File #	Original File Name
1	PAC2001_CSRT_WRL_HYGGRO_HTDMA_20010812D3_V1.csv

Dataset Key Phrases

Data Exchange Standard Version	Principal Investigator Name--last first	Principal Investigator Affiliation	File Contents Description--short long	Sampling Interval As Reported in Main Table	Sampling Frequency Of Data in Main Table	Quality Control Level	Organization Acronym	Organization Name
NARSTO 2002/05/28 (2.301)	Leaitch ; Dr. Richard	Meteorological Service of Canada	Hyg_Growth_Fac ; Hygroscopic Growth Factors for 50 nm and 100 nm Particles	10 minute	Variable interval	1	ENVCAN	Environment Canada, Meteorological Service of Canada

Data Usage Acknowledgement	Study Or Network Acronym	Study Or Network Name	Country Code	State Or Province Code	Principal Investigator Contact Information	Co-investigator Name--last first	Co-investigator Affiliation
Air Quality Research Branch, Meteorological Service of Canada, 4905 Dufferin Street, Toronto, Ontario, M3H 5T4, and Colorado State University, Department of Atmospheric Science, Fort Collins, CO 80523	PAC2001	Pacific 2001	CA (CANADA)	BC	Air Quality Research Branch, Meteorological Service of Canada, 4905 Dufferin Street, Toronto, Ontario M3H 5T4, Tel. 416-739-4616, Richard.Leaitch@ec.gc.ca	Prenni ; Dr. Anthony	Colorado State University, Department of Atmospheric Science

Name And Affiliation Of Person Who Generated This File	Date Of Last Modification To Data In Main Table	Name And Version Of Software Used To Create This File	Companion File Name format And Version	Date This File Generated archive Version Number	Table Explanation Of Zero Or Negative Values	Table Explanation Of Reported Detection Limit Values
Dr. Anthony J. Prenni, Colorado State University	2002/10/21	MS Excel 2000	None ; 0	2004/10/28 ; 1	A value of zero for 'Hygroscopic Growth Factor - Secondary Peak' means that no secondary peak was observed when the monodisperse aerosol was humidified; i.e. only one distinct peak was observed	No below-detection-limit values are reported in this table.

Table Explanation Of Reported Uncertainty	Table User Note	Table User Note2	Table User Note3	Table User Note4
Uncertainty in calculating growth factors is +/- 0.046; this uncertainty is determined by channel width for DMA 2. This value is considered to be constant and its accuracy has been validated in the lab. Uncertainty in RH measurements is based on the humidity sensor specifications from the manufacturer, pooled with fluctuations due to the method used to control RH (PID control); this value is +/- 2.5% RH. This uncertainty is also considered to be constant.	Sampling intervals vary greatly due to variable times needed to reach desired humidities. Additional variability results because of time needed to systematically determine dry particle size. Large gaps in data result because instrument was not run continuously throughout study period.	Data collection is planned around rush hour traffic.		

Table Name	Table Focus
Hygroscopic_Growth_Factors	Surface--fixed

Site Information

Site ID	Name	State Province code	Latitude: decimal degree	Longitude: decimal degree	Sampling height above ground (m)	Ground elevation above sea level (m)	Site land use	Site location setting	Measurement start date	Measurement end date	Co-incident measurements	Study site ID	Lat lon accuracy
PC01CABCCSRT	Cassier Tunnel	BC	49.28390	-123.03170	7.0	41.0	Other	Urban and center city	2002/08/12	2002/08/14			.

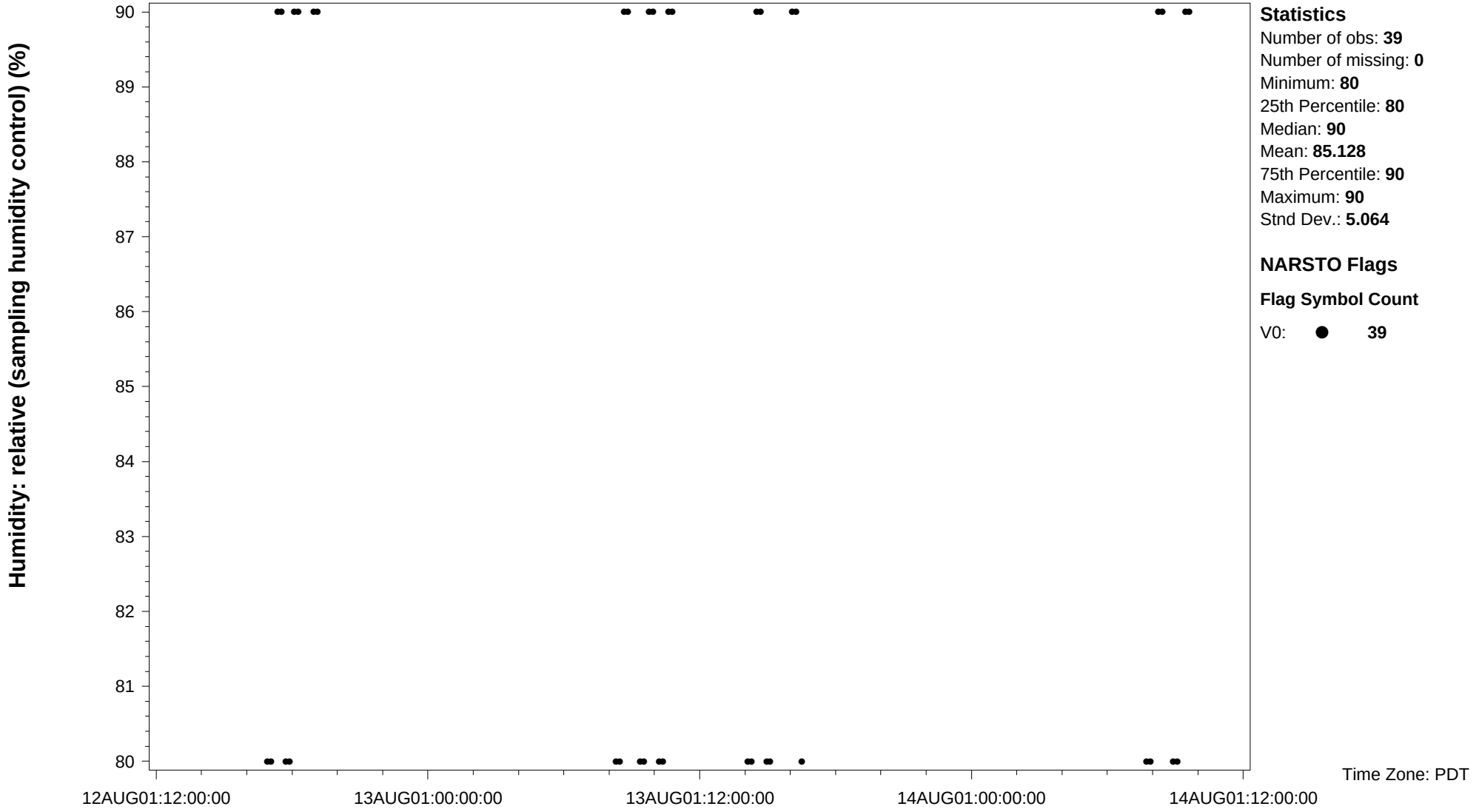
NARSTO Standard Flags

Flag: NARSTO	Description
H1	Historical data that have not been assessed or validated
M1	Missing value because no value is available
M2	Missing value because invalidated by data originator
V0	Valid value
V1	Valid value but comprised wholly or partially of below detection limit data
V2	Valid estimated value
V3	Valid interpolated value
V4	Valid value despite failing to meet some QC or statistical criteria
V5	Valid value but qualified because of possible contamination (e.g., pollution source, laboratory contamination source)
V6	Valid value but qualified due to non-standard sampling conditions (e.g., instrument malfunction, sample handling)
V7	Valid value but set equal to the detection limit (DL) because the measured value was below the DL

NAtChem Time Series Plot

Site ID: **PC01CABCCSRT** Variable name: **Humidity: relative (sampling humidity control)** Units: **%** Sampling interval: **10 minute** Observation type: **Other**
Field sampling or measurement principle: **Capacitance thin film humidity** Sampling humidity or temperature control: **Humidification**
Sample preparation: **Temperature and humidity equilibration** Volume standardization: **30 deg. C; ambient pressure**
Instrument name and model number: **HydroClip Type S** Measurement principal investigator: **Richard Leaitch**

Site Name:**Cassier Tunnel, British Columbia** Latitude:**49.2839 deg.** Longitude:**-123.0317 deg.** Start Date:**2002-08-12** End Date:**2002-08-14**



Statistics
Number of obs: **39**
Number of missing: **0**
Minimum: **80**
25th Percentile: **80**
Median: **90**
Mean: **85.128**
75th Percentile: **90**
Maximum: **90**
Stnd Dev.: **5.064**

NARSTO Flags

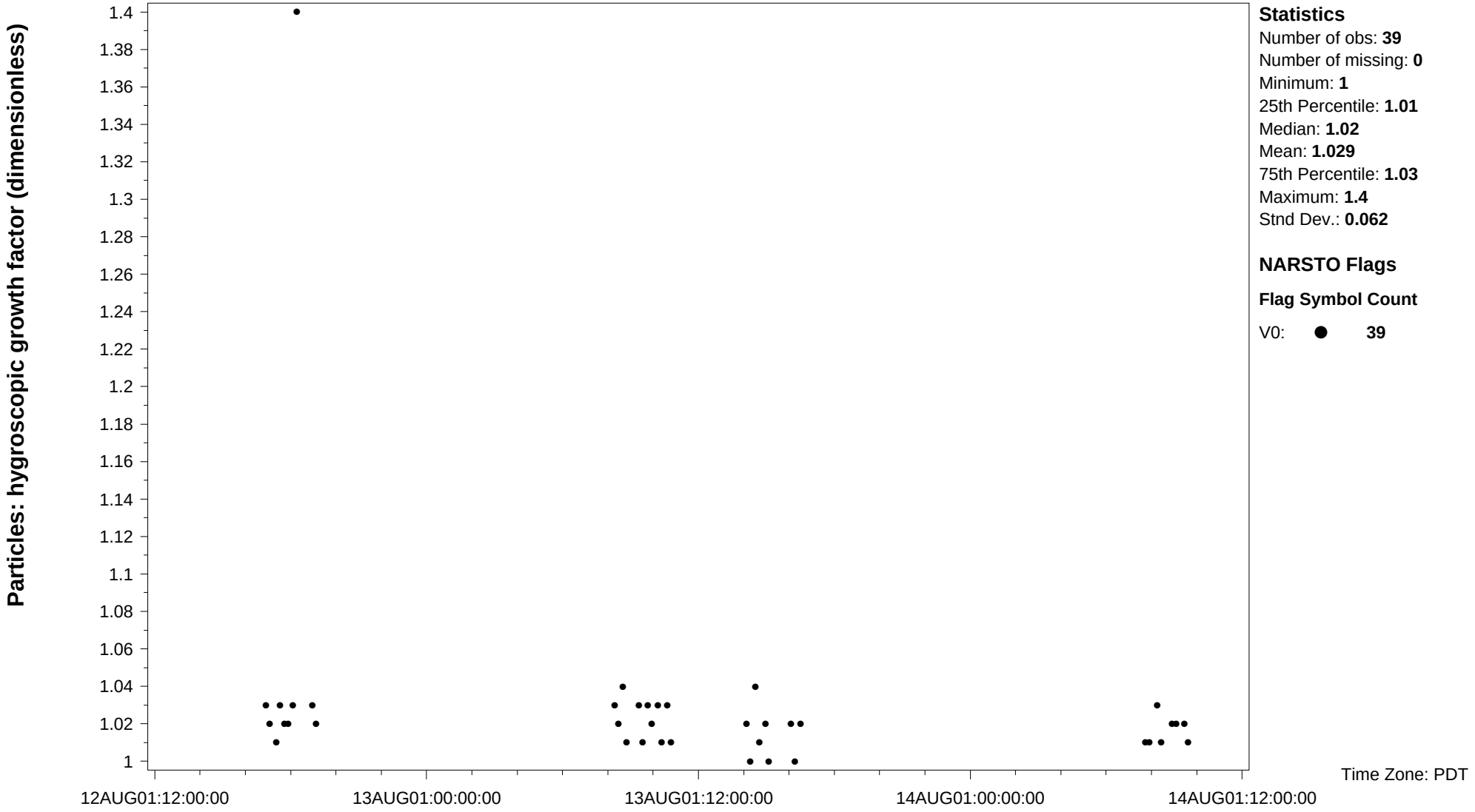
Flag Symbol Count

V0: ● **39**

File Name: NATCHEM_PAC2001_CSRT_WRL_HYGGRO_HTDMA_20010812D3_V1

Site ID: **PC01CABCCSRT** Variable name: **Particles: hygroscopic growth factor** Units: **dimensionless** Basis: **Peak #1** Sampling interval: **10 minute**
Observation type: **Particles** Field sampling or measurement principle: **SMPS** Inlet type: **Hat or hood**
Sampling humidity or temperature control: **Humidification** Sample preparation: **Temperature and humidity equilibration**
Volume standardization: **30 deg. C; ambient pressure** Sampling Height above ground (m): **5** Instrument name and model number: **TSI SMPS**
Measurement principal investigator: **Richard Leaitch**

Site Name:**Cassier Tunnel, British Columbia** Latitude:**49.2839 deg.** Longitude:**-123.0317 deg.** Start Date:**2002-08-12** End Date:**2002-08-14**



Statistics
Number of obs: **39**
Number of missing: **0**
Minimum: **1**
25th Percentile: **1.01**
Median: **1.02**
Mean: **1.029**
75th Percentile: **1.03**
Maximum: **1.4**
Stnd Dev.: **0.062**

NARSTO Flags

Flag Symbol Count

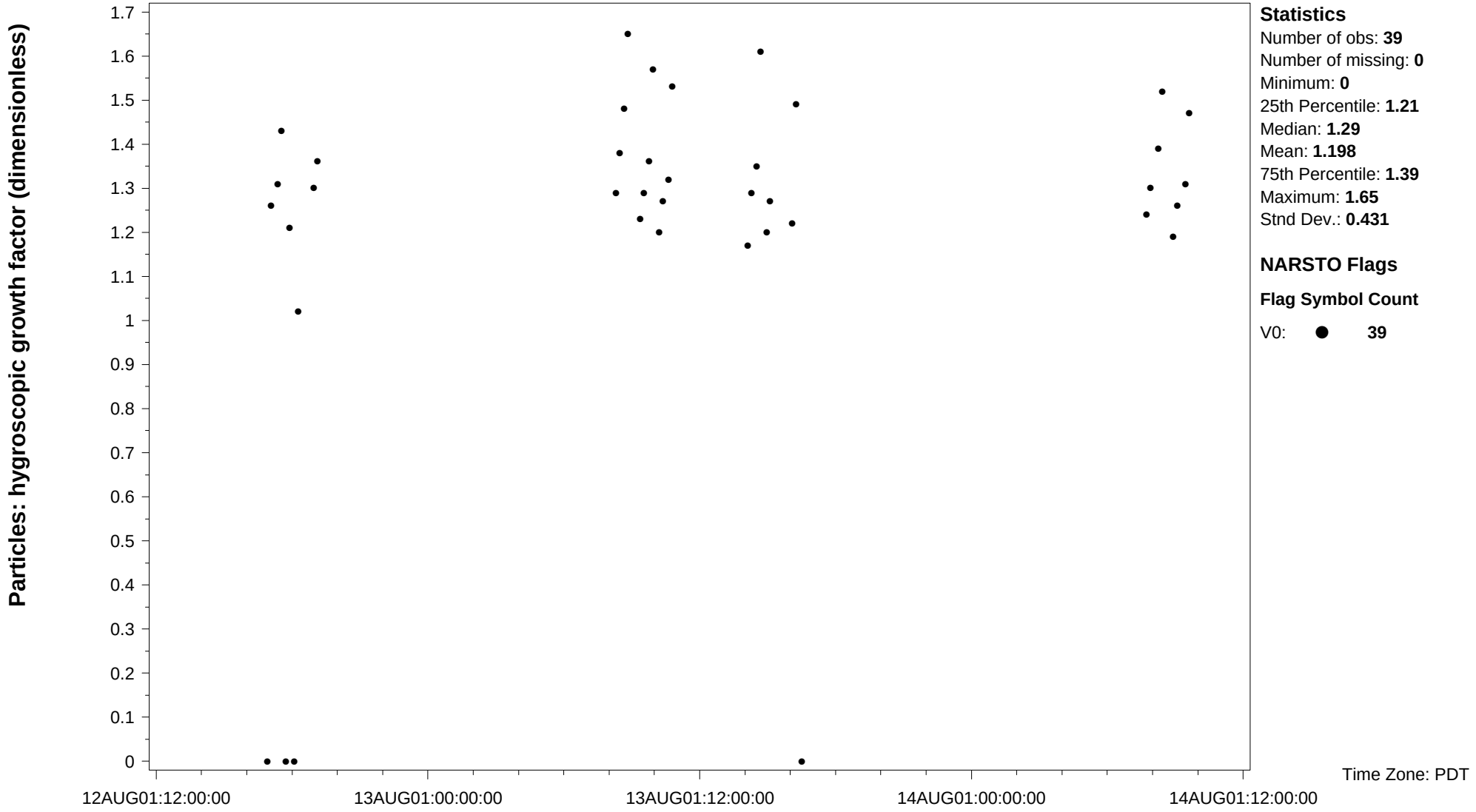
V0: ● **39**

File Name: NATCHEM_PAC2001_CSRT_WRL_HYGGRO_HTDMA_20010812D3_V1

NAtChem Time Series Plot

Site ID: **PC01CABCCSRT** Variable name: **Particles: hygroscopic growth factor** Units: **dimensionless** Basis: **Peak #2** Sampling interval: **10 minute**
Observation type: **Particles** Field sampling or measurement principle: **SMPS** Inlet type: **Hat or hood**
Sampling humidity or temperature control: **Humidification** Sample preparation: **Temperature and humidity equilibration**
Volume standardization: **30 deg. C; ambient pressure** Sampling Height above ground (m): **5** Instrument name and model number: **TSI SMPS**
Measurement principal investigator: **Richard Leaitch**

Site Name:**Cassier Tunnel, British Columbia** Latitude:**49.2839 deg.** Longitude:**-123.0317 deg.** Start Date:**2002-08-12** End Date:**2002-08-14**



Statistics
Number of obs: **39**
Number of missing: **0**
Minimum: **0**
25th Percentile: **1.21**
Median: **1.29**
Mean: **1.198**
75th Percentile: **1.39**
Maximum: **1.65**
Stnd Dev.: **0.431**

NARSTO Flags

Flag Symbol Count

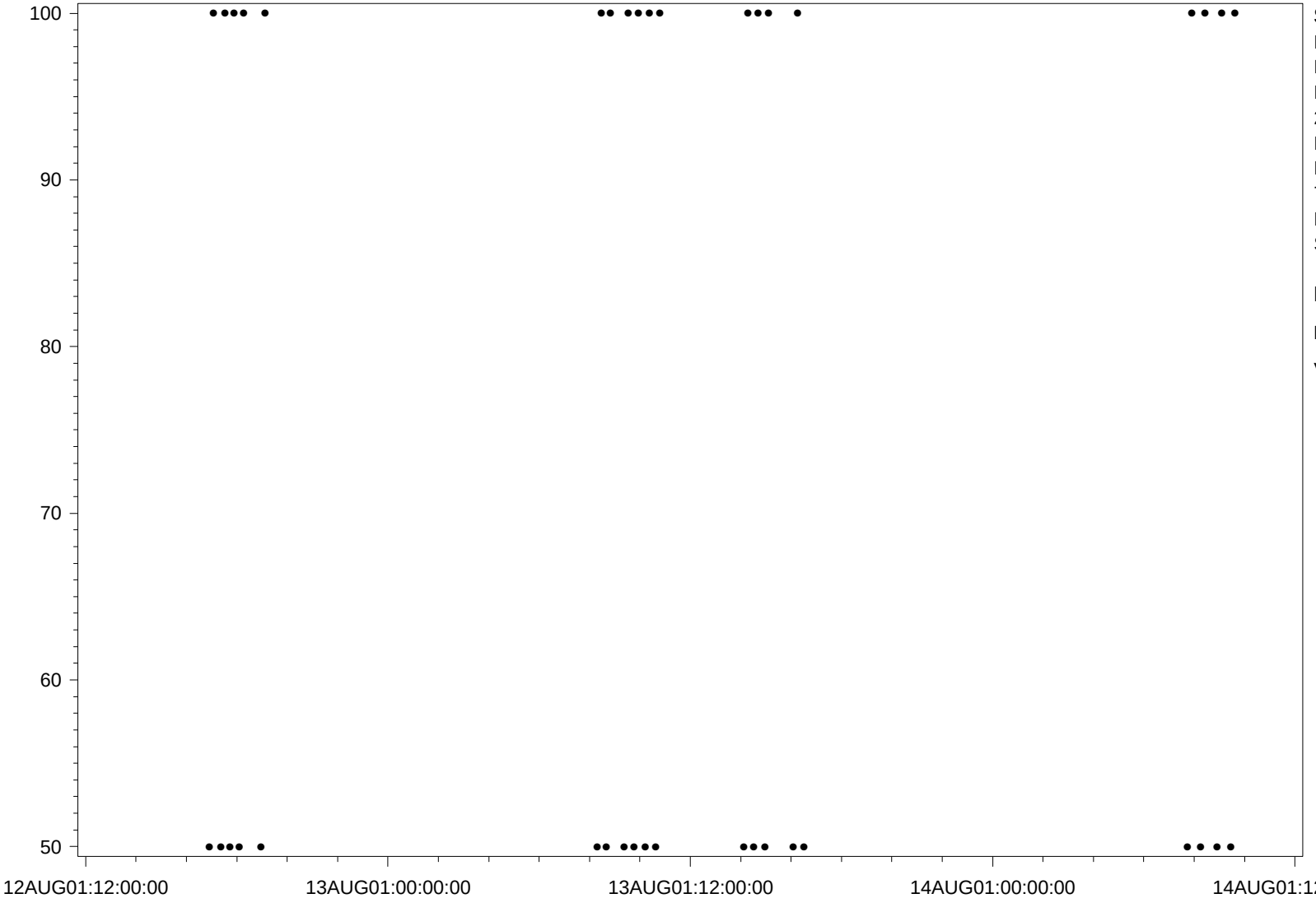
V0: ● **39**

File Name: NATCHEM_PAC2001_CSRT_WRL_HYGGRO_HTDMA_20010812D3_V1

NAtChem Time Series Plot **21MAR2005**

Site ID: **PC01CABCCSRT** Variable name: **Particles: size** Units: **nm** Sampling interval: **10 minute** Observation type: **Particles**
Particle diameter--median (UM): **Varies--see variable Dry** Field sampling or measurement principle: **DMA** Inlet type: **Hat or hood**
Sampling humidity or temperature control: **Diffusion dryer** Sample preparation: **Temperature and humidity equilibration**
Volume standardization: **30 deg. C; ambient pressure** Sampling Height above ground (m): **5** Instrument name and model number: **TSI 3071A DMA**
Measurement principal investigator: **Richard Leaitch**

Site Name:**Cassier Tunnel, British Columbia** Latitude:**49.2839 deg.** Longitude:**-123.0317 deg.** Start Date:**2002-08-12** End Date:**2002-08-14**



Statistics
Number of obs: **39**
Number of missing: **0**
Minimum: **50**
25th Percentile: **50**
Median: **50**
Mean: **74.359**
75th Percentile: **100**
Maximum: **100**
Stnd Dev.: **25.318**

NARSTO Flags

Flag Symbol Count

V0: ● **39**

File Name: NATCHEM_PAC2001_CSRT_WRL_HYGGRO_HTDMA_20010812D3_V1