



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

metals
- 5a -
MATRIX SPIKE SUMMARY

client: Louis Berger U.S., Inc., A WSP Company level: low sdg no.: O1232
contract: loui01 lab code: CHEM case no.: O1232 sas no.: O1232
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
Mercury	mg/Kg	80 - 120	0.28		0.014	U	0.28	99		CV
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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MATRIX SPIKE DUPLICATE SUMMARY

client: Louis Berger U.S., Inc., A WSP Company level: low sdg no.: O1232
contract: loui01 lab code: CHEM case no.: O1232 sas no.: O1232
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
Mercury	mg/Kg	80 - 120	0.27		0.014	U	0.27	102		CV
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