

metals
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MATRIX SPIKE SUMMARY

client: CDM Smith **level:** low **sdg no.:** Q2032
contract: CAMP02 **lab code:** CHEM **case no.:** Q2032 **sas no.:** Q2032
matrix: Solid **sample id:** Q2032-04 **client id:** TP-24MS
Percent Solids for Sample: 74.2 **Spiked ID:** Q2032-05 **Percent Solids for Spike Sample:** 74.2

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	5840		4380		130	1121		P
Antimony	mg/Kg	75 - 125	13.5		2.77	U	50.1	27	N	P
Arsenic	mg/Kg	75 - 125	44.6		3.54		50.1	82		P
Barium	mg/Kg	75 - 125	27.1		18.5		12.5	69	N	P
Beryllium	mg/Kg	75 - 125	10.7		0.38		12.5	83		P
Cadmium	mg/Kg	75 - 125	13.2		0.27	J	12.5	103		P
Calcium	mg/Kg	75 - 125	387		351		62.7	58		P
Chromium	mg/Kg	75 - 125	40.3		16.8		25.1	94		P
Cobalt	mg/Kg	75 - 125	14.0		1.63	J	12.5	99		P
Copper	mg/Kg	75 - 125	35.2		13.5		18.8	116		P
Iron	mg/Kg	75 - 125	26800		24300		190	1319		P
Lead	mg/Kg	75 - 125	72.0		11.7		62.7	96		P
Magnesium	mg/Kg	75 - 125	467		287		130	139	N	P
Manganese	mg/Kg	75 - 125	29.5		16.5		12.5	104		P
Mercury	mg/Kg	80 - 120	0.33		0.030		0.34	87		CV
Nickel	mg/Kg	75 - 125	33.4		2.56		31.3	98		P
Potassium	mg/Kg	75 - 125	748		427		630	51	N	P
Selenium	mg/Kg	75 - 125	94.5		1.11	U	130	73	N	P
Silver	mg/Kg	75 - 125	3.51		0.56	U	4.7	75	N	P
Sodium	mg/Kg	75 - 125	409		388		190	11	N	P
Thallium	mg/Kg	75 - 125	124		1.91	J	130	94		P
Vanadium	mg/Kg	75 - 125	39.5		26.4		18.8	69	N	P
Zinc	mg/Kg	75 - 125	29.4		15.3		12.5	113		P

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MATRIX SPIKE DUPLICATE SUMMARY

client: CDM Smith **level:** low **sdg no.:** Q2032
contract: CAMP02 **lab code:** CHEM **case no.:** Q2032 **sas no.:** Q2032
matrix: Solid **sample id:** Q2032-04 **client id:** TP-24MSD
Percent Solids for Sample: 74.2 **Spiked ID:** Q2032-06 **Percent Solids for Spike Sample:** 74.2

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	7780		4380		120	2830		P
Antimony	mg/Kg	75 - 125	14.0		2.77	U	47.9	29	N	P
Arsenic	mg/Kg	75 - 125	54.6		3.54		47.9	107		P
Barium	mg/Kg	75 - 125	29.8		18.5		12.0	94		P
Beryllium	mg/Kg	75 - 125	11.5		0.38		12.0	93		P
Cadmium	mg/Kg	75 - 125	11.8		0.27	J	12.0	97		P
Calcium	mg/Kg	75 - 125	602		351		59.9	420		P
Chromium	mg/Kg	75 - 125	43.3		16.8		24.0	111		P
Cobalt	mg/Kg	75 - 125	13.6		1.63	J	12.0	100		P
Copper	mg/Kg	75 - 125	34.8		13.5		18.0	118		P
Iron	mg/Kg	75 - 125	51100		24300		180	14917		P
Lead	mg/Kg	75 - 125	62.6		11.7		59.9	85		P
Magnesium	mg/Kg	75 - 125	271		287		120	-14	N	P
Manganese	mg/Kg	75 - 125	22.9		16.5		12.0	53	N	P
Mercury	mg/Kg	80 - 120	0.32		0.030		0.34	86		CV
Nickel	mg/Kg	75 - 125	30.8		2.56		29.9	94		P
Potassium	mg/Kg	75 - 125	832		427		600	68	N	P
Selenium	mg/Kg	75 - 125	100		1.11	U	120	83		P
Silver	mg/Kg	75 - 125	3.90		0.56	U	4.5	87		P
Sodium	mg/Kg	75 - 125	601		388		180	118		P
Thallium	mg/Kg	75 - 125	121		1.91	J	120	100		P
Vanadium	mg/Kg	75 - 125	52.6		26.4		18.0	145	N	P
Zinc	mg/Kg	75 - 125	32.8		15.3		12.0	146	N	P

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MATRIX SPIKE SUMMARY

client: CDM Smith **level:** low **sdg no.:** Q2032
contract: CAMP02 **lab code:** CHEM **case no.:** Q2032 **sas no.:** Q2032
matrix: Water **sample id:** Q2033-01 **client id:** TW-WTS-08MS
Percent Solids for Sample: NA **Spiked ID:** Q2033-01MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	86 - 115	1290		286		1000	100		P
Antimony	ug/L	88 - 113	413		25.0	U	400	103		P
Arsenic	ug/L	87 - 113	416		10.0	U	400	104		P
Barium	ug/L	88 - 113	264		160		100	105		P
Beryllium	ug/L	89 - 112	93.8		3.00	U	100	94		P
Cadmium	ug/L	88 - 113	99.9		3.00	U	100	100		P
Calcium	ug/L	87 - 113	253000		245000		500	1596		P
Chromium	ug/L	90 - 113	273		79.3		200	97		P
Cobalt	ug/L	89 - 114	100		1.98	J	100	98		P
Copper	ug/L	86 - 114	160		19.1		150	94		P
Iron	ug/L	87 - 115	7710		5530		1500	146	N	P
Lead	ug/L	86 - 113	481		4.28	J	500	95		P
Magnesium	ug/L	85 - 113	898	J	1000	U	1000	90		P
Manganese	ug/L	90 - 114	94.7		10.0	U	100	95		P
Nickel	ug/L	88 - 113	261		18.1	J	250	97		P
Potassium	ug/L	86 - 114	287000		256000		5000	624		P
Selenium	ug/L	83 - 114	1020		10.0	U	1000	102		P
Silver	ug/L	84 - 115	6.75		5.00	U	37.5	18	N	P
Sodium	ug/L	87 - 115	124000		109000		1500	1002		P
Thallium	ug/L	85 - 114	953		20.0	U	1000	95		P
Vanadium	ug/L	90 - 111	150		4.53	J	150	97		P
Zinc	ug/L	87 - 115	107		8.68	J	100	99		P

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MATRIX SPIKE DUPLICATE SUMMARY

client: CDM Smith **level:** low **sdg no.:** Q2032
contract: CAMP02 **lab code:** CHEM **case no.:** Q2032 **sas no.:** Q2032
matrix: Water **sample id:** Q2033-01 **client id:** TW-WTS-08MSD
Percent Solids for Sample: NA **Spiked ID:** Q2033-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	86 - 115	1280		286		1000	100		P
Antimony	ug/L	88 - 113	415		25.0	U	400	104		P
Arsenic	ug/L	87 - 113	416		10.0	U	400	104		P
Barium	ug/L	88 - 113	254		160		100	95		P
Beryllium	ug/L	89 - 112	105		3.00	U	100	105		P
Cadmium	ug/L	88 - 113	101		3.00	U	100	101		P
Calcium	ug/L	87 - 113	251000		245000		500	1261		P
Chromium	ug/L	90 - 113	276		79.3		200	98		P
Cobalt	ug/L	89 - 114	101		1.98	J	100	99		P
Copper	ug/L	86 - 114	162		19.1		150	95		P
Iron	ug/L	87 - 115	7010		5530		1500	99		P
Lead	ug/L	86 - 113	484		4.28	J	500	96		P
Magnesium	ug/L	85 - 113	927	J	1000	U	1000	93		P
Manganese	ug/L	90 - 114	94.6		10.0	U	100	95		P
Nickel	ug/L	88 - 113	263		18.1	J	250	98		P
Potassium	ug/L	86 - 114	263000		256000		5000	135		P
Selenium	ug/L	83 - 114	1030		10.0	U	1000	103		P
Silver	ug/L	84 - 115	5.41		5.00	U	37.5	14	N	P
Sodium	ug/L	87 - 115	111000		109000		1500	190		P
Thallium	ug/L	85 - 114	962		20.0	U	1000	96		P
Vanadium	ug/L	90 - 111	150		4.53	J	150	97		P
Zinc	ug/L	87 - 115	108		8.68	J	100	99		P

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MATRIX SPIKE SUMMARY

client: CDM Smith **level:** low **sdg no.:** Q2032
contract: CAMP02 **lab code:** CHEM **case no.:** Q2032 **sas no.:** Q2032
matrix: Water **sample id:** Q2044-02 **client id:** 3859MS
Percent Solids for Sample: NA **Spiked ID:** Q2044-02MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75 - 125	1.97		0.20	U	4.0	49	N	CV

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MATRIX SPIKE DUPLICATE SUMMARY

client: CDM Smith **level:** low **sdg no.:** Q2032
contract: CAMP02 **lab code:** CHEM **case no.:** Q2032 **sas no.:** Q2032
matrix: Water **sample id:** Q2044-02 **client id:** 3859MSD
Percent Solids for Sample: NA **Spiked ID:** Q2044-02MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75 - 125	2.75		0.20	U	4.0	69	N	CV