WESTON SOLUTIONS

SHEET 1 of 2

CLIENT/SUBJECT CALULATIONS FOR SQL W.O. NO.

TASK DESCRIPTION TASK NO.

PREPARED BY DEPT DATE

MATH CHECK BY DEPT DATE

METHOD REV. BY DEPT DATE

APPROVED BY

DEPT DATE

$$\text{SQL (mg/kg dry weight)} = \text{MDL}\left(\frac{\mu g}{L}\right) \times \frac{1\,mg}{1000\,\mu g} \times \frac{\text{final volume (mL)}}{\text{sample weight (g wet weight)} \times \%S} \times \frac{1L}{1000\,mL} \times \frac{1000\,g}{1\,kg} \times DF \quad (1)$$

Where:

MDL (µg/L) is value from CLP Method Detection Limit Form (e.g., Form 9)
Final volume (mL) is volume value from CLP Preparation Log Form (e.g., Form 12)
Sample weight (g wet wgt) is weight value from CLP Preparation Form Log (e.g., Form 12)
% S is % solids value from CLP Analysis Data Sheet (i.e., Form 1) divided by 100
DF is the dilution factor value from CLP Analysis Run Log (e.g., Form 13)

Example calculation for cadmium
SAMPLE ID: ME2QY4

MDL = 1.7 µg/L Ref. 17, P. 144

Final volume = 100 mL Ref. 17, P. 146

Sample weight = 1.01 g Ref. 17, P. 146

% S = 0.883 Ref 17, P. 121

DF = 1 Ref 17. P. 150

Using Equation (1) to determine SQL

$$SQL(mg/kg) = 1.7 \times \frac{1}{1000} \times \frac{100}{1.01 \times 0.883} \times \frac{1}{1000} \times \frac{1000}{1} \times 1$$

$$= 0.19\ mg/kg.$$

∴ SQL for cadmium for sample ME2QY4 is 0.19 mg/kg.

an employee-owned company

SAMPLE ID	ANALYTE	MDL (UG/L)	CONVERT MG TO UG	FINAL VOLUME(ML)	SAMPLE WT. (G)	% S	CONVERT ML TO L	COVERT G TO KG	DF	SQL MG/KG	Reference
2QY4	Cadmium	1.7	0.001	100	1.01	0.883	0.001	1000	1	**0.19**	Ref. 17, p. 121, 144, 146, 150
2QY4	Copper	8.5	0.001	100	1.01	0.883	0.001	1000	1	**0.95**	Ref. 17, p. 121, 144, 146, 15C
2QY4	Lead	2.5	0.001	100	1.01	0.883	0.001	1000	1	**0.28**	Ref. 17, p. 121, 144, 146, 15C
2QY4	Zinc	23.1	0.001	100	1.01	0.883	0.001	1000	1	**2.59**	Ref. 17, p. 121, 144, 146, 15C
2QY5	Barium	68.5	0.001	100	1.02	0.878	0.001	1000	1	**7.65**	Ref. 17, p. 122, 144, 146, 15C
2QY5	Cadmium	1.7	0.001	100	1.02	0.878	0.001	1000	1	**0.19**	Ref. 17, p. 122, 144, 146, 15C
2QY5	Chromium	3.2	0.001	100	1.02	0.878	0.001	1000	1	**0.36**	Ref. 17, p. 122, 144, 146, 15C
2QY5	Copper	8.5	0.001	100	1.02	0.878	0.001	1000	1	**0.95**	Ref. 17, p. 122, 144, 146, 15C
2QY5	Lead	2.5	0.001	100	1.02	0.878	0.001	1000	1	**0.28**	Ref. 17, p. 122, 144, 146, 15C
2QY5	Nickel	13.3	0.001	100	1.02	0.878	0.001	1000	1	**1.49**	Ref. 17, p. 122, 144, 146, 15C
2QY5	Zinc	23.1	0.001	100	1.02	0.878	0.001	1000	1	**2.58**	Ref. 17, p. 122, 144, 146, 15C
2QY7	Barium	68.5	0.001	100	1	0.64	0.001	1000	1	**10.70**	Ref. 17, p. 124, 144, 146, 151
2QY7	Cadmium	1.7	0.001	100	1	0.64	0.001	1000	1	**0.27**	Ref. 17, p. 124, 144, 146, 151
2QY7	Chromium	3.2	0.001	100	1	0.64	0.001	1000	1	**0.50**	Ref. 17, p. 124, 144, 146, 151
2QY7	Copper	8.5	0.001	100	1	0.64	0.001	1000	1	**1.33**	Ref. 17, p. 124, 144, 146, 151
2QY7	Lead	2.5	0.001	100	1	0.64	0.001	1000	1	**0.39**	Ref. 17, p. 124, 144, 146, 151
2QY7	Nickel	13.3	0.001	100	1	0.64	0.001	1000	1	**2.08**	Ref. 17, p. 124, 144, 146, 151
2QY7	Zinc	23.1	0.001	100	1	0.64	0.001	1000	1	**3.61**	Ref. 17, p. 124, 144, 146, 151
2QY8	Barium	68.5	0.001	100	1.02	0.845	0.001	1000	1	**7.95**	Ref. 17, p. 125, 144, 146, 151
2QY8	Cadmium	1.7	0.001	100	1.02	0.845	0.001	1000	1	**0.20**	Ref. 17, p. 125, 144, 146, 151
2QY8	Chromium	3.2	0.001	100	1.02	0.845	0.001	1000	1	**0.37**	Ref. 17, p. 125, 144, 146, 151
2QY8	Copper	8.5	0.001	100	1.02	0.845	0.001	1000	1	**0.99**	Ref. 17, p. 125, 144, 146, 151
2QY8	Lead	2.5	0.001	100	1.02	0.845	0.001	1000	1	**0.29**	Ref. 17, p. 125, 144, 146, 151
2QY8	Nickel	13.3	0.001	100	1.02	0.845	0.001	1000	1	**1.54**	Ref. 17, p. 125, 144, 146, 151
2QY8	Zinc	23.1	0.001	100	1.02	0.845	0.001	1000	1	**2.68**	Ref. 17, p. 125, 144, 146, 151
2QY9	Barium	68.5	0.001	100	1	0.75	0.001	1000	1	**9.13**	Ref. 17, p. 126, 144 , 146, 151
2QY9	Cadmium	1.7	0.001	100	1	0.75	0.001	1000	1	**0.23**	Ref. 17, p. 126, 144 , 146, 151
2QY9	Chromium	3.2	0.001	100	1	0.75	0.001	1000	1	**0.43**	Ref. 17, p. 126, 144 , 146, 151
2QY9	Copper	8.5	0.001	100	1	0.75	0.001	1000	1	**1.13**	Ref. 17, p. 126, 144 , 146, 151
2QY9	Lead	2.5	0.001	100	1	0.75	0.001	1000	1	**0.33**	Ref. 17, p. 126, 144 , 146, 151
2QY9	Nickel	13.3	0.001	100	1	0.75	0.001	1000	1	**1.77**	Ref. 17, p. 126, 144 , 146, 151
2QY9	Zinc	23.1	0.001	100	1	0.75	0.001	1000	1	**3.08**	Ref. 17, p. 126, 144 , 146, 151
2QY6	Arsenic	3.4	0.001	100	1	0.768	0.001	1000	1	**0.44**	Ref. 17, p. 123, 144, 146, 150
2QX4	Arsenic	3.4	0.001	100	1.02	0.859	0.001	1000	1	**0.39**	Ref. 17, p. 77, 91, 93, 96
2QX5	Arsenic	3.4	0.001	100	1.02	0.768	0.001	1000	1	**0.43**	Ref. 17, p. 78, 91, 93, 96
2QX6	Arsenic	3.4	0.001	100	1.02	0.733	0.001	1000	1	**0.45**	Ref. 17, p. 79, 91, 93, 96.
2QX8	Arsenic	3.4	0.001	100	1.01	0.636	0.001	1000	1	**0.53**	Ref. 17, p. 115, 144, 146, 15C
2QX9	Arsenic	3.4	0.001	100	1.03	0.828	0.001	1000	1	**0.40**	Ref. 17, p. 116, 144, 146, 15C
2QY0	Arsenic	3.4	0.001	100	1.01	0.794	0.001	1000	1	**0.42**	Ref. 17, p. 117, 144, 146, 15C
2QT6	Arsenic	3.4	0.001	100	1.01	0.769	0.001	1000	1	**0.44**	Ref. 17, p. 22, 44, 46, 49
2QT8	Arsenic	3.4	0.001	100	1.01	0.786	0.001	1000	1	**0.43**	Ref. 17, p. 24, 44, 46, 49
2QW4	Arsenic	3.4	0.001	100	1	0.789	0.001	1000	1	**0.43**	Ref. 17, p. 68, 91, 93, 95

MG -- Milligram
UG -- Microgram
L -- Liter
% 5 -- Percent Solids
G -- Gram
WT -- Weight
ML -- Milliliter
DF -- Dilution Factor
5QL -- Sample Quantitation Limit
ID -- identification

SQL CALCULATIONS BY

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