

metals
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MATRIX SPIKE SUMMARY

client: HDR, Inc. **level:** low **sdg no.:** Q3649
contract: HDRI08 **lab code:** ACE
matrix: Solid **sample id:** Q3649-06 **client id:** B4-0.0-0.5-20251114MS

Percent Solids for Sample: 91.4 **Spiked ID:** Q3649-06MS **Percent Solids for Spike Sample:** 91.4

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	6570		5000		97.3	1606		P
Antimony	mg/Kg	75 - 125	13.6		2.46	U	38.9	35	N	P
Arsenic	mg/Kg	75 - 125	31.3		1.88		38.9	76		P
Barium	mg/Kg	75 - 125	41.3		26.0		9.7	157	N	P
Beryllium	mg/Kg	75 - 125	7.60		0.41		9.7	74	N	P
Cadmium	mg/Kg	75 - 125	10.4		1.09		9.7	96		P
Calcium	mg/Kg	75 - 125	1250		1180		48.6	143		P
Chromium	mg/Kg	75 - 125	26.7		11.3		19.5	79		P
Cobalt	mg/Kg	75 - 125	16.7		6.43		9.7	106		P
Copper	mg/Kg	75 - 125	13.4		2.16		14.6	77		P
Iron	mg/Kg	75 - 125	14300		13400		150	594		P
Lead	mg/Kg	75 - 125	58.5		14.5		48.6	90		P
Magnesium	mg/Kg	75 - 125	1450		1090		97.3	366		P
Manganese	mg/Kg	75 - 125	434		382		9.7	539		P
Mercury	mg/Kg	80 - 120	0.23		0.020		0.28	73	N	CV
Nickel	mg/Kg	75 - 125	36.7		11.7		24.3	103		P
Potassium	mg/Kg	75 - 125	954		483		490	96		P
Selenium	mg/Kg	75 - 125	69.5		0.99	U	97.3	71	N	P
Silver	mg/Kg	75 - 125	2.15		0.49	U	3.6	60	N	P
Sodium	mg/Kg	75 - 125	428		290		150	92		P
Thallium	mg/Kg	75 - 125	84.2		0.38	J	97.3	86		P
Vanadium	mg/Kg	75 - 125	24.5		12.9		14.6	80		P
Zinc	mg/Kg	75 - 125	33.0		23.1		9.7	102		P

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MATRIX SPIKE DUPLICATE SUMMARY

client: <u>HDR, Inc.</u>	level: <u>low</u>	sdg no.: <u>Q3649</u>
contract: <u>HDRI08</u>		lab code: <u>ACE</u>
matrix: <u>Solid</u>	sample id: <u>Q3649-06</u>	client id: <u>B4-0.0-0.5-20251114MSD</u>
Percent Solids for Sample: 91.4	Spiked ID: Q3649-06MSD	Percent Solids for Spike Sample: 91.4

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	6680		5000		97.3	1721		P
Antimony	mg/Kg	75 - 125	13.8		2.46	U	38.9	36	N	P
Arsenic	mg/Kg	75 - 125	32.1		1.88		38.9	78		P
Barium	mg/Kg	75 - 125	41.9		26.0		9.7	163	N	P
Beryllium	mg/Kg	75 - 125	7.70		0.41		9.7	75		P
Cadmium	mg/Kg	75 - 125	10.8		1.09		9.7	100		P
Calcium	mg/Kg	75 - 125	1260		1180		48.6	165		P
Chromium	mg/Kg	75 - 125	26.8		11.3		19.5	79		P
Cobalt	mg/Kg	75 - 125	17.2		6.43		9.7	111		P
Copper	mg/Kg	75 - 125	13.7		2.16		14.6	79		P
Iron	mg/Kg	75 - 125	14400		13400		150	700		P
Lead	mg/Kg	75 - 125	60.5		14.5		48.6	95		P
Magnesium	mg/Kg	75 - 125	1470		1090		97.3	386		P
Manganese	mg/Kg	75 - 125	439		382		9.7	583		P
Mercury	mg/Kg	80 - 120	0.26		0.020		0.3	81		CV
Nickel	mg/Kg	75 - 125	37.7		11.7		24.3	107		P
Potassium	mg/Kg	75 - 125	977		483		490	101		P
Selenium	mg/Kg	75 - 125	71.3		0.99	U	97.3	73	N	P
Silver	mg/Kg	75 - 125	2.20		0.49	U	3.6	61	N	P
Sodium	mg/Kg	75 - 125	433		290		150	95		P
Thallium	mg/Kg	75 - 125	86.3		0.38	J	97.3	88		P
Vanadium	mg/Kg	75 - 125	25.0		12.9		14.6	83		P
Zinc	mg/Kg	75 - 125	33.3		23.1		9.7	106		P