APPENDIX IV

CDFA Center For Analytical Chemistry (CAC) Laboratory QA/QC Data for Samples from Clear Lake and Redding, 2004

Appendix IV: CDFA Center For Analytical Chemistry (CAC) Laboratory QA/QC Data for samples from Clear Lake and Redding, 2004

Sample ID	Spiking Standard ID	Spiking Standard Concentration	Volume Spiked	Spike Concentration	Analysis Date	Concentration Detected	Recovery
CF617/Blank	None	None	None	None	5/13/04	N.D.	N/A
040512s-1 e	KM040426A	1 ppm	2 mL	20 ppb	5/13/04	20	100.10%
CF617/Blank	None	None	None	None	5/13/04	N.D.	N/A
040512s-2	KM040426A	1 ppm	2 mL	20 ppb	5/13/04	20.2	100.90%
CF617/Blank	None	None	None	None	5/21/04	N.D.	N/A
040520s	KM040520	1 ppm	2 mL	20 ppb	5/21/04	21.4	107%
BCS304CM001B	None	None	None	None	6/4/04	N.D.	N/A
P04338S	KM040520	1 ppm	2 mL	20 ppb	6/4/04	22.1	111%
CK782/Blank	None	None	None	None	6/4/04	N.D.	N/A
040525s	KM040520	1 ppm	2 mL	20 ppb	6/4/04	21.6	108%
BCS404CM001A	None	None	None	None	6/14/04	5.97	N/A
P04339S	KM040603	1 ppm	2 mL	20 ppb	6/14/04	30.9	125%
CK782/Blank	None	None	None	None	6/14/04	N.D.	N/A
040611s	KM040603	1 ppm	2 mL	20 ppb	6/14/04	25.3	126%
CK782/Blank	None	None	None	None	9/22/04	N.D.	N/A
040921s	KM040921	1 ppm	2 mL	20 ppb	9/22/04	21.1	106%
CK782/Blank	None	None	None	None	9/29/04	N.D.	N/A
040924s	KM040921	1 ppm	2 mL	20 ppb	9/29/04	19.5	97.50%
OHC04CU001	None	None	None	None	9/22/04	7.1	N/A
P05008s	KM040921	1 ppm	2 mL	20 ppb	9/29/04	28.5	107%
Tap Water Matrix Blank	None	None	None	None	5/6/04	N.D.	N.D.
Tap Water/1 ppb spike-1	CB-17A	10 ppb	500 uL	1 ppb	5/6/04	.956 ppb	95.60%
Tap Water/1 ppb spike-2	CB-17A	10 ppb	500 uL	1 ppb	5/6/04	.815 ppb	81.50%
Tap Water Matrix Blank	None	None	None	None	5/10/04	N.D.	N.D.

Sample ID	Spiking Standard ID	Spiking Standard Concentration	Volume Spiked	Spike Concentration	Analysis Date	Concentration Detected	Recovery
Tap Water/1 ppb spike	CB-17A	10 ppb	500 uL	1 ppb	5/10/04	.814 ppb	81.40%
CLBA04FM001a Matrix Blank	None	None	None	None	5/19/04	N.D.	N.D.
CLBA04FM001a Matrix Spike	CB-17A	10 ppb	500 uL	1 ppb	5/19/04	.904 ppb	90.40%
CLBA04FM001a Matrix Blank	None	None	None	None	5/20/04	N.D.	N.D.
CLBA04FM001a Matrix Spike	CB-17A	10 ppb	500 uL	1 ppb	5/20/04	.895 ppb	89.50%
CLBA04FM001b Matrix/Reagent Blank	None	None	None	None	6/4/04	N.D.	N.D.
CLBA04FM001b Matrix Spike	CB-17F	2 ppb	500 uL	0.2 ppb	6/4/04	0.234 ppb	117%
CLBA04FM001a Matrix/Reagent Blank	None	None	None	None	6/7/04	N.D.	N.D.
CLBA04FM001a Matrix Spike	CB-17F	2 ppb	500 uL	0.2 ppb	6/7/04	0.202 ppb	101%
Tap Water Matrix/Reagent Blank	None	None	None	None	6/10/04	N.D.	N.D.
Tap Water Spike	CB-17F	2 ppb	500 uL	0.2 ppb	6/10/04	0.189	94.60%
CLBA04FM001a Matrix/Reagent Blank	None	None	None	None	6/11/04	N.D.	N.D.
CLBA04FM001a Matrix/Reagent Blank	None	None	None	None	6/15/04	N.D.	N.D.
CLBA04FM001a Matrix Spike	CB-17F	2 ppb	500 uL	0.2 ppb	6/15/04	0.232 ppb	116%
CLBA04FM001b Matrix/Reagent Blank	None	None	None	None	6/16/04	N.D.	N.D.
CLBA04FM001b Matrix Spike	CB-17A	10 ppb	500 uL	5 ppb	6/16/04	5.89 ppb	118%
CLBA04FM001b Matrix/Reagent Blank	None	None	None	None	7/6/04	N.D.	N.D.
CLBA04FM001b Matrix Spike-1	CB-17A	10 ppb	500 uL	1 ppb	7/6/04	1.09 ppb	109%
CLBA04FM001b Matrix Spike-2	CB-17A	10 ppb	500 uL	1 ppb	7/6/04	1.10 ppb	110%

Sample ID	Spiking Standard ID	Spiking Standard Concentration	Volume Spiked	Spike Concentration	Analysis Date	Concentration Detected	Recovery
CLBA04FM001b Matrix/Reagent Blank	None	None	None	None	7/9/04	N.D.	N.D.
CLBA04FM001b Matrix Spike	CB-17A	10 ppb	500 uL	1 ppb	7/9/04	.924 ppb	92.40%
CLBA04FM001a Matrix/Reagent Blank	None	None	None	None	7/13/04	N.D.	N.D.
CLBA04FM001a Matrix Spike	CB-17A	10 ppb	500 uL	5 ppb	7/13/04	4.41 ppb	88.20%
CLBA04FM001a Matrix/Reagent Blank	None	None	None	None	7/19/04	N.D.	N.D.
CLBA04FM001a Matrix Spike	CB-17F	2 ppb	500 uL	0.2 ppb	7/19/04	0.221 ppb	110%
CLBA04FM001b Matrix/Reagent Blank	None	None	None	None	7/21/04	N.D.	N.D.
CLBA04FM001b Matrix Spike	CB-17A	10 ppb	500 uL	1 ppb	7/21/04	0.966 ppb	96.60%
Tap Water Blank	None	None	None	None	7/22/04	N.D.	N.D.
Tap Water Spike	CB-16	100 ppb	200 uL	20 ppb	7/22/04	19.6 ppb	98.10%
CLBA04FM001b Matrix/Reagent Blank	None	None	None	None	7/27/04	N.D.	N.D.
CLBA04FM001b Matrix Spike	CB-17A	10 ppb	500 uL	1 ppb	7/27/04	0.996 ppb	99.60%
CLBA04FM001b Matrix/Reagent Blank	None	None	None	None	7/29/04	N.D.	N.D.
CLBA04FM001b Matrix Spike-1	CB-17F	2 ppb	500 uL	0.2 ppb	7/29/04	0.185 ppb	92.50%
CLBA04FM001b Matrix Spike-2	CB-17A	10 ppb	500 uL	5 ppb	7/29/04	3.61 ppb	72.10%
CLBA04FM001a Matrix/Reagent Blank	None	None	None	None	7/30/04	N.D.	N.D.
CLBA04FM001a Matrix Spike-1	CB-17F	2 ppb	500 uL	0.2 ppb	7/30/04	0.213 ppb	107%
CLBA04FM001a Matrix Spike-2	CB-17A	10 ppb	500 uL	1 ppb	7/30/04	1.05 ppb	105%
CLBA04FM001a Matrix/Reagent Blank	None	None	None	None	8/3/04	N.D.	N.D.
CLBA04FM001a Matrix Spike	CB-17F	2 ppb	500 uL	0.2 ppb	8/3/04	0.188 ppb	93.80%

Sample ID	Spiking Standard ID	Spiking Standard Concentration	Volume Spiked	Spike Concentration	Analysis Date	Concentration Detected	Recovery
CLBA04FM001b Matrix/Reagent Blank	None	None	None	None	8/9/04	N.D.	N.D.
CLBA04FM001b Matrix Spike	CB-17A	10 ppb	500 uL	1 ppb	8/9/04	1.00 ppb	100%
CLBA04FM001a Matrix/Reagent Blank	None	None	None	None	8/19/04	N.D.	N.D.
CLBA04FM001a Matrix Spike-1	CB-17F	2 ppb	500 uL	0.2 ppb	8/19/04	0.207 ppb	103%
CLBA04FM001b Matrix Spike-2	CB-17A	10 ppb	500 uL	5 ppb	8/19/04	1.07 ppb	107%
CLBA04FM001b Matrix/Reagent Blank	None	None	None	None	8/20/04	N.D.	N.D.
CLBA04FM001b Matrix Spike	CB-17F	2 ppb	500 uL	0.2 ppb	8/20/04	0.161 ppb	80.50%
Tap Water Blank	None	None	None	None	9/23/04	N.D.	N.D.
Tap Water Spike	CB-22	100 ppb	200 uL	20 ppb	9/23/04	20.8 ppb	104%
CLBA04FM001b Matrix/Reagent Blank	None	None	None	None	10/6/04	N.D.	N.D.
CLBA04FM001b Matrix Spike	CB-17A	10 ppb	500 uL	1 ppb	10/6/04	0.788 ppb	78.80%
CLBA04FM001a Matrix/Reagent Blank	None	None	None	None	108/04	N.D.	N.D.
CLBA04FM001a Matrix Spike	CB-17A	10 ppb	500 uL	1 ppb	10/8/04	0.896 ppb	89.60%
CLBA04FM001b Matrix/Reagent Blank	None	None	None	None	10/27/04	N.D.	N.D.
CLBA04FM001b Matrix Spike	CB-17A	10 ppb	500 uL	1 ppb	10/27/04	0.699 ppb	69.90%
CLBA04FM001b Matrix/Reagent Blank	None	None	None	None	11/2/04	N.D.	N.D.
CLBA04FM001b Matrix/Reagent Blank	None	None	None	None	11/23/04	N.D.	N.D.
CLBA04FM001b Matrix Spike	CB-26A	10 ppb	500 uL	1 ppb	11/23/04	0.767 ppb	76.70%
CLBA04FM001b Matrix/Reagent Blank	None	None	None	None	11/24/04	N.D.	N.D.
CLBA04FM001b Matrix Spike-1	CB-26A	10 ppb	100 uL	1 ppb	11/24/04	0.760 ppb	76.00%

Sample ID	Spiking Standard ID	Spiking Standard Concentration	Volume Spiked	Spike Concentration	Analysis Date	Concentration Detected	Recovery
CLBA04FM001b Matrix Spike-2	CB-26A	10 ppb	100 uL	1 ppb	11/24/04	0.719 ppb	71.90%
CLBA04FM001b Matrix/Reagent Blank	None	None	None	None	12/3/04	N.D.	N.D.
CLBA04FM001b Matrix Spike	CB-26A	10 ppb	100 uL	1 ppb	12/3/04	0.782 ppb	78.20%
CLBA04FM001a Matrix/Reagent Blank	None	None	None	None	12/6/04	N.D.	N.D.
CLBA04FM001a Matrix Spike	CB-26A	10 ppb	100 uL	1 ppb	12/6/04	0.955 ppb	95.50%
CLBA04FM001a Matrix/Reagent Blank	None	None	None	None	12/7/04	N.D.	N.D.
CLBA04FM001a Matrix Spike	CB-26A	10 ppb	100 uL	1 ppb	12/7/04	1.10 ppb	110%
Tap Water Blank	None	None	None	None	12/13/04	N.D.	N.D.
Tap Water Spike	CB-22	100 ppb	200 uL	20 ppb	12/13/04	22.3 ppb	111%
Tap Water Blank	None	None	None	None	12/14/04	N.D.	N.D.
Tap Water Spike	CB-22	100 ppb	200 uL	20 ppb	12/14/04	25.5 ppb	127%

APPENDIX V

CDFG Laboratory, Water Hardness Quality Assurance Data from Clear Lake and Redding Samples, 2004

Appendix V: CDFG Laboratory, Water Hardness Quality Assurance Data from Clear Lake and Redding Samples, 2004

Reference Standard ID	True Value Ref Std	Laboratory Result	% Recovery Ref Std	Sample Duplicate ID	Sample Value	Duplicate Value	Average Sample Value	RPD
IPS-HARD-04-2B	170	173	102	L-172-04-7	129	129	129	0.00
IPS-HARD-04-2D	170	184	108	L-202-04-1	157	154	156	0.00
IPS-HARD-04-2D	170	171	101	L-205-04-1	117	116	116	0.86
IPS-HARD-04-32B	180	182	101	L-230-04-1	120	120	120	0.00
IPS-HARD-04-32C	180	188	104	L-256-04-1	124	122	123	1.63
IPS-HARD-04-32B	180	184	102	L-267-04-4	131	131	131	0.00
IPS-HARD-04-43A	150	156	104	L-283-04-1	125	124	124	0.80
IPS-HARD-04-34C	150	148	98.7	L-297-04-4	121	121	121	0.00
IPS-HARD-04-43D	150	150	100	L-342-04-1	140	142	141	1.42
IPS-HARD-04-43C	150	151	101		177	176	176	0.57
IPS-HARD-04-43D	150	146	97.3	L-371-04-2	116	116	116	0.00
IPS-HARD-04-56C	287	277	96.5	L-462-04-1	248	246	247	0.81
IPS-HARD-04-56D	287	277	96.5	L-499-04-1	174	179	176	2.83
IPS-HARD-04-56C	287	277	96.5	L-462-04-1	248	246	247	0.81
IPS-HARD-04-32B	180	182	101	L-246-04-1	48.0	48.5	48.2	1.04
IPS-HARD-04-43C	150	153	102	L-304-04-7	159	163	161	2.48
IPS-HARD-04-43E	150	152	101	L-432-04-1	31.2	31.2	31.2	0.00
IPS-HARD-04-56C	287	277	96.5	L-462-04-1	248	246	247	0.81
IPS-HARD-04-32B	180	183	102	L-281-04-1	51.0	49.0	50.0	4.00
IPS-HARD-04-43D	150	150	100	L-368-04-1	43.4	44.4	43.9	2.28
IPS-HARD-04-56B	287	286	99.7	L-459-04-1	43.9	43.4	43.6	1.15
IPS-HARD-04-56C	287	277	96.5	L-462-04-1	248	246	247	0.81
IPS-HARD-04-43D	150	151	101	L-397-04-1	149	151	150	1.33
IPS-HARD-04-43D	150	149	99.3	L-386-04-1	123	122	122.5	0.82
Averages:			**100.3**		**136.3**	**136.1**	**136.1**	**1.0**

APPENDIX VI

CDFG Laboratory 2004, Electrical Conductivity Quality Assurance Data from Clear Lake and Redding Samples

Appendix VI: CDFG Laboratory 2004, Electrical Conductivity Quality Assurance Data from Clear Lake and Redding Samples

Reference Standard ID	True Value Ref Std	Laboratory Result	% Recovery Ref Std	Sample Duplicate ID	Sample Value	Duplicate Value	Average Sample Value	RPD
0.001M KCl	147	148	101	L-172-04-10	257	257	257	0.00
0.001M KCl	147	150	102	L-202-04-1	317	318	318	0.19
0.001M KCl	147	150	102	L-205-04-1	260	261	260	0.38
0.001 M KCl	147	150	102	L-230-04-1	265	265	265	0.00
0.001 M KCl	147	141	95.9	L-256-04-1	264	264	264	0.00
0.001 M KCl	147	141	95.8	L-267-04-1	257	256	265	0.39
0.001 M KCl	147	140	95.3	L-283-04-1	270	271	270	0.37
0.001 M KCl	147	140	95.3	L-297-04-1	275	269	272	2.21
ANC QC 080304	75	78	103	L-342-04-1	304	304	304	0.00
0.001 M KCl	147	149	101	L-359-04-1	264	264	264	0.00
0.001 M KCl	147	149	101		264	264	264	0.00
0.001 M KCl	147	148	101	L-462-04-1	502	500	501	0.40
0.001 M KCl	147	146	99.3	L-499-04-1	385	384	385	0.26
0.001 M KCl	147	148	101	L-462-04-1	502	500	501	0.40
0.001 M KCl	147	141	95.9	L-246-04-1	118	119	118	0.84
ANC QC 080304	75	78	104	L-351-04-5	57	57	57	0.00
0.001 M KCl	147	148	101	L-432-04-1	113	112	112	0.89
0.001 M KCl	147	148	101	L-462-04-1	502	500	501	0.40
0.001 M KCl	147	141	95.8	L-267-04-1	257	256	256	0.39
0.001 M KCl	147	149	101	L-368-04-1	112	112	112	0.00
0.001 M KCl	147	148	101	L-459-04-1	112	111	112	0.90
0.001 M KCl	147	148	101	L-462-04-1	502	500	501	0.40
0.001 M KCl	147	150	102	L-386-04-2	274	275	274.5	0.36
Averages:			**99.9**		**279.7**	**279.1**	**279.7**	**0.4**

Electrical Conductivity mmhos/cm @ 25°C

APPENDIX VII

CDFG Laboratory 2004, Total Copper Quality Assurance Data from Clear Lake and Redding Samples

Appendix VII: CDFG Laboratory 2004,
Total Copper Quality Assurance Data from Clear Lake and Redding Samples

Reference Standard ID	True Value Ref Std	Laboratory Result	% Recovery Ref Std	Spiked Sample ID	MS actual value	MSD actual value	Matrix spike expected value	MS % of expected value	MSD % of expected value	RPD
IPS-1640-03-1	42.6	40.4	94.8	L-172-04-1	5.52	5.58	5.49	100	102	1.08
Averages:			**94.8**		**5.5**	**5.6**	**5.5**	**100.0**		

Total Copper, ug/L (ppb)