NEON CALIBRATION AND SENSOR UNCERTAINTY VALUES

PREPARED BY	ORGANIZATION	DATE
Janae Csavina	CVAL	09/02/2014

APPROVALS	ORGANIZATION	DATE
Kathy Kirby	PMO	11/23/2015

RELEASED BY	ORGANIZATION	DATE
Anne Balsley	CM	11/30/2015

See configuration management system for approval history.

Change Record

REVISION	DATE	ECO #	DESCRIPTION OF CHANGE
A	11/30/2015	ECO-03297	Initial Release

This table only applies to calibrations performed by NEON CVAL. Uncertainty for the outside facility calibrations that are validated by NEON CVAL will come from the outside facility.

YR	NEON PN	Manufacturer	Model #	Measurement	Calibration Combined Uncertainty	Offset (measurand units)	Calibration Expanded Uncertainty	Sensor Repeatability (σ)	Units	Degrees of Freedom	Coverage Factor	R&R # Operators	R&R # Sensors	Notes
2014	CA00130000	Kipp & Zonen	PQS1	PAR	2.54		4.99	0.0241	% of reading	637	1.96	6	22	
2014	CA01680000	Vaisala	PTB330	pressure	0.0086		0.018	0.00089	kPa	27	2.06	8	5	
2014	CB14023600	NEON	GRAPE	ohms	0.0195	6.7E-03	0.0385	0.00229	% of reading	139	1.98	4	7	
	CB14043600			voltage	0.0374	2.0E-06	0.0735	0.0100	% of reading	597	1.96	4	7	
2014	AB03950006 CA00110002	Thermetrics	PRT	temperature	0.0048		0.011	0.0026	°C	8	2.36	8	15	
2014	CA02460000 CF03210000	Apogee	SI-111	biological temeprature	0.31		0.60	0.12	°C	401	1.97	8	3	
2014	CA00170000	Kipp & Zonen	CMP22	global SW	0.834		1.64	0.0319	% of reading	2109	1.96	4	3	
2014	CA00180000	DeltaT	SPN1	global SW	1.61		3.18	0.707	% of reading	140	1.98	4	40	
				diffuse SW	4.67		9.43	1.47	% of reading	41	2.02	4	40	
2014	323440000	Licor	LI191	PAR	2.42		4.78	0.14	% of reading	246	1.97	4	72	
2014	CA02770000	Hukseflux	NR01	LW	2.9		5.8	0.82	W/m^2	44	2.02	3	29	
	CF03220000			global SW	1.12		2.21	0.00867	% of reading	109	1.98	3	17	
2014	CD03710000 CD03720000	MetOne	10490	secondary precip	1.33		2.62	1.45	% of reading	304	1.97	6	3	
2014	CA04430000	Vaisala	HMP155	humidity	1.1		2.2	0.0058	% RH	50	2.01	3	3	
				temperature	0.095		0.19	0.0041	°C	43	2.02	3	3	
2014	0317680000	In-Situ	200/500	pressure	0.13		0.29	0.011	kPa	12	2.18	2	4	
	0317730000		200/500	temperature	0.044		0.087	0.018	°C	90	1.99	2	4	
	0317730000		200	conductivity	0.363		0.731	0.266	% of reading	46	2.01	3	5	
2014	320540000	Licor	LI192	PAR	2.75		5.40	0.0279	% of reading	1171	1.96	1	3	
2014	300240000	Vaisala	GMP343	Soil CO_2	1.35		2.74	0.600	% of reading	34	2.03	1	1	
2014		Belfort	AEPG 600	primary preceip	0.760		1.69	0.282	% of reading	10	2.23	3	1	
2014	CA04430000	Thermetrics	soil PRT	temperature	0.082		0.190	0.059	°C	9	2.26	2	5	
2014	320170001	YSI Inc.	Multi Sonde	conductivity	0.585		1.16	0.0141	% of reading	104	1.98	3	5	
	320170015			pH	0.0058		0.011	0.000	pH	99	1.98	3	5	no reproducibity uncertainty
	320170004			turbidity	0.773		1.56	0.0862	% of reading	44	2.02	3	5	
	320170005			chlorophyll	2.08		4.70	0.0724	% of reading	9	2.26	3	5	no truth uncertainty
	320170006			fdom	0.310		0.674	0.00313	% of reading	13	2.18	3	5	no truth uncertainty
2014	328050000	Picarro	L2130	$\delta^{18}O$-(H_2O)	0.014		0.29	0.082	‰	39	2.02	1	1	
				$\delta^{2}H$-(H_2O)	1.1		2.4	0.50	‰	17	2.12	1	1	
2014	330600000	Picarro	G2131-i	$\delta^{13}C$	0.15		0.31	0.83	‰	23	2.07	1	1	
				CO_2	0.11		0.22	0.18	ppm	95	1.99	1	1	
				[^{13}C]	0.0432		0.0849	0.0862	% of reading	603	1.96	1	1	
				[^{12}C]	0.0275		0.0543	0.0363	% of reading	236	1.97	1	1	
2014	CA04430000	Licor	LI7200	H_2O	2.71		5.40	0.449	% of ppm_v reading	87	1.99	1	3	
				CO_2	1.95		3.84	0.0880	% of ppm reading	331	1.97	1	3	analysis with non-traceable gasses