



TNI PT for Accreditation
Fields of Proficiency Testing with PTRLs
Drinking Water
Effective: October 1, 2021

Matrix	EPA	TNI	Analyte	Conc Range	Acceptance Criteria ^{1,2,3,4}				TNI PTRL ⁵
	Analyte Code	Analyte Code			a	b	c	d	
			Radiochemistry	pCi/L (except as noted)				pCi/L	
Drinking Water	0001	2830	Gross Alpha	7 to 75	0.8586	1.4802	0.1610	1.1366	3.0
Drinking Water	0002	2840	Gross Beta	8 to 75	0.8508	2.9725	0.0571	2.9372	3.0
Drinking Water	0008	2875	Iodine-131	3 to 30	0.9711	0.8870	0.0624	0.6455	2.1
Drinking Water	0012	2965	Radium-226	1 to 20	0.9253	0.3175	0.0942	0.0988	0.86
Drinking Water	0013	2970	Radium-228	2 to 20	0.9243	0.2265	0.1105	0.3788	0.88
Drinking Water	0014	3055	Natural Uranium	2 to 70	0.9568	0.0773	0.0668	0.2490	1.2
Drinking Water	0014	1184	Uranium (mass)	3 to 104 ug/L	0.9568	0.1153	0.0668	0.3716	1.8 ug/L
Drinking Water	0009	2995	Strontium-89	10 to 70	0.9648	0.1591	0.0379	2.6203	3.8
Drinking Water	0010	3005	Strontium-90	3 to 45	0.9369	0.2279	0.0902	0.5390	1.4
Drinking Water	0011	3030	Tritium	1000 to 24000	0.9883	-46.4776	0.0532	38.8382	760
			Gamma Emitters⁶						
Drinking Water	0007	2765	Barium-133	10 to 100	0.9684	-0.1424	0.0503	1.0737	6.4
Drinking Water	0005	2800	Cesium-134 ⁷	10 to 100	0.9369	0.0845	0.0482	0.9306	6.6
Drinking Water	0006	2805	Cesium-137 ⁷	20 to 240	1.0225	0.2624	0.0347	1.5185	16
Drinking Water	0003	2815	Cobalt-60	10 to 120	1.0257	0.3051	0.0335	1.3315	7.2
Drinking Water	0004	3070	Zinc-65	30 to 360	1.0495	0.1245	0.0530	1.8271	25



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1) Acceptance limits are set at the Mean \pm 2 SD
(Mean = $a \cdot T + b$; SD = $c \cdot T + d$ where T is the assigned value).

2) If the lower acceptance limit generated using the criteria contained in this table is less than (<) 10% of the assigned value, the lower acceptance limits are set at 10% of the assigned value.

3) If the lower acceptance limit generated using the criteria contained in this table is greater than (>) 90% of the assigned value, the lower acceptance limits are set at 90% of the assigned value.

4) If the upper acceptance limit generated using the criteria contained in this table is less than (<) 110% of the assigned value, the upper acceptance limits are set at 110% of the assigned value.

5) TNI Proficiency Testing Reporting Limit (PTRL) is a statistically derived value that represents the lowest acceptable concentration for an analyte in a proficiency test sample, if the analyte is spiked into the proficiency test sample.

TNI PTRLs are also used by PT Providers to set the assigned value for unspiked analytes. For all analytes with an assigned value equal to <PTRL, the PT Provider must verify that the PT sample does not contain the analyte at a concentration greater than or equal to one-half (1/2) of the PTRL.

Refer to the "TNI V1M1 2016 Standard Update Guidance on Proficiency Testing Reporting Limit (PTRL)", GUID-3-114-Rev0, October 15, 2018 for further information.

6) Laboratories seeking or maintaining TNI accreditation for Gamma (Photon) Emitters must meet TNI PT requirements for all Gamma Emitter analytes in the Fields of Proficiency Testing in a given PT study, by technology/method (Barium-133, Cesium-134, Cesium-137, Cobalt-60, Zinc-65).

7) Laboratories seeking or maintaining TNI accreditation for Radioactive Cesium must meet TNI PT requirements for both Radioactive Cesium analytes in the Fields of Proficiency Testing in a given PT study, by technology/method (Cesium-134, Cesium-137).