

Table A4

Ammonia Nitrogen Interim Limit Calculation
Camarillo Sanitary District
Camarillo Water Reclamation Plant

Xi	Yi=ln(Xi)	FREQ	(Yi*FREQ)	F = (Yi-Uy)^2	FREQ*(F)
0.7	-0.357	1	-0.357	1.109	1.109259
0.81	-0.211	1	-0.211	0.823	0.82312
0.97	-0.030	1	-0.030	0.529	0.528526
1.1	0.095	2	0.191	0.361	0.722951
1.16	0.148	1	0.148	0.300	0.300434
1.2	0.182	1	0.182	0.264	0.264419
1.23	0.207	1	0.207	0.240	0.239634
1.32	0.278	1	0.278	0.175	0.175483
1.34	0.293	1	0.293	0.163	0.16311
1.36	0.307	3	0.922	0.151	0.454089
1.38	0.322	1	0.322	0.140	0.140217
1.39	0.329	1	0.329	0.135	0.134861
1.4	0.336	1	0.336	0.130	0.129648
1.46	0.378	1	0.378	0.101	0.101189
1.5	0.405	1	0.405	0.085	0.084724
1.54	0.432	1	0.432	0.070	0.070096
1.56	0.445	1	0.445	0.063	0.06343
1.57	0.451	1	0.451	0.060	0.060252
1.58	0.457	1	0.457	0.057	0.057175
1.6	0.470	1	0.470	0.051	0.051318
1.7	0.531	2	1.061	0.028	0.055052
1.74	0.554	1	0.554	0.020	0.02035
1.77	0.571	1	0.571	0.016	0.015765
1.84	0.610	1	0.610	0.008	0.00753
1.86	0.621	2	1.241	0.006	0.01154
1.88	0.631	2	1.263	0.004	0.008519
1.9	0.642	1	0.642	0.003	0.00299
1.95	0.668	2	1.336	0.001	0.001648
1.96	0.673	1	0.673	0.001	0.000557
1.97	0.678	1	0.678	0.000	0.000342
1.98	0.683	1	0.683	0.000	0.000181
2	0.693	2	1.386	0.000	2.3E-05
2.03	0.708	2	1.416	0.000	0.000264
2.09	0.737	2	1.474	0.002	0.003301
2.10	0.742	1	0.742	0.002	0.002061
2.12	0.751	2	1.503	0.003	0.006023
2.14	0.761	1	0.761	0.004	0.00413
2.2	0.788	1	0.788	0.008	0.008449
2.21	0.793	1	0.793	0.009	0.009303
2.3	0.833	1	0.833	0.019	0.018597
2.33	0.846	1	0.846	0.022	0.022299
2.4	0.875	1	0.875	0.032	0.032016
2.44	0.892	1	0.892	0.038	0.038204
2.52	0.924	1	0.924	0.052	0.051857
2.55	0.936	1	0.936	0.057	0.057387
2.57	0.944	2	1.888	0.061	0.122381
2.63	0.967	1	0.967	0.073	0.073141

Table A4

Ammonia Nitrogen Interim Limit Calculation
 Camarillo Sanitary District
 Camarillo Water Reclamation Plant

Xi	Yi=ln(Xi)	FREQ	(Yi*FREQ)	F = (Yi-Uy)^2	FREQ*(F)
2.72	1.001	1	1.001	0.092	0.092473
2.75	1.012	1	1.012	0.099	0.099264
2.83	1.040	1	1.040	0.118	0.118156
2.87	1.054	1	1.054	0.128	0.128002
2.99	1.095	1	1.095	0.159	0.158989
3.14	1.144	1	1.144	0.200	0.200421
4.97	1.603	1	1.603	0.822	0.822434
5.31	1.670	1	1.670	0.947	0.946833
5.35	1.677	1	1.677	0.961	0.961494
6.45	1.864	1	1.864	1.363	1.363153
7.50	2.015	1	2.015	1.738	1.738085
9.90	2.293	1	2.293	2.547	2.547204
SUM		71	49.454		15.424

$$Uy = \text{sum}(Yi * \text{FREQ}) / \text{sum}(\text{FREQ})$$

$$Uy = 0.697$$

$$Oy^2 = \text{sum}[(Yi - Uy)^2] / (\text{FREQ} - 1)$$

$$Oy^2 = 0.220$$

$$Ex = \exp[Uy + (0.5 * Oy^2)]$$

$$Ex = 2.241$$

$$Vx = \exp(2 * Uy + Oy^2) [(\exp(Oy^2)) - 1]$$

$$Vx = 5.020 \quad x \quad 0.247$$

$$Vx = 1.237$$

$$Exn = Ex$$

$$Exn = 2.241$$

$$Vxn = Vx/n$$

$$Vxn = 0.309$$

$$CVxn = Vxn^{0.5} / xn$$

$$CVxn =$$

$$X95 = 95\text{th Percentile}$$

$$X95 = Exn + 1.645[Vxn]^{0.5}$$

$$X95 = 3.155$$

$$X99 = 99\text{th Percentile}$$

$$X99 = Exn + 2.326[Vxn]^{0.5}$$

$$X99 = 3.534$$

Table E-3 monthly average permit limit, >10 samples