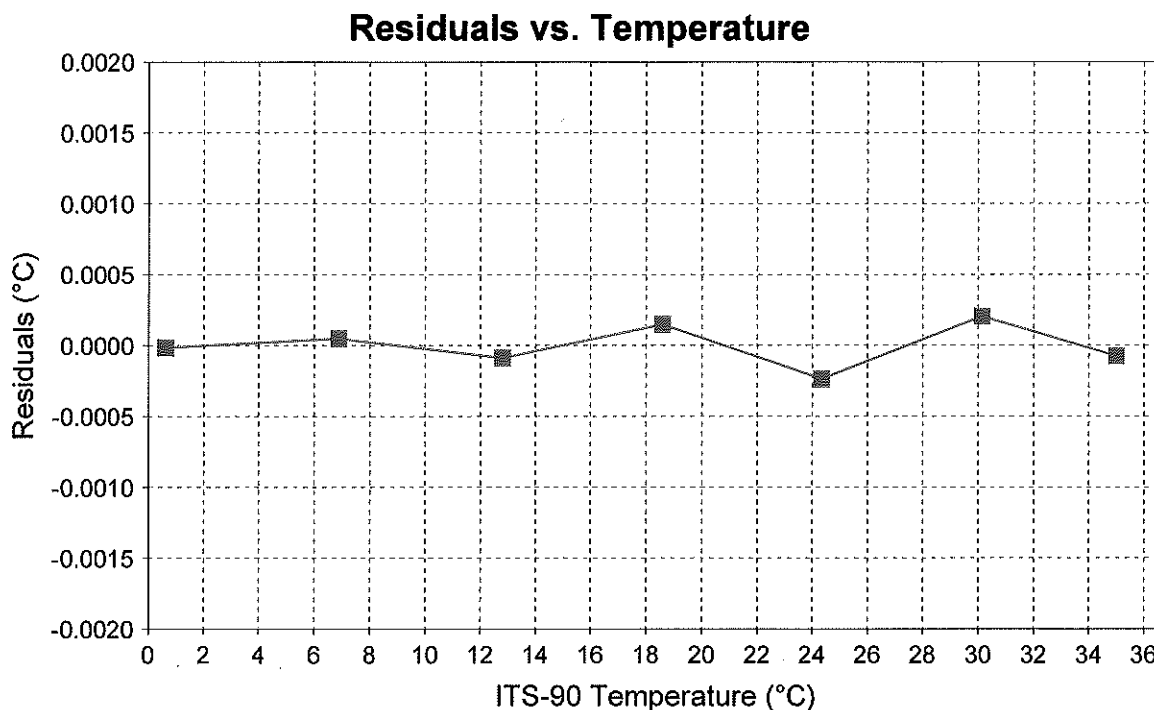


RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 1

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62540	0.674748	0.62539	-0.00001	C0: 0.003466860666710
6.87900	0.601226	6.87905	0.00005	C1: -0.000252796655246
12.80602	0.529779	12.80593	-0.00009	C2: 0.000002374038658
18.58849	0.461319	18.58864	0.00015	C3: -0.000000074639035
24.33781	0.396885	24.33757	-0.00023	
30.13083	0.337369	30.13103	0.00021	
35.00891	0.292256	35.00884	-0.00007	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19899

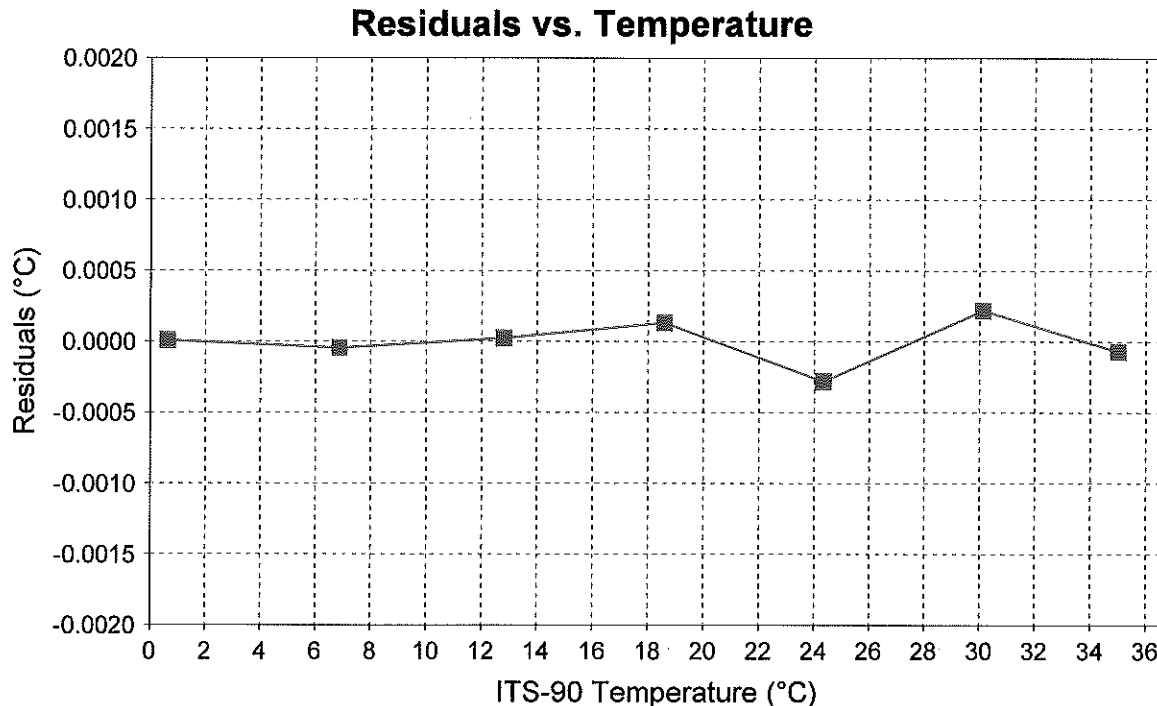
Operator: 
dluong

Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 2

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62540	0.645708	0.62541	0.00001	C0: 0.003499205362787
6.87900	0.570032	6.87895	-0.00004	C1: -0.000254133118982
12.80601	0.497871	12.80604	0.00003	C2: 0.000002408790812
18.58849	0.429960	18.58862	0.00013	C3: -0.000000082949979
24.33781	0.367100	24.33753	-0.00028	
30.13082	0.309918	30.13104	0.00022	
35.00883	0.267119	35.00876	-0.00007	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19898

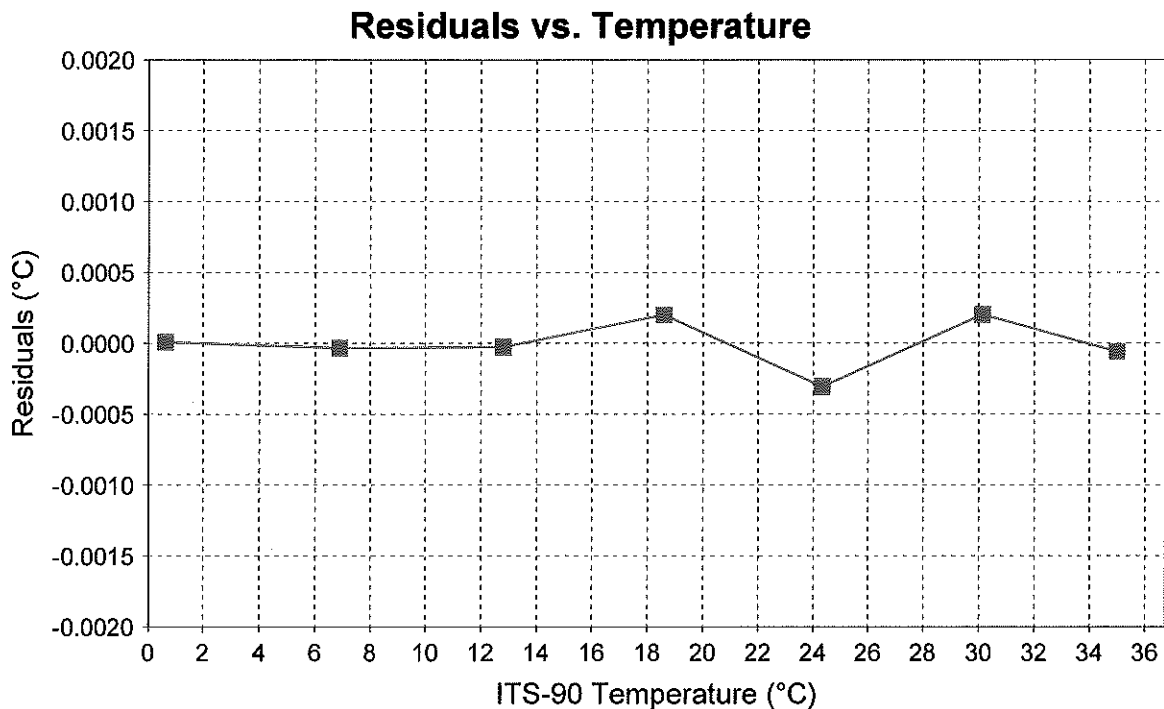
Operator: *Danny*
dluong

Approver: *S. Bucknor*
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 3

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62541	0.639615	0.62542	0.00001	C0: 0.003506088207164
6.87901	0.563442	6.87898	-0.00003	C1: -0.000254025345496
12.80601	0.491095	12.80599	-0.00002	C2: 0.000002406125689
18.58849	0.423265	18.58869	0.00020	C3: -0.000000083379487
24.33781	0.360710	24.33750	-0.00030	
30.13083	0.303996	30.13104	0.00020	
35.00892	0.261668	35.00886	-0.00006	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19897

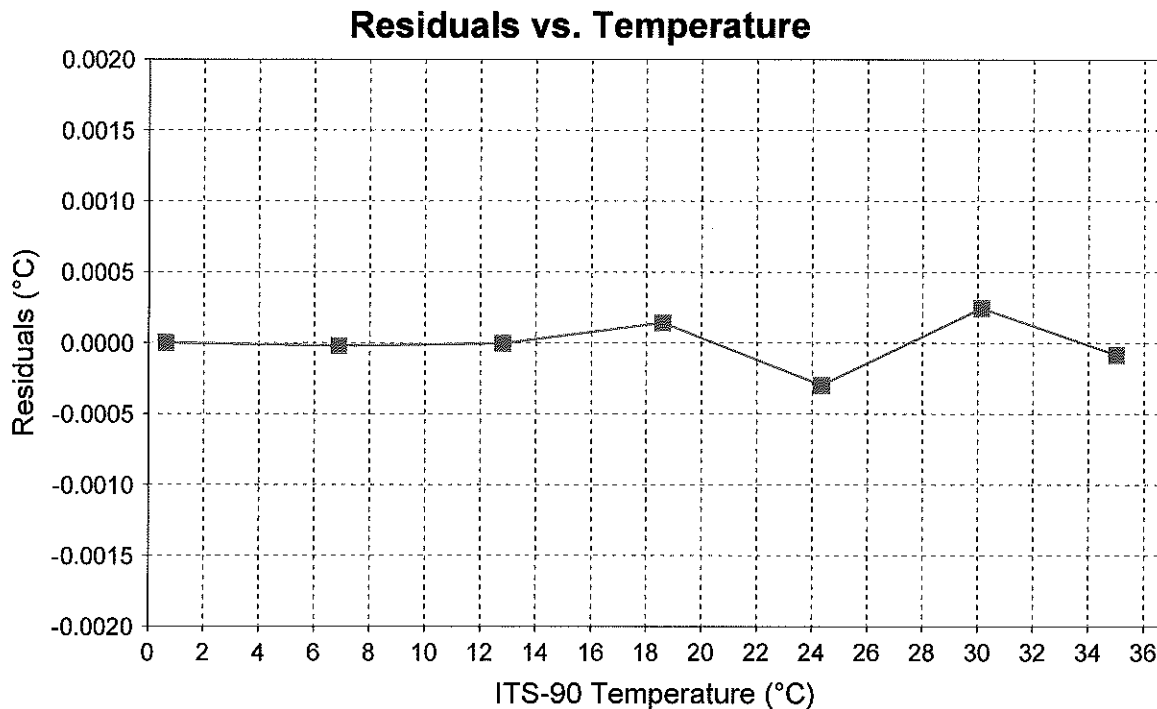
Operator: 
dluong

Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 4

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62541	0.629487	0.62541	0.00000	C0: 0.003517531704531
6.87900	0.552471	6.87898	-0.00002	C1: -0.000253574856715
12.80602	0.479794	12.80602	-0.00000	C2: 0.000002438386662
18.58849	0.412084	18.58863	0.00014	C3: -0.000000091086609
24.33781	0.350013	24.33751	-0.00030	
30.13067	0.294060	30.13092	0.00025	
35.00951	0.252497	35.00943	-0.00008	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19896

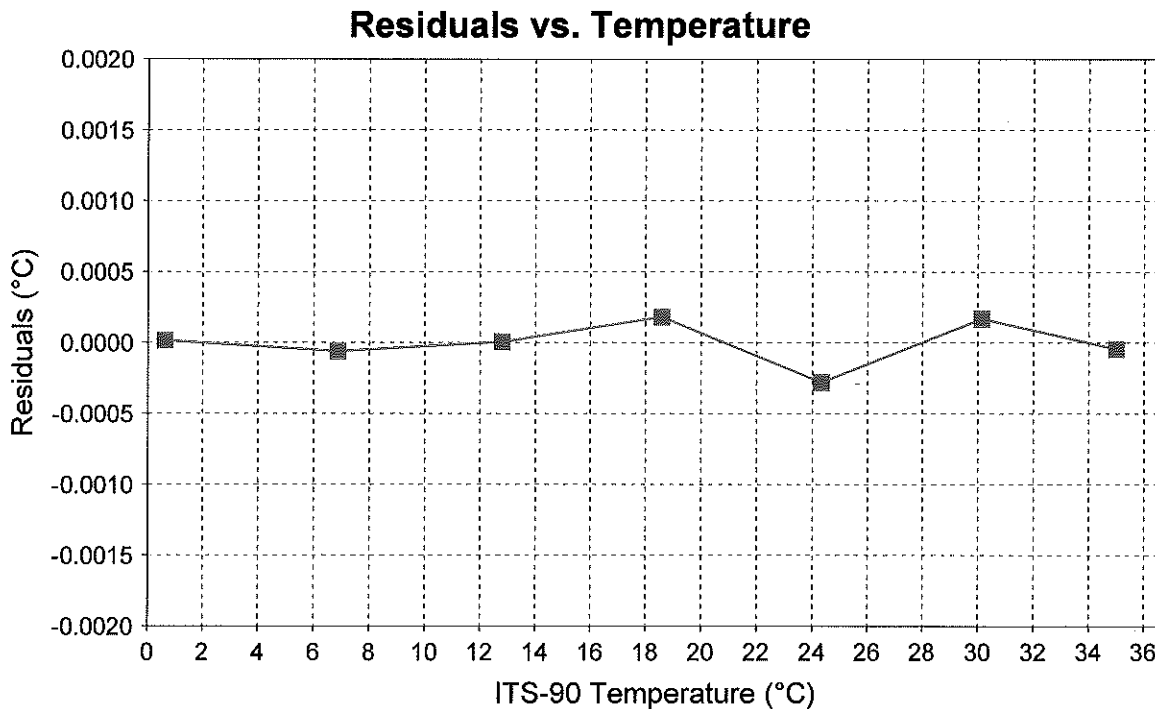
Operator: 
dluong

Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 5

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62540	0.639645	0.62542	0.00002	C0: 0.003506338933928
6.87900	0.563324	6.87894	-0.00006	C1: -0.000253513782717
12.80602	0.490829	12.80602	0.00001	C2: 0.000002436732873
18.58849	0.422867	18.58867	0.00018	C3: -0.000000083776134
24.33781	0.360201	24.33753	-0.00028	
30.13082	0.303407	30.13099	0.00017	
35.00888	0.261037	35.00884	-0.00004	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19895

Operator: 
dluong

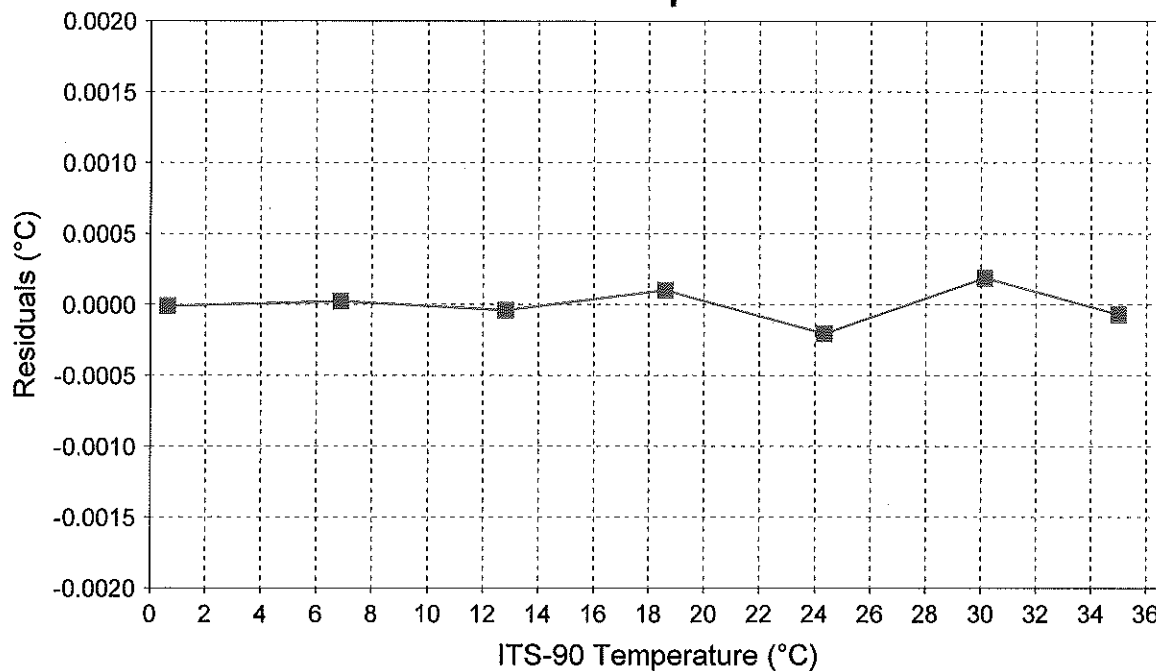
Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 6

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62541	0.608136	0.62540	-0.00001	C0: 0.003539939946774
6.87900	0.530398	6.87902	0.00002	C1: -0.000255305216379
12.80601	0.458024	12.80597	-0.00004	C2: 0.000002483703244
18.58849	0.391409	18.58859	0.00010	C3: -0.000000084928863
24.33781	0.330995	24.33760	-0.00020	
30.13082	0.277047	30.13101	0.00019	
35.00893	0.237277	35.00886	-0.00007	

Residuals vs. Temperature



Calibration Date: 12/Apr/2017

Issue Date: 13/Apr/2017

Calibration ID: 19894

Operator:

Duong
dluong

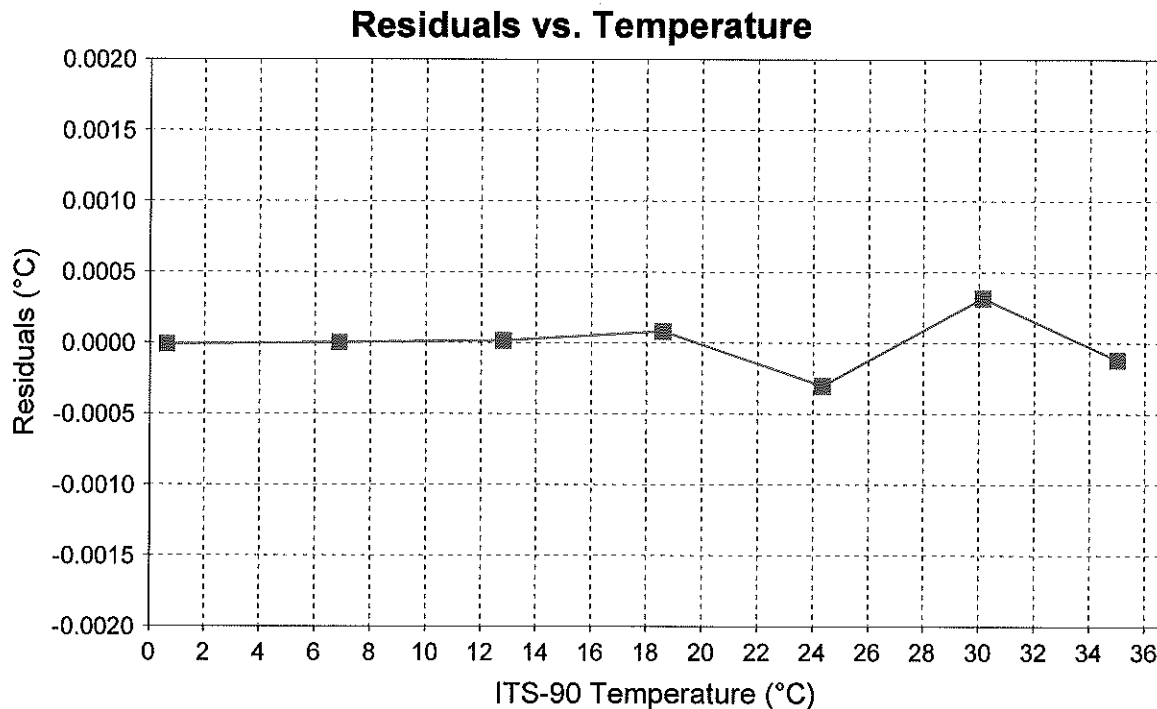
Approver:

S. Bucknor
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 7

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62541	0.610959	0.62540	-0.00001	C0: 0.003537172594163
6.87900	0.533173	6.87900	0.00000	C1: -0.000254672586373
12.80601	0.460626	12.80603	0.00002	C2: 0.000002473315995
18.58849	0.393759	18.58857	0.00008	C3: -0.000000078384581
24.33779	0.333048	24.33749	-0.00030	
30.13083	0.278782	30.13115	0.00032	
35.00951	0.238752	35.00939	-0.00012	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19893

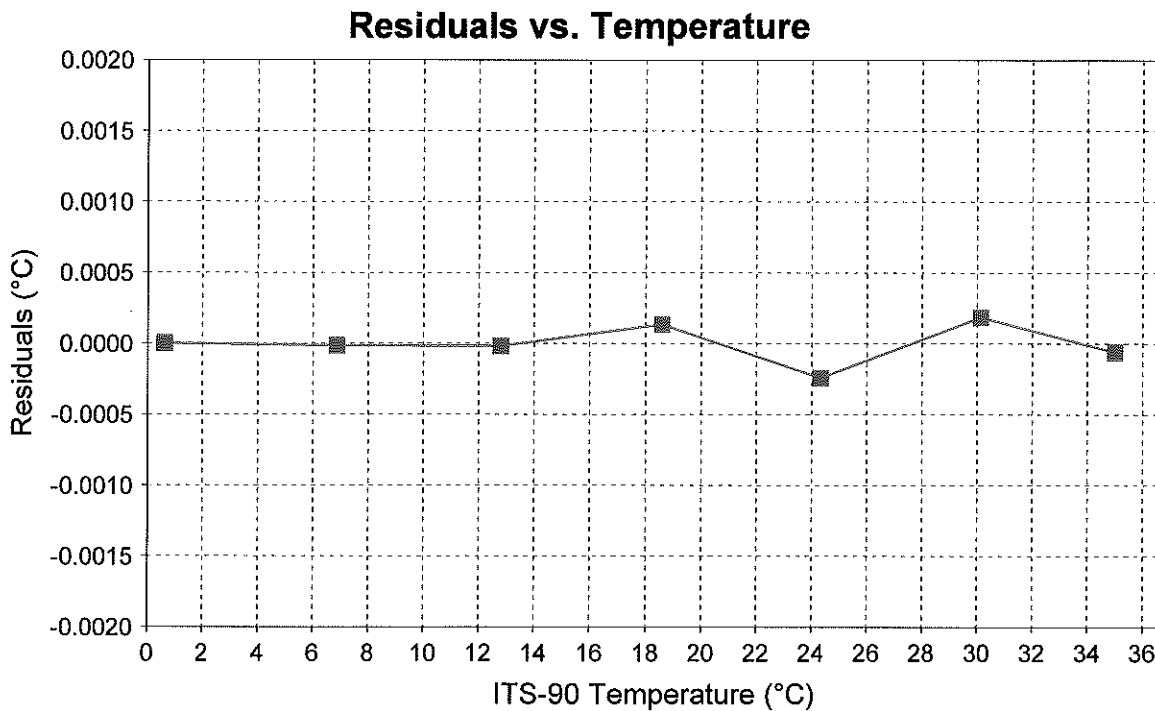
Operator: 
dluong

Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 8

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62540	0.636286	0.62541	0.00000	C0: 0.003509545341484
6.87900	0.560009	6.87898	-0.00001	C1: -0.000254440422590
12.80602	0.487711	12.80600	-0.00002	C2: 0.000002443211353
18.58849	0.420053	18.58863	0.00014	C3: -0.000000089072793
24.33779	0.357755	24.33755	-0.00024	
30.13083	0.301354	30.13102	0.00019	
35.00888	0.259307	35.00882	-0.00006	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19892

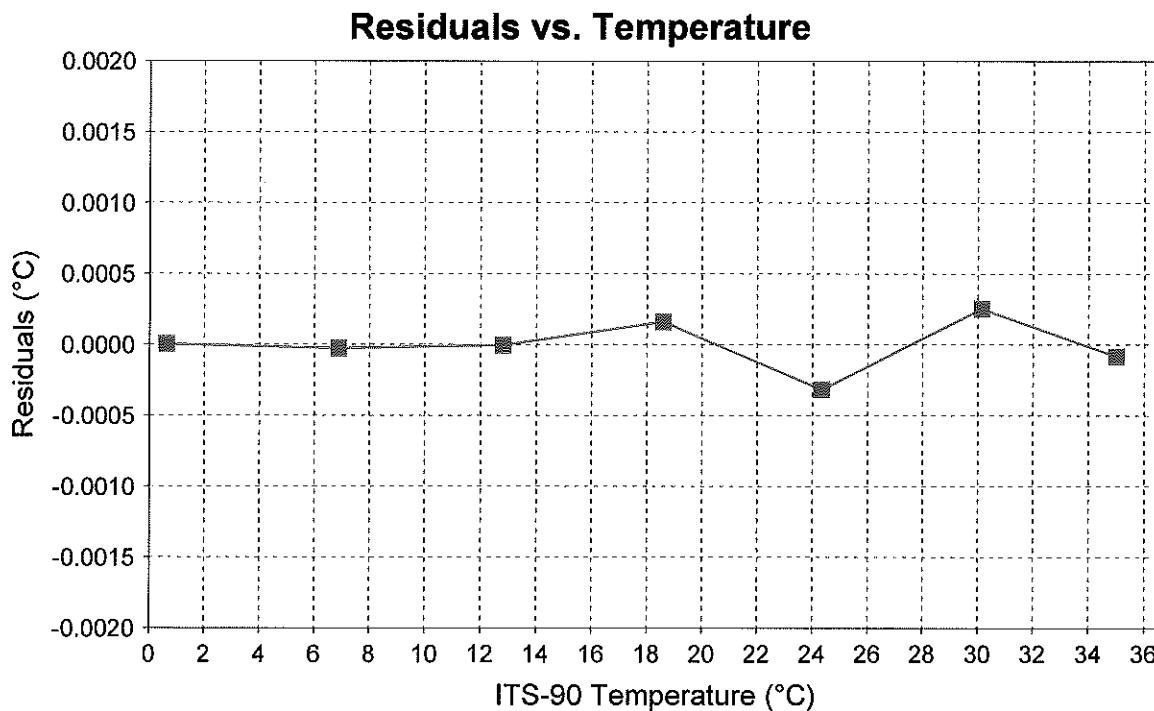
Operator: *Danny*
dluong

Approver: *S. Bucknor*
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 9

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62541	0.635961	0.62541	0.00001	C0: 0.003510353777543
6.87900	0.559413	6.87897	-0.00002	C1: -0.000253645632474
12.80601	0.486875	12.80601	-0.00000	C2: 0.000002431591759
18.58849	0.419026	18.58865	0.00016	C3: -0.000000089154796
24.33781	0.356594	24.33749	-0.00032	
30.13082	0.300117	30.13108	0.00026	
35.00888	0.258051	35.00880	-0.00008	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19891

Operator: 
dluong

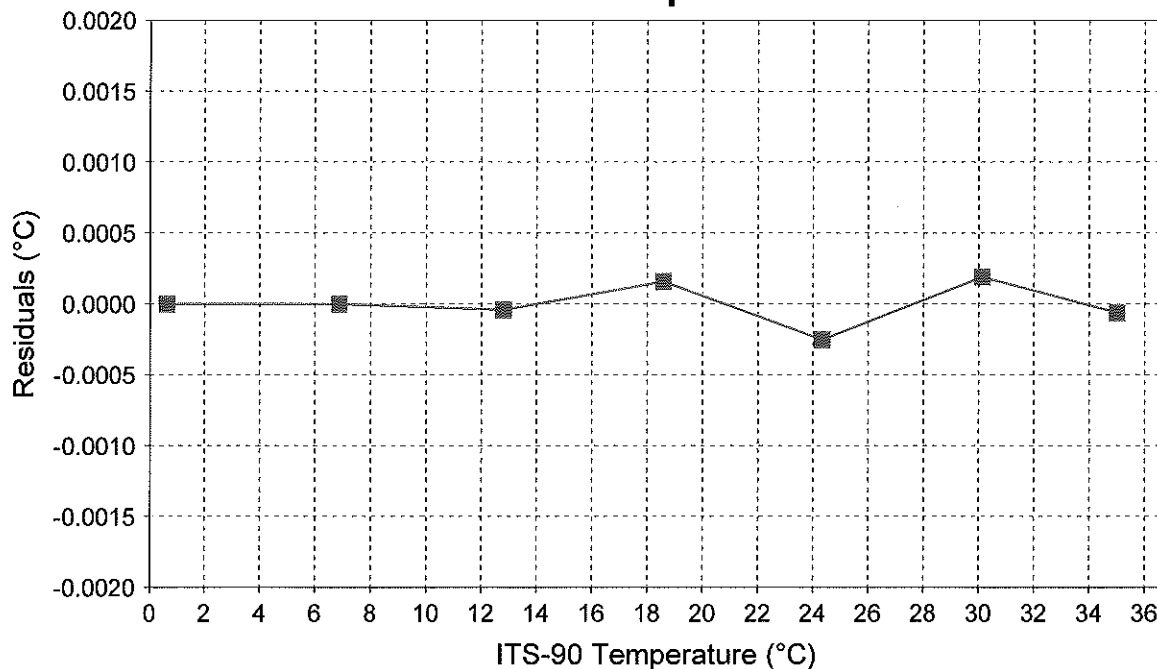
Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 10

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62540	0.660435	0.62540	0.00000	C0: 0.003482833904153
6.87900	0.585824	6.87900	0.00000	C1: -0.000253605801637
12.80602	0.513995	12.80598	-0.00004	C2: 0.000002411180513
18.58849	0.445777	18.58865	0.00016	C3: -0.000000070514843
24.33781	0.382096	24.33756	-0.00025	
30.13082	0.323717	30.13101	0.00019	
35.00894	0.279737	35.00888	-0.00006	

Residuals vs. Temperature



Calibration Date: 12/Apr/2017

Issue Date: 13/Apr/2017

Calibration ID: 19890

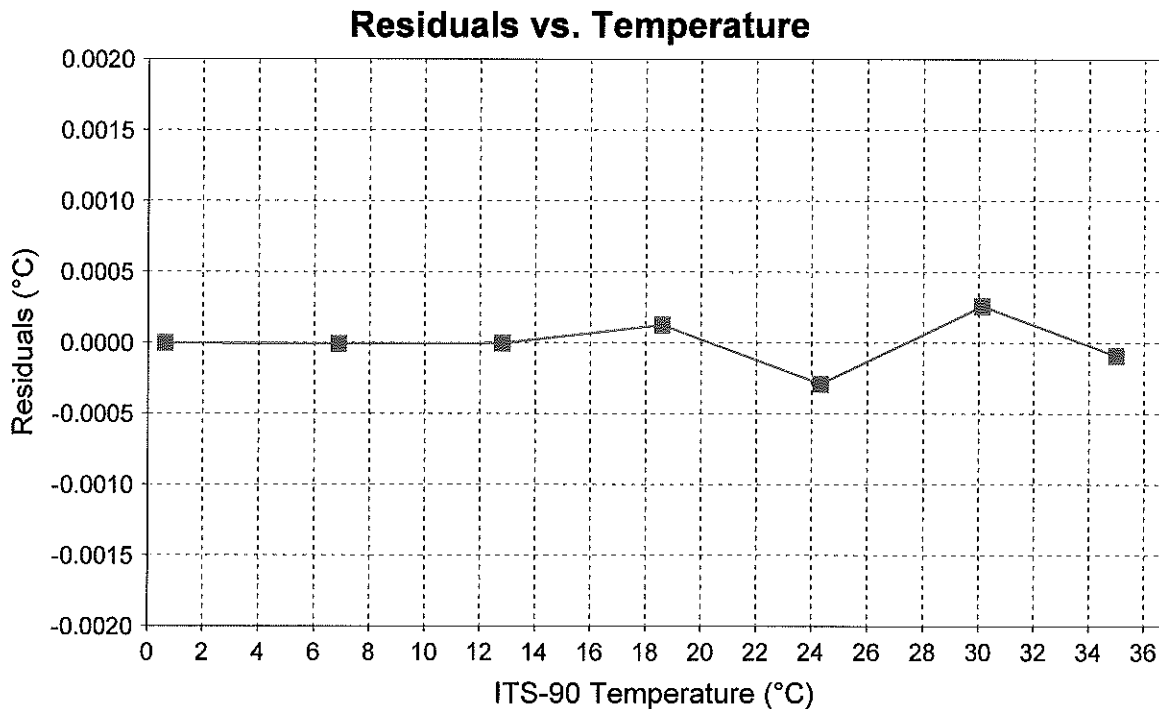
Operator: 
dluong

Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 11

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62541	0.628160	0.62540	-0.00000	C0: 0.003518617828262
6.87900	0.551274	6.87899	-0.00001	C1: -0.000254289570331
12.80601	0.478783	12.80601	-0.00000	C2: 0.000002431622168
18.58849	0.411286	18.58862	0.00013	C3: -0.000000077941938
24.33781	0.349430	24.33752	-0.00029	
30.13060	0.293676	30.13086	0.00026	
35.00892	0.252261	35.00883	-0.00009	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19889

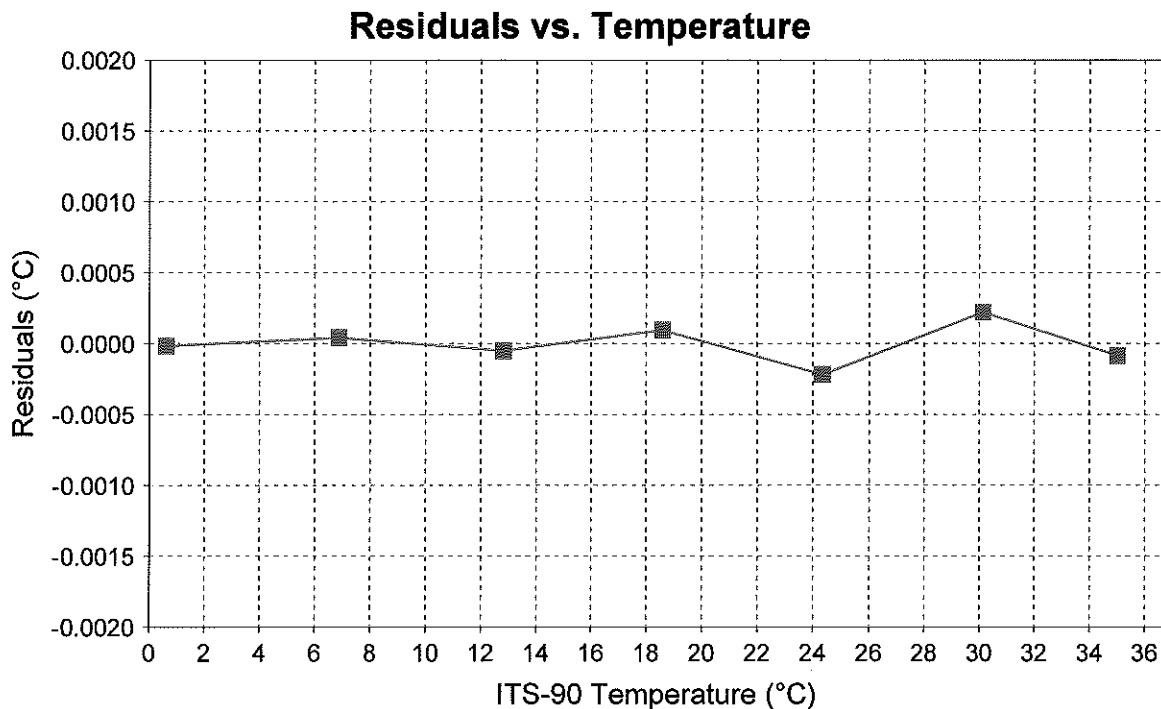
Operator: *Danny*
dluong

Approver: *S. Bucknor*
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 12

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62540	0.641343	0.62539	-0.00001	C0: 0.003503954280742
6.87901	0.565407	6.87905	0.00004	C1: -0.000254374812622
12.80601	0.493205	12.80596	-0.00005	C2: 0.000002421316481
18.58849	0.425430	18.58859	0.00010	C3: -0.000000076076575
24.33779	0.362844	24.33758	-0.00022	
30.13082	0.306034	30.13105	0.00022	
35.00892	0.263586	35.00884	-0.00008	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19888

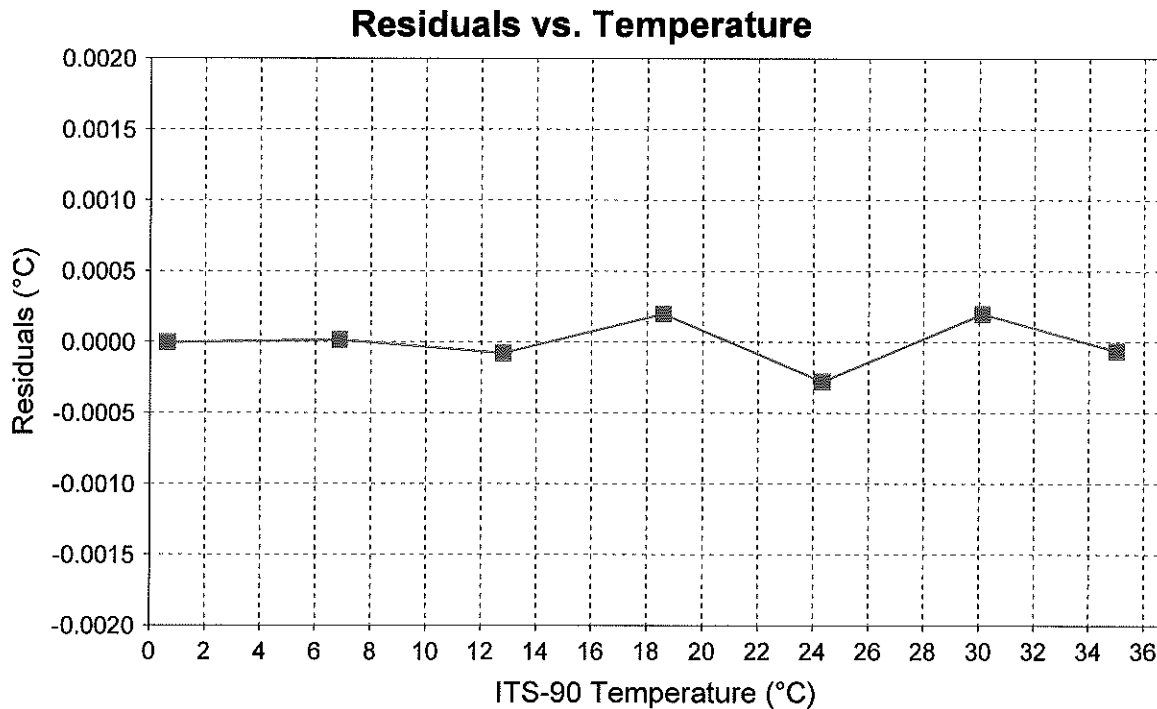
Operator: 
dluong

Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 13

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62540	0.648623	0.62540	-0.00000	C0: 0.003496143462887
6.87901	0.573070	6.87903	0.00002	C1: -0.000253752030708
12.80640	0.500881	12.80632	-0.00008	C2: 0.000002443011829
18.58849	0.432827	18.58869	0.00020	C3: -0.000000083229684
24.33781	0.369734	24.33753	-0.00028	
30.13083	0.312262	30.13103	0.00020	
35.00886	0.269201	35.00880	-0.00006	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19887

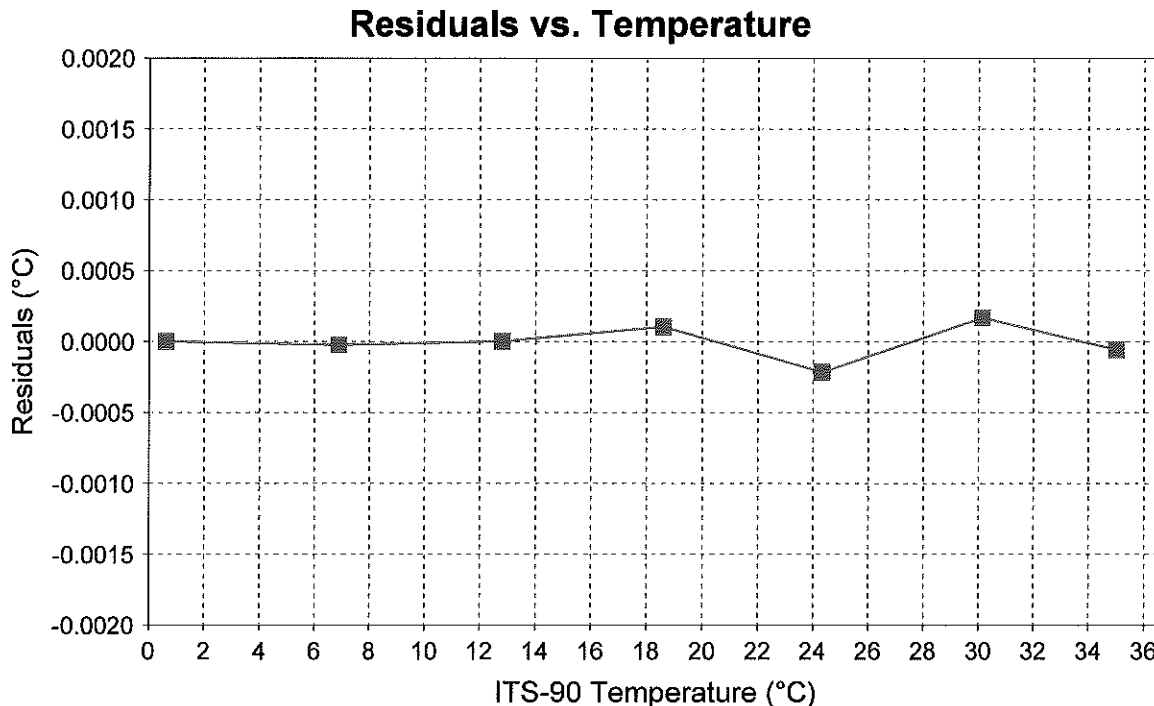
Operator: *Danny*
dluong

Approver: *J. Bucknor*
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 14

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62541	0.645951	0.62541	0.00000	C0: 0.003498828260712
6.87900	0.570347	6.87898	-0.00002	C1: -0.000254303564533
12.80601	0.498243	12.80602	0.00000	C2: 0.000002408660305
18.58849	0.430372	18.58860	0.00011	C3: -0.000000090536284
24.33778	0.367534	24.33757	-0.00021	
30.13082	0.310360	30.13099	0.00017	
35.00883	0.267556	35.00878	-0.00005	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19886

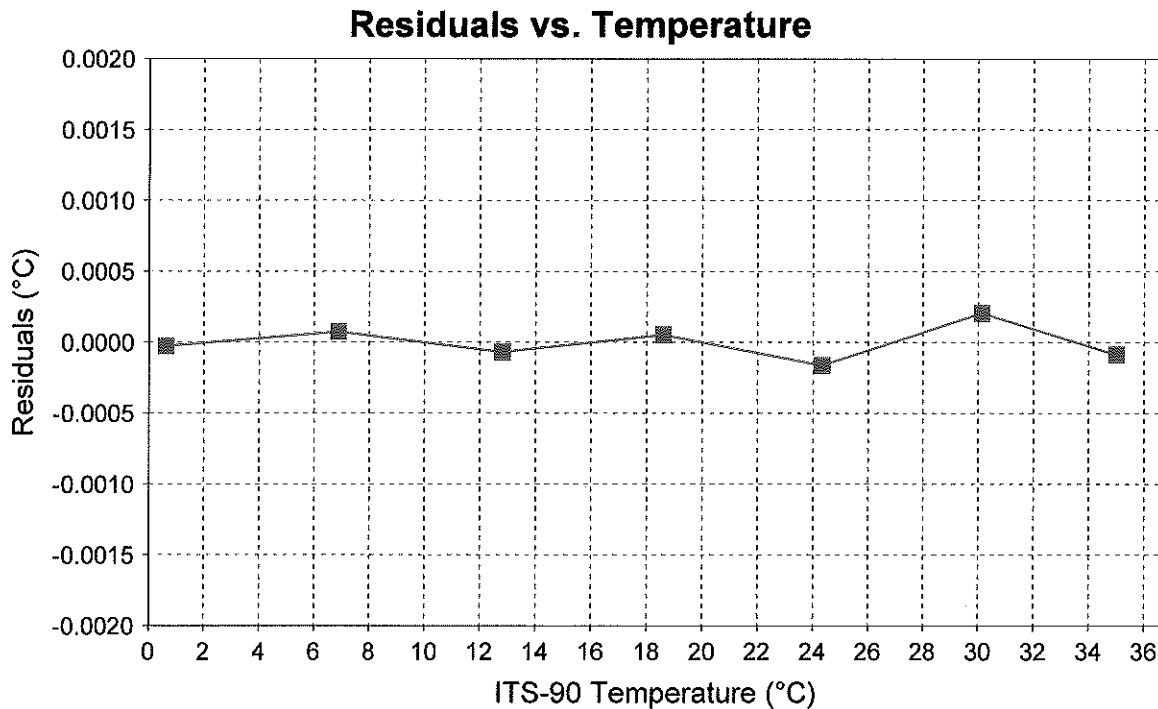
Operator: *Danny*
dluong

Approver: *A. Bucknor*
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 15

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62540	0.607257	0.62538	-0.00002	C0: 0.003541061073733
6.87900	0.529350	6.87907	0.00008	C1: -0.000254929023938
12.80601	0.456868	12.80595	-0.00007	C2: 0.000002447849003
18.58849	0.390202	18.58854	0.00005	C3: -0.000000070460583
24.33781	0.329787	24.33764	-0.00016	
30.13083	0.275879	30.13104	0.00021	
35.00885	0.236166	35.00877	-0.00009	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19885

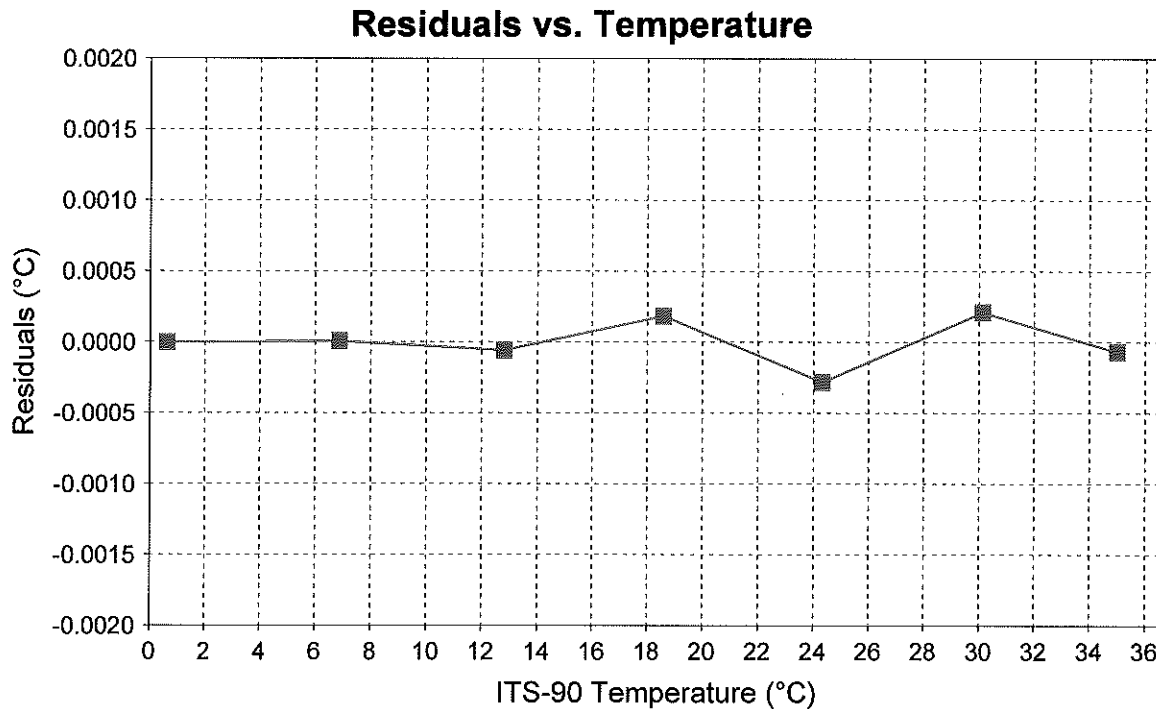
Operator: 
dluong

Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 16

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62541	0.657656	0.62540	-0.00000	C0: 0.003485734576371
6.87900	0.582927	6.87900	0.00001	C1: -0.000254042329570
12.80602	0.511121	12.80596	-0.00006	C2: 0.000002391685483
18.58849	0.443040	18.58867	0.00019	C3: -0.000000071698252
24.33781	0.379581	24.33753	-0.00028	
30.13083	0.321477	30.13104	0.00021	
35.00889	0.277749	35.00882	-0.00007	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19884

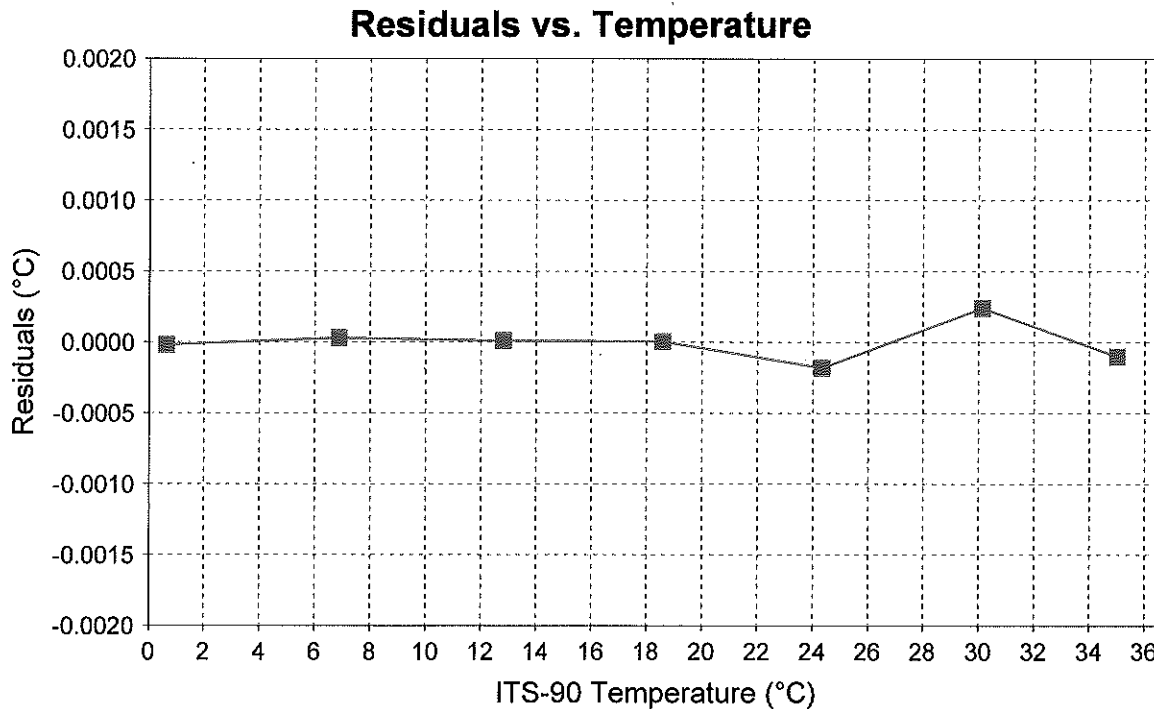
Operator: 
dluong

Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 17

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62540	0.648132	0.62539	-0.00002	C0: 0.003496983518343
6.87900	0.572390	6.87903	0.00003	C1: -0.000253317559579
12.80602	0.500057	12.80603	0.00001	C2: 0.000002397130984
18.58849	0.431900	18.58849	0.00001	C3: -0.000000066952948
24.33778	0.368748	24.33760	-0.00018	
30.13083	0.311263	30.13107	0.00024	
35.00951	0.268213	35.00941	-0.00010	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19883

Operator: *Danny*
dluong

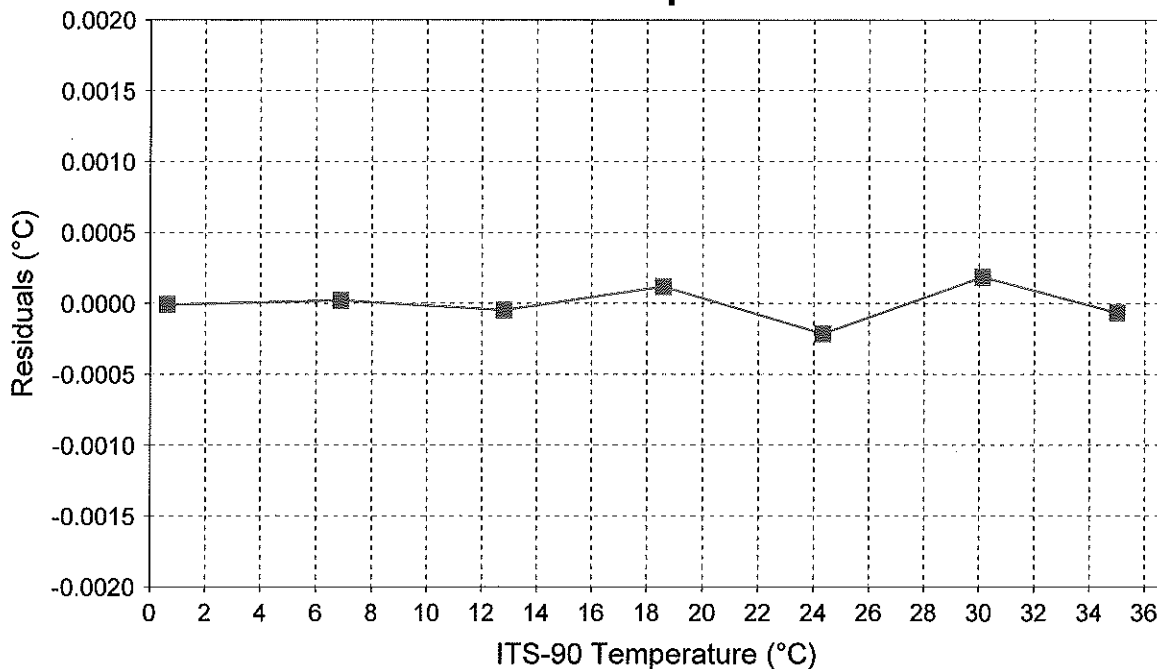
Approver: *S. Bucknor*
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 18

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62541	0.637238	0.62540	-0.00001	C0: 0.003508752334439
6.87900	0.560886	6.87902	0.00002	C1: -0.000253948837908
12.80601	0.488468	12.80597	-0.00005	C2: 0.000002485519098
18.58849	0.420662	18.58861	0.00012	C3: -0.000000079047115
24.33778	0.358202	24.33757	-0.00021	
30.13081	0.301644	30.13100	0.00019	
35.00889	0.259476	35.00882	-0.00007	

Residuals vs. Temperature



Calibration Date: 12/Apr/2017

Issue Date: 13/Apr/2017

Calibration ID: 19882

Operator: 
dluong

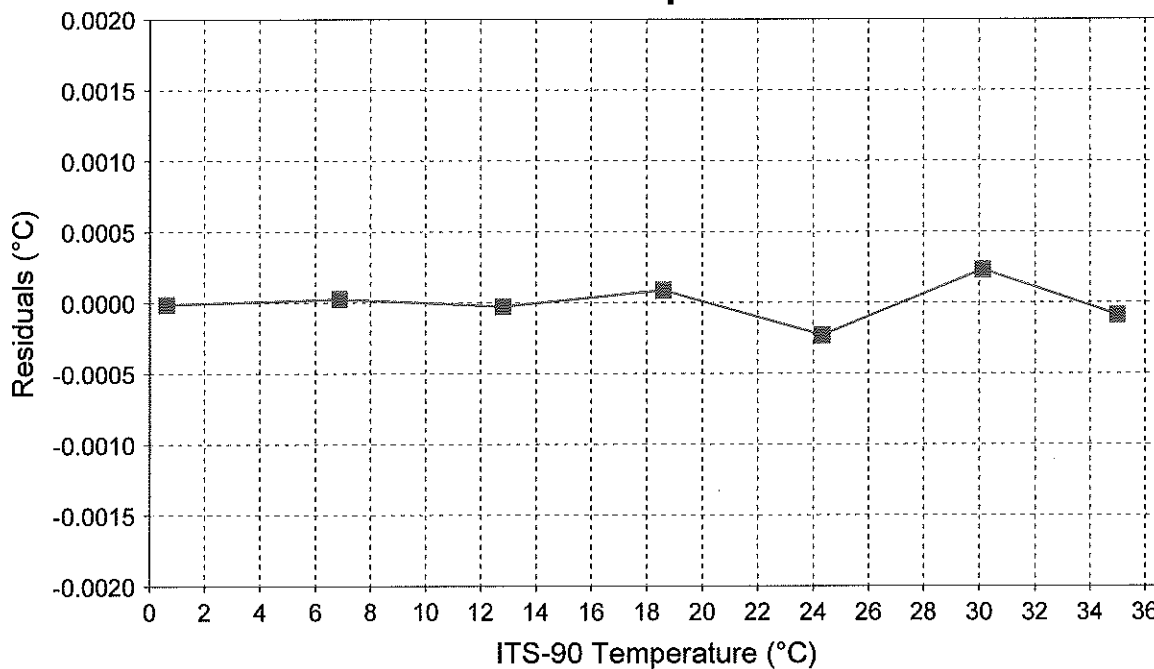
Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 19

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62541	0.627844	0.62539	-0.00001	C0: 0.003518543215213
6.87901	0.551189	6.87904	0.00003	C1: -0.000255060305939
12.80602	0.478920	12.80599	-0.00003	C2: 0.000002499991616
18.58849	0.411614	18.58858	0.00009	C3: -0.000000079501220
24.33781	0.349905	24.33758	-0.00023	
30.13062	0.294254	30.13085	0.00023	
35.00886	0.252891	35.00878	-0.00009	

Residuals vs. Temperature



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19881

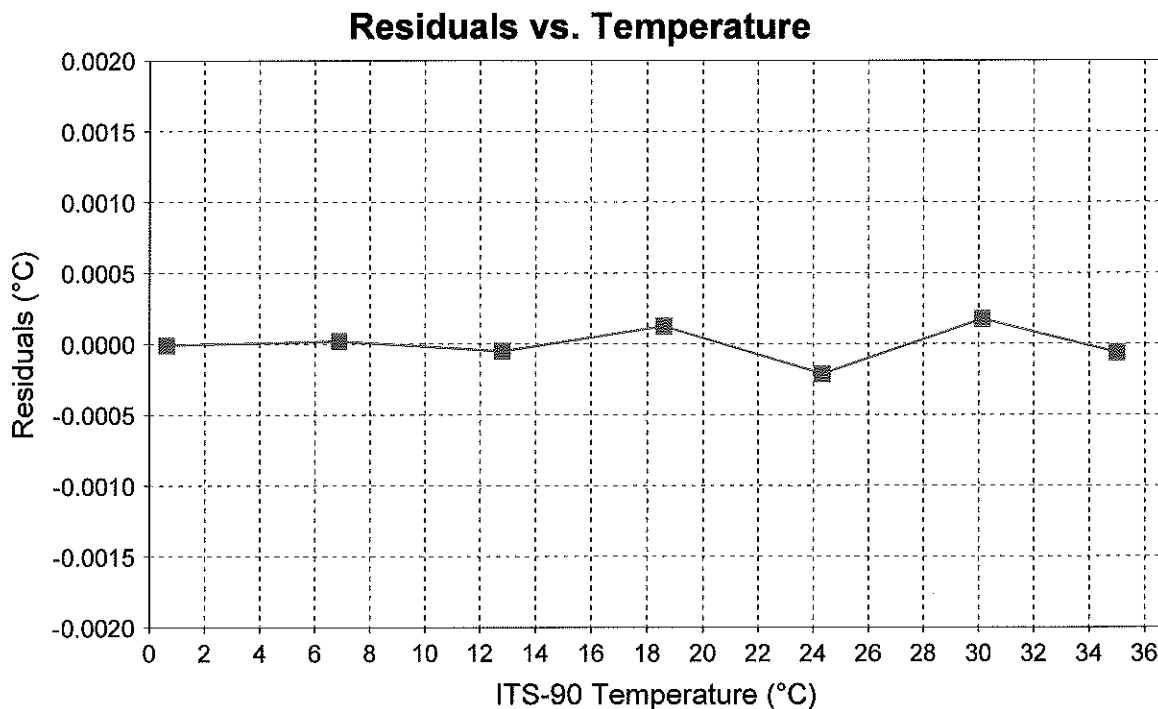
Operator: 
dluong

Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 20

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62541	0.614912	0.62540	-0.00001	C0: 0.003532935782667
6.87900	0.537315	6.87902	0.00002	C1: -0.000254564320673
12.80602	0.464760	12.80597	-0.00005	C2: 0.000002495737893
18.58849	0.397724	18.58862	0.00013	C3: -0.000000083329916
24.33781	0.336728	24.33760	-0.00021	
30.13083	0.282106	30.13100	0.00018	
35.00890	0.241751	35.00884	-0.00006	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19880

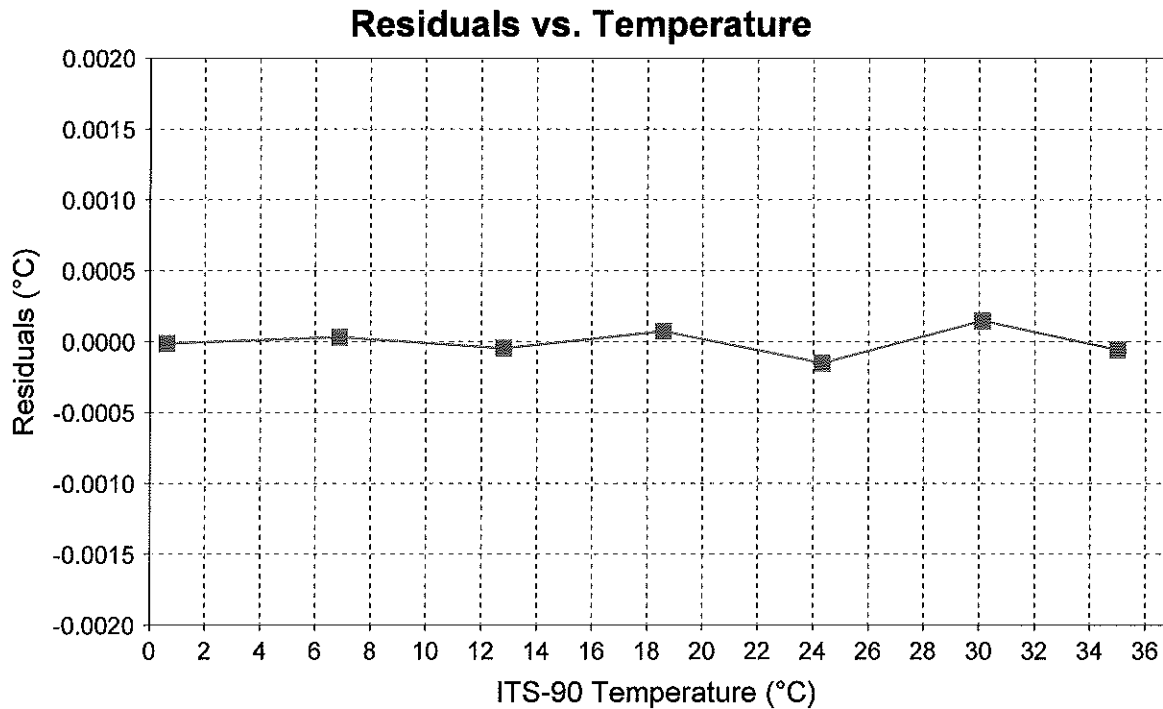
Operator: 
dluong

Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 21

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62541	0.649520	0.62539	-0.00001	C0: 0.003495281794670
6.87901	0.573961	6.87904	0.00003	C1: -0.000253532214490
12.80602	0.501735	12.80597	-0.00004	C2: 0.000002407415415
18.58849	0.433612	18.58856	0.00008	C3: -0.000000081356223
24.33778	0.370434	24.33763	-0.00015	
30.13083	0.312873	30.13098	0.00015	
35.00885	0.269735	35.00880	-0.00006	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19879

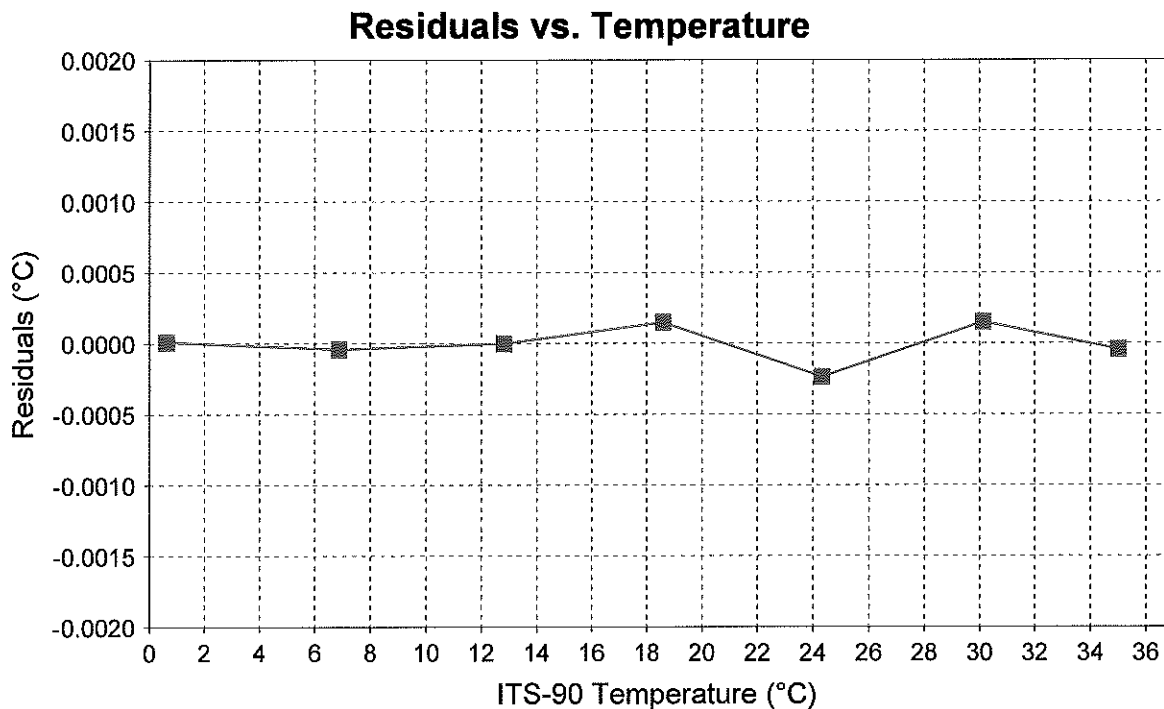
Operator: 
dluong

Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 22

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62540	0.647413	0.62542	0.00001	C0: 0.003497689123450
6.87900	0.571669	6.87896	-0.00004	C1: -0.000253463220055
12.80602	0.499361	12.80602	0.00000	C2: 0.000002434486340
18.58849	0.431248	18.58864	0.00015	C3: -0.000000065563769
24.33779	0.368157	24.33756	-0.00023	
30.13082	0.310736	30.13098	0.00015	
35.00890	0.267746	35.00886	-0.00004	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19878

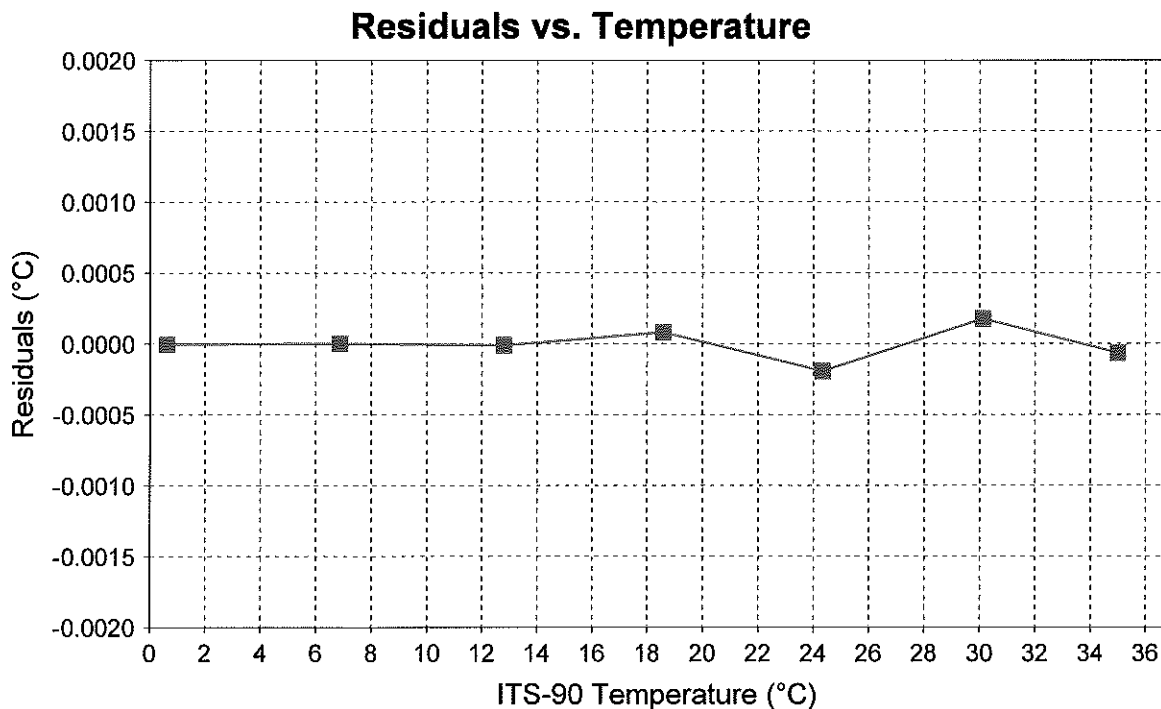
Operator: 
dluong

Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 23

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62541	0.629380	0.62540	-0.00000	C0: 0.003517156054839
6.87901	0.552645	6.87901	0.00000	C1: -0.000254501665203
12.80601	0.480236	12.80600	-0.00001	C2: 0.0000002454318840
18.58849	0.412758	18.58857	0.00008	C3: -0.000000077694267
24.33779	0.350862	24.33760	-0.00019	
30.13069	0.295028	30.13086	0.00018	
35.00890	0.253522	35.00884	-0.00006	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19877

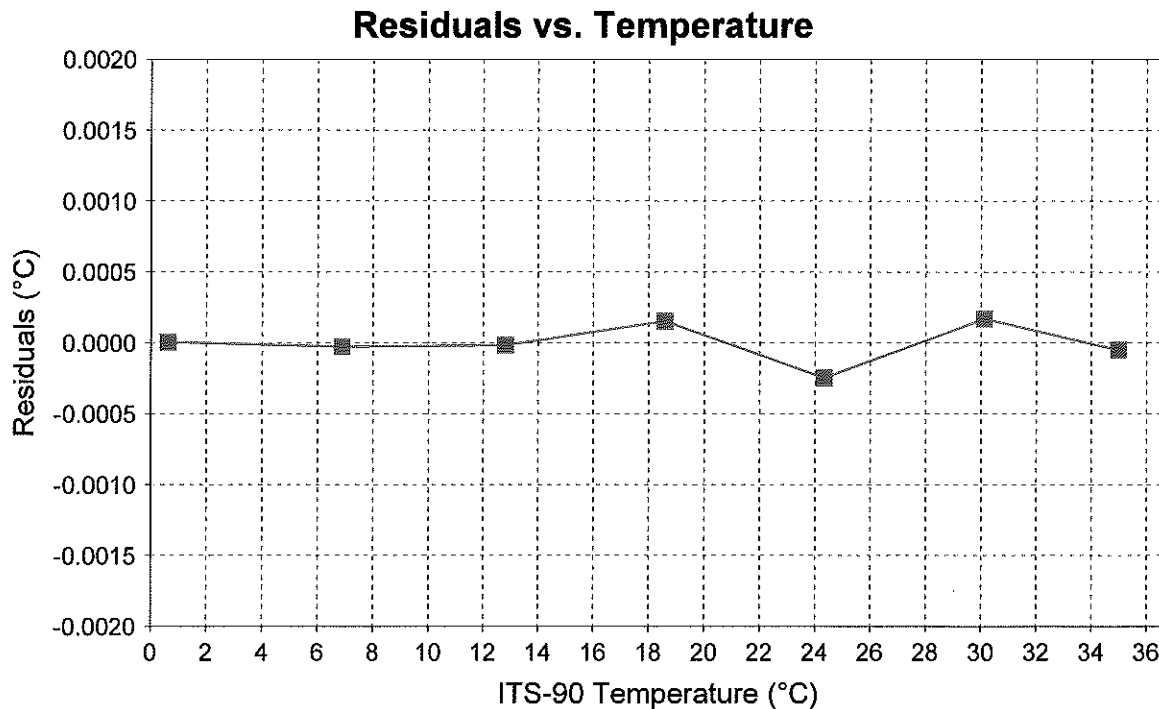
Operator: 
dluong

Approver: 
sbucknor

RBR Temperature Calibration Certificate

Logger ID: XR-420 Serial No: 21969 Channel No: 24

Reference Temperature, ITS-90	Voltage ratio, V	Measured Temperature, ITS-90	Calibration error	Coefficients
0.62540	0.650999	0.62541	0.00001	C0: 0.003493351642740
6.87901	0.575693	6.87898	-0.00003	C1: -0.000253924750282
12.80601	0.503632	12.80600	-0.00001	C2: 0.000002456293159
18.58849	0.435587	18.58864	0.00015	C3: -0.000000074139742
24.33778	0.372407	24.33754	-0.00024	
30.13083	0.314770	30.13100	0.00017	
35.00945	0.271524	35.00940	-0.00005	



Calibration Date: 12/Apr/2017
Issue Date: 13/Apr/2017
Calibration ID: 19876

Operator: *Danny*
dluong

Approver: *S. Bucknor*
sbucknor

RBR Calibration Shipping Certificate

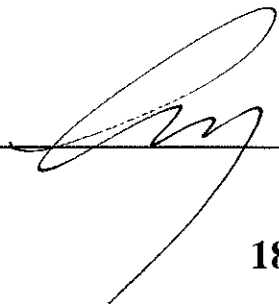
Calibration values for all channels when shipped.

Logger ID: XR-420 Serial No: 21969

2017/Apr/13 11:11:24

1: 0.003466860666710 -0.000252796655246 0.000002374038658 -0.000000074639035
2: 0.003499205362787 -0.000254133118982 0.000002408790812 -0.000000082949979
3: 0.003506088207164 -0.000254025345496 0.000002406125689 -0.000000083379487
4: 0.003517531704531 -0.000253574856715 0.000002438386662 -0.000000091086609
5: 0.003506338933928 -0.000253513782717 0.000002436732873 -0.000000083776134
6: 0.003539939946774 -0.000255305216379 0.000002483703244 -0.000000084928863
7: 0.003537172594163 -0.000254672586373 0.000002473315995 -0.000000078384581
8: 0.003509545341484 -0.000254440422590 0.000002443211353 -0.000000089072793
9: 0.003510353777543 -0.000253645632474 0.000002431591759 -0.000000089154796
10: 0.003482833904153 -0.000253605801637 0.000002411180513 -0.000000070514843
11: 0.003518617828262 -0.000254289570331 0.000002431622168 -0.000000077941938
12: 0.003503954280742 -0.000254374812622 0.000002421316481 -0.000000076076575
13: 0.003496143462887 -0.000253752030708 0.000002443011829 -0.000000083229684
14: 0.003498828260712 -0.000254303564533 0.000002408660305 -0.000000090536284
15: 0.003541061073733 -0.000254929023938 0.000002447849003 -0.000000070460583
16: 0.003485734576371 -0.000254042329570 0.000002391685483 -0.000000071698252
17: 0.003496983518343 -0.000253317559579 0.000002397130984 -0.000000066952948
18: 0.003508752334439 -0.000253948837908 0.000002485519098 -0.000000079047115
19: 0.003518543215213 -0.000255060305939 0.000002499991616 -0.000000079501220
20: 0.003532935782667 -0.000254564320673 0.000002495737893 -0.000000083329916
21: 0.003495281794670 -0.000253532214490 0.000002407415415 -0.000000081356223
22: 0.003497689123450 -0.000253463220055 0.000002434486340 -0.000000065563769
23: 0.003517156054839 -0.000254501665203 0.000002454318840 -0.000000077694267
24: 0.003493351642740 -0.000253924750282 0.000002456293159 -0.000000074139742

Operator: _____



18/Apr/2017