APPENDIX G

Calibration/Certification Reports

ARB Calibration Report - Hydrogen Sulfide (H_2S)

Calibration Summary:

ID Information:

Station Name:	Sacramento "T" Street	Manufacturer:	Jerome	AS-IS:	
Site #:	34-297	Model #:	631-X	FINAL:	X
Station Address:	1927 13th Street	Property #:	20002402	Calibration Date:	09/15/06
Agency:	ARB	Trnsfr Std Flow:		Report Date:	09/15/06
		Corrected Flow:	0.000	Previous Cal. Date:	Factory

Calibration Info.:

Calibration Results:

	Component:	H_2S
	Instrument Range (ppb):	0 to 99
	FINAL Percent Deviation From True (%):	7.4%
	FINAL Change From Previous Cal. (%):	N.A.
	Slope:	0.983
Hydrogen Sulfide Best Fit Line	Intercept:	1.838
	Correlation:	0.99974
	FINAL Meets Accepted ±10%:	YES

Meteorology:

Temperature (°C):	25.0
Elevation (Feet.):	50
Pressure (mmHg):	758.0

Compressed Gas Cylinder:

Cylinder #:	3AL2216
Assay (ppm):	20.0
Certified Date:	05/02/05
Date Cert. Expires:	05/01/08
Pressure Out (psi):	30

Calibration Standards:

Standard:	I.D. #:	Cert. Date:	Certification Slope:	Intercept
Dasibi 5009-CP 0-10 lpm (Air Flow):	20003998	09/07/06	0.9792	0.0395
Dasibi 5009-CP 0-100 ccm (Gas Flow):	20003998	09/07/06	1.0232	-0.7908
CSI 205 Clean Air Supply	20004749	N.A.	Outlet Pressure:	28
Gillian Gillibrator 20 cc - 6 lpm	20021444	09/23/05	1.0000	0

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Calibration Data:

Calibration Data:

Transfer Standard						DAS Reading
H_2S Gas Flow		Dilution Flow		Total Flow	H_2S Out	
Display	sccm	Display	sccm	sccm	ppb	ppb
0.6	0.0	5.00	4935.5	4935.5	0.0	0.0
22.0	21.7	5.00	4935.5	4957.2	87.6	88.0
16.0	15.6	5.00	4935.5	4951.1	62.9	61.0
10.0	9.4	5.00	4935.5	4944.9	38.2	37.0
6.0	5.3	5.00	4935.5	4940.8	21.6	20.0
3.0	2.3	5.00	4935.5	4937.8	9.2	8.0
0.5	0.0	5.00	4935.5	4935.5	0.0	0.7

Dial Setpoints:

Zero:
N.A.
Span:
N.A.

Percent Difference:	Absolute:
0.0%	0.0%
-3.6%	3.6%
-9.2%	9.2%
-17.0%	17.0%

Hydrogen Sulfide FINAL Regression Data

Regression Results:

x Coefficient (Slope):	0.9834
y Constant (Intercept):	1.8380
Number of Observations:	5
Correlation:	0.999745

Corrected H_2S:

(Display * x) + y
88.37
61.82
21.51
9.70

Comments:	0 = 0, 0 & 0. 24.5 = 8, 10, 12, 24, 24, 23, 26, 27, 29, 31, 33, 35, 37, 57, 59, 60, 62, 77, 80, 81, 86, 110, 88, 89, 110, 110, 110, 110 & 110. 16.0 = 60, 61, 61 & 61. 24.5 = 120, 120 & 120. 10.0 = 37, 37 & 37. 6.0 = 20, 20 & 20. 3.0 = 8, 8 & 8. 0 = 0, 1 & 1. 24.0 = 93, 110, 110, 93 & 110. 23.0 = 90, 110, 110 & 110. 22.0 = 87, 89, 110 & 88. Note that 631-X indicates saturation. Ready for regen. Most of 1st line due to conditioning of line to 631-X.		
Calibrated by:	Steve Rider	Checked by:	

Rev. 05/06 (SUR)

ARB Calibration Report - Hydrogen Sulfide (H_2S)

Calibration Summary:

ID Information:

Station Name:	Sacramento "T" Street	Manufacturer:	Jerome	AS-IS:	X
Site #:	34-297	Model #:	631-X	FINAL:	
Station Address:	1927 13th Street	Property #:	20002402	Calibration Date:	12/07/06
Agency:	ARB	Trnsfr Std Flow:		Report Date:	12/08/06
		Corrected Flow:	0.000	Previous Cal. Date:	09/15/06

Calibration Info.:

Calibration Results:

	Component:	H_2S
	Instrument Range (ppb):	0 to 50
	AS-IS Percent Deviation From True (%):	5.3%
	AS-IS Change From Previous Cal. (%):	N.A.
	Slope:	1.000
Hydrogen Sulfide Best Fit Line	Intercept:	1.529
	Correlation:	0.99984
	AS-IS Meets ±15% Requirement:	YES

Meteorology:

Temperature (°C):	22.0
Elevation (Feet.):	50
Pressure (mmHg):	758.0

Compressed Gas Cylinder:

Cylinder #:	CLM006375
Assay (ppm):	19.7
Certified Date:	05/01/06
Date Cert. Expires:	05/01/08
Pressure Out (psi):	25

Calibration Standards:

Standard:	I.D. #:	Cert. Date:	Certification Slope:	Intercept
Environics 6103 0-10 lpm (Air Flow)	20021226	10/30/06	0.9948	-0.0012
Environics 6103 0-100 ccm (Gas Flow)	20021226	10/30/06	0.9911	0.2664
Ultra-Pure Air Cylinder	CA06449	07/10/06	Outlet Pressure:	40
Gillian Gillibrator 20 cc - 6 lpm	20021444	09/23/05	1.0000	0

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Calibration Data:

Calibration Data:

Transfer Standard						DAS Reading
H_2S Gas Flow		Dilution Flow		Total Flow	H_2S Out	
Display	sccm	Display	sccm	sccm	ppb	ppb
0.0	0.0	5.00	4972.8	4972.8	0.0	0.0
22.0	22.1	5.00	4972.8	4994.9	87	85.0
16.0	16.1	5.00	4972.8	4988.9	64	63.0
10.0	10.2	5.00	4972.8	4983.0	40	39.0
6.0	6.2	5.00	4972.8	4979.0	25	23.0
3.0	3.2	5.00	4972.8	4976.0	13	11.0
0.5	0.0	5.00	4972.8	4972.8	0.0	0.0

	Percent Difference:	Absolute:
Zero:	-2.5%	2.5%
N.A.	-1.2%	1.2%
Span:	-3.2%	3.2%
N.A.	-14.4%	14.4%

Hydrogen Sulfide Regression Data

Regression Results:

x Coefficient (Slope):	1.0003
y Constant (Intercept):	1.5295
Number of Observations:	5
Correlation:	0.999838

Corrected H_2S:

(Display * x) + y
86.55
64.55
40.54
12.53

Comments:	Post application cal in Sacto.		
Calibrated by:	Steve Rider	Checked by:	

Rev. 04/02 (SUR)

ARB Calibration Report - Outside Temperature

Calibration Summary:

ID Information:

Station Name:	AutoMet 20005304	Manufacturer:	Met One	AS-FOUND:	X
Site #:	Sodium Tetrathiocarbonate	Model #:	060A-2	AS-LEFT:	
Station Address:	Sacto. 5th St. Warehouse	Serial #:	X6353	Calibration Date:	08/04/06
Agency:	ARB	Translator #:	466A	Report Date:	08/04/06
		Serial #:	X1042	Previous Cal. Date:	

Calibration Info.:

Calibration Results:

	Component:	Outside Temp.
	Instrument Range (degrees centigrade):	-50 to +50
	AS-FOUND Average Ice Bath Difference (°C):	0.23
	AS-FOUND Average Ambient Bath Difference (°C):	-0.17
	AS-FOUND Average Hot Bath Difference (°C):	-0.31
	Slope:	1.011
Outside Temperature Best Fit Line	Intercept:	-0.201
	Correlation:	1.00000
AS-FOUND Meets PSD °C Difference Requirement:		YES

Meteorology:

Temperature (°C):	26.0
Elevation (Feet.):	50
Pressure (mmHg):	759.3

Sensor Height:

Feet Above Ground:	19.0
Feet Above Roof:	N.A.

Calibration Standards:

Standard:	I.D. #:	Cert. Date:	Slope:	Intercept:
Digi-Sense 93410-50 Digital Thermometer	196743	01/26/06	1.0050	0.0500
Cole Parmer 400 Series Thermister Probe	N.A.	N.A.	N.A.	N.A.

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Calibration Data:

If Average Difference of any bath is >0.5°C, correct.

Reference Bath	DAS Degree C (x)	Digital Degree C	True Degree C (y)	Difference DAS - True
ICE	0.41	0.15	0.20	0.21
	0.47	0.15	0.20	0.27
	0.41	0.15	0.20	0.21
Average	0.43		0.20	0.23
AMBIENT	26.58	26.57	26.75	-0.17
	26.63	26.59	26.77	-0.14
	26.58	26.58	26.76	-0.18
Average	26.60		26.76	-0.17
HOT	49.19	49.23	49.53	-0.34
	49.24	49.23	49.53	-0.29
	49.19	49.20	49.50	-0.31
Average	49.21		49.52	-0.31

Transalator:

Zero Scale:	
N.A.	N.A.
DMM Volts	Degrees C
N.A.	N.A.
Full Scale:	
Regression & Graph Data:	
x	y
0.43	0.20
26.60	26.76
49.21	49.52
PSD Data:	0.23
	-0.17
	-0.31

Outside Temperature Regression Data

Regression Results:

x Coefficient (Slope):	1.0111
y Constant (Intercept):	-0.2012
Number of Observations:	3
Correlation:	0.999997

Corrected OTEMP:

(DAS * x) + y
0.23
26.69
49.55

Comments:	Pre-application cal performed in Sacto. AutoMet Configs: 179.34 - 72.89		
Calibrated by:	Steve Rider	Checked by:	

Rev. 07/00 (SUR)

ARB Calibration Report - Outside Temperature

Calibration Summary:

ID Information:

Station Name:	AutoMet 20005304	Manufacturer:	Met One	AS-IS:	X
Site #:	Sodium Tetrathiocarbonate	Model #:	060A-2	FINAL:	
Station Address:	Sacto. 5th St. Warehouse	Serial #:	X6353	Calibration Date:	12/07/06
Agency:	ARB	Translator #:	466A	Report Date:	12/08/06
		Serial #:	X1042	Previous Cal. Date:	08/04/06

Calibration Results:

	Component:	Outside Temp.
	Instrument Range (degrees centigrade):	-50 to +50
	AS-IS Average Ice Bath Difference (°C):	0.20
	AS-IS Average Ambient Bath Difference (°C):	0.20
	AS-IS Average Hot Bath Difference (°C):	0.24
	Slope:	0.999
Outside Temperature Best Fit Line	Intercept:	-0.194
	Correlation:	1.00000
	AS-IS Meets PSD °C Difference Requirement:	YES

Meteorology:

Temperature (°C):	22.0
Elevation (Feet.):	50
Pressure (mmHg):	759.3

Sensor Height:

Feet Above Ground:	19.0
Feet Above Roof:	N.A.

Calibration Standards:

Standard:	I.D. #:	Cert. Date:	Slope:	Intercept:
Digi-Sense 93410-50 Digital Thermometer	196743	08/16/06	0.9957	-0.0253
Cole Parmer Thermister Probe		N.A.	N.A.	N.A.

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Calibration Data:

If Average Difference of any bath is >0.5°C, correct.

Reference Bath	DAS Degree C (x)	Digital Degree C	True Degree C (y)	Difference DAS - True
ICE	0.30	0.13	0.10	0.20
	0.36	0.13	0.10	0.26
	0.25	0.13	0.10	0.15
Average	0.30		0.10	0.20
AMBIENT	27.51	27.44	27.30	0.21
	28.06	28.00	27.85	0.21
	27.56	27.51	27.37	0.19
Average	27.71		27.51	0.20
HOT	49.35	49.31	49.07	0.28
	49.35	49.38	49.14	0.21
	49.41	49.42	49.18	0.23
Average	49.37		49.13	0.24

Transalator:

Zero Scale:	
N.A.	N.A.
DMM Volts	Degrees C
N.A.	N.A.
Full Scale:	
Regression & Graph Data:	
x	y
0.30	0.10
27.71	27.51
49.37	49.13
PSD Data:	0.20
	0.20
	0.24

Outside Temperature Regression Data

Regression Results:

x Coefficient (Slope):	0.9992
y Constant (Intercept):	-0.1941
Number of Observations:	3
Correlation:	1.000000

Corrected OTEMP:

(DAS * x) + y
0.11
27.49
49.14

Comments:	POST-application cal performed in Sacto. AutoMet Configs: 179.34 - 72.89		
Calibrated by:	Steve Rider	Checked by:	

Rev. 07/00 (SUR)

ARB Calibration Report - % Relative Humidity

Calibration Summary:

ID Information:

Station Name:	Automrt 5304	Manufacturer:	Vaisala	AS-FOUND:	X
Site #:	Sodium Tetrathiocarbonate	Model #:	HMP45D	AS-LEFT:	
Station Address:	5th St. Warehouse in Sacto.	Serial #:	V2730036	Calibration Date:	08/04/06
Agency:	ARB	Translator #:	466A	Report Date:	08/04/06
		Serial #:	X1042	Previous Cal. Date:	

Calibration Info.:

Calibration Results:

	Component:	Relative Humidity
	Instrument Range (Percent Relative Humidity):	0 to 100
Relative Humidity Best Fit Line	Slope:	0.981
	Intercept:	1.594
	Correlation:	0.99938
	Absolute Average Percent Difference (%RH):	1.0
	AS-FOUND Meets PSD Requirements:	YES

Meteorology:

Temperature (^{o}C):	26.0
Elevation (Ft.):	50
Pressure (mmHg):	759.3

Sensor Height:

Feet Above Ground:	20.5
Feet Above Roof:	N.A.

Calibration Standards:

Standard:	I.D. #:	Cert. Date:	Cert. Factor:
Rotronic ER25 Calibration Device:	None	Factory	N.A.
Rotronic EA10 Salt Standard:	100401	07/26/04	(10 x 1)+0
Rotronic EA35 Salt Standard:	350403	09/15/04	(35 x 1)+0
Rotronic EA50 Salt Standard:	500303	08/04/03	(50 x 1)+0
Rotronic EA80 Salt Standard:	800403	07/29/04	(80 x 1)+0

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Calibration Data:

Translator:

Zero Scale:		Full Scale:	
DMM Voltage:	%RH:	DMM Voltage:	%RH:
N.A.	N.A.	N.A.	N.A.

% Relative Humidity Accuracy (If Any Difference > 5.0%RH, adjust so Avg. Diff. Is <2.0%RH Difference)

TRUE %RH (y)	DAS %RH (x)	DAS Voltage	Difference DAS - True	Meets PSD Criteria
0	-1.6	N.A.	N.A.	YES
10.2	9.8	N.A.	-0.4	1
35.4	33.0	N.A.	-2.4	1
50.2	49.6	N.A.	-0.7	1
80.1	80.5	N.A.	0.4	1
		ABS Avg. Diff.:	1.0	

Relative Humidity Regression Data

Regression Results:

x Coefficient (Slope):	0.9810
y Constant (Intercept):	1.5940
Number of Observations:	4
Correlation:	0.999377

Corrected %RH:

(DAS * x) + y
0.0
11.2
34.0
50.2
80.6
100.0

Comments:	Pre-application cal performed in Sacto.		
Calibrated by:	Steve Rider	Checked by:	

ARB Calibration Report - % Relative Humidity

Calibration Summary:

ID Information:

Station Name:	Automet 5304	Manufacturer:	Vaisala	AS-IS:	X
Site #:	Sodium Tetrathiocarbonate	Model #:	HMP45D	FINAL:	
Station Address:	5th St. Warehouse in Sacto.	Serial #:	V2730036	Calibration Date:	12/07/06
Agency:	ARB	Translator #:	466A	Report Date:	12/08/06
		Serial #:	X1042	Previous Cal. Date:	08/04/06

Calibration Results:

	Component:	Relative Humidity
	Instrument Range (Percent Relative Humidity):	0 to 100
Relative Humidity Best Fit Line	Slope:	0.969
	Intercept:	1.258
	Correlation:	0.99988
	Absolute Average Percent Difference (%RH):	0.8
	AS-IS Meets PSD Requirements:	YES

Meteorology:

Temperature (^{o}C):	22.0
Elevation (Ft.):	50
Pressure (mmHg):	759.3

Sensor Height:

Feet Above Ground:	20.5
Feet Above Roof:	N.A.

Calibration Standards:

Standard:	I.D. #:	Cert. Date:	Cert. Factor:
Rotronic ER25 Calibration Device:	None	Factory	N.A.
Rotronic EA10 Salt Standard:	100303	11/26/03	(10 x 1)+0
Rotronic EA35 Salt Standard:	350401	04/26/04	(35 x 1)+0
Rotronic EA50 Salt Standard:	500303	08/04/03	(50 x 1)+0
Rotronic EA80 Salt Standard:	800403	07/29/04	(80 x 1)+0

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Calibration Data:

Translator:

Zero Scale:		Full Scale:	
DMM Voltage:	%RH:	DMM Voltage:	%RH:
N.A.	N.A.	N.A.	N.A.

% Relative Humidity Accuracy (If Any Difference > 5.0%RH, adjust so Avg. Diff. Is <2.0%RH Difference)

TRUE %RH (y)	DAS %RH (x)	DAS Voltage	Difference DAS - True	Meets PSD Criteria
0	-1.3	N.A.	N.A.	YES
9.3	8.7	N.A.	-0.6	1
34.4	33.5	N.A.	-0.9	1
49.8	50.2	N.A.	0.4	1
80.0	81.4	N.A.	1.4	1
		ABS Avg. Diff.:	0.8	

Relative Humidity Regression Data

Regression Results:

x Coefficient (Slope):	0.9693
y Constant (Intercept):	1.2575
Number of Observations:	4
Correlation:	0.999878

Corrected %RH:

(DAS * x) + y
0.0
9.7
33.7
49.9
80.2
100.0

Comments:	Post-application cal performed in Sacto. Tweaked dry pot so 9.3% = 10.0%.		
Calibrated by:	Steve Rider	Checked by:	

Rev. 07/00 (SUR)

ARB Calibration Report - Resultant Wind Direction

Calibration Summary:

ID Information:

Station Name:	Automet 5304	Manufacturer:	Met One	AS-FOUND:	X
Site #:	Sodium Tetrathiocarbonate	Model #:	020C-1	AS-LEFT:	
Station Address:	Sacto. 5th St. Warehouse	Serial #:	A6978	Calibration Date:	08/04/06
Agency:	ARB/SJVUAPCD	Translator #:	466A	Report Date:	08/04/06
		Serial #:	X1042	Previous Cal. Date:	

Calibration Info.:

Calibration Results:

Component:		Wind Direction
Instrument Range (degrees):		0 to 360
AS-FOUND Azimuth in relation to True North (deg):		1.1
AS-FOUND Starting Torque (gm-cms):		4.5
AS-FOUND Absolute Average Difference (degrees):		1.3
	Slope:	1.011
Wind Direction Best Fit Line	Intercept:	-0.904
	Correlation:	0.99998
AS-FOUND Meets Both PSD Requirements:		YES

For FINAL, see next page.

Meteorology:

Temperature (°C):	26.0
Elevation (Feet.):	50
Pressure (mmHg):	759.3

Sensor Height:

Feet Above Ground:	22.5
Roof height in feet.:	0.0
Calculated data to	10.3
meet EPA height:	-22.5
To meet EPA height:	10.3

Calibration Standards:

Standard:	I.D. #:	Cert. Date:	Cert. Factor:
Brunton 5008 Pocket Transit	5081192140	Factory	WYSIWYG
R.M. Young 18310 Torque Disk	N.A.	Factory	N.A.
Met One 040 Degree Fixture	N.A.	Factory	WYSIWYG

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Calibration Data:

AS-FOUND Condition (0 to 360° only):

Declination of Site (Degrees East):	15.0	Translator:	DMM Voltage:	Degrees:
Calculated True North Heading:	345.0	Zero Scale:	N.A.	N.A.
Crossarm Orientation Uncorrected Transit Reading:	345.0	Half Scale:	N.A.	N.A.
Crossarm Degrees in Relation to True North:	0.0		gram-centimeters:	4.5
DAS Output with Vane Parallel to Crossarm:	1.1	Starting	K Factor:	38
DAS Output Degrees off from True North:	-358.9	Torque:	Speed in m/sec.:	0.34
Azimuth computed from above measurements:	1.1		Meets torque std.:	YES

Direction Accuracy:

True Degrees (y):	DAS Degrees (x):	Difference DAS - True	Calculated Data to Meet PSD Direction
10	10.4	0.4	
90	89.6	-0.5	1
180	179.8	-0.2	1
270	268.5	-1.5	1
350	346.0	-4.0	1

PSD Correction:
1.1
Absolute Avg. Diff.:
1.3
Meets PSD Difference Standard:
YES

Wind Direction Regression Data

Regression Results:

x Coefficient (Slope):	1.0115
y Constant (Intercept):	-0.9036
Number of Observations:	5
Correlation:	0.999983

Corrected RWD:

(DAS * x) + y
9.6
89.7
181.0
270.7
349.1

FINAL Condition (0 to 360° only):

Declination of Site (Degrees East):	15.0	FINAL PSD	Calculated Data to
Calculated True North Heading:	345.0	Correction	Meet PSD Direction

ARB Calibration Report - Resultant Wind Direction

Crossarm Orientation Uncorrected Transit Reading:		15.0	Meet PSD Direction
Crossarm Degrees in Relation to True North:	15.0	FINAL Meets	1
DAS Output with Vane Parallel to Crossarm:		Direction	0
DAS Output Degrees off from True North:	-360.0	Standard	1
Azimuth computed from above measurements:	15.0	NO	0

Comments:	Pre-application cal performed in Sacto.			
Calibrated by:	Steve Rider		Checked by:	

ARB Calibration Report - Resultant Wind Direction

Calibration Summary:

ID Information:

Station Name:	Automet 5304	Manufacturer:	Met One	AS-IS:	X
Site #:	Sodium Tetrathiocarbonate	Model #:	020C-1	FINAL:	
Station Address:	Sacto. 5th St. Warehouse	Serial #:	A6978	Calibration Date:	12/07/06
Agency:	ARB	Translator #:	466A	Report Date:	12/08/06
		Serial #:	X1042	Previous Cal. Date:	08/04/06

Calibration Info.:

Calibration Results:

	Component:	Wind Direction
	Instrument Range (degrees):	0 to 360
	AS-IS Azimuth in relation to True North (deg):	359.6
	AS-IS Starting Torque (gm-cms):	3.7
	AS-IS Absolute Average Difference (degrees):	1.6
	Slope:	1.010
Wind Direction Best Fit Line	Intercept:	-0.273
	Correlation:	0.99998
	AS-IS Meets Both PSD Requirements:	YES

For FINAL, see next page.

Meteorology:

Temperature (°C):	22.0
Elevation (Feet.):	50
Pressure (mmHg):	759.3

Sensor Height:

Feet Above Ground:	22.5
Roof height in feet.:	0.0
Calculated data to	10.3
meet EPA height:	-22.5
To meet EPA height:	10.3

Calibration Standards:

Standard:	I.D. #:	Cert. Date:	Cert. Factor:
Brunton 5008 Pocket Transit	5081192140	Factory	WYSIWYG
R.M. Young 18310 Torque Disk	N.A.	Factory	N.A.
Met One 040 Degree Fixture	N.A.	Factory	WYSIWYG

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Calibration Data:

AS-IS Condition (0 to 360° only):

Declination of Site (Degrees East):	13.5	Translator:	DMM Voltage:	Degrees:
Calculated True North Heading:	346.5	Zero Scale:	N.A.	N.A.
Crossarm Orientation Uncorrected Transit Reading:	345.0	Half Scale:	N.A.	N.A.
Crossarm Degrees in Relation to True North:	358.5		gram-centimeters:	3.7
DAS Output with Vane Parallel to Crossarm:	1.1	Starting	K Factor:	38
DAS Output Degrees off from True North:	-358.9	Torque:	Speed in m/sec.:	0.31
Azimuth computed from above measurements:	359.6		Meets torque std.:	YES

Direction Accuracy:

True Degrees (y):	DAS Degrees (x):	Difference DAS - True	Calculated Data to Meet PSD Direction
10	9.6	-0.4	
90	89.3	-0.7	1
180	179.4	-0.6	1
270	268.0	-2.0	1
350	345.8	-4.2	1

PSD Correction:
-0.4
Absolute Avg. Diff.:
1.6
Meets PSD Difference Standard:
YES

Wind Direction Regression Data

Regression Results:

x Coefficient (Slope):	1.0104
y Constant (Intercept):	-0.2731
Number of Observations:	5
Correlation:	0.999984

Corrected RWD:

(DAS * x) + y
9.4
90.0
181.0
270.5
349.1

FINAL Condition (0 to 360° only):

Declination of Site (Degrees East):	13.5	FINAL PSD	Calculated Data to
Calculated True North Heading:	346.5	Correction	Meet PSD Direction

ARB Calibration Report - Resultant Wind Direction

Crossarm Orientation Uncorrected Transit Reading:	345.0	-0.4	Meet PSD Direction
Crossarm Degrees in Relation to True North:	358.5	FINAL Meets	1
DAS Output with Vane Parallel to Crossarm:	1.1	Direction	1
DAS Output Degrees off from True North:	-358.9	Standard	1
Azimuth computed from above measurements:	359.6	YES	1

Comments:	Post-application cal performed in Sacto.			
Calibrated by:	Steve Rider		Checked by:	

ARB Calibration Report - Resultant Wind Speed

Calibration Summary:

ID Information:

Station Name:	Automet 5304	Manufacturer:	Met One	AS-FOUND:	X
Site #:	Sodium Tetrathiocarbonate	Model #:	010C	AS-LEFT:	
Station Address:	Sacto. 5th St. Warehouse	Serial #:	A6703	Calibration Date:	08/04/06
Agency:	ARB	Translator #:	466A	Report Date:	08/04/06
		Serial #:	X1042	Previous Cal. Date:	

Calibration Info.:

Calibration Results:

	Component:	Wind Speed
	Instrument Range (miles per hour):	0 to 100
	AS-FOUND Starting Torque (gm-cm):	0.53
	AS-FOUND Absolute Avg Speed Difference (MPH):	0.10
	Slope:	1.001
Wind Speed Best Fit Line	Intercept:	0.092
	Correlation:	1.00000
	AS-FOUND Meets Both PSD Requirements:	YES

Meteorology:

Temperature (°C):	26.0
Elevation (Feet.):	50
Pressure (mmHg):	759.3

Sensor Height:

Feet Above Ground:	22.5
Roof height in feet.:	0.0
Calculated data to	10.3
meet EPA height:	-22.5
To meet EPA height:	10.3

Calibration Standards:

Standard:	I.D. #:	Cert. Date:	Cert. Factor:
R.M. Young 18310 Torque Disc (0 to 15 gm-cm):	N.A.	N.A.	N.A.
R.M. Young 18810 Selectable Drive (10-1,000 rpm):	10329	12/08/04	RPM=(Meter*10)+0

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Calibration Data:

Translator:

Zero Scale:		Full Scale:	
DMM Voltage:	MPH:	DMM Voltage:	MPH:
N.A.	N.A.	N.A.	N.A.

Starting Torque:

In gm-cms:	0.4	Starting speed in meters/sec:	0.53
K Factor:	1.4	Meets PSD torque standard:	YES

Speed Accuracy (@ 0 <0.54 & Difference DAS - True <±5% of True)

RPM:	True (y): Miles per Hour	DAS (x): MPH	Difference DAS - True	PSD Difference Data	Meets PSD Difference Standard:
0	0.60	0.50	-0.10	1	YES
50	3.58	3.50	-0.08	2.3%	
110	7.16	7.05	-0.11	1.5%	Absolute Avg. Diff.:
220	13.72	13.65	-0.07	0.5%	0.10
450	27.44	27.30	-0.14	0.5%	
920	55.47	55.35	-0.12	0.2%	

Wind Speed Regression Data

Regression Results:

x Coefficient (Slope):	1.0006
y Constant (Intercept):	0.0922
Number of Observations:	6
Correlation:	0.999999

Corrected RWS:

(DAS * x) + y
0.59
3.59
7.15
13.75
27.41
55.48

Comments:	Pre-application cal performed in Sacto.		
Calibrated by:	Steve Rider	Checked by:	

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ARB Calibration Report - Resultant Wind Speed

Calibration Summary:

ID Information:

Station Name:	Automet 5304	Manufacturer:	Met One	AS-IS:	X
Site #:	Sodium Tetrathiocarbonate	Model #:	010C	FINAL:	
Station Address:	Sacto. 5th St. Warehouse	Serial #:	A6703	Calibration Date:	12/07/06
Agency:	ARB	Translator #:	466A	Report Date:	12/08/06
		Serial #:	X1042	Previous Cal. Date:	08/04/06

Calibration Info.:

Calibration Results:

	Component:	Wind Speed
	Instrument Range (miles per hour):	0 to 100
	AS-IS Starting Torque (gm-cm):	0.46
	AS-IS Absolute Avg Speed Difference (MPH):	0.10
	Slope:	1.001
Wind Speed Best Fit Line	Intercept:	0.092
	Correlation:	1.00000
	AS-IS Meets Both PSD Requirements:	YES

Meteorology:

Temperature (°C):	22.0
Elevation (Feet.):	50
Pressure (mmHg):	759.3

Sensor Height:

Feet Above Ground:	22.5
Roof height in feet.:	0.0
Calculated data to	10.3
meet EPA height:	-22.5
To meet EPA height:	10.3

Calibration Standards:

Standard:	I.D. #:	Cert. Date:	Cert. Factor:
R.M. Young 18310 Torque Disc (0 to 15 gm-cm):	N.A.	N.A.	N.A.
R.M. Young 18810 Selectable Drive (10-1,000 rpm):	10329	12/08/04	RPM=(Meter*10)+0

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Calibration Data:

Translator:

Zero Scale:		Full Scale:	
DMM Voltage:	Knots:	DMM Voltage:	Knots:
N.A.	N.A.	N.A.	N.A.

Starting Torque:

In gm-cms:	0.3	Starting speed in meters/sec:	0.46
K Factor:	1.4	Meets PSD torque standard:	YES

Speed Accuracy (@ 0 <0.54 & Difference DAS - True <±5% of True)

RPM:	True (y): Miles per Hour	DAS (x): MPH	Difference DAS - True	PSD Difference Data	Meets PSD Difference Standard:
0	0.60	0.50	-0.10	1	YES
50	3.58	3.50	-0.08	2.3%	
110	7.16	7.05	-0.11	1.5%	Absolute Avg. Diff.:
220	13.72	13.65	-0.07	0.5%	0.10
450	27.44	27.30	-0.14	0.5%	
920	55.47	55.35	-0.12	0.2%	

Wind Speed Regression Data

Regression Results:

x Coefficient (Slope):	1.0006
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(DAS * x) + y
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13.75
27.41
55.48

Comments:	Post-application cal performed in Sacto.		
Calibrated by:	Steve Rider	Checked by:	

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