National Functional Guidelines Report #03

Lab CHEM(Chemtech Consulting Group) **SDG** MF4R10 **Case** 41344 **Contract** EPW09038 **Region** 6 **DDTID** 123099 **SOW** ISM01.2

Data Review Reports

Blanks

Blanks	ICP_MS
ND03	The following samples have analyte results greater than or equal to MDLs but less than CRQLs. The associated ICB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated to CRQLs.
	MF4R10L, MF4R36, MF4R84, MF4R86, MF4R98, MF4R09, MF4R49, MF4R51, MF4R52, MF4R71, MF4R83, MF4R65, MF4R10, MF4R10D, MF4R85, MF4R97, MF4R50, MF4R67, MF4R68, PBW, MF4R35, MF4R66, MF4R72
	Chromium MF4R10L , MF4R36 , MF4R84 , MF4R86 , MF4R98
	Aluminum MF4R84 , MF4R09 , MF4R49 , MF4R51 , MF4R52 , MF4R71
	Beryllium MF4R36 , MF4R49
	Nickel MF4R10L
	Antimony MF4R36 , MF4R49
	Thallium MF4R36 , MF4R49
	Copper MF4R83 , MF4R09 , MF4R51 , MF4R65
	Silver MF4R49
	Manganese MF4R10 , MF4R10D , MF4R84 , MF4R85 , MF4R97 , MF4R98 , MF4R49 , MF4R50 , MF4R52 , MF4R65 , MF4R67 , MF4R68
	Iron PBW , MF4R10L
	Lead MF4R10L , MF4R36 , MF4R83 , MF4R84 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R65 , MF4R66 , MF4R68 , MF4R72
Blanks	**ICP_MS**
ND04	The following samples have analyte results greater than or equal to MDLs but less than CRQLs. The associated CCB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated at CRQLs.
	MF4R10L, MF4R36, MF4R84, MF4R86, MF4R98, MF4R09, MF4R49, MF4R51, MF4R52, MF4R71, MF4R83, MF4R65, MF4R10, MF4R10D, MF4R85, MF4R97, MF4R50, MF4R67, MF4R68, PBW, MF4R35, MF4R66, MF4R72
	Chromium MF4R10L , MF4R36 , MF4R84 , MF4R86 , MF4R98
	Aluminum MF4R84 , MF4R09 , MF4R49 , MF4R51 , MF4R52 , MF4R71
	Beryllium MF4R36 , MF4R49
	Nickel MF4R10L
	Antimony MF4R36 , MF4R49
	Thallium MF4R36 , MF4R49
	Copper MF4R83 , MF4R09 , MF4R51 , MF4R65
	Silver MF4R49
	Manganese MF4R10 , MF4R10D , MF4R84 , MF4R85 , MF4R97 , MF4R98 , MF4R49 , MF4R50 , MF4R52 , MF4R65 , MF4R67 , MF4R68

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Blanks

Blanks	ICP_MS
	Iron PBW , MF4R10L
	Lead MF4R10L , MF4R36 , MF4R83 , MF4R84 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R65 , MF4R66 , MF4R68 , MF4R72
Blanks	**ICP_MS**
NCB06	The following samples have no detected analytes. The associated CCB analyte results are less than or equal to -MDLs but greater than or equal to -CRQLs. Use professional judgment to qualify detected and nondetected analytes.
	PBW, MF4R10, MF4R10D, MF4R10L, MF4R36, MF4R83, MF4R84, MF4R85, MF4R86, MF4R97, MF4R98, MF4R35, MF4R50, MF4R52, MF4R65, MF4R66, MF4R67, MF4R68, MF4R71, MF4R72
	Vanadium PBW , MF4R10 , MF4R10D , MF4R10L , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R35 , MF4R50 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
Blanks	**ICP_MS**
ND06	The following samples have analyte results greater than CRQLs. The associated CCB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualified detected and nondetected analytes.
	LCS, MF4R10, MF4R10D, MF4R10L, MF4R10S, MF4R36, MF4R83, MF4R84, MF4R85, MF4R86, MF4R97, MF4R98, MF4R09, MF4R35, MF4R49, MF4R50, MF4R51, MF4R52, MF4R65, MF4R66, MF4R67, MF4R68, MF4R71, MF4R72
	Arsenic LCS , MF4R10 , MF4R10D , MF4R10L , MF4R10S , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Chromium LCS , MF4R10 , MF4R10D , MF4R10L , MF4R10S , MF4R85 , MF4R97 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R71 , MF4R72
	Nickel LCS , MF4R10 , MF4R10D , MF4R10L , MF4R10S , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Potassium LCS , MF4R10 , MF4R10D , MF4R10L , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Copper LCS , MF4R10 , MF4R10D , MF4R10L , MF4R10S , MF4R36 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R35 , MF4R49 , MF4R50 , MF4R52 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Lead LCS , MF4R10 , MF4R10D , MF4R10L , MF4R10S , MF4R85 , MF4R86 , MF4R97 , MF4R52 , MF4R67 , MF4R71
	Sodium LCS , MF4R10 , MF4R10D , MF4R10L , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Barium LCS , MF4R10 , MF4R10D , MF4R10L , MF4R10S , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Cobalt LCS , MF4R10S
	Aluminum LCS
	Beryllium LCS , MF4R10S
	Antimony LCS , MF4R10S
	Thallium LCS , MF4R10S
	Cadmium LCS , MF4R10S
	Magnesium LCS , MF4R10 , MF4R10D , MF4R10L , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 ,

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Blanks

Blanks	ICP_MS
	MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Silver LCS , MF4R10S
	Iron LCS , MF4R10 , MF4R10D , MF4R10L , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Manganese LCS , MF4R10S , MF4R36 , MF4R83 , MF4R86 , MF4R09 , MF4R35 , MF4R51 , MF4R66 , MF4R71 , MF4R72
Blanks	**ICP_MS**
ND15	The following samples have analyte results greater than or equal to MDLs. The associated ICB analyte results are less than or equal to -MDLs but greater than or equal to -CRQLs. Use professional judgment to qualify detected and nondetected analytes.
	LCS, MF4R10, MF4R10D, MF4R10L, MF4R36, MF4R83, MF4R84, MF4R85, MF4R86, MF4R97, MF4R98, MF4R09, MF4R35, MF4R49, MF4R50, MF4R51, MF4R52, MF4R65, MF4R66, MF4R67, MF4R68, MF4R71, MF4R72
	Calcium LCS , MF4R10 , MF4R10D , MF4R10L , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
Blanks	**ICP_MS**
ND05	The following samples have analyte results greater than CRQLs. The associated ICB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualified detected and nondetected analytes.
	LCS, MF4R10S, MF4R09, MF4R49, MF4R51, MF4R10, MF4R10D, MF4R10L, MF4R36, MF4R83, MF4R84, MF4R85, MF4R86, MF4R97, MF4R98, MF4R35, MF4R50, MF4R52, MF4R65, MF4R66, MF4R67, MF4R68, MF4R71, MF4R72
	Vanadium LCS , MF4R10S , MF4R09 , MF4R49 , MF4R51
	Arsenic LCS , MF4R10 , MF4R10D , MF4R10L , MF4R10S , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Chromium LCS , MF4R10 , MF4R10D , MF4R10S , MF4R85 , MF4R97 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R71 , MF4R72
	Nickel LCS , MF4R10 , MF4R10D , MF4R10S , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Potassium LCS , MF4R10 , MF4R10D , MF4R10L , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Copper LCS , MF4R10 , MF4R10D , MF4R10L , MF4R10S , MF4R36 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R35 , MF4R49 , MF4R50 , MF4R52 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Lead LCS , MF4R10 , MF4R10D , MF4R10S , MF4R85 , MF4R86 , MF4R97 , MF4R52 , MF4R67 , MF4R71
	Sodium LCS , MF4R10 , MF4R10D , MF4R10L , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Barium LCS , MF4R10 , MF4R10D , MF4R10L , MF4R10S , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Cobalt LCS , MF4R10S
	Aluminum LCS
	Beryllium LCS , MF4R10S
	Antimony LCS , MF4R10S

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Blanks

Blanks	ICP_MS
	Thallium LCS , MF4R10S
	Cadmium LCS , MF4R10S
	Magnesium LCS , MF4R10 , MF4R10D , MF4R10L , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Silver LCS , MF4R10S
	Iron LCS , MF4R10 , MF4R10D , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
	Manganese LCS , MF4R10S , MF4R36 , MF4R83 , MF4R86 , MF4R09 , MF4R35 , MF4R51 , MF4R66 , MF4R71 , MF4R72
Blanks	**ICP_MS**
NE05	The following samples have analyte results greater than CRQLs. The associated preparation blank analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualify detected and nondetected analytes.
	LCS, MF4R10, MF4R10D, MF4R36, MF4R83, MF4R84, MF4R85, MF4R86, MF4R97, MF4R98, MF4R09, MF4R35, MF4R49, MF4R50, MF4R51, MF4R52, MF4R65, MF4R66, MF4R67, MF4R68, MF4R71, MF4R72
	Iron LCS , MF4R10 , MF4R10D , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72
Blanks	**ICP_MS**
NCB02	The following samples have analyte results greater than or equal to MDLs but equal to CRQLs. The associated CCB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are reported at CRQLs.
	MF4R83, MF4R68
	Chromium MF4R83 , MF4R68
Blanks	**ICP_MS**
NCB01	The following samples have analyte results greater than or equal to MDLs but equal to CRQLs. The associated ICB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are reported at CRQLs.
	MF4R83, MF4R68
	Chromium MF4R83 , MF4R68
Blanks	**ICP_MS**
ND16	The following samples have analyte results greater than or equal to MDLs. The associated CCB analyte results are less than or equal to -MDLs but greater than or equal to -CRQLs. Use professional judgment to qualify detected and nondetected analytes.
	LCS, MF4R10S, MF4R09, MF4R49, MF4R51, MF4R10, MF4R10D, MF4R10L, MF4R36, MF4R83, MF4R84, MF4R85, MF4R86, MF4R97, MF4R98, MF4R35, MF4R50, MF4R52, MF4R65, MF4R66, MF4R67, MF4R68, MF4R71, MF4R72
	Vanadium LCS , MF4R10S , MF4R09 , MF4R49 , MF4R51
	Calcium LCS , MF4R10 , MF4R10D , MF4R10L , MF4R36 , MF4R83 , MF4R84 , MF4R85 , MF4R86 , MF4R97 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R52 , MF4R65 , MF4R66 , MF4R67 , MF4R68 , MF4R71 , MF4R72

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Detection Limit

Detection Limit	ICP_MS
NDL1	The following samples have results greater than or equal to MDLs but less than CRQLs. Detected analytes are qualified J.
	MF4R10L, MF4R36, MF4R84, MF4R86, MF4R98, MF4R09, MF4R49, MF4R51, MF4R52, MF4R71, MF4R83, MF4R65, MF4R10, MF4R10D, MF4R85, MF4R97, MF4R50, MF4R67, MF4R68, PBW, MF4R35, MF4R66, MF4R72
	Selenium MF4R10L
	Chromium MF4R10L , MF4R36 , MF4R84 , MF4R86 , MF4R98
	Aluminum MF4R84 , MF4R09 , MF4R49 , MF4R51 , MF4R52 , MF4R71
	Beryllium MF4R36 , MF4R49
	Nickel MF4R10L
	Antimony MF4R36 , MF4R49
	Thallium MF4R36 , MF4R49
	Copper MF4R83 , MF4R09 , MF4R51 , MF4R65
	Silver MF4R49
	Manganese MF4R10 , MF4R10D , MF4R84 , MF4R85 , MF4R97 , MF4R98 , MF4R49 , MF4R50 , MF4R52 , MF4R65 , MF4R67 , MF4R68
	Iron PBW , MF4R10L
	Lead MF4R10L , MF4R36 , MF4R83 , MF4R84 , MF4R98 , MF4R09 , MF4R35 , MF4R49 , MF4R50 , MF4R51 , MF4R65 , MF4R66 , MF4R68 , MF4R72

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Duplicates

Duplicates	ICP_MS
NI03	The following Duplicate and original sample results are greater than 5xCRQL and RPD is greater than 20. The original sample results are greater than or equal to MDLs. Detected analytes are qualified J. Nondetected analytes are qualified UJ.
	MF4R10, MF4R36, MF4R83, MF4R84, MF4R85, MF4R86, MF4R97, MF4R98, MF4R09, MF4R35, MF4R49, MF4R50, MF4R51, MF4R52, MF4R65, MF4R66, MF4R67, MF4R68, MF4R71, MF4R72
	Zinc MF4R10D

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Data Review Reports

Serial Dilution

Serial Dilution	ICP_MS
NL032	The following ICP-MS Serial Dilution (SD) samples have percent difference (%D) greater than 10% and initial sample results are greater than 50xMDLs. The detected analytes in samples with results greater than or equal to MDLs are qualified J. Nondetected analytes in samples are qualified UJ.
	MF4R10, MF4R36, MF4R83, MF4R84, MF4R85, MF4R86, MF4R97, MF4R98, MF4R09, MF4R35, MF4R49, MF4R50, MF4R51, MF4R52, MF4R65, MF4R66, MF4R67, MF4R68, MF4R71, MF4R72
	Sodium MF4R10L