

metals
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MATRIX SPIKE SUMMARY

client: Viva Nova Inc **level:** low **sdg no.:** Q2828
contract: VIVA01 **lab code:** ACE
matrix: Solid **sample id:** Q2828-01 **client id:** POWDERMS

Percent Solids for Sample: 99.4 **Spiked ID:** Q2828-01MS **Percent Solids for Spike Sample:** 99.4

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	74 - 119	9300		7750		82.1	1892		P
Antimony	mg/Kg	79 - 114	12.2		4.95		32.9	22	N	P
Arsenic	mg/Kg	82 - 111	17.9		5.28		32.9	38	N	P
Barium	mg/Kg	83 - 113	117		123		8.2	-68		P
Beryllium	mg/Kg	83 - 113	3.99		0.95		8.2	37	N	P
Cadmium	mg/Kg	82 - 113	12.5		4.95		8.2	93		P
Calcium	mg/Kg	81 - 116	10400		8670		41.1	4260		P
Chromium	mg/Kg	85 - 113	62.4		60.9		16.4	9	N	P
Cobalt	mg/Kg	85 - 112	47.2		40.3		8.2	84		P
Copper	mg/Kg	81 - 117	80.6		76.1		12.3	37		P
Iron	mg/Kg	81 - 118	10200		12000		120	-1436		P
Lead	mg/Kg	81 - 112	110		71.4		41.1	95		P
Magnesium	mg/Kg	78 - 115	1470		1200		82.1	323		P
Manganese	mg/Kg	84 - 114	219		207		8.2	147		P
Nickel	mg/Kg	83 - 113	157		143		20.5	70		P
Potassium	mg/Kg	81 - 116	551		309		410	59	N	P
Selenium	mg/Kg	78 - 111	30.0		0.51	J	82.1	36	N	P
Silver	mg/Kg	82 - 112	3.22		1.58		3.1	53	N	P
Sodium	mg/Kg	83 - 118	1030		872		120	128		P
Thallium	mg/Kg	83 - 111	67.0		0.43	J	82.1	81	N	P
Vanadium	mg/Kg	82 - 114	56.1		31.8		12.3	197	N	P
Zinc	mg/Kg	82 - 113	244		240		8.2	46		P

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MATRIX SPIKE DUPLICATE SUMMARY

client: <u>Viva Nova Inc</u>	level: <u>low</u>	sdg no.: <u>Q2828</u>
contract: <u>VIVA01</u>		lab code: <u>ACE</u>
matrix: <u>Solid</u>	sample id: <u>Q2828-01</u>	client id: <u>POWDERMSD</u>

Percent Solids for Sample: 99.4	Spiked ID: Q2828-01MSD	Percent Solids for Spike Sample: 99.4
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Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	74 - 119	10600		7750		87.5	3219		P
Antimony	mg/Kg	79 - 114	10.5		4.95		35.0	16	N	P
Arsenic	mg/Kg	82 - 111	20.2		5.28		35.0	43	N	P
Barium	mg/Kg	83 - 113	120		123		8.7	-28		P
Beryllium	mg/Kg	83 - 113	4.64		0.95		8.7	43	N	P
Cadmium	mg/Kg	82 - 113	13.8		4.95		8.7	101		P
Calcium	mg/Kg	81 - 116	12400		8670		43.7	8468		P
Chromium	mg/Kg	85 - 113	76.4		60.9		17.5	88		P
Cobalt	mg/Kg	85 - 112	52.6		40.3		8.7	142		P
Copper	mg/Kg	81 - 117	84.2		76.1		13.1	61		P
Iron	mg/Kg	81 - 118	12600		12000		130	492		P
Lead	mg/Kg	81 - 112	116		71.4		43.7	102		P
Magnesium	mg/Kg	78 - 115	1710		1200		87.5	575		P
Manganese	mg/Kg	84 - 114	251		207		8.7	505		P
Nickel	mg/Kg	83 - 113	178		143		21.9	163		P
Potassium	mg/Kg	81 - 116	582		309		440	62	N	P
Selenium	mg/Kg	78 - 111	34.3		0.51	J	87.5	39	N	P
Silver	mg/Kg	82 - 112	3.45		1.58		3.3	57	N	P
Sodium	mg/Kg	83 - 118	1050		872		130	141		P
Thallium	mg/Kg	83 - 111	75.0		0.43	J	87.5	85		P
Vanadium	mg/Kg	82 - 114	41.4		31.8		13.1	73	N	P
Zinc	mg/Kg	82 - 113	250		240		8.7	115		P

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MATRIX SPIKE SUMMARY

client:	<u>Viva Nova Inc</u>	level:	<u>low</u>	sdg no.:	<u>Q2828</u>
contract:	<u>VIVA01</u>			lab code:	<u>ACE</u>
matrix:	<u>Solid</u>	sample id:	<u>Q2831-01</u>	client id:	<u>VNJ-238MS</u>
Percent Solids for Sample:	93.1	Spiked ID:	Q2831-01MS	Percent Solids for Spike Sample:	93.1

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	mg/Kg	80 - 124	0.29		0.037		0.26	97		CV

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MATRIX SPIKE DUPLICATE SUMMARY

client:	<u>Viva Nova Inc</u>	level:	<u>low</u>	sdg no.:	<u>Q2828</u>
contract:	<u>VIVA01</u>			lab code:	<u>ACE</u>
matrix:	<u>Solid</u>	sample id:	<u>Q2831-01</u>	client id:	<u>VNJ-238MSD</u>
Percent Solids for Sample:	93.1	Spiked ID:	Q2831-01MSD	Percent Solids for Spike Sample:	93.1

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	mg/Kg	80 - 124	0.30		0.037		0.28	92		CV