

metals
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MATRIX SPIKE SUMMARY

client: JACOBS Engineering Group, Inc. **level:** low **sdg no.:** Q2250

contract: JACO05 **lab code:** CHEM **case no.:** Q2250 **sas no.:** Q2250

matrix: Water **sample id:** Q2234-01 **client id:** MW-17B-55-060425MS

Percent Solids for Sample: NA **Spiked ID:** Q2234-02 **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	75 - 125	7550		68.7		10000	75		P
Antimony	ug/L	75 - 125	492		0.39	J	500	98		P
Arsenic	ug/L	75 - 125	0.97	J	0.94	J	500	0	N	P
Barium	ug/L	75 - 125	2620		461		2500	86		P
Beryllium	ug/L	75 - 125	494		1.00	U	500	99		P
Cadmium	ug/L	75 - 125	478		1.00	U	500	96		P
Calcium	ug/L	75 - 125	77700		32000		50000	91		P
Chromium	ug/L	75 - 125	442		0.21	J	500	88		P
Cobalt	ug/L	75 - 125	471		8.11		500	93		P
Copper	ug/L	75 - 125	4710		2.00	U	5000	94		P
Iron	ug/L	75 - 125	26600		6790		25000	79		P
Lead	ug/L	75 - 125	2410		1.00	U	2500	96		P
Magnesium	ug/L	75 - 125	53400		9240		50000	88		P
Manganese	ug/L	75 - 125	5390		621		5000	95		P
Nickel	ug/L	75 - 125	481		12.1		500	94		P
Potassium	ug/L	75 - 125	29800		9030		25000	83		P
Selenium	ug/L	75 - 125	483		5.00	U	500	97		P
Silver	ug/L	75 - 125	82.8		1.00	U	500	17	N	P
Sodium	ug/L	75 - 125	56400		8060		50000	97		P
Thallium	ug/L	75 - 125	477		0.22	J	500	95		P
Vanadium	ug/L	75 - 125	458		0.73	J	500	91		P
Zinc	ug/L	75 - 125	4910		5.06		5000	98		P

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MATRIX SPIKE DUPLICATE SUMMARY

client: JACOBS Engineering Group, Inc. **level:** low **sdg no.:** Q2250
contract: JACO05 **lab code:** CHEM **case no.:** Q2250 **sas no.:** Q2250
matrix: Water **sample id:** Q2234-01 **client id:** MW-17B-55-060425MSD
Percent Solids for Sample: NA **Spiked ID:** Q2234-03 **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	75 - 125	7550		68.7		10000	75		P
Antimony	ug/L	75 - 125	492		0.39	J	500	98		P
Arsenic	ug/L	75 - 125	0.92	J	0.94	J	500	0	N	P
Barium	ug/L	75 - 125	2650		461		2500	88		P
Beryllium	ug/L	75 - 125	488		1.00	U	500	98		P
Cadmium	ug/L	75 - 125	480		1.00	U	500	96		P
Calcium	ug/L	75 - 125	76600		32000		50000	89		P
Chromium	ug/L	75 - 125	434		0.21	J	500	87		P
Cobalt	ug/L	75 - 125	455		8.11		500	89		P
Copper	ug/L	75 - 125	4750		2.00	U	5000	95		P
Iron	ug/L	75 - 125	26600		6790		25000	79		P
Lead	ug/L	75 - 125	2390		1.00	U	2500	96		P
Magnesium	ug/L	75 - 125	53300		9240		50000	88		P
Manganese	ug/L	75 - 125	5450		621		5000	97		P
Nickel	ug/L	75 - 125	482		12.1		500	94		P
Potassium	ug/L	75 - 125	29800		9030		25000	83		P
Selenium	ug/L	75 - 125	484		5.00	U	500	97		P
Silver	ug/L	75 - 125	82.4		1.00	U	500	16	N	P
Sodium	ug/L	75 - 125	57000		8060		50000	98		P
Thallium	ug/L	75 - 125	487		0.22	J	500	97		P
Vanadium	ug/L	75 - 125	453		0.73	J	500	91		P
Zinc	ug/L	75 - 125	4920		5.06		5000	98		P

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MATRIX SPIKE SUMMARY

client: JACOBS Engineering Group, Inc. **level:** low **sdg no.:** Q2250
contract: JACO05 **lab code:** CHEM **case no.:** Q2250 **sas no.:** Q2250
matrix: Water **sample id:** Q2234-08 **client id:** MW-17B-55-060425MS
Percent Solids for Sample: NA **Spiked ID:** Q2234-09 **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	75 - 125	7720		17.9	J	10000	77		P
Antimony	ug/L	75 - 125	509		0.28	J	500	102		P
Arsenic	ug/L	75 - 125	0.90	J	0.88	J	500	0	N	P
Barium	ug/L	75 - 125	2730		462		2500	91		P
Beryllium	ug/L	75 - 125	498		1.00	U	500	100		P
Cadmium	ug/L	75 - 125	496		1.00	U	500	99		P
Calcium	ug/L	75 - 125	79400		34100		50000	91		P
Chromium	ug/L	75 - 125	454		2.00	U	500	91		P
Cobalt	ug/L	75 - 125	471		8.20		500	92		P
Copper	ug/L	75 - 125	4880		2.00	U	5000	98		P
Iron	ug/L	75 - 125	27300		6980		25000	81		P
Lead	ug/L	75 - 125	2440		1.00	U	2500	98		P
Magnesium	ug/L	75 - 125	55000		9620		50000	91		P
Manganese	ug/L	75 - 125	5630		651		5000	100		P
Nickel	ug/L	75 - 125	496		11.4		500	97		P
Potassium	ug/L	75 - 125	30300		8840		25000	86		P
Selenium	ug/L	75 - 125	493		5.00	U	500	99		P
Silver	ug/L	75 - 125	85.4		1.00	U	500	17	N	P
Sodium	ug/L	75 - 125	58100		7570		50000	101		P
Thallium	ug/L	75 - 125	495		0.23	J	500	99		P
Vanadium	ug/L	75 - 125	472		0.27	J	500	94		P
Zinc	ug/L	75 - 125	5070		4.13	J	5000	101		P

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MATRIX SPIKE DUPLICATE SUMMARY

client: JACOBS Engineering Group, Inc. **level:** low **sdg no.:** Q2250

contract: JACO05 **lab code:** CHEM **case no.:** Q2250 **sas no.:** Q2250

matrix: Water **sample id:** Q2234-08 **client id:** MW-17B-55-060425MSD

Percent Solids for Sample: NA **Spiked ID:** Q2234-10 **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	75 - 125	7600		17.9	J	10000	76		P
Antimony	ug/L	75 - 125	507		0.28	J	500	101		P
Arsenic	ug/L	75 - 125	0.88	J	0.88	J	500	0	N	P
Barium	ug/L	75 - 125	2750		462		2500	91		P
Beryllium	ug/L	75 - 125	495		1.00	U	500	99		P
Cadmium	ug/L	75 - 125	491		1.00	U	500	98		P
Calcium	ug/L	75 - 125	80200		34100		50000	92		P
Chromium	ug/L	75 - 125	446		2.00	U	500	89		P
Cobalt	ug/L	75 - 125	465		8.20		500	91		P
Copper	ug/L	75 - 125	4800		2.00	U	5000	96		P
Iron	ug/L	75 - 125	26900		6980		25000	80		P
Lead	ug/L	75 - 125	2420		1.00	U	2500	97		P
Magnesium	ug/L	75 - 125	54500		9620		50000	90		P
Manganese	ug/L	75 - 125	5480		651		5000	97		P
Nickel	ug/L	75 - 125	490		11.4		500	96		P
Potassium	ug/L	75 - 125	29700		8840		25000	83		P
Selenium	ug/L	75 - 125	496		5.00	U	500	99		P
Silver	ug/L	75 - 125	85.7		1.00	U	500	17	N	P
Sodium	ug/L	75 - 125	57200		7570		50000	99		P
Thallium	ug/L	75 - 125	493		0.23	J	500	99		P
Vanadium	ug/L	75 - 125	464		0.27	J	500	93		P
Zinc	ug/L	75 - 125	4940		4.13	J	5000	99		P

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MATRIX SPIKE SUMMARY

client: JACOBS Engineering Group, Inc. **level:** low **sdg no.:** Q2250
contract: JACO05 **lab code:** CHEM **case no.:** Q2250 **sas no.:** Q2250
matrix: Water **sample id:** Q2237-02 **client id:** TW-WTS-10MS
Percent Solids for Sample: NA **Spiked ID:** Q2237-02MS **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	5.01		0.20	U	4.0	125	N	CV

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MATRIX SPIKE DUPLICATE SUMMARY

client: JACOBS Engineering Group, Inc. **level:** low **sdg no.:** Q2250
contract: JACO05 **lab code:** CHEM **case no.:** Q2250 **sas no.:** Q2250
matrix: Water **sample id:** Q2237-02 **client id:** TW-WTS-10MSD
Percent Solids for Sample: NA **Spiked ID:** Q2237-02MSD **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	5.01		0.20	U	4.0	125	N	CV