

metals
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MATRIX SPIKE SUMMARY

client: CDM Smith **level:** low **sdg no.:** Q2458
contract: CAMP02 **lab code:** ACE
matrix: Solid **sample id:** Q2458-03 **client id:** TP-68MS

Percent Solids for Sample: 92.3 **Spiked ID:** Q2458-03MS **Percent Solids for Spike Sample:** 92.3

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	5750		4030		95.5	1805		P
Antimony	mg/Kg	75 - 125	16.5		2.46	U	38.2	43	N	P
Arsenic	mg/Kg	75 - 125	37.4		1.61		38.2	94		P
Barium	mg/Kg	75 - 125	16.9		7.39		9.5	100		P
Beryllium	mg/Kg	75 - 125	7.92		0.13	J	9.5	82		P
Cadmium	mg/Kg	75 - 125	8.79		0.30	U	9.5	92		P
Calcium	mg/Kg	75 - 125	2950		1990		47.7	2007		P
Chromium	mg/Kg	75 - 125	28.0		9.01		19.1	99		P
Cobalt	mg/Kg	75 - 125	15.3		4.51		9.5	114		P
Copper	mg/Kg	75 - 125	63.7		45.1		14.3	130	N	P
Iron	mg/Kg	75 - 125	10700		9290		140	1022		P
Lead	mg/Kg	75 - 125	50.1		5.32		47.7	94		P
Magnesium	mg/Kg	75 - 125	2760		2200		95.5	584		P
Manganese	mg/Kg	75 - 125	84.1		65.0		9.5	201		P
Nickel	mg/Kg	75 - 125	36.2		9.84		23.9	110		P
Potassium	mg/Kg	75 - 125	1130		521		480	127	N	P
Selenium	mg/Kg	75 - 125	91.6		2.38		95.5	93		P
Silver	mg/Kg	75 - 125	3.69		0.37	J	3.6	92		P
Sodium	mg/Kg	75 - 125	953		582		140	265		P
Thallium	mg/Kg	75 - 125	97.8		1.97	U	95.5	102		P
Vanadium	mg/Kg	75 - 125	40.6		20.1		14.3	143	N	P
Zinc	mg/Kg	75 - 125	25.2		12.9		9.5	129	N	P

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MATRIX SPIKE DUPLICATE SUMMARY

client: <u>CDM Smith</u>	level: <u>low</u>	sdg no.: <u>Q2458</u>
contract: <u>CAMP02</u>		lab code: <u>ACE</u>
matrix: <u>Solid</u>	sample id: <u>Q2458-03</u>	client id: <u>TP-68MSD</u>

Percent Solids for Sample: 92.3	Spiked ID: Q2458-03MSD	Percent Solids for Spike Sample: 92.3
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Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	6080		4030		89.9	2277		P
Antimony	mg/Kg	75 - 125	15.4		2.46	U	36.0	43	N	P
Arsenic	mg/Kg	75 - 125	35.7		1.61		36.0	95		P
Barium	mg/Kg	75 - 125	17.0		7.39		9.0	107		P
Beryllium	mg/Kg	75 - 125	7.42		0.13	J	9.0	81		P
Cadmium	mg/Kg	75 - 125	8.21		0.30	U	9.0	91		P
Calcium	mg/Kg	75 - 125	3030		1990		45.0	2307		P
Chromium	mg/Kg	75 - 125	27.2		9.01		18.0	101		P
Cobalt	mg/Kg	75 - 125	15.4		4.51		9.0	121		P
Copper	mg/Kg	75 - 125	92.9		45.1		13.5	354	N	P
Iron	mg/Kg	75 - 125	12000		9290		130	2054		P
Lead	mg/Kg	75 - 125	48.4		5.32		45.0	96		P
Magnesium	mg/Kg	75 - 125	3100		2200		89.9	1007		P
Manganese	mg/Kg	75 - 125	91.0		65.0		9.0	290		P
Nickel	mg/Kg	75 - 125	36.8		9.84		22.5	120		P
Potassium	mg/Kg	75 - 125	1180		521		450	146	N	P
Selenium	mg/Kg	75 - 125	87.8		2.38		89.9	95		P
Silver	mg/Kg	75 - 125	3.63		0.37	J	3.4	96		P
Sodium	mg/Kg	75 - 125	1030		582		130	345		P
Thallium	mg/Kg	75 - 125	90.1		1.97	U	89.9	100		P
Vanadium	mg/Kg	75 - 125	40.7		20.1		13.5	152	N	P
Zinc	mg/Kg	75 - 125	28.9		12.9		9.0	177	N	P

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MATRIX SPIKE SUMMARY

client: <u>CDM Smith</u>	level: <u>low</u>	sdg no.: <u>Q2458</u>
contract: <u>CAMP02</u>		lab code: <u>ACE</u>
matrix: <u>Water</u>	sample id: <u>Q2463-01</u>	client id: <u>TW-WTS-11MS</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>Q2463-01MS</u>	Percent Solids for Spike Sample: <u>NA</u>

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	75 - 125	4620		3660		1000	96		P
Antimony	ug/L	75 - 125	425		25.0	U	400	106		P
Arsenic	ug/L	75 - 125	415		10.0	U	400	104		P
Barium	ug/L	75 - 125	122		36.1	J	100	86		P
Beryllium	ug/L	75 - 125	85.4		3.00	U	100	85		P
Cadmium	ug/L	75 - 125	97.4		3.00	U	100	97		P
Calcium	ug/L	75 - 125	50300		49700		500	120		P
Chromium	ug/L	75 - 125	192		1.87	J	200	95		P
Cobalt	ug/L	75 - 125	102		1.54	J	100	100		P
Copper	ug/L	75 - 125	171		21.7		150	99		P
Iron	ug/L	75 - 125	10800		9630		1500	77		P
Lead	ug/L	75 - 125	466		5.99	J	500	92		P
Magnesium	ug/L	75 - 125	2320		1450		1000	87		P
Manganese	ug/L	75 - 125	121		22.5		100	98		P
Mercury	ug/L	75 - 125	3.24		0.19	J	4.0	76		CV
Nickel	ug/L	75 - 125	264		15.0	J	250	100		P
Potassium	ug/L	75 - 125	244000		248000		5000	-95		P
Selenium	ug/L	75 - 125	1060		5.02	J	1000	106		P
Silver	ug/L	75 - 125	21.1		5.00	U	37.5	56	N	P
Sodium	ug/L	75 - 125	172000		172000		1500	-45		P
Thallium	ug/L	75 - 125	1060		20.0	U	1000	106		P
Vanadium	ug/L	75 - 125	157		18.5	J	150	93		P
Zinc	ug/L	75 - 125	124		17.3	J	100	107		P

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MATRIX SPIKE DUPLICATE SUMMARY

client: <u>CDM Smith</u>	level: <u>low</u>	sdg no.: <u>Q2458</u>
contract: <u>CAMP02</u>		lab code: <u>ACE</u>
matrix: <u>Water</u>	sample id: <u>Q2463-01</u>	client id: <u>TW-WTS-11MSD</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>Q2463-01MSD</u>	Percent Solids for Spike Sample: <u>NA</u>

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	75 - 125	5280		3660		1000	162	N	P
Antimony	ug/L	75 - 125	420		25.0	U	400	105		P
Arsenic	ug/L	75 - 125	404		10.0	U	400	101		P
Barium	ug/L	75 - 125	123		36.1	J	100	87		P
Beryllium	ug/L	75 - 125	82.9		3.00	U	100	83		P
Cadmium	ug/L	75 - 125	96.7		3.00	U	100	97		P
Calcium	ug/L	75 - 125	50000		49700		500	64		P
Chromium	ug/L	75 - 125	189		1.87	J	200	93		P
Cobalt	ug/L	75 - 125	99.3		1.54	J	100	98		P
Copper	ug/L	75 - 125	168		21.7		150	98		P
Iron	ug/L	75 - 125	10800		9630		1500	77		P
Lead	ug/L	75 - 125	456		5.99	J	500	90		P
Magnesium	ug/L	75 - 125	2360		1450		1000	91		P
Manganese	ug/L	75 - 125	119		22.5		100	96		P
Mercury	ug/L	75 - 125	3.88		0.19	J	4.0	92		CV
Nickel	ug/L	75 - 125	259		15.0	J	250	98		P
Potassium	ug/L	75 - 125	232000		248000		5000	-324		P
Selenium	ug/L	75 - 125	1040		5.02	J	1000	104		P
Silver	ug/L	75 - 125	34.9		5.00	U	37.5	93		P
Sodium	ug/L	75 - 125	167000		172000		1500	-376		P
Thallium	ug/L	75 - 125	1040		20.0	U	1000	104		P
Vanadium	ug/L	75 - 125	155		18.5	J	150	91		P
Zinc	ug/L	75 - 125	122		17.3	J	100	104		P

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MATRIX SPIKE SUMMARY

client: CDM Smith **level:** low **sdg no.:** Q2458
contract: CAMP02 **lab code:** ACE
matrix: Solid **sample id:** Q2469-01 **client id:** WC-1MS
Percent Solids for Sample: 85.4 **Spiked ID:** Q2469-01MS **Percent Solids for Spike Sample:** 85.4

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	mg/Kg	80 - 120	0.61		0.27		0.33	103		CV

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MATRIX SPIKE DUPLICATE SUMMARY

client:	<u>CDM Smith</u>	level:	<u>low</u>	sdg no.:	<u>Q2458</u>
contract:	<u>CAMP02</u>			lab code:	<u>ACE</u>
matrix:	<u>Solid</u>	sample id:	<u>Q2469-01</u>	client id:	<u>WC-1MSD</u>
Percent Solids for Sample:	85.4	Spiked ID:	Q2469-01MSD	Percent Solids for Spike Sample:	85.4

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	mg/Kg	80 - 120	0.54		0.27		0.29	93		CV