



Proficiency Testing

Sample # 201553

Non Fat Dried Milk

All Tests Report  
Minerals Program

# Labs Reporting: 12

Issue Date : 10/31/2015

Method Group	Analyte Group (Units)	Lab Code	Lab Data		Method Values				AAFCO CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Horwitz SD	R-bar	# Labs			
001	Loss on Drying (%)	0510	93.900	0.20000			0.20000	1			0
011	Loss on Drying (%)	0510	89.500	0.40000			0.40000	1			0
015	Aluminum (mg / kg (ppm))	0510	77.500	3.0000	93.506	7.5554	8.6117	6	-2.12	015.43	0
015	Aluminum (mg / kg (ppm))	0553	89.550	24.900	93.506	7.5554	8.6117	6	-0.52	015.53	0
015	Aluminum (mg / kg (ppm))	0098	90.000	14.200	93.506	7.5554	8.6117	6	-0.46	015.43	0
015	Aluminum (mg / kg (ppm))	0227	97.000	4.0000	93.506	7.5554	8.6117	6	0.46	015.41	0
015	Aluminum (mg / kg (ppm))	0870	97.485	0.57000	93.506	7.5554	8.6117	6	0.53	015.42	0
015	Aluminum (mg / kg (ppm))	0208	104.50	5.0000	93.506	7.5554	8.6117	6	1.46	015.41	0
017	Boron (mg / kg (ppm))	0870	10.795	0.21000	12.740	1.3895	0.91500	4	-1.40	017.42	0
017	Boron (mg / kg (ppm))	0208	11.150	2.3000	12.740	1.3895	0.91500	4	-1.14	017.44	0
017	Boron (mg / kg (ppm))	0510	13.000	0.00000	12.740	1.3895	0.91500	4	0.19	017.43	0
017	Boron (mg / kg (ppm))	0098	16.015	1.1500	12.740	1.3895	0.91500	4	2.36	017.43	0
019	Calcium (%)	0510	0.99000	0.02000	1.1463	0.04492	0.06069	7	-3.48	019.43	0
019	Calcium (%)	0555	1.1135	0.05360	1.1463	0.04492	0.06069	7	-0.73	019.42	0
019	Calcium (%)	0208	1.1270	0.17200	1.1463	0.04492	0.06069	7	-0.43	019.41	0
019	Calcium (%)	0504	1.1385	0.04900	1.1463	0.04492	0.06069	7	-0.17	019.33	0
019	Calcium (%)	0504	1.1745	0.03300	1.1463	0.04492	0.06069	7	0.63	019.32	0
019	Calcium (%)	0504	1.1935	0.02100	1.1463	0.04492	0.06069	7	1.05	019.42	0
019	Calcium (%)	0964	1.2314	0.07620	1.1463	0.04492	0.06069	7	1.89	019.43	0
021	Cobalt (mg / kg (ppm))	0227	15.450	0.50000	20.508	2.0821	0.76356	10	-2.43	021.31	0
021	Cobalt (mg / kg (ppm))	0208	17.400	0.20000	20.508	2.0821	0.76356	10	-1.49	021.31	0
021	Cobalt (mg / kg (ppm))	0870	17.795	0.65000	20.508	2.0821	0.76356	10	-1.30	021.42	0
021	Cobalt (mg / kg (ppm))	0510	20.030	0.06000	20.508	2.0821	0.76356	10	-0.23	021.43	0
021	Cobalt (mg / kg (ppm))	0555	20.500	1.0000	20.508	2.0821	0.76356	10	0.00	021.52	0
021	Cobalt (mg / kg (ppm))	0563	21.040	1.0000	20.508	2.0821	0.76356	10	0.26	021.31	0
021	Cobalt (mg / kg (ppm))	0027	21.450	0.28000	20.508	2.0821	0.76356	10	0.45	021.43	0
021	Cobalt (mg / kg (ppm))	0964	21.950	0.25560	20.508	2.0821	0.76356	10	0.69	021.43	0
021	Cobalt (mg / kg (ppm))	0098	24.315	1.7900	20.508	2.0821	0.76356	10	1.83	021.43	0
021	Cobalt (mg / kg (ppm))	0553	24.450	1.9000	20.508	2.0821	0.76356	10	1.89	021.53	0
022	Copper (mg / kg (ppm))	0208	404.05	4.5000	445.96	28.484	22.773	13	-1.47	022.41	0
022	Copper (mg / kg (ppm))	0510	415.50	19.000	445.96	28.484	22.773	13	-1.07	022.43	0

Method Group	Analyte Group (Units)	Lab Code	Lab Data		Method Values				AAFCO CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Horwitz SD	R-bar	# Labs			
022	Copper (mg / kg (ppm))	0504	417.15	42.500	445.96	28.484	22.773	13	-1.01	022.33	0
022	Copper (mg / kg (ppm))	0555	420.00	20.000	445.96	28.484	22.773	13	-0.91	022.42	0
022	Copper (mg / kg (ppm))	0563	436.50	5.0000	445.96	28.484	22.773	13	-0.33	022.31	0
022	Copper (mg / kg (ppm))	0555	437.00	26.000	445.96	28.484	22.773	13	-0.31	022.52	0
022	Copper (mg / kg (ppm))	0227	438.50	13.000	445.96	28.484	22.773	13	-0.26	022.41	0
022	Copper (mg / kg (ppm))	0208	456.50	41.000	445.96	28.484	22.773	13	0.37	022.31	0
022	Copper (mg / kg (ppm))	0504	461.55	33.100	445.96	28.484	22.773	13	0.55	022.32	0
022	Copper (mg / kg (ppm))	0098	466.60	14.400	445.96	28.484	22.773	13	0.72	022.53	0
022	Copper (mg / kg (ppm))	0027	468.31	11.570	445.96	28.484	22.773	13	0.78	022.43	0
022	Copper (mg / kg (ppm))	0870	486.40	9.0000	445.96	28.484	22.773	13	1.42	022.42	0
022	Copper (mg / kg (ppm))	0964	489.38	56.980	445.96	28.484	22.773	13	1.52	022.43	0
023	Fluorine (mg / kg (ppm))	0555	5.2500	2.9000	40.180	3.6867	2.5533		-9.47	023.01	0
023	Fluorine (mg / kg (ppm))	0208	30.950	1.3000	40.180	3.6867	2.5533		-2.50	023.01	0
023	Fluorine (mg / kg (ppm))	0563	48.640	3.4600	40.180	3.6867	2.5533		2.29	023.01	0
024	Iodine (mg / kg (ppm))	0208	2.5200	2.9400			2.9400	1			0
025	Iron (mg / kg (ppm))	0555	1.8000	0.40000	2.6738	0.36887	1.5000	5	-2.37	025.52	0
025	Iron (mg / kg (ppm))	0510	2.0000	0.00000	2.6738	0.36887	1.5000	5	-1.83	025.43	0
025	Iron (mg / kg (ppm))	0555	2.8000	0.20000	2.6738	0.36887	1.5000	5	0.34	025.42	0
025	Iron (mg / kg (ppm))	0964	4.0950	2.0900	2.6738	0.36887	1.5000	5	3.85	025.43	0
025	Iron (mg / kg (ppm))	0208	17.295	4.8100	2.6738	0.36887	1.5000	5	39.64	025.41	0
027	Magnesium (%)	0504	0.09875	0.00110	0.10625	0.00596	0.00293	6	-1.26	027.33	0
027	Magnesium (%)	0510	0.10000	0.00000	0.10625	0.00596	0.00293	6	-1.05	027.43	0
027	Magnesium (%)	0504	0.10495	0.00170	0.10625	0.00596	0.00293	6	-0.22	027.32	0
027	Magnesium (%)	0208	0.10800	0.00400	0.10625	0.00596	0.00293	6	0.29	027.41	0
027	Magnesium (%)	0555	0.10980	0.00480	0.10625	0.00596	0.00293	6	0.60	027.42	0
027	Magnesium (%)	0964	0.11600	0.00600	0.10625	0.00596	0.00293	6	1.64	027.43	0
028	Manganese (mg / kg (ppm))	0510	0.19500	0.01000	0.26620	0.05197	0.04424	5	-1.37	028.43	0
028	Manganese (mg / kg (ppm))	0555	0.20800	0.02400	0.26620	0.05197	0.04424	5	-1.12	028.52	0
028	Manganese (mg / kg (ppm))	0555	0.21000	0.04000	0.26620	0.05197	0.04424	5	-1.08	028.42	0
028	Manganese (mg / kg (ppm))	0504	0.45180	0.01720	0.26620	0.05197	0.04424	5	3.57	028.32	0
028	Manganese (mg / kg (ppm))	0964	0.47500	0.13000	0.26620	0.05197	0.04424	5	4.02	028.43	0
031	Phosphorus (%)	0510	0.87000	0.02000	0.94058	0.03797	0.02717	6	-1.86	031.43	0
031	Phosphorus (%)	0227	0.92800	0.02200	0.94058	0.03797	0.02717	6	-0.33	031.41	0
031	Phosphorus (%)	0208	0.93350	0.03500	0.94058	0.03797	0.02717	6	-0.19	031.41	0
031	Phosphorus (%)	0555	0.93800	0.00040	0.94058	0.03797	0.02717	6	-0.07	031.42	0
031	Phosphorus (%)	0504	0.97250	0.02700	0.94058	0.03797	0.02717	6	0.84	031.42	0
031	Phosphorus (%)	0964	1.0083	0.05860	0.94058	0.03797	0.02717	6	1.78	031.43	0
032	Potassium (%)	0510	1.5050	0.01000	1.6262	0.06045	0.05633	6	-2.01	032.43	0
032	Potassium (%)	0964	1.5687	0.02900	1.6262	0.06045	0.05633	6	-0.95	032.43	0
032	Potassium (%)	0208	1.6300	0.14400	1.6262	0.06045	0.05633	6	0.06	032.41	0
032	Potassium (%)	0227	1.6450	0.03000	1.6262	0.06045	0.05633	6	0.31	032.41	0
032	Potassium (%)	0504	1.6480	0.02600	1.6262	0.06045	0.05633	6	0.36	032.42	0

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			Value	Range	Rob Mean	Horwitz SD	R-bar	# Labs			
032	Potassium (%)	0555	1.6822	0.09900	1.6262	0.06045	0.05633	6	0.93	032.42	0
033	Salt as chloride (%)	0510	1.6700	0.00000			0.00000	2	-1.47	033.01	0
033	Salt as chloride (%)	0227	1.8600	0.00000			0.00000	2	1.47	033.01	0
034	Selenium (mg / kg (ppm))	0964	0.31470	0.03660	0.47431	0.08489	0.04920	8	-1.88	034.43	0
034	Selenium (mg / kg (ppm))	0563	0.40500	0.01000	0.47431	0.08489	0.04920	8	-0.82	034.04	0
034	Selenium (mg / kg (ppm))	0227	0.43500	0.01000	0.47431	0.08489	0.04920	8	-0.46	034.04	0
034	Selenium (mg / kg (ppm))	0553	0.48350	0.08500	0.47431	0.08489	0.04920	8	0.11	034.53	0
034	Selenium (mg / kg (ppm))	0555	0.48500	0.05000	0.47431	0.08489	0.04920	8	0.13	034.99	0
034	Selenium (mg / kg (ppm))	0555	0.49500	0.05000	0.47431	0.08489	0.04920	8	0.24	034.52	0
034	Selenium (mg / kg (ppm))	0098	0.52250	0.01300	0.47431	0.08489	0.04920	8	0.57	034.53	0
034	Selenium (mg / kg (ppm))	0870	3.1015	0.13900	0.47431	0.08489	0.04920	8	30.95	034.42	0
035	Sodium (%)	0510	0.38000	0.00000	0.40274	0.01847	0.02248	6	-1.23	035.43	0
035	Sodium (%)	0227	0.38250	0.00100	0.40274	0.01847	0.02248	6	-1.10	035.41	0
035	Sodium (%)	0555	0.39715	0.02110	0.40274	0.01847	0.02248	6	-0.30	035.42	0
035	Sodium (%)	0504	0.39800	0.01600	0.40274	0.01847	0.02248	6	-0.26	035.42	0
035	Sodium (%)	0964	0.42490	0.03580	0.40274	0.01847	0.02248	6	1.20	035.43	0
035	Sodium (%)	0208	0.44450	0.06100	0.40274	0.01847	0.02248	6	2.26	035.41	0
036	Sulfur (%)	0870	0.30230	0.00880	0.34499	0.01620	0.00618	6	-2.64	036.42	0
036	Sulfur (%)	0098	0.33350	0.00300	0.34499	0.01620	0.00618	6	-0.71	036.43	0
036	Sulfur (%)	0208	0.34200	0.01200	0.34499	0.01620	0.00618	6	-0.18	036.00	0
036	Sulfur (%)	0555	0.35370	0.00880	0.34499	0.01620	0.00618	6	0.54	036.42	0
036	Sulfur (%)	0510	0.36000	0.00000	0.34499	0.01620	0.00618	6	0.93	036.43	0
036	Sulfur (%)	0964	0.36075	0.00450	0.34499	0.01620	0.00618	6	0.97	036.43	0
037	Zinc (mg / kg (ppm))	0504	36.245	3.2100	40.564	3.7166	2.1100	8	-1.16	037.33	0
037	Zinc (mg / kg (ppm))	0208	38.755	6.1100	40.564	3.7166	2.1100	8	-0.49	037.41	0
037	Zinc (mg / kg (ppm))	0227	39.000	2.0000	40.564	3.7166	2.1100	8	-0.42	037.41	0
037	Zinc (mg / kg (ppm))	0510	40.500	1.0000	40.564	3.7166	2.1100	8	-0.02	037.43	0
037	Zinc (mg / kg (ppm))	0504	40.630	0.60000	40.564	3.7166	2.1100	8	0.02	037.32	0
037	Zinc (mg / kg (ppm))	0555	42.000	2.0000	40.564	3.7166	2.1100	8	0.39	037.42	0
037	Zinc (mg / kg (ppm))	0555	42.500	1.0000	40.564	3.7166	2.1100	8	0.52	037.52	0
037	Zinc (mg / kg (ppm))	0964	44.890	0.96000	40.564	3.7166	2.1100	8	1.16	037.43	0
038	Molybdenum (mg / kg (ppm))	0563	0.27000	0.02000	0.47426	0.08488	0.02623	7	-2.41	038.34	0
038	Molybdenum (mg / kg (ppm))	0510	0.30000	0.00000	0.47426	0.08488	0.02623	7	-2.05	038.43	0
038	Molybdenum (mg / kg (ppm))	0964	0.45380	0.02280	0.47426	0.08488	0.02623	7	-0.24	038.43	0
038	Molybdenum (mg / kg (ppm))	0553	0.48100	0.07200	0.47426	0.08488	0.02623	7	0.08	038.53	0
038	Molybdenum (mg / kg (ppm))	0098	0.49650	0.02700	0.47426	0.08488	0.02623	7	0.26	038.53	0
038	Molybdenum (mg / kg (ppm))	0555	0.51000	0.04000	0.47426	0.08488	0.02623	7	0.42	038.52	0
038	Molybdenum (mg / kg (ppm))	0870	1.4011	0.00180	0.47426	0.08488	0.02623	7	10.92	038.42	0
040	Barium (mg / kg (ppm))	0555	0.81500	0.01000			0.01000	1			0
041	Vanadium (mg / kg (ppm))	0553	0.08245	0.00810	0.06000	0.01320	0.00905		1.70	041.53	0
041	Vanadium (mg / kg (ppm))	0555	0.30500	0.01000	0.06000	0.01320	0.00905		18.56	041.52	0
041	Vanadium (mg / kg (ppm))	0098	0.00000	0.00000	0.06000	0.01320	0.00905		-4.55	041.43	4

Method Group	Analyte Group (Units)	Lab Code	Lab Data		Method Values				AAFCO CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Horwitz SD	R-bar	# Labs			
516	Arsenic, total (mg / kg (ppm))	0870	0.22425	0.00710	2.1143	0.30218	0.12504	9	-6.25	516.42	0
516	Arsenic, total (mg / kg (ppm))	0227	1.7300	0.02000	2.1143	0.30218	0.12504	9	-1.27	516.53	0
516	Arsenic, total (mg / kg (ppm))	0208	1.9500	0.20000	2.1143	0.30218	0.12504	9	-0.54	516.52	0
516	Arsenic, total (mg / kg (ppm))	0555	2.0000	0.00000	2.1143	0.30218	0.12504	9	-0.38	516.52	0
516	Arsenic, total (mg / kg (ppm))	0964	2.1742	0.02970	2.1143	0.30218	0.12504	9	0.20	516.43	0
516	Arsenic, total (mg / kg (ppm))	0553	2.2150	0.23000	2.1143	0.30218	0.12504	9	0.33	516.53	0
516	Arsenic, total (mg / kg (ppm))	0098	2.2555	0.32300	2.1143	0.30218	0.12504	9	0.47	516.53	0
516	Arsenic, total (mg / kg (ppm))	0027	2.3150	0.09000	2.1143	0.30218	0.12504	9	0.66	516.43	0
516	Arsenic, total (mg / kg (ppm))	0563	2.8556	0.22560	2.1143	0.30218	0.12504	9	2.45	516.00	0
518	Cadmium (mg / kg (ppm))	0563	0.16500	0.07000	0.43608	0.07904	0.02569	8	-3.43	518.34	0
518	Cadmium (mg / kg (ppm))	0208	0.39450	0.03300	0.43608	0.07904	0.02569	8	-0.53	518.31	0
518	Cadmium (mg / kg (ppm))	0227	0.41250	0.00700	0.43608	0.07904	0.02569	8	-0.30	518.53	0
518	Cadmium (mg / kg (ppm))	0555	0.42000	0.00000	0.43608	0.07904	0.02569	8	-0.20	518.52	0
518	Cadmium (mg / kg (ppm))	0964	0.44500	0.00100	0.43608	0.07904	0.02569	8	0.11	518.43	0
518	Cadmium (mg / kg (ppm))	0098	0.45350	0.02900	0.43608	0.07904	0.02569	8	0.22	518.53	0
518	Cadmium (mg / kg (ppm))	0553	0.50150	0.02500	0.43608	0.07904	0.02569	8	0.83	518.53	0
518	Cadmium (mg / kg (ppm))	0870	0.93815	0.04050	0.43608	0.07904	0.02569	8	6.35	518.42	0
520	Chromium (mg / kg (ppm))	0227	21.000	0.00000	25.967	2.5444	1.2916	10	-1.95	520.31	0
520	Chromium (mg / kg (ppm))	0563	21.700	0.20000	25.967	2.5444	1.2916	10	-1.68	520.31	0
520	Chromium (mg / kg (ppm))	0208	22.700	0.80000	25.967	2.5444	1.2916	10	-1.28	520.41	0
520	Chromium (mg / kg (ppm))	0510	23.195	0.17000	25.967	2.5444	1.2916	10	-1.09	520.43	0
520	Chromium (mg / kg (ppm))	0555	26.500	1.0000	25.967	2.5444	1.2916	10	0.21	520.52	0
520	Chromium (mg / kg (ppm))	0964	27.515	0.98640	25.967	2.5444	1.2916	10	0.61	520.43	0
520	Chromium (mg / kg (ppm))	0027	27.525	0.17000	25.967	2.5444	1.2916	10	0.61	520.43	0
520	Chromium (mg / kg (ppm))	0098	29.050	4.1000	25.967	2.5444	1.2916	10	1.21	520.43	0
520	Chromium (mg / kg (ppm))	0553	29.300	3.4000	25.967	2.5444	1.2916	10	1.31	520.53	0
520	Chromium (mg / kg (ppm))	0870	31.185	2.0900	25.967	2.5444	1.2916	10	2.05	520.42	0
526	Lead (mg / kg (ppm))	0227	3.9250	0.05000	4.4105	0.56431	0.22082	9	-0.86	526.53	0
526	Lead (mg / kg (ppm))	0021	4.1500	0.30000	4.4105	0.56431	0.22082	9	-0.46	526.34	0
526	Lead (mg / kg (ppm))	0027	4.1550	0.09000	4.4105	0.56431	0.22082	9	-0.45	526.43	0
526	Lead (mg / kg (ppm))	0870	4.2115	0.17100	4.4105	0.56431	0.22082	9	-0.35	526.42	0
526	Lead (mg / kg (ppm))	0555	4.4000	0.20000	4.4105	0.56431	0.22082	9	-0.02	526.52	0
526	Lead (mg / kg (ppm))	0563	4.5500	0.70000	4.4105	0.56431	0.22082	9	0.25	526.34	0
526	Lead (mg / kg (ppm))	0098	4.6700	0.14000	4.4105	0.56431	0.22082	9	0.46	526.53	0
526	Lead (mg / kg (ppm))	0964	4.6766	0.02640	4.4105	0.56431	0.22082	9	0.47	526.43	0
526	Lead (mg / kg (ppm))	0553	5.0250	0.31000	4.4105	0.56431	0.22082	9	1.09	526.53	0
526	Lead (mg / kg (ppm))	0208	6.6600	1.2600	4.4105	0.56431	0.22082	9	3.99	526.31	1
529	Mercury (µg / kg (ppb))	0563	30.515	4.8700	908.33	147.42	69.478	6	-5.95	529.99	0
529	Mercury (µg / kg (ppb))	0227	826.00	20.000	908.33	147.42	69.478	6	-0.56	529.99	0
529	Mercury (µg / kg (ppb))	0021	850.00	60.000	908.33	147.42	69.478	6	-0.40	529.99	0
529	Mercury (µg / kg (ppb))	0208	912.00	142.00	908.33	147.42	69.478	6	0.02	529.99	0
529	Mercury (µg / kg (ppb))	0553	1,100.0	160.00	908.33	147.42	69.478	6	1.30	529.99	0

Method Group	Analyte Group (Units)	Lab Code	Lab Data		Method Values				AAFCO CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Horwitz SD	R-bar	# Labs			
529	Mercury ( $\mu\text{g} / \text{kg}$ (ppb))	0098	1,525.0	30.000	908.33	147.42	69.478	6	<b>4.18</b>	529.00	0
539	Nickel (mg / kg (ppm))	0553	0.14500	0.02000	0.18329	0.03785	0.04226	5	-1.01	539.53	0
539	Nickel (mg / kg (ppm))	0098	0.15050	0.00500	0.18329	0.03785	0.04226	5	-0.87	539.53	0
539	Nickel (mg / kg (ppm))	0964	0.21765	0.00450	0.18329	0.03785	0.04226	5	0.91	539.43	0
539	Nickel (mg / kg (ppm))	0555	0.22000	0.00000	0.18329	0.03785	0.04226	5	0.97	539.52	0
539	Nickel (mg / kg (ppm))	0870	4.5329	0.18180	0.18329	0.03785	0.04226	5	114.92	539.42	0

Notes: Interpreting Z Scores: Red indicates a normally distributed Z value  $>3$  or  $<-3$  (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green =  $Z < 2$  and  $>-2$  (OK at 95%). Flags indicate data usage: 0 = Used, 1 = Rejected for duplicates too far apart, 2 = Rejected as outlier, 8 = Analyst data exempt and 4 = zeros submitted as values. Robust statistics not used if  $< 6$  labs reporting, in this case the Z Scores are included for information only (Grey, No Action!). Flag 9 indicates no statistics calculated for this dataset. To review the problem please see all submitted data for this test. Values in bold blue are calculated from the original sample and known spike. Z-scores are assessed against this value.