	U	0.20	CV	01/23/2023	11:29	LB123763
CCB96	Mercury	0.20	+/-0.20	U	0.20	CV	01/23/2023	11:56	LB123763
CCB97	Mercury	0.20	+/-0.20	U	0.20	CV	01/23/2023	12:24	LB123763
CCB98	Mercury	0.20	+/-0.20	U	0.20	CV	01/23/2023	12:37	LB123763

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	01/20/2023	12:43	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	12:43	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	12:43	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	12:43	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	12:43	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	12:43	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	12:43	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	12:43	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	12:43	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	12:43	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	12:43	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	12:43	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	12:43	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	12:43	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	12:43	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	12:43	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	12:43	LB123754
	Silver	10.0	+/-10.0	U	10.0	P	01/20/2023	12:43	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	12:43	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	12:43	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	12:43	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	12:43	LB123754

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	01/20/2023	13:50	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	13:50	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	13:50	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	13:50	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	13:50	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	13:50	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	13:50	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	13:50	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	13:50	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	13:50	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	13:50	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	13:50	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	13:50	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	13:50	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	13:50	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	13:50	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	13:50	LB123754
	Silver	10.0	+/-10.0	U	10.0	P	01/20/2023	13:50	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	13:50	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	13:50	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	13:50	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	13:50	LB123754
CCB02	Aluminum	100	+/-100	U	100	P	01/20/2023	14:41	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	14:41	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	14:41	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	14:41	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	14:41	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	14:41	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	14:41	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	14:41	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	14:41	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	14:41	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	14:41	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	14:41	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	14:41	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	14:41	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	14:41	LB123754
	Potassium	298	+/-2000	J	2000	P	01/20/2023	14:41	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	14:41	LB123754
	Silver	10.0	+/-10.0	U	10.0	P	01/20/2023	14:41	LB123754

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Sodium	2000	+/-2000	U	2000	P	01/20/2023	14:41	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	14:41	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	14:41	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	14:41	LB123754
CCB03	Aluminum	100	+/-100	U	100	P	01/20/2023	15:33	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	15:33	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	15:33	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	15:33	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	15:33	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	15:33	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	15:33	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	15:33	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	15:33	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	15:33	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	15:33	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	15:33	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	15:33	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	15:33	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	15:33	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	15:33	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	15:33	LB123754
	Silver	10.0	+/-10.0	U	10.0	P	01/20/2023	15:33	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	15:33	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	15:33	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	15:33	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	15:33	LB123754
CCB04	Aluminum	100	+/-100	U	100	P	01/20/2023	16:18	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	16:18	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	16:18	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	16:18	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	16:18	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	16:18	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	16:18	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	16:18	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	16:18	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	16:18	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	16:18	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	16:18	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	16:18	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	16:18	LB123754

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB04	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	16:18	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	16:18	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	16:18	LB123754
	Silver	10.0	+/-10.0	U	10.0	P	01/20/2023	16:18	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	16:18	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	16:18	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	16:18	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	16:18	LB123754
CCB05	Aluminum	100	+/-100	U	100	P	01/20/2023	17:15	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	17:15	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	17:15	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	17:15	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	17:15	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	17:15	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	17:15	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	17:15	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	17:15	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	17:15	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	17:15	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	17:15	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	17:15	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	17:15	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	17:15	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	17:15	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	17:15	LB123754
	Silver	10.0	+/-10.0	U	10.0	P	01/20/2023	17:15	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	17:15	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	17:15	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	17:15	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	17:15	LB123754
CCB06	Aluminum	100	+/-100	U	100	P	01/20/2023	18:51	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	18:51	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	18:51	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	18:51	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	18:51	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	18:51	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	18:51	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	18:51	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	18:51	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	18:51	LB123754

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Iron	100	+/-100	U	100	P	01/20/2023	18:51	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	18:51	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	18:51	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	18:51	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	18:51	LB123754
	Potassium	852	+/-2000	J	2000	P	01/20/2023	18:51	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	18:51	LB123754
	Silver	1.75	+/-10.0	J	10.0	P	01/20/2023	18:51	LB123754
	Sodium	711	+/-2000	J	2000	P	01/20/2023	18:51	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	18:51	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	18:51	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	18:51	LB123754
CCB07	Aluminum	100	+/-100	U	100	P	01/20/2023	19:48	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	19:48	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	19:48	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	19:48	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	19:48	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	19:48	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	19:48	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	19:48	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	19:48	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	19:48	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	19:48	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	19:48	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	19:48	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	19:48	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	19:48	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	19:48	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	19:48	LB123754
	Silver	2.00	+/-10.0	J	10.0	P	01/20/2023	19:48	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	19:48	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	19:48	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	19:48	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	19:48	LB123754
CCB08	Aluminum	100	+/-100	U	100	P	01/20/2023	20:34	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	20:34	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	20:34	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	20:34	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	20:34	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	20:34	LB123754

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB08	Calcium	2000	+/-2000	U	2000	P	01/20/2023	20:34	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	20:34	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	20:34	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	20:34	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	20:34	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	20:34	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	20:34	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	20:34	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	20:34	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	20:34	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	20:34	LB123754
	Silver	2.03	+/-10.0	J	10.0	P	01/20/2023	20:34	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	20:34	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	20:34	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	20:34	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	20:34	LB123754
CCB09	Aluminum	100	+/-100	U	100	P	01/20/2023	21:20	LB123754
	Antimony	50.0	+/-50.0	U	50.0	P	01/20/2023	21:20	LB123754
	Arsenic	20.0	+/-20.0	U	20.0	P	01/20/2023	21:20	LB123754
	Barium	100	+/-100	U	100	P	01/20/2023	21:20	LB123754
	Beryllium	6.00	+/-6.00	U	6.00	P	01/20/2023	21:20	LB123754
	Cadmium	6.00	+/-6.00	U	6.00	P	01/20/2023	21:20	LB123754
	Calcium	2000	+/-2000	U	2000	P	01/20/2023	21:20	LB123754
	Chromium	10.0	+/-10.0	U	10.0	P	01/20/2023	21:20	LB123754
	Cobalt	30.0	+/-30.0	U	30.0	P	01/20/2023	21:20	LB123754
	Copper	20.0	+/-20.0	U	20.0	P	01/20/2023	21:20	LB123754
	Iron	100	+/-100	U	100	P	01/20/2023	21:20	LB123754
	Lead	12.0	+/-12.0	U	12.0	P	01/20/2023	21:20	LB123754
	Magnesium	2000	+/-2000	U	2000	P	01/20/2023	21:20	LB123754
	Manganese	20.0	+/-20.0	U	20.0	P	01/20/2023	21:20	LB123754
	Nickel	40.0	+/-40.0	U	40.0	P	01/20/2023	21:20	LB123754
	Potassium	2000	+/-2000	U	2000	P	01/20/2023	21:20	LB123754
	Selenium	20.0	+/-20.0	U	20.0	P	01/20/2023	21:20	LB123754
	Silver	1.70	+/-10.0	J	10.0	P	01/20/2023	21:20	LB123754
	Sodium	2000	+/-2000	U	2000	P	01/20/2023	21:20	LB123754
	Thallium	40.0	+/-40.0	U	40.0	P	01/20/2023	21:20	LB123754
	Vanadium	40.0	+/-40.0	U	40.0	P	01/20/2023	21:20	LB123754
	Zinc	40.0	+/-40.0	U	40.0	P	01/20/2023	21:20	LB123754

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	01/24/2023	13:16	LB123785
	Antimony	50.0	+/-50.0	U	50.0	P	01/24/2023	13:16	LB123785
	Arsenic	20.0	+/-20.0	U	20.0	P	01/24/2023	13:16	LB123785
	Barium	100	+/-100	U	100	P	01/24/2023	13:16	LB123785
	Beryllium	6.00	+/-6.00	U	6.00	P	01/24/2023	13:16	LB123785
	Cadmium	6.00	+/-6.00	U	6.00	P	01/24/2023	13:16	LB123785
	Calcium	2000	+/-2000	U	2000	P	01/24/2023	13:16	LB123785
	Chromium	10.0	+/-10.0	U	10.0	P	01/24/2023	13:16	LB123785
	Cobalt	30.0	+/-30.0	U	30.0	P	01/24/2023	13:16	LB123785
	Copper	20.0	+/-20.0	U	20.0	P	01/24/2023	13:16	LB123785
	Iron	100	+/-100	U	100	P	01/24/2023	13:16	LB123785
	Lead	12.0	+/-12.0	U	12.0	P	01/24/2023	13:16	LB123785
	Magnesium	2000	+/-2000	U	2000	P	01/24/2023	13:16	LB123785
	Manganese	20.0	+/-20.0	U	20.0	P	01/24/2023	13:16	LB123785
	Nickel	40.0	+/-40.0	U	40.0	P	01/24/2023	13:16	LB123785
	Potassium	2000	+/-2000	U	2000	P	01/24/2023	13:16	LB123785
	Selenium	20.0	+/-20.0	U	20.0	P	01/24/2023	13:16	LB123785
	Silver	10.0	+/-10.0	U	10.0	P	01/24/2023	13:16	LB123785
	Sodium	2000	+/-2000	U	2000	P	01/24/2023	13:16	LB123785
	Thallium	40.0	+/-40.0	U	40.0	P	01/24/2023	13:16	LB123785
	Vanadium	40.0	+/-40.0	U	40.0	P	01/24/2023	13:16	LB123785
	Zinc	40.0	+/-40.0	U	40.0	P	01/24/2023	13:16	LB123785

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	01/24/2023	13:45	LB123785
	Antimony	50.0	+/-50.0	U	50.0	P	01/24/2023	13:45	LB123785
	Arsenic	20.0	+/-20.0	U	20.0	P	01/24/2023	13:45	LB123785
	Barium	100	+/-100	U	100	P	01/24/2023	13:45	LB123785
	Beryllium	6.00	+/-6.00	U	6.00	P	01/24/2023	13:45	LB123785
	Cadmium	6.00	+/-6.00	U	6.00	P	01/24/2023	13:45	LB123785
	Calcium	2000	+/-2000	U	2000	P	01/24/2023	13:45	LB123785
	Chromium	10.0	+/-10.0	U	10.0	P	01/24/2023	13:45	LB123785
	Cobalt	30.0	+/-30.0	U	30.0	P	01/24/2023	13:45	LB123785
	Copper	20.0	+/-20.0	U	20.0	P	01/24/2023	13:45	LB123785
	Iron	100	+/-100	U	100	P	01/24/2023	13:45	LB123785
	Lead	12.0	+/-12.0	U	12.0	P	01/24/2023	13:45	LB123785
	Magnesium	2000	+/-2000	U	2000	P	01/24/2023	13:45	LB123785
	Manganese	20.0	+/-20.0	U	20.0	P	01/24/2023	13:45	LB123785
	Nickel	40.0	+/-40.0	U	40.0	P	01/24/2023	13:45	LB123785
	Potassium	2000	+/-2000	U	2000	P	01/24/2023	13:45	LB123785
	Selenium	20.0	+/-20.0	U	20.0	P	01/24/2023	13:45	LB123785
	Silver	10.0	+/-10.0	U	10.0	P	01/24/2023	13:45	LB123785
	Sodium	2000	+/-2000	U	2000	P	01/24/2023	13:45	LB123785
	Thallium	40.0	+/-40.0	U	40.0	P	01/24/2023	13:45	LB123785
	Vanadium	40.0	+/-40.0	U	40.0	P	01/24/2023	13:45	LB123785
	Zinc	40.0	+/-40.0	U	40.0	P	01/24/2023	13:45	LB123785
CCB02	Aluminum	100	+/-100	U	100	P	01/24/2023	14:38	LB123785
	Antimony	50.0	+/-50.0	U	50.0	P	01/24/2023	14:38	LB123785
	Arsenic	20.0	+/-20.0	U	20.0	P	01/24/2023	14:38	LB123785
	Barium	100	+/-100	U	100	P	01/24/2023	14:38	LB123785
	Beryllium	6.00	+/-6.00	U	6.00	P	01/24/2023	14:38	LB123785
	Cadmium	6.00	+/-6.00	U	6.00	P	01/24/2023	14:38	LB123785
	Calcium	2000	+/-2000	U	2000	P	01/24/2023	14:38	LB123785
	Chromium	10.0	+/-10.0	U	10.0	P	01/24/2023	14:38	LB123785
	Cobalt	30.0	+/-30.0	U	30.0	P	01/24/2023	14:38	LB123785
	Copper	20.0	+/-20.0	U	20.0	P	01/24/2023	14:38	LB123785
	Iron	100	+/-100	U	100	P	01/24/2023	14:38	LB123785
	Lead	12.0	+/-12.0	U	12.0	P	01/24/2023	14:38	LB123785
	Magnesium	2000	+/-2000	U	2000	P	01/24/2023	14:38	LB123785
	Manganese	20.0	+/-20.0	U	20.0	P	01/24/2023	14:38	LB123785
	Nickel	40.0	+/-40.0	U	40.0	P	01/24/2023	14:38	LB123785
	Potassium	2000	+/-2000	U	2000	P	01/24/2023	14:38	LB123785
	Selenium	20.0	+/-20.0	U	20.0	P	01/24/2023	14:38	LB123785
	Silver	10.0	+/-10.0	U	10.0	P	01/24/2023	14:38	LB123785

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Sodium	2000	+/-2000	U	2000	P	01/24/2023	14:38	LB123785
	Thallium	40.0	+/-40.0	U	40.0	P	01/24/2023	14:38	LB123785
	Vanadium	40.0	+/-40.0	U	40.0	P	01/24/2023	14:38	LB123785
	Zinc	40.0	+/-40.0	U	40.0	P	01/24/2023	14:38	LB123785
CCB03	Aluminum	100	+/-100	U	100	P	01/24/2023	17:50	LB123785
	Antimony	50.0	+/-50.0	U	50.0	P	01/24/2023	17:50	LB123785
	Arsenic	20.0	+/-20.0	U	20.0	P	01/24/2023	17:50	LB123785
	Barium	100	+/-100	U	100	P	01/24/2023	17:50	LB123785
	Beryllium	6.00	+/-6.00	U	6.00	P	01/24/2023	17:50	LB123785
	Cadmium	6.00	+/-6.00	U	6.00	P	01/24/2023	17:50	LB123785
	Calcium	2000	+/-2000	U	2000	P	01/24/2023	17:50	LB123785
	Chromium	10.0	+/-10.0	U	10.0	P	01/24/2023	17:50	LB123785
	Cobalt	30.0	+/-30.0	U	30.0	P	01/24/2023	17:50	LB123785
	Copper	20.0	+/-20.0	U	20.0	P	01/24/2023	17:50	LB123785
	Iron	100	+/-100	U	100	P	01/24/2023	17:50	LB123785
	Lead	12.0	+/-12.0	U	12.0	P	01/24/2023	17:50	LB123785
	Magnesium	2000	+/-2000	U	2000	P	01/24/2023	17:50	LB123785
	Manganese	20.0	+/-20.0	U	20.0	P	01/24/2023	17:50	LB123785
	Nickel	40.0	+/-40.0	U	40.0	P	01/24/2023	17:50	LB123785
	Potassium	2000	+/-2000	U	2000	P	01/24/2023	17:50	LB123785
	Selenium	20.0	+/-20.0	U	20.0	P	01/24/2023	17:50	LB123785
	Silver	10.0	+/-10.0	U	10.0	P	01/24/2023	17:50	LB123785
	Sodium	2000	+/-2000	U	2000	P	01/24/2023	17:50	LB123785
	Thallium	40.0	+/-40.0	U	40.0	P	01/24/2023	17:50	LB123785
	Vanadium	40.0	+/-40.0	U	40.0	P	01/24/2023	17:50	LB123785
	Zinc	40.0	+/-40.0	U	40.0	P	01/24/2023	17:50	LB123785
CCB04	Aluminum	100	+/-100	U	100	P	01/24/2023	18:41	LB123785
	Antimony	50.0	+/-50.0	U	50.0	P	01/24/2023	18:41	LB123785
	Arsenic	20.0	+/-20.0	U	20.0	P	01/24/2023	18:41	LB123785
	Barium	100	+/-100	U	100	P	01/24/2023	18:41	LB123785
	Beryllium	6.00	+/-6.00	U	6.00	P	01/24/2023	18:41	LB123785
	Cadmium	6.00	+/-6.00	U	6.00	P	01/24/2023	18:41	LB123785
	Calcium	2000	+/-2000	U	2000	P	01/24/2023	18:41	LB123785
	Chromium	10.0	+/-10.0	U	10.0	P	01/24/2023	18:41	LB123785
	Cobalt	30.0	+/-30.0	U	30.0	P	01/24/2023	18:41	LB123785
	Copper	20.0	+/-20.0	U	20.0	P	01/24/2023	18:41	LB123785
	Iron	100	+/-100	U	100	P	01/24/2023	18:41	LB123785
	Lead	12.0	+/-12.0	U	12.0	P	01/24/2023	18:41	LB123785
	Magnesium	2000	+/-2000	U	2000	P	01/24/2023	18:41	LB123785
	Manganese	20.0	+/-20.0	U	20.0	P	01/24/2023	18:41	LB123785

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB04	Nickel	40.0	+/-40.0	U	40.0	P	01/24/2023	18:41	LB123785
	Potassium	2000	+/-2000	U	2000	P	01/24/2023	18:41	LB123785
	Selenium	20.0	+/-20.0	U	20.0	P	01/24/2023	18:41	LB123785
	Silver	10.0	+/-10.0	U	10.0	P	01/24/2023	18:41	LB123785
	Sodium	2000	+/-2000	U	2000	P	01/24/2023	18:41	LB123785
	Thallium	40.0	+/-40.0	U	40.0	P	01/24/2023	18:41	LB123785
	Vanadium	40.0	+/-40.0	U	40.0	P	01/24/2023	18:41	LB123785
	Zinc	40.0	+/-40.0	U	40.0	P	01/24/2023	18:41	LB123785

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Metals
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PREPARATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Instrument: CV1

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB150382BL		**SOLID**		**Batch Number:**	**PB150382**		**Prep Date:**	**01/20/2023**	
	Mercury	0.012	<0.012	U	0.012	CV	01/23/2023	11:31	LB123763

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PREPARATION BLANK SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Instrument: P4

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB150370BL		**SOLID**		**Batch Number:**	**PB150370**		**Prep Date:**	**01/20/2023**	
	Aluminum	4.78	<4.78	U	4.78	P	01/20/2023	20:23	LB123754
	Antimony	2.39	<2.39	U	2.39	P	01/20/2023	20:23	LB123754
	Arsenic	0.96	<0.96	U	0.96	P	01/20/2023	20:23	LB123754
	Barium	4.78	<4.78	U	4.78	P	01/20/2023	20:23	LB123754
	Beryllium	0.29	<0.29	U	0.29	P	01/20/2023	20:23	LB123754
	Cadmium	0.29	<0.29	U	0.29	P	01/20/2023	20:23	LB123754
	Calcium	95.7	<95.7	U	95.7	P	01/20/2023	20:23	LB123754
	Chromium	0.48	<0.48	U	0.48	P	01/20/2023	20:23	LB123754
	Cobalt	1.44	<1.44	U	1.44	P	01/20/2023	20:23	LB123754
	Copper	0.96	<0.96	U	0.96	P	01/20/2023	20:23	LB123754
	Iron	4.78	<4.78	U	4.78	P	01/20/2023	20:23	LB123754
	Lead	0.57	<0.57	U	0.57	P	01/20/2023	20:23	LB123754
	Magnesium	95.7	<95.7	U	95.7	P	01/20/2023	20:23	LB123754
	Manganese	0.96	<0.96	U	0.96	P	01/20/2023	20:23	LB123754
	Nickel	1.91	<1.91	U	1.91	P	01/20/2023	20:23	LB123754
	Potassium	95.7	<95.7	U	95.7	P	01/20/2023	20:23	LB123754
	Selenium	0.96	<0.96	U	0.96	P	01/20/2023	20:23	LB123754
	Silver	0.090	<0.48	J	0.48	P	01/20/2023	20:23	LB123754
	Sodium	95.7	<95.7	U	95.7	P	01/20/2023	20:23	LB123754
	Thallium	1.91	<1.91	U	1.91	P	01/20/2023	20:23	LB123754
	Vanadium	1.91	<1.91	U	1.91	P	01/20/2023	20:23	LB123754
	Zinc	1.91	<1.91	U	1.91	P	01/20/2023	20:23	LB123754

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Metals
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INTERFERENCE CHECK SAMPLE

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Aluminum	257000	250000	103	210000	290000	01/20/2023	13:26	LB123754
	Antimony	2.20			-50	50	01/20/2023	13:26	LB123754
	Arsenic	-4.95			-20	20	01/20/2023	13:26	LB123754
	Barium	1.98	6.0	33	-94	106	01/20/2023	13:26	LB123754
	Beryllium	0.68			-6	6	01/20/2023	13:26	LB123754
	Cadmium	0.15	1.0	15	-5	7	01/20/2023	13:26	LB123754
	Calcium	250000	240000	104	200000	280000	01/20/2023	13:26	LB123754
	Chromium	55.1	52.0	106	42	62	01/20/2023	13:26	LB123754
	Cobalt	1.24			-30	30	01/20/2023	13:26	LB123754
	Copper	-2.55	2.0	128	-18	22	01/20/2023	13:26	LB123754
	Iron	108000	100000	108	85000	120000	01/20/2023	13:26	LB123754
	Lead	-3.73			-12	12	01/20/2023	13:26	LB123754
	Magnesium	257000	260000	99	220000	300000	01/20/2023	13:26	LB123754
	Manganese	10.2	7.0	145	-13	27	01/20/2023	13:26	LB123754
	Nickel	3.44	2.0	172	-38	42	01/20/2023	13:26	LB123754
	Potassium	-136			0	0	01/20/2023	13:26	LB123754
	Selenium	-17.7			-20	20	01/20/2023	13:26	LB123754
	Silver	2.09			-10	10	01/20/2023	13:26	LB123754
	Sodium	8.74			0	0	01/20/2023	13:26	LB123754
	Thallium	-7.43			-40	40	01/20/2023	13:26	LB123754
	Vanadium	-0.77			-40	40	01/20/2023	13:26	LB123754
	Zinc	-0.52			-40	40	01/20/2023	13:26	LB123754
ICSAB01	Aluminum	245000	250000	98	210000	290000	01/20/2023	13:30	LB123754
	Antimony	597	620	96	530	710	01/20/2023	13:30	LB123754
	Arsenic	102	100	102	85	120	01/20/2023	13:30	LB123754
	Barium	518	540	96	440	640	01/20/2023	13:30	LB123754
	Beryllium	490	500	98	430	580	01/20/2023	13:30	LB123754
	Cadmium	1030	970	106	820	1100	01/20/2023	13:30	LB123754
	Calcium	238000	230000	104	200000	260000	01/20/2023	13:30	LB123754
	Chromium	545	540	101	460	620	01/20/2023	13:30	LB123754
	Cobalt	494	480	103	410	550	01/20/2023	13:30	LB123754
	Copper	480	510	94	430	590	01/20/2023	13:30	LB123754
	Iron	102000	99000	103	84000	110000	01/20/2023	13:30	LB123754
	Lead	44.8	49.0	91	37	61	01/20/2023	13:30	LB123754
	Magnesium	246000	250000	98	210000	290000	01/20/2023	13:30	LB123754
	Manganese	502	510	98	430	590	01/20/2023	13:30	LB123754
	Nickel	1000	950	105	810	1100	01/20/2023	13:30	LB123754
	Potassium	-121			0	0	01/20/2023	13:30	LB123754
	Selenium	38.2	46.0	83	26	66	01/20/2023	13:30	LB123754
	Silver	212	200	106	170	230	01/20/2023	13:30	LB123754
	Sodium	18.8			0	0	01/20/2023	13:30	LB123754
	Thallium	93.1	110	85	70	150	01/20/2023	13:30	LB123754
	Vanadium	488	490	100	420	560	01/20/2023	13:30	LB123754
	Zinc	1040	950	110	810	1100	01/20/2023	13:30	LB123754
ICSA01	Aluminum	247000	250000	99	210000	290000	01/24/2023	13:25	LB123785

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Metals
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INTERFERENCE CHECK SAMPLE

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Antimony	-3.42			-50	50	01/24/2023	13:25	LB123785
	Arsenic	5.47			-20	20	01/24/2023	13:25	LB123785
	Barium	7.42	6.0	124	-94	106	01/24/2023	13:25	LB123785
	Beryllium	1.36			-6	6	01/24/2023	13:25	LB123785
	Cadmium	0.46	1.0	46	-5	7	01/24/2023	13:25	LB123785
	Calcium	237000	240000	99	200000	280000	01/24/2023	13:25	LB123785
	Chromium	61.1	52.0	118	42	62	01/24/2023	13:25	LB123785
	Cobalt	1.04			-30	30	01/24/2023	13:25	LB123785
	Copper	-11.8	2.0	590	-18	22	01/24/2023	13:25	LB123785
	Iron	108000	100000	108	85000	120000	01/24/2023	13:25	LB123785
	Lead	-3.03			-12	12	01/24/2023	13:25	LB123785
	Magnesium	247000	260000	95	220000	300000	01/24/2023	13:25	LB123785
	Manganese	9.76	7.0	139	-13	27	01/24/2023	13:25	LB123785
	Nickel	3.04	2.0	152	-38	42	01/24/2023	13:25	LB123785
	Potassium	-217			0	0	01/24/2023	13:25	LB123785
	Selenium	-7.48			-20	20	01/24/2023	13:25	LB123785
	Silver	4.83			-10	10	01/24/2023	13:25	LB123785
	Sodium	-5.35			0	0	01/24/2023	13:25	LB123785
	Thallium	-6.97			-40	40	01/24/2023	13:25	LB123785
	Vanadium	3.06			-40	40	01/24/2023	13:25	LB123785
	Zinc	0.0080			-40	40	01/24/2023	13:25	LB123785
ICSAB01	Aluminum	243000	250000	97	210000	290000	01/24/2023	13:29	LB123785
	Antimony	598	620	96	530	710	01/24/2023	13:29	LB123785
	Arsenic	110	100	110	85	120	01/24/2023	13:29	LB123785
	Barium	482	540	89	440	640	01/24/2023	13:29	LB123785
	Beryllium	492	500	98	430	580	01/24/2023	13:29	LB123785
	Cadmium	1010	970	104	820	1100	01/24/2023	13:29	LB123785
	Calcium	234000	230000	102	200000	260000	01/24/2023	13:29	LB123785
	Chromium	558	540	103	460	620	01/24/2023	13:29	LB123785
	Cobalt	495	480	103	410	550	01/24/2023	13:29	LB123785
	Copper	475	510	93	430	590	01/24/2023	13:29	LB123785
	Iron	102000	99000	103	84000	110000	01/24/2023	13:29	LB123785
	Lead	47.1	49.0	96	37	61	01/24/2023	13:29	LB123785
	Magnesium	243000	250000	97	210000	290000	01/24/2023	13:29	LB123785
	Manganese	484	510	95	430	590	01/24/2023	13:29	LB123785
	Nickel	983	950	104	810	1100	01/24/2023	13:29	LB123785
	Potassium	-161			0	0	01/24/2023	13:29	LB123785
	Selenium	40.7	46.0	88	26	66	01/24/2023	13:29	LB123785
	Silver	215	200	108	170	230	01/24/2023	13:29	LB123785
	Sodium	-0.86			0	0	01/24/2023	13:29	LB123785
	Thallium	93.1	110	85	70	150	01/24/2023	13:29	LB123785
	Vanadium	471	490	96	420	560	01/24/2023	13:29	LB123785
	Zinc	1020	950	107	810	1100	01/24/2023	13:29	LB123785

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METAL QC DATA

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metals
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MATRIX SPIKE SUMMARY

client: Louis Berger U.S., Inc., A WSP Company **level:** low **sdg no.:** O1233

contract: loui01 **lab code:** CHEM **case no.:** O1233 **sas no.:** O1233

matrix: Solid **sample id:** O1232-01 **client id:** B-P17AMS

Percent Solids for Sample: 89.4 **Spiked ID:** O1232-01MS **Percent Solids for Spike Sample:** 89.4

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	2860		2510		100	356		P
Antimony	mg/Kg	75 - 125	30.5		0.37	J	40.7	74	N	P
Arsenic	mg/Kg	75 - 125	35.8		1.07		40.7	85		P
Barium	mg/Kg	75 - 125	42.8		33.0		10.2	96		P
Beryllium	mg/Kg	75 - 125	7.71		0.28	J	10.2	73	N	P
Cadmium	mg/Kg	75 - 125	9.44		0.13	J	10.2	91		P
Calcium	mg/Kg	75 - 125	1880		1460		50.8	837		P
Chromium	mg/Kg	75 - 125	28.2		11.7		20.3	82		P
Cobalt	mg/Kg	75 - 125	13.7		4.76		10.2	88		P
Copper	mg/Kg	75 - 125	20.1		8.92		15.3	73	N	P
Iron	mg/Kg	75 - 125	10300		8860		150	987		P
Lead	mg/Kg	75 - 125	51.9		7.47		50.8	87		P
Magnesium	mg/Kg	75 - 125	2200		1820		100	372		P
Manganese	mg/Kg	75 - 125	234		288		10.2	-530		P
Nickel	mg/Kg	75 - 125	48.0		22.9		25.4	99		P
Potassium	mg/Kg	75 - 125	1010		556		510	90		P
Selenium	mg/Kg	75 - 125	82.6		1.04	U	100	83		P
Silver	mg/Kg	75 - 125	3.62		0.58		3.8	80		P
Sodium	mg/Kg	75 - 125	176		52.5	J	150	82		P
Thallium	mg/Kg	75 - 125	94.5		2.08	U	100	94		P
Vanadium	mg/Kg	75 - 125	23.8		9.25		15.3	95		P
Zinc	mg/Kg	75 - 125	31.0		18.7		10.2	120		P

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metals
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MATRIX SPIKE DUPLICATE SUMMARY

client: Louis Berger U.S., Inc., A WSP Company **level:** low **sdg no.:** O1233

contract: loui01 **lab code:** CHEM **case no.:** O1233 **sas no.:** O1233

matrix: Solid **sample id:** O1232-01 **client id:** B-P17AMSD

Percent Solids for Sample: 89.4 **Spiked ID:** O1232-01MSD **Percent Solids for Spike Sample:** 89.4

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	2900		2510		100	396		P
Antimony	mg/Kg	75 - 125	32.0		0.37	J	41.8	76		P
Arsenic	mg/Kg	75 - 125	37.5		1.07		41.8	87		P
Barium	mg/Kg	75 - 125	42.5		33.0		10.5	91		P
Beryllium	mg/Kg	75 - 125	8.15		0.28	J	10.5	75		P
Cadmium	mg/Kg	75 - 125	9.99		0.13	J	10.5	94		P
Calcium	mg/Kg	75 - 125	1730		1460		52.3	511		P
Chromium	mg/Kg	75 - 125	30.3		11.7		20.9	89		P
Cobalt	mg/Kg	75 - 125	14.5		4.76		10.5	93		P
Copper	mg/Kg	75 - 125	21.3		8.92		15.7	79		P
Iron	mg/Kg	75 - 125	10200		8860		160	860		P
Lead	mg/Kg	75 - 125	54.2		7.47		52.3	89		P
Magnesium	mg/Kg	75 - 125	2350		1820		100	529		P
Manganese	mg/Kg	75 - 125	231		288		10.5	-547		P
Nickel	mg/Kg	75 - 125	52.3		22.9		26.1	113		P
Potassium	mg/Kg	75 - 125	999		556		520	85		P
Selenium	mg/Kg	75 - 125	86.9		1.04	U	100	87		P
Silver	mg/Kg	75 - 125	3.65		0.58		3.9	79		P
Sodium	mg/Kg	75 - 125	172		52.5	J	160	75		P
Thallium	mg/Kg	75 - 125	99.3		2.08	U	100	99		P
Vanadium	mg/Kg	75 - 125	24.0		9.25		15.7	94		P
Zinc	mg/Kg	75 - 125	30.9		18.7		10.5	115		P

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metals
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MATRIX SPIKE SUMMARY

client: Louis Berger U.S., Inc., A WSP Company **level:** low **sdg no.:** O1233

contract: loui01 **lab code:** CHEM **case no.:** O1233 **sas no.:** O1233

matrix: Solid **sample id:** O1252-01 **client id:** MH-9MS

Percent Solids for Sample: 94.2 **Spiked ID:** O1252-01MS **Percent Solids for Spike Sample:** 94.2

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	mg/Kg	80 - 120	0.24		0.0080	J	0.27	86		CV

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metals
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MATRIX SPIKE DUPLICATE SUMMARY

client: Louis Berger U.S., Inc., A WSP Company **level:** low **sdg no.:** O1233

contract: loui01 **lab code:** CHEM **case no.:** O1233 **sas no.:** O1233

matrix: Solid **sample id:** O1252-01 **client id:** MH-9MSD

Percent Solids for Sample: 94.2 **Spiked ID:** O1252-01MSD **Percent Solids for Spike Sample:** 94.2

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	mg/Kg	80 - 120	0.25		0.0080	J	0.26	95		CV

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Metals
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POST DIGEST SPIKE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Matrix: Solid **Level:** LOW **Client ID:** B-P17AA

Sample ID: O1232-01 **Spiked ID:** O1232-01A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Antimony	mg/Kg	75 - 125	35.4		0.37	J	41.6	84		P
Beryllium	mg/Kg	75 - 125	8.72		0.28	J	10.4	81		P
Copper	mg/Kg	75 - 125	22.1		8.92		15.6	84		P

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **Level:** LOW **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Matrix: Solid **Sample ID:** O1232-01 **Client ID:** B-P17ADUP

Percent Solids for Sample: 89.4 **Duplicate ID** O1232-01DUP **Percent Solids for Spike Sample:** 89.4

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	mg/Kg	20	2510		2500		0		P
Antimony	mg/Kg	20	0.37	J	2.55	U	200.0		P
Arsenic	mg/Kg	20	1.07		1.03		4		P
Barium	mg/Kg	20	33.0		33.0		0		P
Beryllium	mg/Kg	20	0.28	J	0.28	J	0		P
Cadmium	mg/Kg	20	0.13	J	0.12	J	7		P
Calcium	mg/Kg	20	1460		1460		0		P
Chromium	mg/Kg	20	11.7		11.3		3		P
Cobalt	mg/Kg	20	4.76		4.61		3		P
Copper	mg/Kg	20	8.92		8.67		3		P
Iron	mg/Kg	20	8860		8530		4		P
Lead	mg/Kg	20	7.47		7.27		3		P
Magnesium	mg/Kg	20	1820		1820		0		P
Manganese	mg/Kg	20	288		287		0		P
Nickel	mg/Kg	20	22.9		22.2		3		P
Potassium	mg/Kg	20	556		535		4		P
Selenium	mg/Kg	20	1.04	U	1.02	U			P
Silver	mg/Kg	20	0.58		0.53		9		P
Sodium	mg/Kg	20	52.5	J	50.3	J	4		P
Thallium	mg/Kg	20	2.08	U	2.04	U			P
Vanadium	mg/Kg	20	9.25		9.26		0		P
Zinc	mg/Kg	20	18.7		18.2		3		P

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

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **Level:** LOW **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Matrix: Solid **Sample ID:** O1232-01MS **Client ID:** B-P17AMSD

Percent Solids for Sample: 89.4 **Duplicate ID** O1232-01MSD **Percent Solids for Spike Sample:** 89.4

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	mg/Kg	20	2860		2900		1		P
Antimony	mg/Kg	20	30.5		32.0		5		P
Arsenic	mg/Kg	20	35.8		37.5		5		P
Barium	mg/Kg	20	42.8		42.5		1		P
Beryllium	mg/Kg	20	7.71		8.15		6		P
Cadmium	mg/Kg	20	9.44		9.99		6		P
Calcium	mg/Kg	20	1880		1730		8		P
Chromium	mg/Kg	20	28.2		30.3		7		P
Cobalt	mg/Kg	20	13.7		14.5		6		P
Copper	mg/Kg	20	20.1		21.3		6		P
Iron	mg/Kg	20	10300		10200		1		P
Lead	mg/Kg	20	51.9		54.2		4		P
Magnesium	mg/Kg	20	2200		2350		7		P
Manganese	mg/Kg	20	234		231		1		P
Nickel	mg/Kg	20	48.0		52.3		9		P
Potassium	mg/Kg	20	1010		999		1		P
Selenium	mg/Kg	20	82.6		86.9		5		P
Silver	mg/Kg	20	3.62		3.65		1		P
Sodium	mg/Kg	20	176		172		2		P
Thallium	mg/Kg	20	94.5		99.3		5		P
Vanadium	mg/Kg	20	23.8		24.0		1		P
Zinc	mg/Kg	20	31.0		30.9		0		P

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

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **Level:** LOW **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Matrix: Solid **Sample ID:** O1252-01 **Client ID:** MH-9DUP

Percent Solids for Sample: 94.2 **Duplicate ID** O1252-01DUP **Percent Solids for Spike Sample:** 94.2

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	mg/Kg	20	0.0080	J	0.0050	J	46		CV

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

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DUPLICATE SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **Level:** LOW **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Matrix: Solid **Sample ID:** O1252-01MS **Client ID:** MH-9MSD

Percent Solids for Sample: 94.2 **Duplicate ID** O1252-01MSD **Percent Solids for Spike Sample:** 94.2

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	mg/Kg	20	0.24		0.25		5		CV

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

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB150370BS							
Aluminum	mg/Kg	98.5	96.7		98	80 - 120	P
Antimony	mg/Kg	39.4	38.3		97	80 - 120	P
Arsenic	mg/Kg	39.4	40.6		103	80 - 120	P
Barium	mg/Kg	9.9	10.0		101	80 - 120	P
Beryllium	mg/Kg	9.9	8.67		88	80 - 120	P
Cadmium	mg/Kg	9.9	9.52		96	80 - 120	P
Calcium	mg/Kg	49.3	49.4	J	100	80 - 120	P
Chromium	mg/Kg	19.7	18.9		96	80 - 120	P
Cobalt	mg/Kg	9.9	8.98		91	80 - 120	P
Copper	mg/Kg	14.8	14.5		98	80 - 120	P
Iron	mg/Kg	150	156		104	80 - 120	P
Lead	mg/Kg	49.3	47.4		96	80 - 120	P
Magnesium	mg/Kg	98.5	94.2	J	96	80 - 120	P
Manganese	mg/Kg	9.9	9.86		100	80 - 120	P
Nickel	mg/Kg	24.6	24.0		98	80 - 120	P
Potassium	mg/Kg	490	506		103	80 - 120	P
Selenium	mg/Kg	98.5	99.9		101	80 - 120	P
Silver	mg/Kg	3.7	3.59		97	80 - 120	P
Sodium	mg/Kg	150	142		95	80 - 120	P
Thallium	mg/Kg	98.5	102		104	80 - 120	P
Vanadium	mg/Kg	14.8	14.8		100	80 - 120	P
Zinc	mg/Kg	9.9	10.3		104	80 - 120	P

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Metals

LABORATORY CONTROL SAMPLE SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB150382BS							
Mercury	mg/Kg	0.27	0.23		84	80 - 120	CV

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Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

B-P17AL

Lab Name: Chemtech Consulting Group **Contract:** loui01

Lab Code: CHEM **Lb No.:** lb123754 **Lab Sample ID :** O1232-01L **SDG No.:** O1233

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

Concentration Units: mg/Kg

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	2510		2550		2		P
Antimony	0.37	J	13.0	U	100.0		P
Arsenic	1.07		5.20	U	100.0		P
Barium	33.0		31.3		5		P
Beryllium	0.28	J	0.29	J	4		P
Cadmium	0.13	J	1.56	U	100.0		P
Calcium	1460		1480		1		P
Chromium	11.7		11.5		1		P
Cobalt	4.76		4.47	J	6		P
Copper	8.92		9.79		10		P
Iron	8860		8630		3		P
Lead	7.47		7.16		4		P
Magnesium	1820		1840		1		P
Manganese	288		290		1		P
Nickel	22.9		21.8		5		P
Potassium	556		528		5		P
Selenium	1.04	U	5.20	U			P
Silver	0.58		0.80	J	38		P
Sodium	52.5	J	520	U	100.0		P
Thallium	2.08	U	10.4	U			P
Vanadium	9.25		8.85	J	4		P
Zinc	18.7		18.9		1		P

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Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

MH-9L

Lab Name: Chemtech Consulting Group **Contract:** loui01

Lab Code: CHEM **Lb No.:** lb123763 **Lab Sample ID :** O1252-01L **SDG No.:** O1233

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

Concentration Units: mg/Kg

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Mercury	0.0080	J	0.064	U	100.0		CV

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METAL PREPARATION & INSTRUMENT DATA

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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	0.0002900	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	0.0000140	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0001380	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	0.0000000	0.0001340	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0000890	0.0000000	0.0000460	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	-0.0001960	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	-0.0001430	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	-0.0000910	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0001400	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	0.0000000
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	0.0000000	0.0000000	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	-0.0021660
Lead	220.353	0.0000000	0.0000000	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	-0.0005750
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	0.0038070
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

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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	0.0000000	0.0000000	0.0329190
Antimony	206.833	0.0121700	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	-0.0019440	0.0000000	0.0000000	0.0000000	0.0003800
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	-0.0000720	-0.0004950
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	0.0002110	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	-0.0007810
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0012940
Iron	240.488	0.0000000	0.0009350	0.0000000	0.0000000	-0.0037480
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000700	-0.0014440
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	-0.0127400
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	0.0004280	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0001890	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0008700	-0.0040480
Vanadium	292.402	-0.0024690	0.0000000	0.0000000	0.0000000	-0.0073200
Zinc	213.800	0.0000000	0.0023040	0.0000000	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0002020	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	-0.0001570	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	-0.0048560	0.0013380	0.0000000	0.0000000
Iron	240.488	0.0000000	-0.0016160	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0001070	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	0.0000000	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	0.0058160	0.0000000	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Case No.:** O1233 **SAS No.:** O1233

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	-0.0081200	0.0000000	0.0000000	-0.0018770	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0001560	-0.0003220
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	0.0017040	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0002630	0.0000000	0.0000000	0.0005570
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0016400
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000000	0.0001090
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	-0.0001700	0.0000000	-0.0007490	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	-0.0005960	0.0000000	0.0152900	0.0003570
Vanadium	292.402	0.0000000	0.0004650	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	-0.0005190	0.0000000	0.0000000	0.0000000

CHEMTECH

METAL PREPARATION & ANALYICAL SUMMARY

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SAMPLE PREPARATION SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Method:**

Case No.: O1233 **SAS No.:** O1233

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB150370**						
O1232-01DUP	B-P17ADUP	DUP	SOLID	01/20/2023	2.19	100.0	89.40
O1232-01MS	B-P17AMS	MS	SOLID	01/20/2023	2.20	100.0	89.40
O1232-01MSD	B-P17AMSD	MSD	SOLID	01/20/2023	2.14	100.0	89.40
O1233-02	B-P34A	SAM	SOLID	01/20/2023	2.12	100.0	85.30
O1233-03	B-P34B	SAM	SOLID	01/20/2023	2.01	100.0	90.70
O1233-04	B-P36A	SAM	SOLID	01/20/2023	2.19	100.0	89.60
O1233-05	B-P36B	SAM	SOLID	01/20/2023	2.16	100.0	90.40
O1233-06	B-P37A	SAM	SOLID	01/20/2023	2.24	100.0	87.90
O1233-07	B-P37B	SAM	SOLID	01/20/2023	2.21	100.0	83.50
O1233-08	B-P38A	SAM	SOLID	01/20/2023	2.39	100.0	89.30
O1233-09	B-P38B	SAM	SOLID	01/20/2023	2.27	100.0	80.70
O1233-11	B-P38C	SAM	SOLID	01/20/2023	2.14	100.0	85.90
PB150370BL	PB150370BL	MB	SOLID	01/20/2023	2.09	100.0	100.00
PB150370BS	PB150370BS	LCS	SOLID	01/20/2023	2.03	100.0	100.00

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SAMPLE PREPARATION SUMMARY

Client: Louis Berger U.S., Inc., A WSP Company **SDG No.:** O1233

Contract: loui01 **Lab Code:** CHEM **Method:**

Case No.: O1233 **SAS No.:** O1233

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB150382**						
O1233-02	B-P34A	SAM	SOLID	01/20/2023	0.56	35.0	85.30
O1233-03	B-P34B	SAM	SOLID	01/20/2023	0.56	35.0	90.70
O1233-04	B-P36A	SAM	SOLID	01/20/2023	0.56	35.0	89.60
O1233-05	B-P36B	SAM	SOLID	01/20/2023	0.56	35.0	90.40
O1233-06	B-P37A	SAM	SOLID	01/20/2023	0.54	35.0	87.90
O1233-07	B-P37B	SAM	SOLID	01/20/2023	0.57	35.0	83.50
O1233-08	B-P38A	SAM	SOLID	01/20/2023	0.54	35.0	89.30
O1233-09	B-P38B	SAM	SOLID	01/20/2023	0.57	35.0	80.70
O1233-11	B-P38C	SAM	SOLID	01/20/2023	0.54	35.0	85.90
O1252-01DUP	MH-9DUP	DUP	SOLID	01/20/2023	0.57	35.0	94.20
O1252-01MS	MH-9MS	MS	SOLID	01/20/2023	0.55	35.0	94.20
O1252-01MSD	MH-9MSD	MSD	SOLID	01/20/2023	0.57	35.0	94.20
PB150382BL	PB150382BL	MB	SOLID	01/20/2023	0.57	35.0	100.00
PB150382BS	PB150382BS	LCS	SOLID	01/20/2023	0.52	35.0	100.00

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ANALYSIS RUN LOG

Client: Louis Berger U.S., Inc., A WSP Company **Contract:** loui01

Lab code: CHEM **Case no.:** O1233 **Sas no.:** O1233 **Sdg no.:** O1233

Instrument id number: **Method:** **Run number:** LB123754

Start date: 01/20/2023 **End date:** 01/20/2023

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1215	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	1219	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	1223	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	1227	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	1231	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	1234	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	1238	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	1243	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	1326	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	1330	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	1342	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLCCV01	LLCCV01	1	1346	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	1350	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	1437	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	1441	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	1529	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	1533	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	1615	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	1618	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	1707	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	1711	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	1715	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV06	CCV06	1	1847	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB06	CCB06	1	1851	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV07	CCV07	1	1944	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB07	CCB07	1	1948	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB150370BL	PB150370BL	1	2023	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB150370BS	PB150370BS	1	2027	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV08	CCV08	1	2030	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB08	CCB08	1	2034	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-01DUP	B-P17ADUP	1	2042	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-01L	B-P17AL	5	2046	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-01MS	B-P17AMS	1	2050	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-01MSD	B-P17AMSD	1	2054	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1232-01A	B-P17AA	1	2057	Be,Cu,Sb
CCV09	CCV09	1	2116	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB09	CCB09	1	2120	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

metals
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ANALYSIS RUN LOG

Client: Louis Berger U.S., Inc., A WSP Company **Contract:** loui01

Lab code: CHEM **Case no.:** O1233 **Sas no.:** O1233 **Sdg no.:** O1233

Instrument id number: **Method:** **Run number:** LB123763

Start date: 01/23/2023 **End date:** 01/23/2023

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1006	HG
S0.2	S0.2	1	1011	HG
S2.5	S2.5	1	1013	HG
S5	S5	1	1016	HG
S7.5	S7.5	1	1020	HG
S10	S10	1	1023	HG
ICV12	ICV12	1	1028	HG
ICB12	ICB12	1	1030	HG
CCV93	CCV93	1	1033	HG
CCB93	CCB93	1	1035	HG
CRA	CRA	1	1037	HG
CCV94	CCV94	1	1100	HG
CCB94	CCB94	1	1102	HG
CCV95	CCV95	1	1127	HG
CCB95	CCB95	1	1129	HG
PB150382BL	PB150382BL	1	1131	HG
PB150382BS	PB150382BS	1	1134	HG
O1233-02	B-P34A	1	1136	HG
O1233-03	B-P34B	1	1138	HG
O1233-04	B-P36A	1	1140	HG
O1233-05	B-P36B	1	1143	HG
O1233-06	B-P37A	1	1145	HG
O1233-07	B-P37B	1	1147	HG
O1233-08	B-P38A	1	1150	HG
O1233-09	B-P38B	1	1152	HG
CCV96	CCV96	1	1154	HG
CCB96	CCB96	1	1156	HG
O1233-11	B-P38C	1	1159	HG
O1252-01DUP	MH-9DUP	1	1215	HG
O1252-01MS	MH-9MS	1	1217	HG
O1252-01MSD	MH-9MSD	1	1219	HG
CCV97	CCV97	1	1221	HG
CCB97	CCB97	1	1224	HG
O1252-01L	MH-9L	5	1230	HG
CCV98	CCV98	1	1235	HG
CCB98	CCB98	1	1237	HG

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metals
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ANALYSIS RUN LOG

Client: Louis Berger U.S., Inc., A WSP Company **Contract:** loui01

Lab code: CHEM **Case no.:** O1233 **Sas no.:** O1233 **Sdg no.:** O1233

Instrument id number: **Method:** **Run number:** LB123785

Start date: 01/24/2023 **End date:** 01/24/2023

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1234	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	1238	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	1242	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	1246	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	1249	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	1253	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	1312	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	1316	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	1320	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	1325	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	1329	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	1333	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLCCV01	LLCCV01	1	1341	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	1345	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-02	B-P34A	1	1404	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-03	B-P34B	1	1408	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-04	B-P36A	1	1412	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-05	B-P36B	1	1415	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-06	B-P37A	1	1419	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-07	B-P37B	1	1423	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	1435	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	1438	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-08	B-P38A	1	1442	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-09	B-P38B	1	1446	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
O1233-11	B-P38C	1	1450	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	1746	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	1750	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	1837	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	1841	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn