



Palliser Airshed Society

Ambient Air Monitoring Network Summary

July 2004



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Enforcement and Monitoring Division
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Attention: Director of Monitoring and Evaluation

RE: Palliser Airshed Society (PAS) Ambient Air Monitoring Report – July 2004

Enclosed is the PAS Ambient Monitoring Report for the month of **July 2004**.

Please note that this report has been prepared in partial fulfillment of the City of Medicine Hat's air monitoring requirement as well as all members of the Palliser Airshed Society.

Continuous Monitoring – Crescent Heights

Included in this report are the; monthly sampling table, detailed hourly average reports and multipoint calibration reports of all instruments. The measured ambient air quality was within the Provincial and Federal guidelines with no exceedences recorded. Operational time of all instruments was above 90% uptime for the month of July. There were no significant events leading to emergency response for the month of July.

The following is a summary of the monthly averages found during this month of sampling:

- Monthly average concentrations of NO₂ was 6.3 ppb
- Monthly average concentrations for O₃ was 31.9 ppb
- Monthly average concentrations for THC was 1.93 ppm
- Monthly average concentrations for PM_{2.5} was 4.5 µg/m³

Passive Monitoring – Six Stations throughout the PAS zone:

There were no exceedences of the Provincial Air Quality guidelines.

- Monthly average concentrations for SO₂ passives ranged from 0.1 ppb to 0.2 ppb
- Monthly average concentrations for NO₂ passives ranged from 3.1 ppb to 4.4 ppb
- Monthly average concentrations for O₃ passives ranged from 26.9 ppb to 38.5 ppb

If you have any questions, please contact the Focus office at 1-888-466-6555 or 1-888-869-2252.

Gary Cross C.E.T.

Kevin McCullum, M.Sc., P.Eng.



July 2004 Monthly Overall Summary Report

Ambient Air Quality Data

| Jul-2004 | | Palliser Airshed Society | | | | | Maximum Recorded Values | | | | | | Operational Time (%) |
|--|------------|--------------------------|------------------|-----------------|------------|-------|-------------------------|--------|-----------------|------------------|-------|--------|----------------------|
| | | | | | | | 1-hr | | | | 24-hr | | |
| Pollutant (units) | Guidelines | | Station | Monthly Average | Exceedence | | Conc | Day | WSPD (km/hr) | WDIR (Sector) | Conc | Day | |
| | 1-hr | 24-hr | | | 1-hr | 24-hr | | | | | | | |
| NO (ppb) | | | Crescent Heights | 1.6 | 0 | 0 | 20.0 | Jul-08 | 3.5 | SSE | 2.9 | Jul-08 | 100.0% |
| NO ₂ (ppb) | 212 | 106 | Crescent Heights | 6.3 | 0 | 0 | 36.8 | Jul-29 | 4.5 | SE | 9.6 | Jul-17 | 100.0% |
| NO _x (ppb) | | | Crescent Heights | 7.9 | 0 | 0 | 48.3 | Jul-12 | 4.2 | SE | 11.3 | Jul-17 | 100.0% |
| O ₃ (ppb) | 82 | | Crescent Heights | 31.9 | 0 | 0 | 67.1 | Jul-18 | 7.0 | SSW | 44.5 | Jul-24 | 100.0% |
| THC (ppm) | | | Crescent Heights | 1.93 | 0 | 0 | 2.63 | Jul-12 | 4.2 | SE | 2.11 | Jul-22 | 100.0% |
| PM _{2.5} (µg/m ³) | | 30 ^a | Crescent Heights | 4.5 | 0 | 0 | 25.3 | Jul-30 | 11.3 | N | 13.8 | Jul-23 | 99.1% |
| RH (%) | | | Crescent Heights | 55.3 | | | | | | | | | 100.0% |
| SR (W/m ²) | | | Crescent Heights | 277.1 | | | | | | | | | 100.0% |
| Temp (°C) | | | Crescent Heights | 21.2 | | | | | | | | | 100.0% |
| WSPD v (km/hr) | | | Crescent Heights | 1.9 | | | | | | | | | 100.0% |
| WSPD s (km/hr) | | | Crescent Heights | 11.1 | | | | | | | | | 100.0% |
| WDIR (Deg) | | | Crescent Heights | W* | | | | | | | | | 100.0% |

Note: ^a the 24-hr Canada Wide Standard level is considered as an absolute value

* Wind Direction is the predominate direction for the Month



Continuous Monitoring

Ambient Air Monitoring Network

Crescent Heights Station

General Station Issues

No unusual activities were noted during station operation for the month of July

| Parameter | Make | Model | Units | Notes |
|------------------|----------------|--------|-------|----------------------------------|
| Ozone | Teledyne - API | 400E | ppb | No operational problems observed |
| Dioxide | Teledyne - API | 200E | ppb | No operational problems observed |
| Total | | | | |
| Hydrocarbons | Bendix | 400A | ppm | No operational problems observed |
| PM 2.5 | R&P TEOM | 1400ab | ug/m3 | No operational problems observed |
| Wind Speed | Met One | 010C | KPH | No operational problems observed |
| Wind Direction | Met One | 020C | Deg | No operational problems observed |
| Ambient | | | | |
| Temperature | Met One | 083D | DegC | No operational problems observed |
| Relative | | | | |
| Humidity | Met One | 083D | % | No operational problems observed |
| Solar Radiation | Met One | 096-1 | W/m2 | No operational problems observed |
| Data Acquisition | | | | |
| System | Titan Logix | AP1000 | N/A | No operational problems observed |

**PAS - Crescent Heights Oxides of Nitrogen Monthly Summary**

Station: Crescent Heights

HOURLY AVERAGE TABLE**Nitrogen Dioxide (NO₂)**

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| | | | | |
|------------------------------|----|-----|--------|-------------|
| Number of 1-hr Exceedances: | 0 | | | |
| Number of 24-hr Exceedances: | 0 | | | |
| Maximum 1-hr Average: | 37 | ppb | 29-Jul | 22:00 23:00 |
| Maximum 24-hr Average: | 10 | ppb | 17-Jul | |

Guideline Limit: Alberta Environment: 1-hr 212 ppb 24-hr 106 ppb

| | | | | | | | | | | | | | | | |
|-------------------|--------|----|----|----|----|---|---|-------------------------|---------|--|--|--|--|--|--|
| AIC Time: | 34 hrs | | | | | | | Operational Time: | 706 hrs | | | | | | |
| Calibration Time: | 4 hrs | | | | | | | AMD Operational Uptime: | 100.0% | | | | | | |
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 | Average | | | | | | | |
| | 23 | 16 | 9 | 5 | 3 | 2 | 1 | 6.3 ppb | | | | | | | |

Status Flag Characters

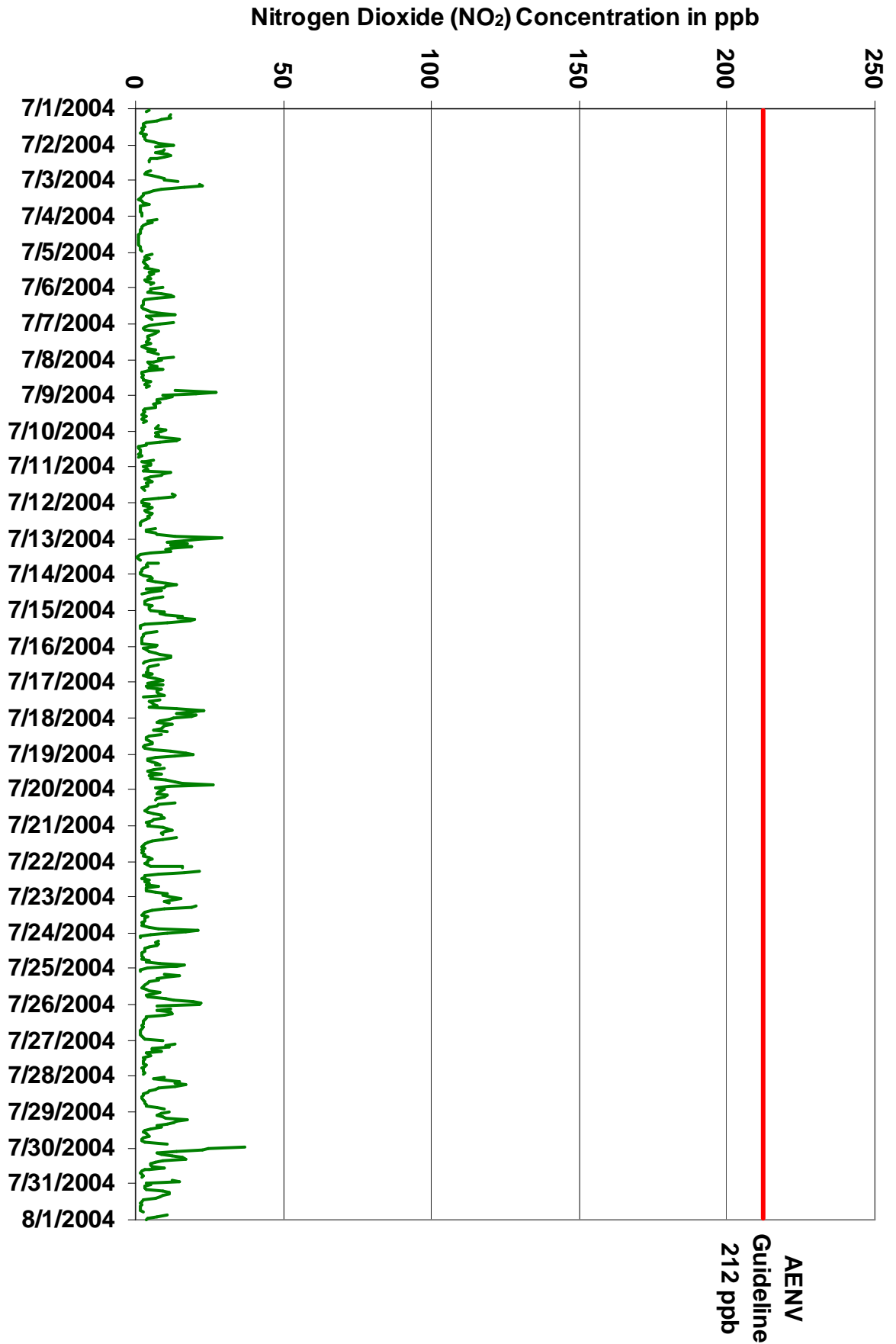
| | | | |
|---|----------------------------|---|-------------------------|
| C | Calibration | A | AIC - Zero / Span Check |
| S | Instrument out of Service | X | Filter Exchange |
| N | No Data | M | Equipment Maintenance |
| D | Excessive Instrument Drift | P | Power Failure |

Day Mountain Standard Time

| Hour Start Hour End | 0:00 1:00 | 1:00 2:00 | 2:00 3:00 | 3:00 4:00 | 4:00 5:00 | 5:00 6:00 | 6:00 7:00 | 7:00 8:00 | 8:00 9:00 | 9:00 10:00 | 10:00 11:00 | 11:00 12:00 | 12:00 13:00 | 13:00 14:00 | 14:00 15:00 | 15:00 16:00 | 16:00 17:00 | 17:00 18:00 | 18:00 19:00 | 19:00 20:00 | 20:00 21:00 | 21:00 22:00 | 22:00 23:00 | 23:00 0:00 | 24-hour Average | Daily Maximum | |
|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|--------------------|------------------|------|
| 1-Jul-04 | 5 | 3 | A | 12 | 11 | 12 | 9 | 7 | 4 | 3 | 2 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 6 | 8 | 13 | 5.3 | 12.7 | | |
| 2-Jul-04 | 6 | A | 10 | 9 | 7 | 11 | 12 | 10 | 7 | 5 | 4 | 4 | C | C | C | C | A | 5 | 4 | 3 | 5 | 8 | 9 | 10 | 7.2 | 11.9 | |
| 3-Jul-04 | 14 | A | 21 | 23 | 16 | 9 | 6 | 5 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 5 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 5.5 | 22.6 | |
| 4-Jul-04 | A | 7 | 4 | 5 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | A | 2.2 | 7.2 | |
| 5-Jul-04 | 6 | 4 | 3 | 5 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 6 | 8 | 5 | 6 | 5 | 4 | 5 | 3 | 3 | 6 | 5 | A | 9 | 4.6 | 9.3 | |
| 6-Jul-04 | 5 | 5 | 4 | 9 | 12 | 13 | 7 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 4 | 5 | 8 | 13 | 4 | 4 | 6 | A | 13 | 8 | 6.0 | 13.5 | |
| 7-Jul-04 | 5 | 3 | 2 | 3 | 8 | 7 | 6 | 4 | 4 | 5 | 4 | 3 | 5 | 4 | 2 | 4 | 7 | 4 | 6 | 8 | A | 13 | 8 | 9 | 5.4 | 13.0 | |
| 8-Jul-04 | 6 | 4 | 4 | 5 | 7 | 5 | 9 | 4 | 2 | 2 | 3 | 2 | 3 | 2 | 5 | 4 | 3 | 4 | 4 | A | 14 | 27 | 20 | 9 | 6.5 | 27.3 | |
| 9-Jul-04 | 12 | 10 | 7 | 7 | 8 | 6 | 7 | 6 | 3 | 2 | 3 | 3 | 2 | 4 | 3 | 2 | 4 | 3 | A | 8 | 7 | 7 | 10 | 9 | 5.8 | 12.1 | |
| 10-Jul-04 | 7 | 7 | 7 | 10 | 15 | 14 | 8 | 4 | 4 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | A | 6 | 3 | 2 | 5 | 5 | 3 | 4.8 | 14.7 | |
| 11-Jul-04 | 4 | 4 | 3 | 12 | 9 | 8 | 5 | 3 | 4 | 6 | 3 | 4 | 4 | 2 | 2 | 3 | A | 13 | 13 | 13 | 8 | 3 | 2 | 2 | 5.7 | 13.1 | |
| 12-Jul-04 | 4 | 2 | 6 | 5 | 3 | 3 | 5 | 5 | 4 | 5 | 4 | 2 | 2 | 1 | 2 | A | 7 | 4 | 3 | 7 | 7 | 13 | 29 | 21 | 6.3 | 29.2 | |
| 13-Jul-04 | 17 | 11 | 17 | 12 | 19 | 12 | 10 | 12 | 5 | 1 | 1 | 1 | 1 | 1 | A | 8 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 2 | 6.4 | 18.7 | |
| 14-Jul-04 | 2 | 5 | 6 | 4 | 7 | 10 | 14 | 10 | 10 | 4 | 9 | 5 | 2 | A | 9 | 6 | 4 | 3 | 3 | 3 | 5 | 5 | 5 | 5 | 5.9 | 13.6 | |
| 15-Jul-04 | 10 | 8 | 10 | 16 | 14 | 20 | 18 | 11 | 3 | 2 | 1 | 2 | A | 7 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 7 | 7 | 6.7 | 19.9 | |
| 16-Jul-04 | 3 | 4 | 5 | 7 | 8 | 12 | 12 | 10 | 5 | 3 | 2 | A | 8 | 5 | 4 | 4 | 4 | 4 | 6 | 3 | 4 | 7 | 9 | 7 | 5.8 | 11.8 | |
| 17-Jul-04 | 4 | 9 | 4 | 4 | 9 | 7 | 7 | 8 | 10 | 2 | A | 8 | 5 | 6 | 6 | 7 | 5 | 14 | 23 | 18 | 14 | 20 | 19 | 13 | 9.6 | 23.3 | |
| 18-Jul-04 | 12 | 8 | 7 | 13 | 10 | 9 | 9 | 6 | 11 | A | 9 | 5 | 4 | 3 | 4 | 6 | 6 | 3 | 3 | 3 | 6 | 12 | 17 | 19 | 8.0 | 19.3 | |
| 19-Jul-04 | 13 | 7 | 4 | 4 | 6 | 7 | 8 | 6 | A | 10 | 6 | 4 | 5 | 9 | 5 | 6 | 5 | 10 | 13 | 16 | 26 | 11 | 7 | 10 | 8.6 | 26.1 | |
| 20-Jul-04 | 9 | 8 | 7 | 11 | 10 | 7 | 7 | A | 13 | 8 | 7 | 5 | 4 | 3 | 4 | 6 | 9 | 9 | 10 | 6 | 6 | 4 | 5 | 4 | 7.0 | 13.2 | |
| 21-Jul-04 | 9 | 11 | 12 | 10 | 9 | 9 | A | 14 | 9 | 6 | 4 | 3 | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 5 | 5 | 4 | 4 | 5.8 | 13.8 | |
| 22-Jul-04 | 3 | 4 | 5 | 16 | 16 | A | 22 | 16 | 8 | 3 | 3 | 2 | 4 | 3 | 5 | 3 | 8 | 3 | 3 | 4 | 6 | 11 | 9 | 11 | 7.4 | 21.7 | |
| 23-Jul-04 | 15 | 12 | 10 | 11 | A | 20 | 19 | 10 | 6 | 3 | 2 | 2 | 4 | 3 | 3 | 3 | 2 | 3 | 2 | 5 | 7 | 21 | 17 | 11 | 8.4 | 20.9 | |
| 24-Jul-04 | 5 | 1 | 1 | A | 8 | 6 | 8 | 7 | 5 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 5 | 4 | 8 | 17 | 14 | 12 | 4 | 5.4 | 16.6 | |
| 25-Jul-04 | 2 | 1 | A | 10 | 15 | 10 | 7 | 8 | 4 | 4 | 3 | 2 | 2 | 4 | 4 | 8 | 6 | 4 | 4 | 10 | 13 | 20 | 22 | 22 | 8.1 | 21.8 | |
| 26-Jul-04 | 7 | A | 12 | 7 | 12 | 12 | 10 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 9 | 4.7 | 12.2 | |
| 27-Jul-04 | A | 13 | 10 | 11 | 6 | 5 | 9 | 4 | 5 | 5 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 2 | A | 4.7 | 13.3 | |
| 28-Jul-04 | 10 | 6 | 10 | 15 | 13 | 17 | 13 | 8 | 7 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 7 | 10 | A | 11 | 7.0 | 17.0 | |
| 29-Jul-04 | 9 | 7 | 9 | 10 | 17 | 14 | 13 | 11 | 7 | 9 | 5 | 3 | 3 | 4 | 4 | 4 | 3 | 2 | 2 | 3 | 11 | A | 37 | 25 | 9.1 | 36.8 | |
| 30-Jul-04 | 23 | 14 | 7 | 9 | 12 | 16 | 17 | 9 | 7 | 5 | 5 | 5 | 10 | 5 | 3 | 2 | 2 | 2 | 2 | 2 | A | 13 | 15 | 4 | 8.2 | 22.7 | |
| 31-Jul-04 | 5 | 3 | 3 | 4 | 9 | 11 | 12 | 9 | 8 | 7 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | A | 11 | 7 | 4 | 4 | 5.0 | 11.5 |
| Hourly Avg | 7.9 | 6.6 | 7.3 | 9.2 | 10.1 | 10.0 | 9.7 | 7.3 | 5.6 | 4.0 | 3.5 | 3.2 | 3.3 | 3.2 | 3.4 | 3.9 | 3.9 | 4.4 | 4.8 | 5.2 | 7.2 | 8.9 | 10.5 | 9.1 | | | |
| Hourly Max | 22.7 | 13.8 | 21.3 | 22.6 | 18.7 | 20.3 | 21.7 | 16.2 | 13.2 | 9.6 | 8.7 | 8.3 | 9.6 | 8.8 | 9.1 | 8.2 | 8.7 | 13.9 | 23.3 | 17.8 | 26.1 | 27.3 | 36.8 | 24.6 | | | |



Figure 1. PAS - Crescent Heights Nitrogen Dioxide 1-hr Average Monthly Trend





Station: Crescent Heights

HOURLY MAXIMUM TABLE

Nitrogen Dioxide (NO₂)

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| | | | | |
|----------------------|------|-----|--------|------------|
| Maximum 1-hr Value: | 61.6 | ppb | 24-Jul | 23:00 0:00 |
| Maximum 24-hr Value: | 21.7 | ppb | 24-Jul | |

| | | | | | | | | |
|-------------------|--------|-------------------------|---------|----|----|---|---|----------|
| AIC Time: | 34 hrs | Operational Time: | 706 hrs | | | | | |
| Calibration Time: | 4 hrs | AMD Operational Uptime: | 100.0% | | | | | |
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 | Average |
| | 48 | 33 | 18 | 9 | 5 | 2 | 2 | 13.2 ppb |

Status Flag Characters

| | |
|------------------------------|---------------------------|
| C Calibration | A AIC - Zero / Span Check |
| S Instrument out of Service | X Filter Exchange |
| N No Data | M Equipment Maintenance |
| D Excessive Instrument Drift | P Power Failure |

Day Mountain Standard Time

| Hour Start Hour End | 0:00 1:00 | 1:00 2:00 | 2:00 3:00 | 3:00 4:00 | 4:00 5:00 | 5:00 6:00 | 6:00 7:00 | 7:00 8:00 | 8:00 9:00 | 9:00 10:00 | 10:00 11:00 | 11:00 12:00 | 12:00 13:00 | 13:00 14:00 | 14:00 15:00 | 15:00 16:00 | 16:00 17:00 | 17:00 18:00 | 18:00 19:00 | 19:00 20:00 | 20:00 21:00 | 21:00 22:00 | 22:00 23:00 | 23:00 0:00 | 24-hour Average | Daily Maximum |
|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|--------------------|------------------|
| 1-Jul-04 | 10 | 35 | A | 26 | 13 | 21 | 11 | 10 | 21 | 17 | 3 | 18 | 3 | 8 | 4 | 2 | 57 | 5 | 25 | 5 | 15 | 34 | 16 | 48 | 17.8 | 56.9 |
| 2-Jul-04 | 31 | A | 13 | 12 | 8 | 14 | 15 | 13 | 11 | 8 | 6 | 6 | C | C | C | C | A | 7 | 5 | 4 | 7 | 16 | 30 | 21 | 12.8 | 31.1 |
| 3-Jul-04 | 23 | A | 33 | 25 | 23 | 16 | 8 | 6 | 5 | 3 | 3 | 2 | 2 | 3 | 5 | 33 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 9.2 | 33.3 |
| 4-Jul-04 | A | 14 | 5 | 9 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | A | 3.3 | 14.0 |
| 5-Jul-04 | 12 | 5 | 4 | 8 | 5 | 4 | 4 | 12 | 5 | 6 | 5 | 11 | 15 | 10 | 10 | 7 | 7 | 13 | 5 | 4 | 8 | 9 | A | 16 | 8.1 | 15.5 |
| 6-Jul-04 | 7 | 7 | 5 | 13 | 16 | 19 | 15 | 4 | 4 | 5 | 5 | 4 | 3 | 14 | 8 | 22 | 25 | 27 | 6 | 9 | 10 | A | 23 | 27 | 12.1 | 27.2 |
| 7-Jul-04 | 8 | 5 | 4 | 4 | 33 | 24 | 7 | 5 | 14 | 6 | 6 | 6 | 9 | 6 | 3 | 8 | 15 | 6 | 10 | 24 | A | 27 | 12 | 33 | 11.9 | 33.2 |
| 8-Jul-04 | 14 | 14 | 10 | 14 | 14 | 13 | 26 | 17 | 3 | 3 | 6 | 4 | 5 | 4 | 14 | 7 | 4 | 13 | 6 | A | 25 | 40 | 27 | 27 | 13.6 | 40.0 |
| 9-Jul-04 | 20 | 13 | 27 | 9 | 11 | 9 | 21 | 11 | 13 | 8 | 5 | 5 | 5 | 17 | 7 | 12 | 20 | 6 | A | 16 | 12 | 17 | 19 | 12 | 12.8 | 27.0 |
| 10-Jul-04 | 10 | 10 | 8 | 18 | 21 | 22 | 21 | 5 | 5 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 2 | A | 12 | 5 | 3 | 12 | 17 | 6 | 8.7 | 22.0 |
| 11-Jul-04 | 5 | 6 | 6 | 17 | 33 | 21 | 28 | 4 | 25 | 30 | 40 | 25 | 25 | 5 | 5 | 7 | A | 30 | 22 | 34 | 18 | 3 | 3 | 3 | 17.1 | 39.6 |
| 12-Jul-04 | 10 | 5 | 15 | 16 | 11 | 8 | 12 | 9 | 6 | 8 | 7 | 4 | 2 | 2 | 4 | A | 13 | 4 | 6 | 10 | 9 | 34 | 43 | 33 | 11.8 | 43.3 |
| 13-Jul-04 | 23 | 17 | 27 | 21 | 23 | 15 | 13 | 17 | 8 | 4 | 2 | 1 | 2 | 3 | A | 16 | 7 | 8 | 8 | 4 | 3 | 3 | 3 | 3 | 10.0 | 27.4 |
| 14-Jul-04 | 4 | 8 | 8 | 6 | 9 | 13 | 17 | 17 | 14 | 6 | 13 | 12 | 3 | A | 13 | 11 | 7 | 5 | 3 | 4 | 9 | 9 | 7 | 7 | 9.0 | 17.2 |
| 15-Jul-04 | 32 | 15 | 13 | 26 | 25 | 28 | 20 | 18 | 7 | 3 | 3 | 3 | A | 15 | 5 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 15 | 29 | 12.1 | 32.1 |
| 16-Jul-04 | 5 | 8 | 8 | 11 | 16 | 19 | 14 | 15 | 12 | 5 | 4 | A | 14 | 7 | 6 | 6 | 6 | 5 | 10 | 4 | 10 | 10 | 27 | 9 | 10.1 | 26.9 |
| 17-Jul-04 | 8 | 47 | 5 | 6 | 12 | 10 | 13 | 18 | 20 | 3 | A | 13 | 12 | 10 | 24 | 14 | 10 | 33 | 34 | 38 | 28 | 58 | 29 | 30 | 20.7 | 57.7 |
| 18-Jul-04 | 32 | 30 | 10 | 33 | 29 | 12 | 26 | 14 | 16 | A | 15 | 7 | 5 | 5 | 9 | 8 | 10 | 4 | 4 | 5 | 10 | 17 | 26 | 26 | 15.3 | 33.4 |
| 19-Jul-04 | 24 | 38 | 6 | 6 | 8 | 30 | 27 | 31 | A | 16 | 7 | 6 | 19 | 28 | 8 | 10 | 11 | 39 | 31 | 25 | 38 | 26 | 21 | 26 | 20.9 | 39.2 |
| 20-Jul-04 | 36 | 11 | 12 | 47 | 25 | 11 | 18 | A | 18 | 12 | 31 | 18 | 5 | 5 | 7 | 20 | 16 | 30 | 23 | 15 | 20 | 7 | 7 | 7 | 17.4 | 47.0 |
| 21-Jul-04 | 34 | 17 | 27 | 24 | 16 | 16 | A | 24 | 12 | 12 | 9 | 5 | 6 | 3 | 6 | 3 | 6 | 3 | 9 | 4 | 9 | 9 | 7 | 6 | 11.6 | 33.5 |
| 22-Jul-04 | 4 | 5 | 7 | 32 | 30 | A | 31 | 19 | 14 | 4 | 6 | 4 | 27 | 10 | 7 | 6 | 38 | 7 | 5 | 5 | 12 | 15 | 14 | 15 | 13.8 | 38.3 |
| 23-Jul-04 | 18 | 19 | 11 | 14 | A | 31 | 26 | 12 | 8 | 5 | 3 | 3 | 46 | 5 | 4 | 5 | 4 | 4 | 3 | 9 | 18 | 32 | 20 | 46 | 15.0 | 45.7 |
| 24-Jul-04 | 41 | 3 | 4 | A | 15 | 11 | 38 | 8 | 7 | 20 | 31 | 48 | 4 | 3 | 28 | 24 | 4 | 49 | 5 | 23 | 27 | 18 | 27 | 62 | 21.7 | 61.6 |
| 25-Jul-04 | 2 | 3 | A | 17 | 29 | 20 | 10 | 41 | 32 | 45 | 39 | 4 | 12 | 9 | 8 | 46 | 31 | 9 | 8 | 15 | 17 | 37 | 26 | 28 | 21.2 | 45.7 |
| 26-Jul-04 | 18 | A | 18 | 9 | 32 | 19 | 17 | 6 | 4 | 4 | 3 | 3 | 3 | 3 | 5 | 3 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 28 | 8.7 | 31.5 |
| 27-Jul-04 | A | 19 | 13 | 23 | 9 | 32 | 20 | 6 | 7 | 9 | 3 | 4 | 4 | 4 | 6 | 8 | 5 | 5 | 4 | 4 | 4 | 5 | 4 | A | 9.1 | 32.0 |
| 28-Jul-04 | 17 | 9 | 14 | 22 | 21 | 48 | 27 | 16 | 10 | 6 | 7 | 4 | 5 | 4 | 3 | 6 | 7 | 5 | 9 | 6 | 11 | 17 | A | 20 | 12.7 | 47.7 |
| 29-Jul-04 | 12 | 11 | 12 | 12 | 23 | 21 | 16 | 15 | 9 | 11 | 8 | 19 | 5 | 55 | 8 | 23 | 5 | 5 | 3 | 5 | 18 | A | 49 | 30 | 16.3 | 54.6 |
| 30-Jul-04 | 27 | 27 | 11 | 13 | 16 | 29 | 31 | 15 | 8 | 7 | 6 | 32 | 25 | 10 | 5 | 3 | 2 | 3 | 4 | 3 | A | 17 | 32 | 5 | 14.4 | 32.3 |
| 31-Jul-04 | 11 | 5 | 5 | 8 | 14 | 23 | 19 | 13 | 12 | 14 | 3 | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 5 | A | 18 | 9 | 6 | 5 | 8.2 | 23.2 |
| Hourly Avg | 17.2 | 14.5 | 11.8 | 16.7 | 18.1 | 18.7 | 18.5 | 13.5 | 11.1 | 9.6 | 9.5 | 9.4 | 9.4 | 8.9 | 7.5 | 11.1 | 11.3 | 11.2 | 9.2 | 10.0 | 12.8 | 17.0 | 18.0 | 21.0 | | |
| Hourly Max | 41.4 | 47.2 | 33.3 | 47.0 | 33.2 | 47.7 | 37.9 | 40.5 | 32.0 | 45.0 | 39.6 | 48.4 | 45.5 | 54.6 | 28.3 | 45.7 | 56.9 | 48.8 | 34.2 | 37.8 | 38.1 | 57.7 | 48.8 | 61.6 | | |

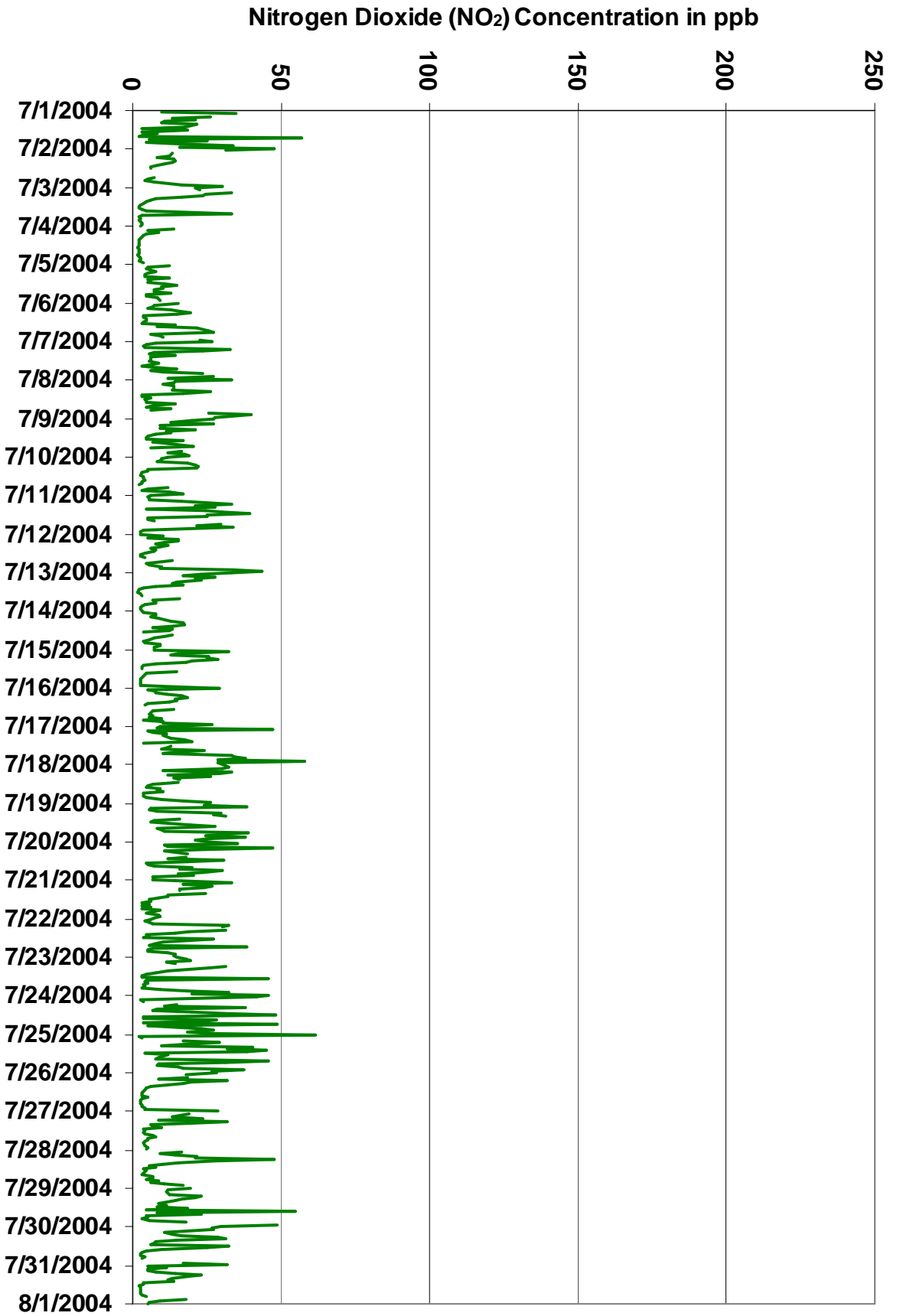
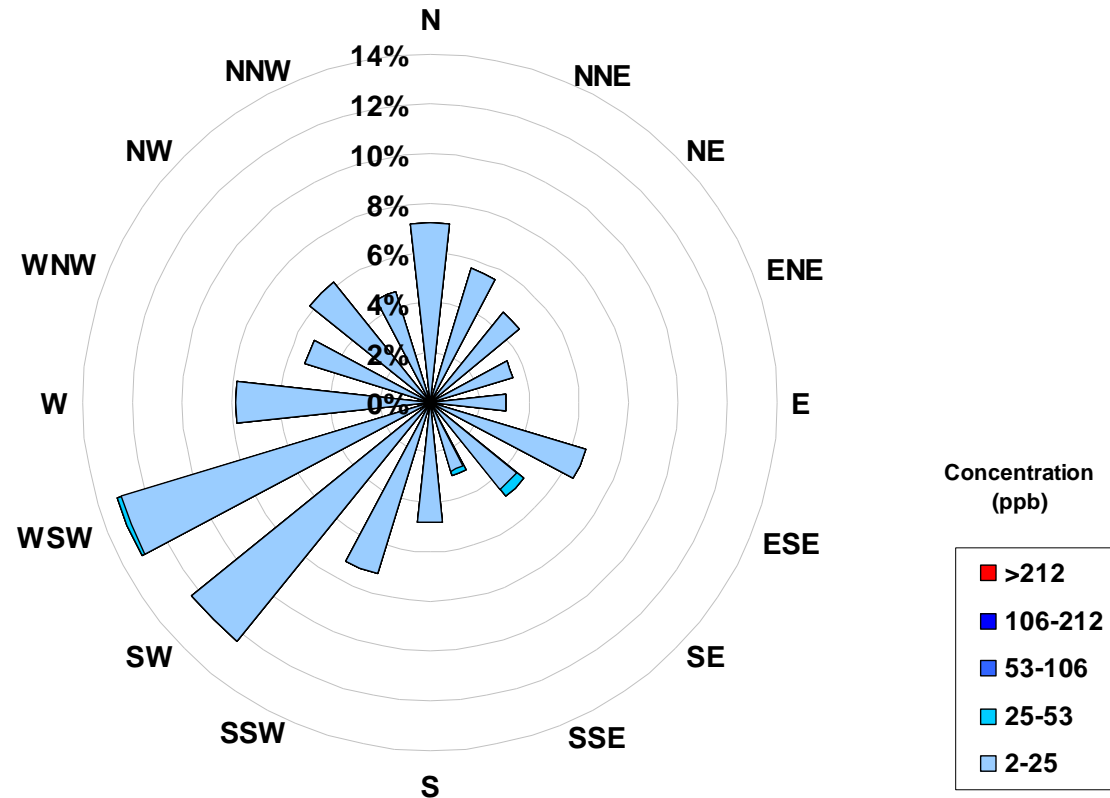


Figure 2. PAS - Crescent Heights Nitrogen Dioxide 1-hr Maximum Value Monthly Trend



Concentration Rose for the 1-hr NO₂ Average Concentration Occurrences at the Crescent Heights Site for July 2004



| Frequency Distribution of NO ₂ in ppb | | | |
|--|-----------------|--|--|
| Range | Frequency (hrs) | | |
| 0 < 2 | 81 | | |
| 2 to 25 | 621 | | |
| 25 to 53 | 4 | | |
| 53 to 106 | 0 | | |
| 106 to 212 | 0 | | |
| > 212 | 0 | | |
| Total Non-Zero Values | 706 | | |

| Calms | |
|---------|------|
| Range | ppb |
| 2-25 | 0.0% |
| 25-53 | 0.0% |
| 53-106 | 0.0% |
| 106-212 | 0.0% |
| >212 | 0.0% |



Station: Crescent Heights

HOURLY AVERAGE TABLE

Nitric Oxide (NO)

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| | | | | |
|------------------------------|----|-----|-------|-------------|
| Number of 1-hr Exceedances: | 0 | | | |
| Number of 24-hr Exceedances: | 0 | | | |
| Maximum 1-hr Average: | 20 | ppb | 8-Jul | 21:00 22:00 |
| Maximum 24-hr Average: | 3 | ppb | 8-Jul | |

Guideline Limit: Alberta Environment: 1-hr na ppb 24-hr na ppb

| | | | | | | | | | | | | | | | |
|-------------------|--------|----|----|----|----|---|---|-------------------------|---------|--|--|--|--|--|--|
| AIC Time: | 34 hrs | | | | | | | Operational Time: | 706 hrs | | | | | | |
| Calibration Time: | 4 hrs | | | | | | | AMD Operational Uptime: | 100.0% | | | | | | |
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 | Average | | | | | | | |
| | 12 | 6 | 2 | 1 | 0 | 0 | 0 | 1.6 ppb | | | | | | | |

Status Flag Characters

| | | | |
|---|----------------------------|---|-------------------------|
| C | Calibration | A | AIC - Zero / Span Check |
| S | Instrument out of Service | X | Filter Exchange |
| N | No Data | M | Equipment Maintenance |
| D | Excessive Instrument Drift | P | Power Failure |

Day Mountain Standard Time

| Hour Start Hour End | 0:00 1:00 | 1:00 2:00 | 2:00 3:00 | 3:00 4:00 | 4:00 5:00 | 5:00 6:00 | 6:00 7:00 | 7:00 8:00 | 8:00 9:00 | 9:00 10:00 | 10:00 11:00 | 11:00 12:00 | 12:00 13:00 | 13:00 14:00 | 14:00 15:00 | 15:00 16:00 | 16:00 17:00 | 17:00 18:00 | 18:00 19:00 | 19:00 20:00 | 20:00 21:00 | 21:00 22:00 | 22:00 23:00 | 23:00 0:00 | 24-hour Average | Daily Maximum |
|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|--------------------|------------------|
| 1-Jul-04 | 0 | 2 | A | 2 | 1 | 2 | 3 | 3 | 2 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 2 | 1 | 1 | 1 | 0 | 2 | 1 | 2 | 1.2 | 3.2 |
| 2-Jul-04 | 2 | A | 0 | 0 | 0 | 2 | 3 | 3 | 2 | 1 | 1 | 1 | C | C | C | C | A | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1.0 | 3.3 |
| 3-Jul-04 | 0 | A | 1 | 11 | 12 | 3 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.7 | 12.1 |
| 4-Jul-04 | A | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0.6 | 1.0 |
| 5-Jul-04 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 2 | 3 | 1 | 2 | 4 | 3 | 4 | 3 | 3 | 3 | 1 | 0 | 0 | 0 | A | 0 | 1.5 | 4.4 |
| 6-Jul-04 | 0 | 0 | 0 | 1 | 7 | 19 | 9 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 3 | 3 | 1 | 0 | 0 | A | 0 | 2 | 2.5 | 19.1 |
| 7-Jul-04 | 0 | 0 | 0 | 0 | 7 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | A | 1 | 1 | 8 | 1.9 | 7.6 |
| 8-Jul-04 | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 4 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | A | 1 | 20 | 8 | 8 | 2.9 | 20.0 |
| 9-Jul-04 | 3 | 0 | 3 | 1 | 2 | 3 | 9 | 7 | 2 | 1 | 2 | 1 | 1 | 3 | 1 | 1 | 2 | 1 | A | 0 | 1 | 0 | 0 | 0 | 2.0 | 9.3 |
| 10-Jul-04 | 0 | 1 | 1 | 2 | 4 | 10 | 9 | 2 | 2 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 1.6 | 10.2 |
| 11-Jul-04 | 0 | 0 | 0 | 0 | 4 | 2 | 2 | 0 | 1 | 5 | 2 | 3 | 2 | 1 | 1 | 1 | A | 3 | 3 | 3 | 1 | 0 | 0 | 0 | 1.6 | 5.3 |
| 12-Jul-04 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | A | 0 | 0 | 1 | 1 | 0 | 1 | 19 | 5 | 1.8 | 19.3 |
| 13-Jul-04 | 1 | 0 | 9 | 1 | 12 | 8 | 11 | 12 | 2 | 0 | 0 | 0 | 0 | 0 | A | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2.7 | 12.5 |
| 14-Jul-04 | 0 | 0 | 0 | 0 | 1 | 3 | 8 | 7 | 4 | 1 | 4 | 1 | 1 | A | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.5 | 8.0 |
| 15-Jul-04 | 1 | 0 | 0 | 1 | 3 | 9 | 11 | 4 | 1 | 0 | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1.5 | 11.4 |
| 16-Jul-04 | 0 | 0 | 0 | 0 | 1 | 1 | 4 | 4 | 2 | 1 | 0 | A | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0.9 | 4.2 |
| 17-Jul-04 | 0 | 3 | 0 | 0 | 0 | 1 | 2 | 3 | 4 | 1 | A | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 1 | 1 | 8 | 1 | 3 | 1.7 | 7.6 |
| 18-Jul-04 | 2 | 3 | 1 | 17 | 2 | 2 | 4 | 3 | 6 | A | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2.1 | 16.6 |
| 19-Jul-04 | 0 | 3 | 0 | 0 | 0 | 2 | 5 | 2 | A | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 3 | 2 | 1 | 3 | 1 | 0 | 0 | 1.5 | 5.1 |
| 20-Jul-04 | 5 | 0 | 0 | 6 | 4 | 1 | 3 | A | 3 | 2 | 3 | 2 | 1 | 1 | 1 | 2 | 4 | 4 | 3 | 1 | 0 | 0 | 0 | 0 | 2.0 | 5.7 |
| 21-Jul-04 | 0 | 0 | 1 | 1 | 0 | 1 | A | 2 | 2 | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0.8 | 2.5 |
| 22-Jul-04 | 0 | 0 | 0 | 3 | 8 | A | 8 | 7 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1.8 | 7.8 |
| 23-Jul-04 | 1 | 1 | 0 | 1 | A | 4 | 16 | 4 | 2 | 1 | 0 | 0 | 3 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 5 | 1.9 | 16.2 |
| 24-Jul-04 | 3 | 0 | 0 | A | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 1.1 | 3.4 |
| 25-Jul-04 | 0 | 0 | A | 0 | 1 | 1 | 1 | 2 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 4 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1.2 | 3.5 |
| 26-Jul-04 | 0 | A | 0 | 0 | 3 | 1 | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0.8 | 3.1 |
| 27-Jul-04 | A | 1 | 1 | 3 | 0 | 1 | 3 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | A | 1.0 | 2.9 |
| 28-Jul-04 | 0 | 0 | 0 | 1 | 1 | 8 | 12 | 2 | 3 | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | A | 0 | 1.6 | 11.8 |
| 29-Jul-04 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 3 | 4 | 3 | 1 | 1 | 1 | 3 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | A | 8 | 3 | 1.7 | 8.4 |
| 30-Jul-04 | 5 | 6 | 0 | 0 | 1 | 5 | 15 | 4 | 3 | 2 | 2 | 2 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | A | 0 | 2 | 0 | 2.4 | 15.1 |
| 31-Jul-04 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | A | 1 | 1 | 0 | 0 | 0.8 | 2.8 |
| Hourly Avg | 1.0 | 0.9 | 0.8 | 1.9 | 2.6 | 3.4 | 5.4 | 3.2 | 2.3 | 1.5 | 1.2 | 1.0 | 1.1 | 1.0 | 0.9 | 1.2 | 1.1 | 1.1 | 0.8 | 0.6 | 0.5 | 1.5 | 1.7 | 1.7 | | |
| Hourly Max | 4.7 | 6.2 | 8.5 | 16.6 | 12.5 | 19.1 | 16.2 | 11.6 | 5.8 | 5.3 | 3.5 | 2.6 | 4.4 | 2.7 | 3.9 | 4.3 | 3.8 | 3.8 | 3.3 | 2.8 | 3.4 | 20.0 | 19.3 | 7.7 | | |



Station: Crescent Heights

HOURLY MAXIMUM TABLE

Nitric Oxide (NO)

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| | | | | |
|----------------------|-------|-----|--------|-----------|
| Maximum 1-hr Value: | 234.7 | ppb | 18-Jul | 3:00 4:00 |
| Maximum 24-hr Value: | 21.3 | ppb | 20-Jul | |

| | | | | | | | | |
|-------------------|--------|-------------------------|---------|----|----|---|---|----------|
| AIC Time: | 34 hrs | Operational Time: | 706 hrs | | | | | |
| Calibration Time: | 4 hrs | AMD Operational Uptime: | 100.0% | | | | | |
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 | Average |
| | 103 | 51 | 7 | 2 | 1 | 1 | 1 | 10.5 ppb |

Status Flag Characters

| | | | |
|---|----------------------------|---|-------------------------|
| C | Calibration | A | AIC - Zero / Span Check |
| S | Instrument out of Service | X | Filter Exchange |
| N | No Data | M | Equipment Maintenance |
| D | Excessive Instrument Drift | P | Power Failure |

Day Mountain Standard Time

| Hour Start Hour End | 0:00 1:00 | 1:00 2:00 | 2:00 3:00 | 3:00 4:00 | 4:00 5:00 | 5:00 6:00 | 6:00 7:00 | 7:00 8:00 | 8:00 9:00 | 9:00 10:00 | 10:00 11:00 | 11:00 12:00 | 12:00 13:00 | 13:00 14:00 | 14:00 15:00 | 15:00 16:00 | 16:00 17:00 | 17:00 18:00 | 18:00 19:00 | 19:00 20:00 | 20:00 21:00 | 21:00 22:00 | 22:00 23:00 | 23:00 0:00 | 24-hour Average | Daily Maximum | |
|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|--------------------|------------------|------|
| 1-Jul-04 | 1 | 49 | A | 28 | 2 | 16 | 5 | 4 | 35 | 12 | 1 | 14 | 2 | 6 | 1 | 1 | 79 | 1 | 25 | 1 | 8 | 45 | 2 | 45 | 16.6 | 78.8 | |
| 2-Jul-04 | 23 | A | 1 | 1 | 1 | 5 | 4 | 8 | 4 | 2 | 1 | 2 | C | C | C | C | A | 1 | 0 | 1 | 1 | 24 | 11 | 11 | 5.0 | 23.9 | |
| 3-Jul-04 | 2 | A | 3 | 25 | 62 | 11 | 3 | 4 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 121 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 10.8 | 120.8 | | |
| 4-Jul-04 | A | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | A | 1.2 | 1.6 | | |
| 5-Jul-04 | 2 | 1 | 1 | 2 | 1 | 3 | 2 | 14 | 3 | 6 | 3 | 5 | 12 | 6 | 7 | 6 | 6 | 17 | 2 | 1 | 1 | 2 | A | 2 | 4.5 | 16.5 | |
| 6-Jul-04 | 1 | 1 | 1 | 5 | 21 | 51 | 36 | 2 | 2 | 3 | 2 | 2 | 2 | 35 | 2 | 22 | 25 | 7 | 1 | 1 | 1 | A | 1 | 42 | 11.6 | 51.1 | |
| 7-Jul-04 | 2 | 1 | 1 | 1 | 84 | 37 | 4 | 3 | 37 | 4 | 4 | 3 | 45 | 2 | 1 | 1 | 4 | 1 | 2 | 9 | A | 3 | 2 | 82 | 14.6 | 84.5 | |
| 8-Jul-04 | 3 | 3 | 2 | 3 | 4 | 4 | 38 | 51 | 2 | 2 | 5 | 3 | 3 | 2 | 36 | 3 | 1 | 6 | 1 | A | 4 | 63 | 20 | 102 | 15.8 | 101.6 | |
| 9-Jul-04 | 12 | 1 | 61 | 4 | 8 | 29 | 78 | 23 | 23 | 13 | 4 | 4 | 3 | 17 | 4 | 10 | 17 | 3 | A | 1 | 9 | 2 | 2 | 1 | 14.3 | 78.1 | |
| 10-Jul-04 | 1 | 3 | 3 | 5 | 37 | 45 | 44 | 4 | 3 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | A | 1 | 1 | 1 | 2 | 2 | 0 | 7.1 | 44.6 | |
| 11-Jul-04 | 1 | 1 | 1 | 1 | 70 | 14 | 57 | 1 | 23 | 103 | 52 | 35 | 28 | 2 | 3 | 4 | A | 17 | 6 | 37 | 2 | 1 | 1 | 1 | 20.0 | 103.3 | |
| 12-Jul-04 | 1 | 1 | 4 | 3 | 1 | 2 | 7 | 5 | 4 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | A | 2 | 1 | 1 | 2 | 1 | 18 | 80 | 25 | 7.3 | 79.9 |
| 13-Jul-04 | 3 | 3 | 52 | 21 | 25 | 15 | 16 | 20 | 4 | 1 | 1 | 1 | 1 | 1 | A | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 7.6 | 51.7 | |
| 14-Jul-04 | 1 | 2 | 1 | 2 | 1 | 6 | 16 | 17 | 7 | 3 | 7 | 5 | 1 | A | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 3.6 | 17.4 | |
| 15-Jul-04 | 15 | 5 | 1 | 5 | 30 | 67 | 19 | 10 | 3 | 2 | 1 | 1 | A | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 28 | 8.6 | 67.1 | |
| 16-Jul-04 | 1 | 1 | 1 | 1 | 1 | 3 | 7 | 9 | 7 | 2 | 2 | A | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 9 | 1 | 2.5 | 9.4 | |
| 17-Jul-04 | 1 | 52 | 1 | 1 | 1 | 12 | 13 | 15 | 1 | A | 2 | 5 | 3 | 12 | 3 | 2 | 6 | 6 | 5 | 3 | 150 | 21 | 26 | 14.9 | 149.5 | | |
| 18-Jul-04 | 27 | 77 | 2 | 235 | 24 | 3 | 41 | 7 | 11 | A | 3 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 15 | 5 | 5 | 20.2 | 234.7 | |
| 19-Jul-04 | 2 | 101 | 1 | 1 | 1 | 46 | 102 | 20 | A | 2 | 2 | 3 | 5 | 13 | 2 | 3 | 2 | 36 | 17 | 4 | 16 | 5 | 8 | 3 | 17.1 | 101.6 | |
| 20-Jul-04 | 72 | 1 | 1 | 145 | 106 | 2 | 34 | A | 7 | 7 | 34 | 14 | 1 | 2 | 4 | 14 | 9 | 19 | 10 | 4 | 2 | 0 | 0 | 0 | 21.3 | 144.7 | |
| 21-Jul-04 | 8 | 6 | 7 | 26 | 5 | 5 | A | 4 | 4 | 6 | 3 | 2 | 3 | 1 | 2 | 2 | 3 | 1 | 4 | 1 | 2 | 2 | 1 | 2 | 4.3 | 26.4 | |
| 22-Jul-04 | 1 | 1 | 1 | 51 | 54 | A | 26 | 8 | 8 | 2 | 3 | 1 | 25 | 2 | 2 | 2 | 35 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 9.9 | 53.8 | |
| 23-Jul-04 | 3 | 3 | 1 | 1 | A | 8 | 37 | 5 | 3 | 1 | 1 | 1 | 105 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 7 | 2 | 51 | 10.3 | 105.0 | |
| 24-Jul-04 | 79 | 1 | 1 | A | 1 | 2 | 33 | 3 | 2 | 21 | 17 | 58 | 2 | 1 | 24 | 23 | 1 | 44 | 1 | 13 | 1 | 1 | 7 | 45 | 16.5 | 78.6 | |
| 25-Jul-04 | 1 | 1 | A | 2 | 7 | 6 | 3 | 21 | 37 | 64 | 38 | 2 | 15 | 3 | 3 | 46 | 23 | 2 | 1 | 2 | 1 | 12 | 1 | 3 | 12.7 | 63.8 | |
| 26-Jul-04 | 2 | A | 6 | 1 | 28 | 4 | 5 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 35 | 4.4 | 35.0 | |
| 27-Jul-04 | A | 3 | 2 | 17 | 1 | 37 | 19 | 3 | 4 | 5 | 1 | 1 | 2 | 2 | 4 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | A | 5.3 | 37.4 | |
| 28-Jul-04 | 2 | 1 | 1 | 3 | 4 | 100 | 60 | 7 | 6 | 3 | 3 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | A | 1 | 9.2 | 100.0 | |
| 29-Jul-04 | 1 | 1 | 2 | 1 | 6 | 5 | 7 | 4 | 5 | 5 | 4 | 13 | 2 | 106 | 3 | 29 | 1 | 2 | 1 | 1 | 1 | A | 23 | 6 | 10.0 | 105.5 | |
| 30-Jul-04 | 10 | 89 | 3 | 1 | 2 | 49 | 81 | 9 | 5 | 4 | 3 | 21 | 21 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | A | 1 | 39 | 1 | 15.1 | 89.1 |
| 31-Jul-04 | 2 | 2 | 2 | 1 | 2 | 13 | 5 | 4 | 7 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | A | 2 | 2 | 1 | 1 | 2.5 | 13.0 | |
| Hourly Avg | 9.5 | 14.7 | 5.7 | 19.8 | 19.7 | 19.7 | 26.7 | 9.6 | 9.2 | 9.4 | 6.8 | 6.8 | 10.1 | 7.7 | 4.5 | 10.6 | 7.9 | 6.2 | 3.4 | 3.4 | 2.3 | 11.8 | 9.0 | 18.0 | | | |
| Hourly Max | 78.6 | 100.9 | 61.0 | 234.7 | 106.4 | 100.0 | 101.6 | 50.8 | 37.0 | 103.3 | 52.2 | 58.2 | 105.0 | 105.5 | 35.7 | 120.8 | 78.8 | 43.9 | 24.9 | 37.4 | 16.3 | 149.5 | 79.9 | 101.6 | | | |



Station: Crescent Heights

HOURLY AVERAGE TABLE

Oxides of Nitrogen (NO_x)

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| | | | | |
|------------------------------|----|-----|--------|-------------|
| Number of 1-hr Exceedances: | 0 | | | |
| Number of 24-hr Exceedances: | 0 | | | |
| Maximum 1-hr Average: | 48 | ppb | 12-Jul | 22:00 23:00 |
| Maximum 24-hr Average: | 11 | ppb | 17-Jul | |

Guideline Limit: Alberta Environment: 1-hr na ppm 24-hr na ppm

| | | | | | | | | | | |
|-------------------|--------|----|----|----|----|---|---|-------------------------|---------|--|
| AIC Time: | 34 hrs | | | | | | | Operational Time: | 706 hrs | |
| Calibration Time: | 4 hrs | | | | | | | AMD Operational Uptime: | 100.0% | |
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 | Average | | |
| | 31 | 21 | 10 | 6 | 3 | 2 | 1 | 7.9 ppb | | |

Status Flag Characters

| | | | |
|---|----------------------------|---|-------------------------|
| C | Calibration | A | AIC - Zero / Span Check |
| S | Instrument out of Service | X | Filter Exchange |
| N | No Data | M | Equipment Maintenance |
| D | Excessive Instrument Drift | P | Power Failure |

Day Mountain Standard Time

| Hour Start Hour End | 0:00 1:00 | 1:00 2:00 | 2:00 3:00 | 3:00 4:00 | 4:00 5:00 | 5:00 6:00 | 6:00 7:00 | 7:00 8:00 | 8:00 9:00 | 9:00 10:00 | 10:00 11:00 | 11:00 12:00 | 12:00 13:00 | 13:00 14:00 | 14:00 15:00 | 15:00 16:00 | 16:00 17:00 | 17:00 18:00 | 18:00 19:00 | 19:00 20:00 | 20:00 21:00 | 21:00 22:00 | 22:00 23:00 | 23:00 0:00 | 24-hour Average | Daily Maximum |
|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|--------------------|------------------|
| 1-Jul-04 | 5 | 5 | A | 14 | 12 | 14 | 12 | 10 | 5 | 3 | 3 | 4 | 3 | 3 | 3 | 2 | 6 | 3 | 4 | 4 | 4 | 9 | 8 | 14 | 6.5 | 14.5 |
| 2-Jul-04 | 8 | A | 10 | 9 | 7 | 13 | 15 | 13 | 9 | 6 | 5 | 5 | C | C | C | C | A | 6 | 3 | 3 | 5 | 8 | 10 | 11 | 8.2 | 14.8 |
| 3-Jul-04 | 15 | A | 22 | 34 | 28 | 11 | 7 | 6 | 3 | 3 | 2 | 1 | 1 | 2 | 3 | 9 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 7.1 | 33.8 |
| 4-Jul-04 | A | 7 | 5 | 6 | 4 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | A | 10 | 2.6 | 7.3 |
| 5-Jul-04 | 6 | 4 | 3 | 5 | 3 | 4 | 3 | 4 | 5 | 7 | 4 | 8 | 12 | 7 | 10 | 8 | 7 | 8 | 4 | 4 | 7 | 5 | A | 10 | 6.0 | 12.1 |
| 6-Jul-04 | 5 | 5 | 4 | 10 | 19 | 32 | 16 | 5 | 4 | 4 | 3 | 3 | 2 | 5 | 5 | 7 | 11 | 16 | 4 | 5 | 6 | A | 13 | 11 | 8.5 | 31.7 |
| 7-Jul-04 | 5 | 3 | 2 | 3 | 14 | 9 | 9 | 6 | 7 | 7 | 6 | 5 | 7 | 5 | 3 | 4 | 8 | 4 | 7 | 10 | A | 13 | 8 | 16 | 7.1 | 16.1 |
| 8-Jul-04 | 6 | 5 | 5 | 6 | 8 | 6 | 15 | 9 | 3 | 4 | 5 | 3 | 4 | 3 | 7 | 5 | 4 | 5 | 4 | A | 15 | 47 | 28 | 17 | 9.3 | 47.0 |
| 9-Jul-04 | 15 | 10 | 11 | 8 | 10 | 9 | 16 | 13 | 5 | 4 | 5 | 4 | 3 | 6 | 4 | 3 | 5 | 3 | A | 8 | 8 | 7 | 11 | 9 | 7.7 | 16.0 |
| 10-Jul-04 | 7 | 8 | 7 | 12 | 19 | 24 | 17 | 6 | 6 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | A | 6 | 3 | 2 | 5 | 5 | 3 | 6.3 | 23.7 |
| 11-Jul-04 | 4 | 4 | 3 | 12 | 13 | 11 | 7 | 4 | 6 | 11 | 6 | 7 | 6 | 3 | 3 | 5 | A | 16 | 16 | 15 | 8 | 3 | 2 | 2 | 7.2 | 15.8 |
| 12-Jul-04 | 5 | 2 | 6 | 5 | 3 | 4 | 8 | 7 | 6 | 6 | 5 | 3 | 2 | 2 | 2 | A | 7 | 4 | 4 | 7 | 8 | 15 | 48 | 26 | 8.0 | 48.3 |
| 13-Jul-04 | 17 | 11 | 26 | 13 | 31 | 21 | 21 | 23 | 7 | 2 | 1 | 1 | 1 | 1 | 2 | A | 8 | 4 | 4 | 5 | 3 | 2 | 2 | 2 | 9.1 | 31.1 |
| 14-Jul-04 | 2 | 5 | 6 | 4 | 7 | 13 | 22 | 17 | 14 | 5 | 12 | 6 | 3 | A | 10 | 7 | 5 | 4 | 3 | 3 | 6 | 5 | 5 | 5 | 7.3 | 21.6 |
| 15-Jul-04 | 10 | 8 | 10 | 17 | 17 | 29 | 30 | 15 | 4 | 2 | 2 | 2 | A | 8 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 8 | 8 | 8.2 | 29.8 |
| 16-Jul-04 | 3 | 4 | 5 | 7 | 9 | 13 | 16 | 14 | 7 | 4 | 3 | A | 8 | 5 | 4 | 5 | 5 | 4 | 6 | 3 | 4 | 7 | 10 | 7 | 6.5 | 16.0 |
| 17-Jul-04 | 4 | 12 | 4 | 4 | 9 | 8 | 9 | 11 | 14 | 3 | A | 9 | 5 | 7 | 7 | 8 | 5 | 16 | 26 | 19 | 15 | 28 | 20 | 16 | 11.3 | 27.9 |
| 18-Jul-04 | 14 | 12 | 8 | 29 | 12 | 11 | 12 | 9 | 16 | A | 10 | 5 | 4 | 4 | 5 | 6 | 6 | 3 | 3 | 4 | 7 | 12 | 18 | 21 | 10.0 | 29.1 |
| 19-Jul-04 | 14 | 10 | 4 | 4 | 6 | 9 | 13 | 8 | A | 10 | 7 | 5 | 6 | 11 | 5 | 7 | 6 | 13 | 15 | 17 | 29 | 12 | 7 | 10 | 10.0 | 29.3 |
| 20-Jul-04 | 13 | 8 | 8 | 16 | 14 | 8 | 9 | A | 16 | 10 | 10 | 6 | 5 | 4 | 5 | 9 | 12 | 12 | 13 | 7 | 6 | 4 | 5 | 4 | 8.9 | 16.4 |
| 21-Jul-04 | 9 | 11 | 13 | 11 | 9 | 10 | A | 16 | 12 | 8 | 5 | 4 | 3 | 2 | 4 | 2 | 3 | 2 | 4 | 3 | 5 | 6 | 4 | 5 | 6.7 | 16.2 |
| 22-Jul-04 | 3 | 5 | 5 | 19 | 24 | A | 29 | 23 | 11 | 4 | 4 | 3 | 6 | 4 | 5 | 4 | 11 | 4 | 4 | 4 | 7 | 11 | 9 | 11 | 9.1 | 29.2 |
| 23-Jul-04 | 16 | 13 | 10 | 12 | A | 24 | 35 | 13 | 7 | 4 | 3 | 2 | 7 | 4 | 4 | 3 | 3 | 3 | 2 | 5 | 8 | 22 | 17 | 16 | 10.2 | 35.2 |
| 24-Jul-04 | 8 | 2 | 2 | A | 8 | 7 | 10 | 9 | 6 | 4 | 4 | 5 | 2 | 2 | 3 | 4 | 3 | 7 | 4 | 9 | 17 | 14 | 13 | 5 | 6.5 | 17.1 |
| 25-Jul-04 | 2 | 1 | A | 10 | 16 | 11 | 8 | 10 | 6 | 7 | 4 | 3 | 3 | 5 | 6 | 12 | 8 | 4 | 5 | 11 | 13 | 21 | 22 | 22 | 9.2 | 22.3 |
| 26-Jul-04 | 8 | A | 12 | 8 | 15 | 13 | 12 | 4 | 4 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 12 | 5.4 | 15.2 |
| 27-Jul-04 | A | 14 | 10 | 14 | 6 | 7 | 12 | 5 | 7 | 7 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 2 | A | 5.5 | 13.9 |
| 28-Jul-04 | 10 | 6 | 10 | 15 | 14 | 25 | 25 | 10 | 10 | 6 | 5 | 4 | 4 | 2 | 3 | 3 | 4 | 3 | 5 | 4 | 8 | 10 | A | 12 | 8.7 | 25.0 |
| 29-Jul-04 | 9 | 8 | 10 | 11 | 19 | 16 | 16 | 14 | 11 | 12 | 7 | 4 | 3 | 6 | 5 | 6 | 3 | 3 | 2 | 4 | 11 | A | 45 | 27 | 11.0 | 44.8 |
| 30-Jul-04 | 27 | 20 | 8 | 9 | 13 | 21 | 32 | 14 | 10 | 7 | 7 | 7 | 13 | 6 | 3 | 3 | 2 | 2 | 3 | 3 | A | 13 | 16 | 4 | 10.5 | 31.7 |
| 31-Jul-04 | 5 | 4 | 3 | 4 | 9 | 13 | 14 | 12 | 11 | 9 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | A | 11 | 8 | 4 | 4 | 5.6 | 13.7 |
| Hourly Avg | 8.9 | 7.4 | 8.0 | 11.0 | 12.6 | 13.3 | 15.1 | 10.4 | 7.8 | 5.4 | 4.7 | 4.1 | 4.3 | 4.1 | 4.3 | 5.0 | 4.9 | 5.4 | 5.5 | 5.8 | 7.6 | 10.3 | 12.1 | 10.7 | | |
| Hourly Max | 27.1 | 20.0 | 25.7 | 33.8 | 31.1 | 31.7 | 35.2 | 23.3 | 16.4 | 12.5 | 12.0 | 8.9 | 13.0 | 10.6 | 9.8 | 11.7 | 12.5 | 16.2 | 26.4 | 19.1 | 29.3 | 47.0 | 48.3 | 27.4 | | |



Station: Crescent Heights

HOURLY MAXIMUM TABLE

Oxides of Nitrogen (NO_x)

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| | | | | |
|----------------------|-------|-----|--------|-----------|
| Maximum 1-hr Value: | 264.4 | ppb | 18-Jul | 3:00 4:00 |
| Maximum 24-hr Value: | 37.7 | ppb | 20-Jul | |

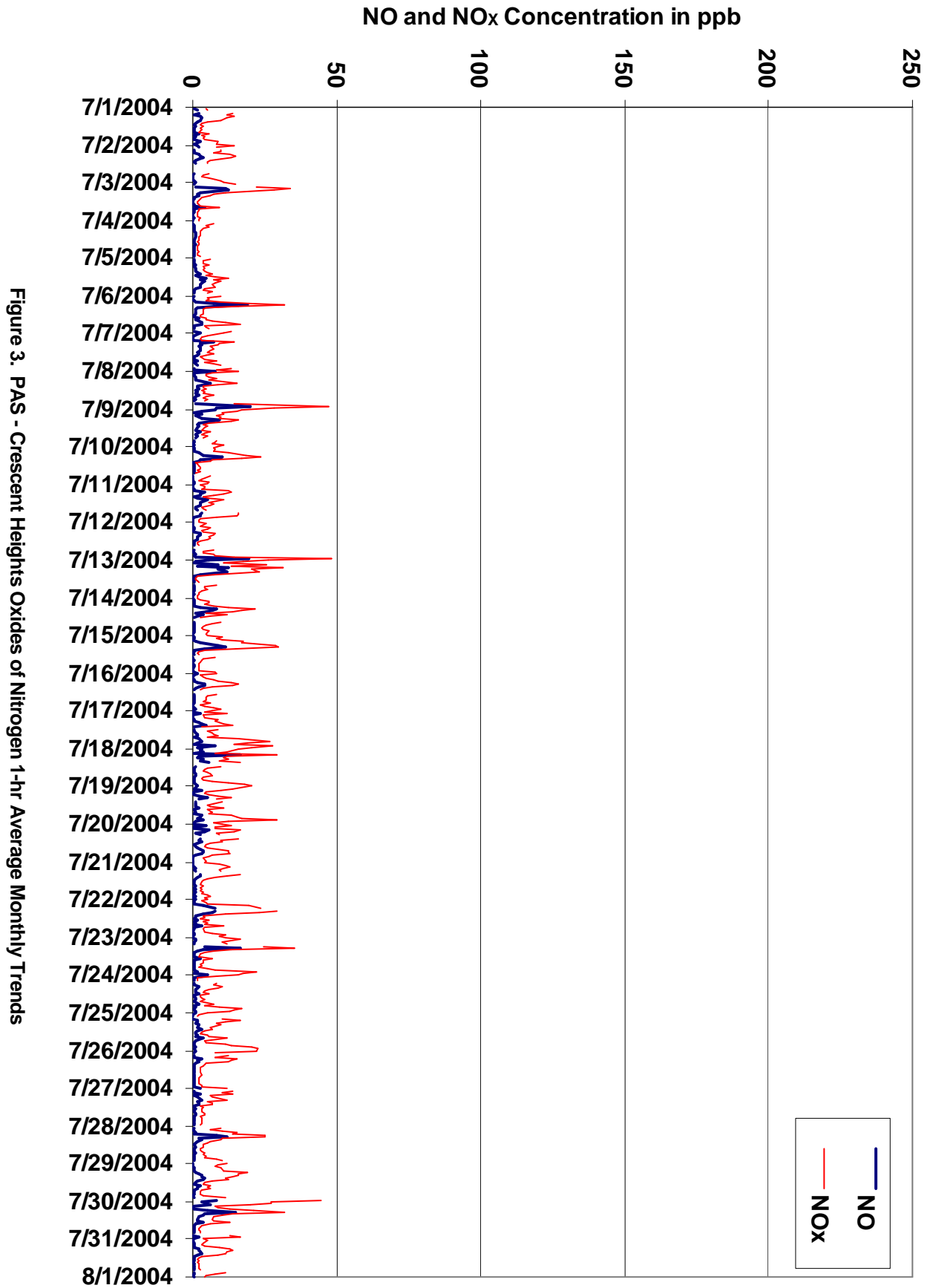
| | | | | | | | | |
|-------------------|--------|-------------------------|---------|----|----|---|---|----------|
| AIC Time: | 34 hrs | Operational Time: | 706 hrs | | | | | |
| Calibration Time: | 4 hrs | AMD Operational Uptime: | 100.0% | | | | | |
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 | Average |
| | 135 | 84 | 27 | 12 | 6 | 3 | 2 | 22.8 ppb |

Status Flag Characters

| | | | |
|---|----------------------------|---|-------------------------|
| C | Calibration | A | AIC - Zero / Span Check |
| S | Instrument out of Service | X | Filter Exchange |
| N | No Data | M | Equipment Maintenance |
| D | Excessive Instrument Drift | P | Power Failure |

Day Mountain Standard Time

| Day | Hour Start | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 24-hour Average | Daily Maximum |
|------------|------------|-------|------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------|---------------|
| | Hour End | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 0:00 | | |
| 1-Jul-04 | 10 | 84 | A | 49 | 15 | 35 | 16 | 14 | 54 | 30 | 4 | 32 | 4 | 14 | 5 | 3 | 136 | 7 | 50 | 6 | 24 | 74 | 17 | 93 | 33.6 | 135.7 | |
| 2-Jul-04 | 54 | A | 14 | 13 | 9 | 19 | 18 | 21 | 14 | 10 | 7 | 8 | C | C | C | A | 8 | 7 | 4 | 7 | 17 | 52 | 32 | 17.5 | 54.2 | | |
| 3-Jul-04 | 24 | A | 36 | 49 | 85 | 27 | 10 | 9 | 6 | 4 | 3 | 2 | 2 | 4 | 6 | 152 | 3 | 2 | 2 | 3 | 3 | 5 | 4 | 3 | 19.3 | 151.8 | |
| 4-Jul-04 | A | 14 | 6 | 9 | 5 | 4 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 5 | A | 4.0 | 14.5 | |
| 5-Jul-04 | 14 | 6 | 5 | 8 | 6 | 6 | 6 | 27 | 8 | 12 | 7 | 16 | 27 | 15 | 17 | 12 | 13 | 29 | 6 | 5 | 9 | 10 | A | 18 | 12.3 | 29.3 | |
| 6-Jul-04 | 7 | 7 | 5 | 18 | 37 | 66 | 50 | 6 | 6 | 7 | 7 | 5 | 4 | 50 | 9 | 39 | 48 | 34 | 7 | 11 | 11 | A | 23 | 64 | 22.7 | 66.5 | |
| 7-Jul-04 | 10 | 5 | 4 | 5 | 105 | 60 | 11 | 8 | 51 | 10 | 10 | 8 | 54 | 8 | 4 | 9 | 19 | 7 | 12 | 32 | A | 29 | 14 | 114 | 25.5 | 114.4 | |
| 8-Jul-04 | 16 | 17 | 12 | 16 | 18 | 18 | 62 | 66 | 5 | 5 | 11 | 7 | 6 | 6 | 46 | 9 | 5 | 19 | 7 | A | 29 | 103 | 47 | 129 | 28.7 | 128.7 | |
| 9-Jul-04 | 31 | 13 | 87 | 13 | 19 | 37 | 94 | 34 | 35 | 18 | 9 | 7 | 7 | 35 | 10 | 21 | 38 | 8 | A | 18 | 20 | 19 | 21 | 12 | 26.3 | 94.0 | |
| 10-Jul-04 | 10 | 12 | 11 | 23 | 58 | 65 | 64 | 8 | 8 | 4 | 3 | 4 | 5 | 5 | 4 | 4 | 2 | A | 12 | 5 | 3 | 13 | 18 | 6 | 15.2 | 65.1 | |
| 11-Jul-04 | 5 | 6 | 6 | 17 | 103 | 35 | 84 | 5 | 47 | 129 | 74 | 58 | 53 | 7 | 6 | 10 | A | 46 | 27 | 71 | 20 | 3 | 3 | 3 | 35.6 | 128.6 | |
| 12-Jul-04 | 11 | 5 | 19 | 19 | 11 | 9 | 17 | 14 | 10 | 9 | 9 | 5 | 3 | 3 | 5 | A | 13 | 5 | 6 | 11 | 10 | 52 | 121 | 57 | 18.4 | 121.1 | |
| 13-Jul-04 | 25 | 20 | 75 | 40 | 45 | 28 | 28 | 35 | 11 | 4 | 2 | 2 | 3 | 4 | A | 17 | 8 | 9 | 8 | 5 | 3 | 3 | 2 | 3 | 16.5 | 74.8 | |
| 14-Jul-04 | 4 | 8 | 8 | 6 | 10 | 18 | 31 | 34 | 21 | 9 | 21 | 17 | 4 | A | 14 | 12 | 7 | 6 | 4 | 4 | 10 | 10 | 8 | 7 | 11.8 | 34.3 | |
| 15-Jul-04 | 43 | 20 | 13 | 28 | 48 | 94 | 38 | 27 | 9 | 4 | 4 | 4 | A | 15 | 5 | 5 | 4 | 3 | 3 | 3 | 2 | 2 | 16 | 56 | 19.4 | 93.9 | |
| 16-Jul-04 | 6 | 8 | 8 | 12 | 17 | 22 | 20 | 24 | 19 | 6 | 4 | A | 15 | 7 | 7 | 6 | 7 | 6 | 11 | 4 | 10 | 11 | 33 | 9 | 11.9 | 33.4 | |
| 17-Jul-04 | 8 | 99 | 5 | 7 | 13 | 11 | 24 | 31 | 34 | 4 | A | 15 | 17 | 12 | 36 | 17 | 12 | 39 | 40 | 43 | 31 | 207 | 47 | 55 | 35.0 | 206.5 | |
| 18-Jul-04 | 59 | 107 | 12 | 264 | 53 | 14 | 67 | 21 | 26 | A | 18 | 8 | 6 | 5 | 10 | 9 | 12 | 4 | 4 | 5 | 10 | 27 | 30 | 30 | 34.9 | 264.4 | |
| 19-Jul-04 | 26 | 140 | 7 | 6 | 8 | 72 | 128 | 51 | A | 17 | 9 | 9 | 24 | 40 | 10 | 12 | 13 | 68 | 48 | 26 | 51 | 30 | 28 | 28 | 37.0 | 140.2 | |
| 20-Jul-04 | 95 | 12 | 13 | 191 | 129 | 12 | 52 | A | 24 | 18 | 65 | 33 | 6 | 6 | 11 | 34 | 25 | 48 | 33 | 19 | 22 | 7 | 7 | 6 | 37.7 | 191.0 | |
| 21-Jul-04 | 36 | 21 | 33 | 49 | 20 | 21 | A | 28 | 16 | 17 | 13 | 7 | 10 | 4 | 7 | 4 | 9 | 4 | 13 | 5 | 9 | 11 | 7 | 8 | 15.3 | 49.3 | |
| 22-Jul-04 | 4 | 6 | 8 | 80 | 78 | A | 51 | 27 | 21 | 6 | 8 | 5 | 47 | 13 | 8 | 7 | 72 | 7 | 5 | 6 | 12 | 15 | 14 | 15 | 22.4 | 80.4 | |
| 23-Jul-04 | 19 | 21 | 12 | 16 | A | 35 | 59 | 16 | 11 | 5 | 4 | 3 | 151 | 6 | 5 | 6 | 4 | 4 | 4 | 10 | 19 | 39 | 21 | 93 | 24.5 | 150.6 | |
| 24-Jul-04 | 120 | 3 | 4 | A | 15 | 12 | 70 | 11 | 9 | 39 | 48 | 106 | 5 | 4 | 51 | 42 | 4 | 82 | 6 | 32 | 28 | 19 | 33 | 106 | 36.9 | 119.7 | |
| 25-Jul-04 | 2 | 3 | A | 16 | 34 | 26 | 12 | 61 | 70 | 105 | 76 | 5 | 26 | 11 | 10 | 91 | 52 | 10 | 9 | 16 | 17 | 49 | 27 | 30 | 33.0 | 104.6 | |
| 26-Jul-04 | 18 | A | 23 | 9 | 57 | 23 | 21 | 7 | 5 | 5 | 4 | 4 | 3 | 3 | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 5 | 5 | 58 | 12.0 | 57.5 |
| 27-Jul-04 | A | 20 | 14 | 37 | 9 | 59 | 39 | 8 | 10 | 14 | 4 | 5 | 4 | 4 | 9 | 11 | 6 | 6 | 5 | 4 | 4 | 5 | 4 | A | 12.8 | 59.0 | |
| 28-Jul-04 | 17 | 9 | 15 | 24 | 25 | 132 | 84 | 21 | 15 | 8 | 11 | 5 | 6 | 5 | 5 | 8 | 9 | 6 | 10 | 8 | 12 | 18 | A | 21 | 20.6 | 131.6 | |
| 29-Jul-04 | 13 | 12 | 12 | 12 | 29 | 25 | 24 | 18 | 13 | 16 | 12 | 30 | 6 | 160 | 12 | 53 | 6 | 7 | 4 | 6 | 18 | A | 70 | 35 | 25.7 | 160.0 | |
| 30-Jul-04 | 35 | 108 | 11 | 15 | 18 | 78 | 104 | 24 | 12 | 11 | 8 | 49 | 46 | 13 | 5 | 4 | 3 | 3 | 4 | 4 | A | 18 | 70 | 5 | 28.1 | 107.7 | |
| 31-Jul-04 | 11 | 6 | 6 | 8 | 15 | 35 | 24 | 17 | 18 | 16 | 5 | 4 | 2 | 3 | 3 | 3 | 3 | 4 | 6 | A | 18 | 11 | 6 | 5 | 9.9 | 34.9 | |
| Hourly Avg | 25.3 | 28.3 | 16.6 | 35.3 | 36.5 | 36.5 | 43.8 | 22.6 | 19.7 | 18.1 | 15.4 | 15.5 | 18.8 | 16.1 | 11.2 | 20.9 | 18.6 | 16.2 | 12.0 | 12.7 | 14.5 | 28.1 | 26.0 | 37.9 | | | |
| Hourly Max | 119.7 | 140.2 | 87.2 | 264.4 | 129.1 | 131.6 | 128.2 | 66.0 | 69.8 | 128.6 | 75.6 | 106.2 | 150.6 | 160.0 | 50.8 | 151.8 | 135.7 | 81.8 | 49.8 | 70.6 | 51.3 | 206.5 | 121.1 | 128.7 | | | |



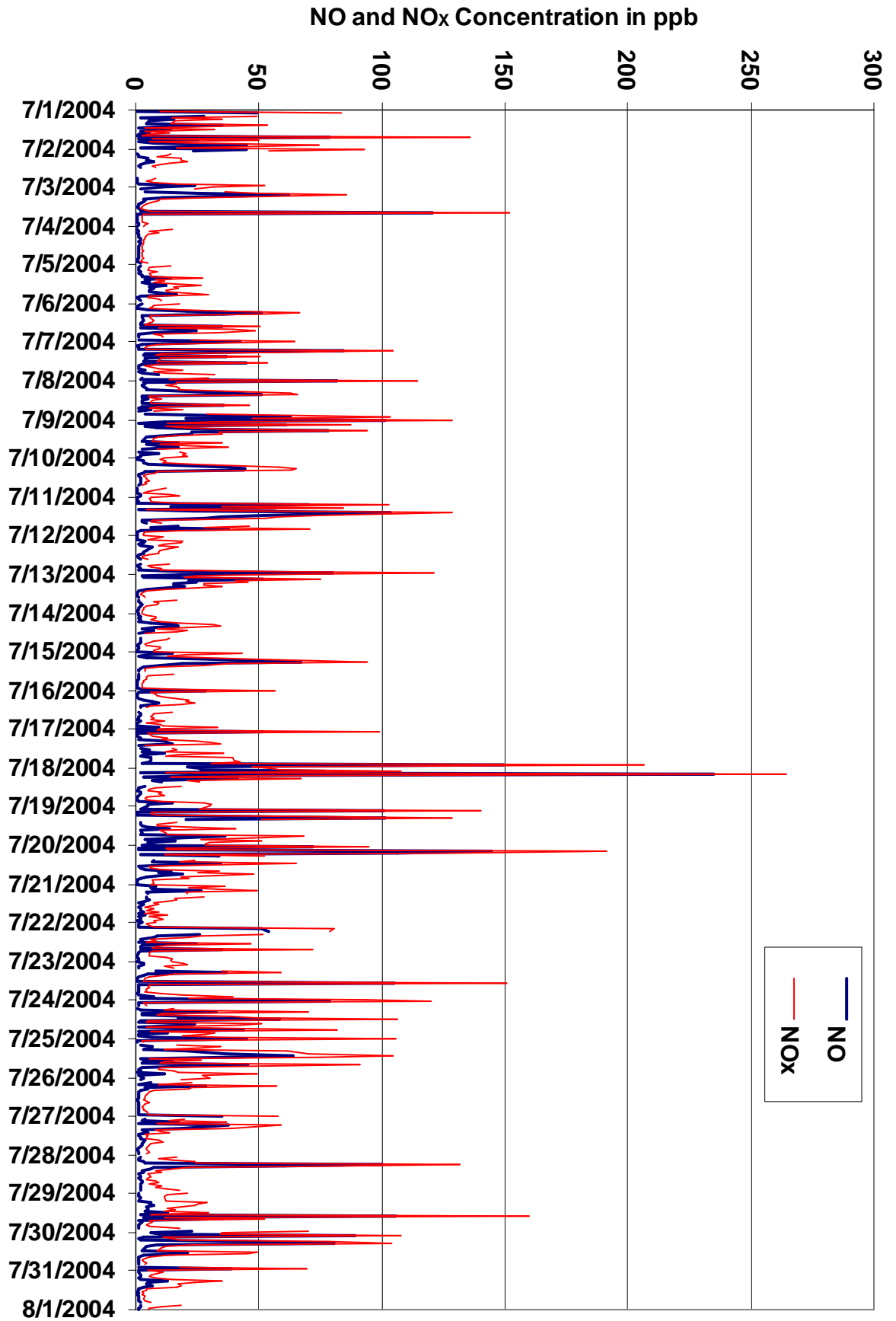


Figure 4. PAS - Crescent Heights Oxides of Nitrogen 1-hr Maximum Value Monthly Trends

**PAS - Crescent Heights Ozone Monthly Summary**

Station: Crescent Heights

HOURLY AVERAGE TABLE**Ozone (O₃)**

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| | | | | |
|------------------------------|----|-----|--------|-------------|
| Number of 1-hr Exceedances: | 0 | | | |
| Number of 24-hr Exceedances: | 0 | | | |
| Maximum 1-hr Average: | 67 | ppb | 18-Jul | 15:00 16:00 |
| Maximum 24-hr Average: | 45 | ppb | 24-Jul | |

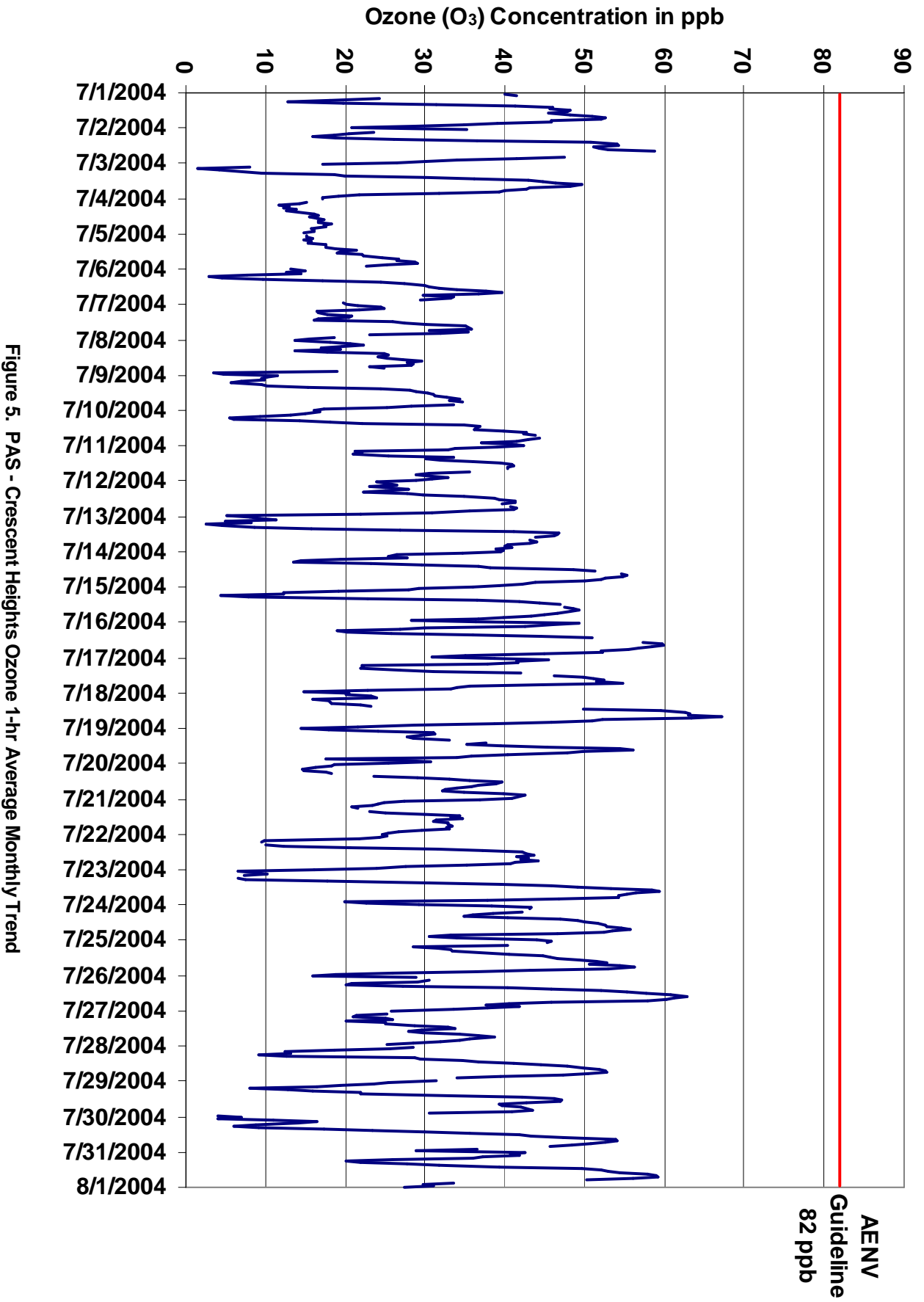
Guideline Limit: Alberta Environment: 1-hr 82 ppb 24-hr na ppb

| | | | | | | | | | |
|-------------------|--------|----|----|----|-------------------------|---------|---|----------|--|
| AIC Time: | 34 hrs | | | | Operational Time: | 708 hrs | | | |
| Calibration Time: | 2 hrs | | | | AMD Operational Uptime: | 100.0% | | | |
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 | Average | |
| | 61 | 55 | 42 | 31 | 21 | 9 | 4 | 31.9 ppb | |

Status Flag Characters

| | | | |
|---|----------------------------|---|-------------------------|
| C | Calibration | A | AIC - Zero / Span Check |
| S | Instrument out of Service | X | Filter Exchange |
| N | No Data | M | Equipment Maintenance |
| D | Excessive Instrument Drift | P | Power Failure |

| Day | Mountain Standard Time | | | | | | | | | | | | | | | | | | | | | | | | 24-hour Average | Daily Maximum | |
|------------|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|---------------|---------------|
| | Hour Start Hour End | 0:00 1:00 | 1:00 2:00 | 2:00 3:00 | 3:00 4:00 | 4:00 5:00 | 5:00 6:00 | 6:00 7:00 | 7:00 8:00 | 8:00 9:00 | 9:00 10:00 | 10:00 11:00 | 11:00 12:00 | 12:00 13:00 | 13:00 14:00 | 14:00 15:00 | 15:00 16:00 | 16:00 17:00 | 17:00 18:00 | 18:00 19:00 | 19:00 20:00 | 20:00 21:00 | 21:00 22:00 | 22:00 23:00 | | | 23:00 0:00 |
| 1-Jul-04 | 2 | 41 | A | 24 | 18 | 13 | 20 | 31 | 41 | 46 | 46 | 48 | 48 | 45 | 48 | 51 | 53 | 52 | 46 | 46 | 39 | 35 | 29 | 21 | 36.6 | 52.7 | |
| 2-Jul-04 | 35 | A | A | 24 | 20 | 19 | 16 | 19 | 26 | 37 | 51 | 54 | 54 | 51 | 52 | 53 | 59 | C | C | A | 47 | 41 | 34 | 30 | 26 | 37.4 | 58.8 |
| 3-Jul-04 | 17 | A | 8 | 2 | 4 | 9 | 19 | 20 | 30 | 36 | 43 | 45 | 46 | 50 | 48 | 43 | 43 | 40 | 39 | 32 | 22 | 19 | 17 | 17 | 28.2 | 49.6 | |
| 4-Jul-04 | A | 15 | 14 | 12 | 13 | 12 | 14 | 13 | 14 | 16 | 17 | 16 | 17 | 17 | 17 | 17 | 18 | 17 | 18 | 16 | 16 | 16 | 15 | A | 15.3 | 18.2 | |
| 5-Jul-04 | 15 | 15 | 16 | 15 | 16 | 15 | 18 | 17 | 18 | 19 | 21 | 19 | 19 | 22 | 22 | 25 | 27 | 27 | 29 | 29 | 25 | 23 | A | 13 | 20.2 | 29.0 | |
| 6-Jul-04 | 15 | 13 | 14 | 8 | 3 | 5 | 10 | 17 | 24 | 27 | 30 | 30 | 32 | 34 | 38 | 40 | 37 | 30 | 34 | 33 | 29 | A | 20 | 20 | 23.6 | 39.7 | |
| 7-Jul-04 | 22 | 24 | 25 | 22 | 16 | 17 | 18 | 21 | 20 | 17 | 16 | 26 | 27 | 30 | 35 | 36 | 31 | 36 | 32 | 23 | A | 19 | 16 | 14 | 23.5 | 35.8 | |
| 8-Jul-04 | 18 | 21 | 22 | 20 | 17 | 19 | 14 | 18 | 25 | 25 | 24 | 25 | 27 | 30 | 28 | 28 | 28 | 23 | 25 | A | 19 | 3 | 5 | 11 | 20.7 | 29.6 | |
| 9-Jul-04 | 10 | 10 | 10 | 7 | 6 | 9 | 10 | 15 | 24 | 28 | 29 | 30 | 31 | 31 | 33 | 34 | 33 | 35 | A | 34 | 28 | 25 | 17 | 16 | 22.0 | 34.6 | |
| 10-Jul-04 | 17 | 15 | 13 | 9 | 6 | 6 | 14 | 18 | 22 | 35 | 37 | 36 | 36 | 40 | 43 | 42 | 44 | A | 44 | 43 | 41 | 37 | 41 | 42 | 29.7 | 44.3 | |
| 11-Jul-04 | 39 | 34 | 33 | 21 | 22 | 21 | 25 | 34 | 30 | 32 | 36 | 39 | 41 | 41 | 40 | 40 | A | 36 | 30 | 29 | 31 | 33 | 31 | 29 | 32.5 | 41.1 | |
| 12-Jul-04 | 24 | 26 | 23 | 26 | 28 | 25 | 22 | 28 | 30 | 35 | 39 | 39 | 41 | 41 | 40 | A | 41 | 41 | 41 | 36 | 31 | 22 | 5 | 8 | 30.0 | 41.4 | |
| 13-Jul-04 | 9 | 11 | 5 | 8 | 2 | 5 | 9 | 16 | 27 | 41 | 47 | 47 | 46 | 44 | A | 43 | 44 | 43 | 40 | 40 | 41 | 39 | 40 | 40 | 29.8 | 46.7 | |
| 14-Jul-04 | 35 | 27 | 25 | 28 | 19 | 14 | 13 | 23 | 30 | 37 | 38 | 49 | 51 | A | 55 | 55 | 55 | 53 | 52 | 50 | 44 | 42 | 39 | 36 | 37.8 | 55.4 | |
| 15-Jul-04 | 29 | 28 | 19 | 12 | 12 | 4 | 8 | 23 | 36 | 42 | 44 | 47 | A | 48 | 49 | 49 | 48 | 47 | 45 | 43 | 40 | 37 | 28 | 36 | 33.7 | 49.3 | |
| 16-Jul-04 | 49 | 46 | 43 | 30 | 27 | 19 | 20 | 26 | 36 | 45 | 51 | A | 57 | 60 | 60 | 58 | 57 | 55 | 52 | 52 | 45 | 35 | 31 | 39 | 43.2 | 59.8 | |
| 17-Jul-04 | 45 | 41 | 42 | 38 | 22 | 22 | 22 | 27 | 31 | 42 | A | 46 | 50 | 51 | 52 | 51 | 55 | 45 | 36 | 34 | 33 | 23 | 15 | 20 | 36.7 | 54.8 | |
| 18-Jul-04 | 20 | 23 | 24 | 16 | 18 | 18 | 18 | 22 | 23 | A | 50 | 60 | 63 | 63 | 63 | 67 | 63 | 62 | 51 | 46 | 39 | 29 | 21 | 14 | 37.5 | 67.1 | |
| 19-Jul-04 | 18 | 24 | 31 | 31 | 29 | 28 | 28 | 33 | A | 38 | 35 | 39 | 45 | 54 | 56 | 50 | 48 | 40 | 36 | 34 | 17 | 27 | 31 | 25 | 34.7 | 56.1 | |
| 20-Jul-04 | 19 | 18 | 16 | 15 | 15 | 17 | 18 | A | 23 | 29 | 33 | 36 | 40 | 39 | 37 | 36 | 34 | 33 | 32 | 35 | 40 | 43 | 41 | 37 | 29.7 | 42.5 | |
| 21-Jul-04 | 27 | 25 | 24 | 23 | 21 | 22 | A | 23 | 25 | 30 | 34 | 33 | 35 | 31 | 31 | 33 | 33 | 33 | 33 | 33 | 30 | 27 | 25 | 25 | 28.5 | 34.6 | |
| 22-Jul-04 | 25 | 24 | 22 | 10 | 9 | A | 10 | 12 | 21 | 32 | 37 | 42 | 43 | 44 | 41 | 43 | 42 | 44 | 41 | 41 | 35 | 28 | 24 | 16 | 29.8 | 44.1 | |
| 23-Jul-04 | 7 | 9 | 10 | 7 | A | 7 | 7 | 18 | 30 | 39 | 46 | 49 | 53 | 58 | 59 | 56 | 55 | 54 | 54 | 47 | 38 | 20 | 23 | 29 | 33.8 | 59.4 | |
| 24-Jul-04 | 38 | 43 | 43 | A | 42 | 39 | 36 | 35 | 40 | 47 | 49 | 50 | 52 | 53 | 53 | 55 | 56 | 53 | 52 | 47 | 33 | 30 | 34 | 44 | 44.5 | 55.6 | |
| 25-Jul-04 | 46 | 45 | A | 40 | 28 | 32 | 33 | 33 | 41 | 45 | 46 | 47 | 49 | 52 | 53 | 50 | 54 | 56 | 53 | 43 | 36 | 26 | 19 | 16 | 41.0 | 56.2 | |
| 26-Jul-04 | 29 | A | 30 | 29 | 21 | 20 | 27 | 40 | 46 | 52 | 55 | 58 | 61 | 63 | 61 | 60 | 58 | 46 | 40 | 38 | 42 | 38 | 34 | 26 | 42.3 | 62.8 | |
| 27-Jul-04 | A | 25 | 21 | 21 | 25 | 26 | 20 | 25 | 25 | 29 | 33 | 34 | 30 | 28 | 30 | 34 | 37 | 39 | 36 | 34 | 32 | 29 | 25 | A | 28.9 | 38.8 | |
| 28-Jul-04 | 28 | 26 | 19 | 12 | 13 | 9 | 13 | 29 | 29 | 35 | 37 | 41 | 45 | 48 | 50 | 52 | 53 | 53 | 50 | 47 | 39 | 34 | A | 31 | 34.4 | 52.8 | |
| 29-Jul-04 | 25 | 24 | 19 | 16 | 8 | 13 | 16 | 22 | 22 | 33 | 42 | 46 | 47 | 47 | 43 | 39 | 40 | 42 | 43 | 41 | 30 | A | 4 | 7 | 29.2 | 47.1 | |
| 30-Jul-04 | 4 | 11 | 17 | 14 | 9 | 6 | 9 | 17 | 23 | 30 | 36 | 42 | 43 | 47 | 54 | 54 | 53 | 51 | 48 | 46 | A | 36 | 29 | 43 | 31.4 | 54.0 | |
| 31-Jul-04 | 41 | 42 | 37 | 36 | 26 | 20 | 22 | 28 | 32 | 39 | 50 | 52 | 53 | 54 | 58 | 59 | 59 | 56 | 50 | A | 34 | 30 | 31 | 27 | 40.7 | 59.2 | |
| Hourly Avg | 24.5 | 25.2 | 22.4 | 19.1 | 17.2 | 16.3 | 17.7 | 23.7 | 28.5 | 35.0 | 38.5 | 40.8 | 42.6 | 43.9 | 44.9 | 45.4 | 44.7 | 42.5 | 40.8 | 38.5 | 33.5 | 28.9 | 24.8 | 25.2 | | | |
| Hourly Max | 49.4 | 46.1 | 43.0 | 40.4 | 42.1 | 38.6 | 36.0 | 40.3 | 45.9 | 52.1 | 55.3 | 59.5 | 62.6 | 63.1 | 62.9 | 67.1 | 63.3 | 56.2 | 54.3 | 52.2 | 44.9 | 42.5 | 41.0 | 44.0 | | | |





Station: Crescent Heights

HOURLY MAXIMUM TABLE**Ozone (O₃)**

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| | | | | |
|----------------------|------|-----|--------|-------------|
| Maximum 1-hr Value: | 69.8 | ppb | 18-Jul | 16:00 17:00 |
| Maximum 24-hr Value: | 48.2 | ppb | 24-Jul | |

| | | | | | | | | |
|-------------------|--------|-------------------------|---------|----|----|----|---|----------|
| AIC Time: | 34 hrs | Operational Time: | 708 hrs | | | | | |
| Calibration Time: | 2 hrs | AMD Operational Uptime: | 100.0% | | | | | |
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 | Average |
| | 63 | 58 | 46 | 36 | 26 | 15 | 9 | 36.0 ppb |

Status Flag Characters

| | | | |
|---|----------------------------|---|-------------------------|
| C | Calibration | A | AIC - Zero / Span Check |
| S | Instrument out of Service | X | Filter Exchange |
| N | No Data | M | Equipment Maintenance |
| D | Excessive Instrument Drift | P | Power Failure |

Day Mountain Standard Time

| Hour Start Hour End | 0:00 1:00 | 1:00 2:00 | 2:00 3:00 | 3:00 4:00 | 4:00 5:00 | 5:00 6:00 | 6:00 7:00 | 7:00 8:00 | 8:00 9:00 | 9:00 10:00 | 10:00 11:00 | 11:00 12:00 | 12:00 13:00 | 13:00 14:00 | 14:00 15:00 | 15:00 16:00 | 16:00 17:00 | 17:00 18:00 | 18:00 19:00 | 19:00 20:00 | 20:00 21:00 | 21:00 22:00 | 22:00 23:00 | 23:00 0:00 | 24-hour Average | Daily Maximum |
|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|--------------------|------------------|
| 1-Jul-04 | 43 | 48 | A | 30 | 27 | 15 | 28 | 40 | 47 | 49 | 48 | 51 | 52 | 48 | 52 | 53 | 56 | 55 | 52 | 48 | 43 | 40 | 35 | 35 | 43.3 | 55.6 |
| 2-Jul-04 | 39 | A | 27 | 23 | 22 | 19 | 23 | 31 | 47 | 58 | 57 | 58 | 55 | 55 | 57 | 61 | C | C | A | 50 | 47 | 39 | 37 | 30 | 41.8 | 61.1 |
| 3-Jul-04 | 26 | A | 17 | 3 | 9 | 13 | 25 | 26 | 36 | 43 | 45 | 46 | 48 | 52 | 50 | 50 | 45 | 44 | 43 | 38 | 25 | 22 | 18 | 18 | 32.3 | 52.4 |
| 4-Jul-04 | A | 16 | 17 | 14 | 15 | 13 | 16 | 15 | 18 | 19 | 20 | 17 | 19 | 18 | 19 | 18 | 19 | 18 | 19 | 17 | 17 | 17 | 16 | A | 17.2 | 19.9 |
| 5-Jul-04 | 17 | 17 | 18 | 17 | 18 | 17 | 20 | 20 | 19 | 22 | 23 | 22 | 24 | 26 | 26 | 28 | 29 | 29 | 30 | 30 | 30 | 24 | A | 16 | 22.7 | 30.4 |
| 6-Jul-04 | 17 | 16 | 16 | 15 | 6 | 8 | 15 | 21 | 26 | 31 | 33 | 33 | 33 | 38 | 42 | 43 | 43 | 37 | 36 | 37 | 34 | A | 22 | 23 | 27.1 | 43.2 |
| 7-Jul-04 | 23 | 26 | 26 | 25 | 22 | 20 | 21 | 22 | 23 | 21 | 19 | 30 | 31 | 34 | 37 | 39 | 38 | 38 | 37 | 30 | A | 23 | 21 | 19 | 27.1 | 38.6 |
| 8-Jul-04 | 23 | 24 | 25 | 24 | 23 | 23 | 20 | 24 | 27 | 27 | 27 | 28 | 30 | 32 | 32 | 31 | 30 | 26 | 27 | A | 23 | 18 | 13 | 16 | 24.8 | 31.9 |
| 9-Jul-04 | 16 | 14 | 13 | 10 | 10 | 13 | 13 | 22 | 28 | 30 | 31 | 34 | 33 | 34 | 35 | 36 | 35 | 38 | A | 38 | 30 | 30 | 21 | 19 | 25.4 | 38.2 |
| 10-Jul-04 | 20 | 18 | 17 | 18 | 11 | 11 | 19 | 20 | 31 | 37 | 39 | 39 | 41 | 43 | 44 | 44 | 46 | A | 46 | 44 | 43 | 43 | 44 | 44 | 33.2 | 45.9 |
| 11-Jul-04 | 42 | 36 | 35 | 28 | 27 | 25 | 32 | 36 | 34 | 35 | 39 | 45 | 44 | 44 | 42 | 43 | A | 42 | 39 | 38 | 35 | 34 | 32 | 30 | 36.5 | 44.6 |
| 12-Jul-04 | 27 | 28 | 27 | 32 | 31 | 28 | 26 | 33 | 33 | 40 | 42 | 43 | 43 | 45 | 42 | A | 43 | 44 | 44 | 40 | 34 | 30 | 20 | 14 | 34.4 | 44.6 |
| 13-Jul-04 | 15 | 15 | 11 | 12 | 8 | 8 | 11 | 25 | 32 | 47 | 48 | 48 | 48 | 46 | A | 45 | 46 | 46 | 43 | 41 | 42 | 40 | 41 | 42 | 33.0 | 48.4 |
| 14-Jul-04 | 37 | 30 | 27 | 32 | 29 | 19 | 19 | 33 | 36 | 39 | 45 | 54 | 55 | A | 61 | 58 | 58 | 54 | 54 | 52 | 49 | 44 | 42 | 38 | 42.0 | 61.0 |
| 15-Jul-04 | 35 | 31 | 28 | 18 | 19 | 8 | 16 | 30 | 42 | 43 | 46 | 49 | A | 49 | 50 | 51 | 50 | 49 | 46 | 45 | 42 | 39 | 35 | 47 | 37.7 | 51.2 |
| 16-Jul-04 | 54 | 54 | 54 | 37 | 34 | 25 | 27 | 31 | 41 | 50 | 54 | A | 60 | 62 | 62 | 60 | 59 | 59 | 55 | 55 | 50 | 40 | 36 | 45 | 47.9 | 62.1 |
| 17-Jul-04 | 49 | 49 | 46 | 41 | 37 | 25 | 26 | 32 | 40 | 44 | A | 48 | 53 | 55 | 56 | 56 | 58 | 54 | 53 | 50 | 40 | 36 | 22 | 28 | 43.4 | 57.9 |
| 18-Jul-04 | 25 | 28 | 27 | 25 | 24 | 25 | 24 | 24 | 31 | A | 56 | 63 | 65 | 66 | 67 | 69 | 70 | 54 | 53 | 48 | 43 | 35 | 33 | 22 | 42.4 | 69.8 |
| 19-Jul-04 | 23 | 31 | 33 | 33 | 33 | 30 | 32 | 37 | A | 39 | 38 | 44 | 53 | 63 | 62 | 53 | 52 | 49 | 45 | 44 | 31 | 36 | 36 | 31 | 40.3 | 63.0 |
| 20-Jul-04 | 26 | 22 | 20 | 18 | 18 | 22 | 21 | A | 30 | 31 | 38 | 38 | 42 | 43 | 42 | 41 | 40 | 40 | 40 | 46 | 47 | 45 | 45 | 40 | 34.5 | 46.9 |
| 21-Jul-04 | 36 | 28 | 33 | 29 | 24 | 25 | A | 27 | 30 | 33 | 39 | 35 | 38 | 35 | 34 | 35 | 37 | 36 | 36 | 35 | 35 | 30 | 28 | 29 | 32.4 | 39.4 |
| 22-Jul-04 | 27 | 27 | 25 | 20 | 17 | A | 16 | 15 | 28 | 39 | 41 | 44 | 45 | 46 | 45 | 45 | 47 | 46 | 43 | 43 | 42 | 31 | 32 | 21 | 34.1 | 46.9 |
| 23-Jul-04 | 9 | 12 | 12 | 10 | A | 13 | 17 | 21 | 37 | 43 | 48 | 51 | 57 | 61 | 61 | 60 | 57 | 57 | 57 | 54 | 44 | 28 | 32 | 36 | 38.2 | 61.4 |
| 24-Jul-04 | 44 | 45 | 45 | A | 43 | 42 | 40 | 39 | 45 | 50 | 52 | 53 | 53 | 54 | 55 | 57 | 57 | 57 | 55 | 52 | 44 | 37 | 42 | 46 | 48.2 | 57.5 |
| 25-Jul-04 | 47 | 47 | A | 44 | 37 | 36 | 36 | 37 | 45 | 48 | 48 | 49 | 52 | 55 | 57 | 58 | 59 | 59 | 58 | 52 | 42 | 37 | 26 | 26 | 45.8 | 59.0 |
| 26-Jul-04 | 33 | A | 35 | 31 | 27 | 25 | 36 | 44 | 50 | 55 | 59 | 60 | 63 | 64 | 63 | 62 | 60 | 54 | 43 | 41 | 44 | 42 | 38 | 32 | 46.1 | 64.3 |
| 27-Jul-04 | A | 28 | 27 | 27 | 27 | 30 | 23 | 27 | 27 | 34 | 34 | 35 | 34 | 31 | 32 | 38 | 41 | 42 | 37 | 36 | 34 | 31 | 27 | A | 32.0 | 41.6 |
| 28-Jul-04 | 31 | 28 | 23 | 15 | 17 | 16 | 17 | 35 | 36 | 38 | 40 | 45 | 48 | 51 | 52 | 54 | 55 | 55 | 56 | 52 | 45 | 40 | A | 35 | 38.4 | 55.6 |
| 29-Jul-04 | 29 | 28 | 23 | 20 | 15 | 18 | 20 | 29 | 31 | 39 | 46 | 48 | 49 | 50 | 46 | 44 | 42 | 45 | 45 | 45 | 38 | A | 12 | 15 | 33.8 | 50.1 |
| 30-Jul-04 | 13 | 15 | 19 | 19 | 14 | 9 | 14 | 20 | 28 | 33 | 42 | 46 | 49 | 54 | 56 | 56 | 55 | 52 | 52 | 48 | A | 43 | 42 | 44 | 35.8 | 56.1 |
| 31-Jul-04 | 45 | 44 | 40 | 40 | 32 | 30 | 30 | 32 | 35 | 49 | 53 | 54 | 55 | 57 | 60 | 61 | 61 | 59 | 55 | A | 41 | 32 | 33 | 31 | 44.7 | 60.7 |
| Hourly Avg | 30.0 | 28.8 | 26.4 | 23.7 | 22.5 | 20.3 | 22.9 | 28.3 | 33.8 | 38.8 | 41.7 | 43.7 | 45.7 | 47.0 | 48.0 | 48.4 | 47.8 | 46.2 | 44.7 | 43.1 | 38.4 | 34.0 | 30.4 | 30.0 | | |
| Hourly Max | 54.1 | 53.7 | 54.3 | 43.7 | 43.4 | 42.1 | 39.8 | 44.3 | 49.6 | 57.8 | 58.7 | 63.4 | 64.6 | 65.5 | 66.7 | 69.2 | 69.8 | 59.1 | 57.8 | 54.5 | 50.0 | 44.8 | 44.5 | 47.2 | | |

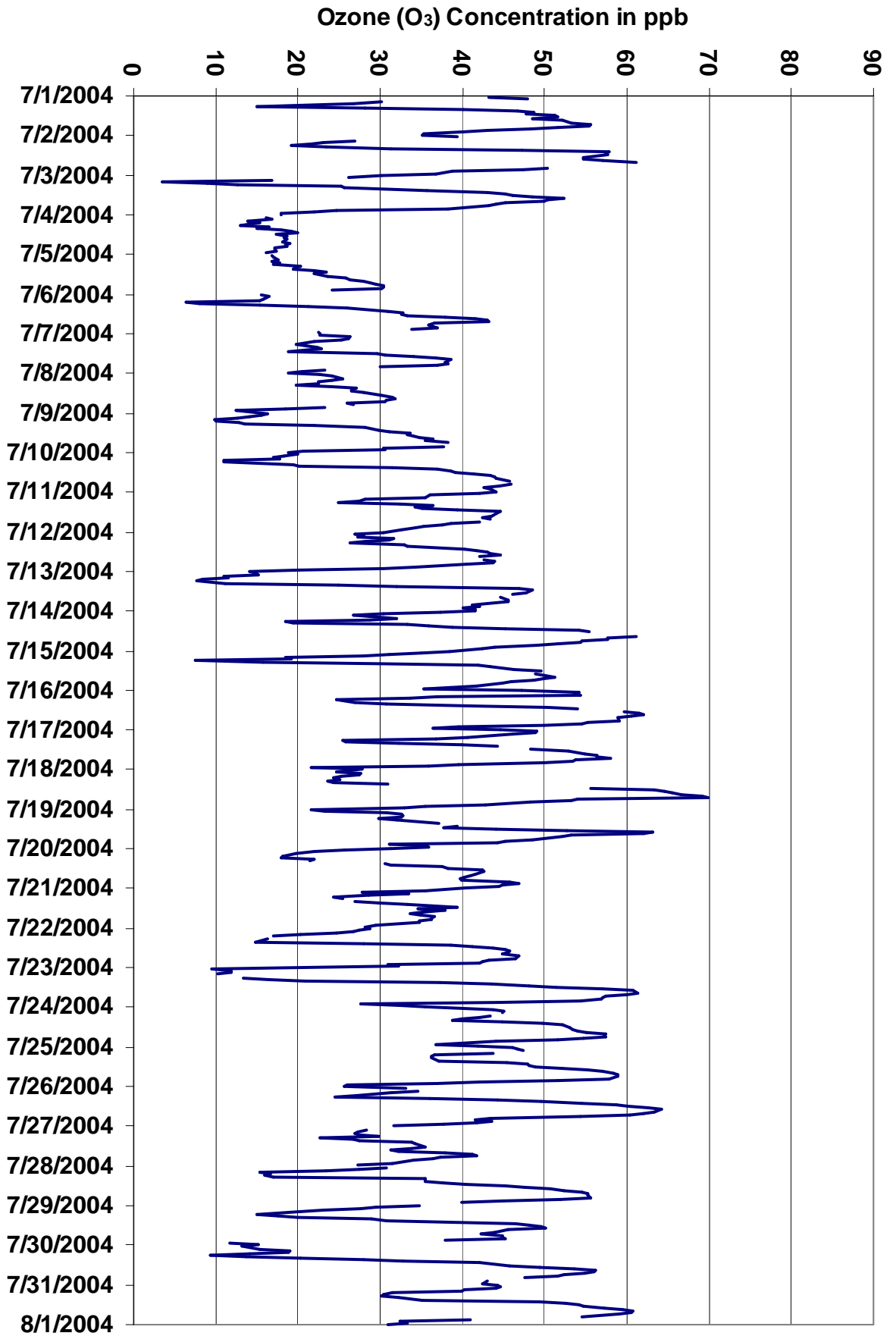


Figure 6. PAS - Crescent Heights Ozone 1-hr Maximum Value Monthly Trend



Station: Crescent Heights

EIGHT HOUR RUNNING AVERAGE TABLE

Ozone (O₃)

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| | | | | |
|-----------------------------|------|-----|--------|-------------|
| Number of 8-hr Exceedances: | 0 | | | |
| Maximum 8-hr Average: | 61.2 | ppb | 18-Jul | 16:00 17:00 |

Guideline Limit: Canada Wide Standard 8-hr 65 ppb

| | | | | | | | |
|------------|------|------|------|------|------|------|-----|
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 |
| | 57.0 | 51.7 | 40.5 | 31.5 | 22.8 | 13.3 | 9.1 |

Status Flag Characters

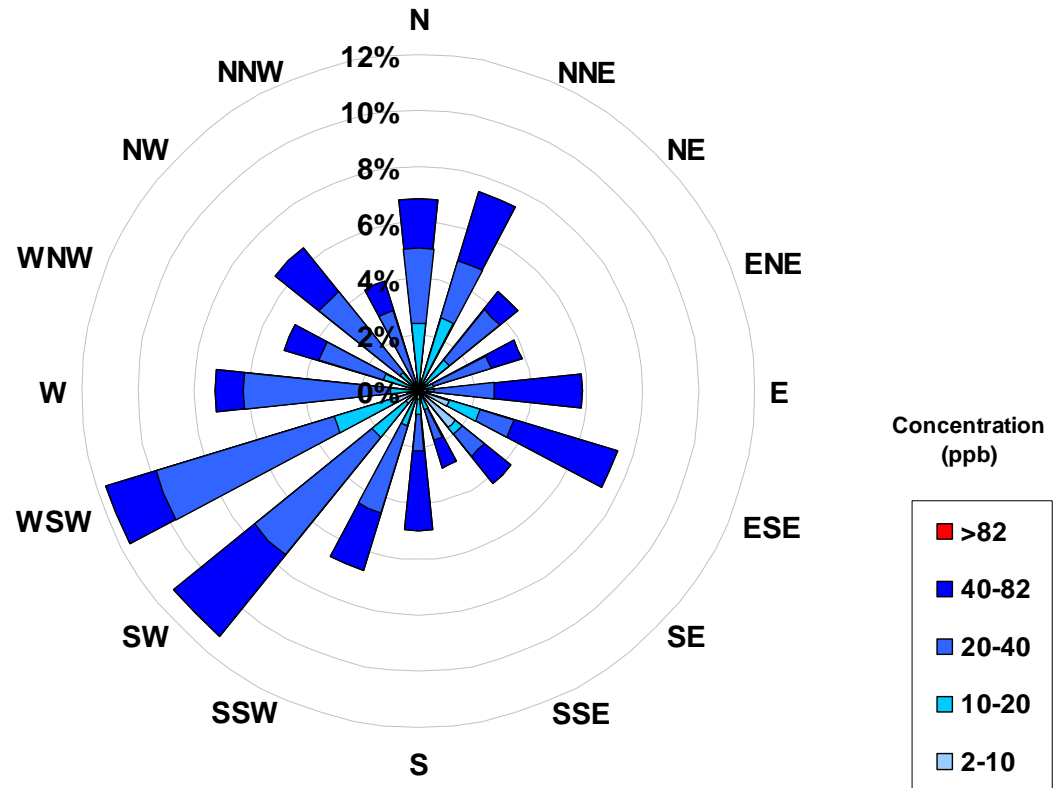
| | | | |
|---|----------------------------|---|-------------------------|
| C | Calibration | A | AIC - Zero / Span Check |
| S | Instrument out of Service | X | Filter Exchange |
| N | No Data | M | Equipment Maintenance |
| D | Excessive Instrument Drift | P | Power Failure |

Day Mountain Standard Time

| Hour Start | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 24-hour Average | Daily Maximum | |
|------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------|---------------|------|
| 1-Jul-04 | 40 | 27 | 27 | 25 | 24 | 24 | 25 | 27 | 27 | 28 | 30 | 33 | 37 | 41 | 44 | 47 | 48 | 49 | 49 | 49 | 47 | 46 | 44 | 40 | 36.6 | 48.9 | |
| 2-Jul-04 | 38 | 36 | 33 | 29 | 26 | 23 | 22 | 23 | 23 | 26 | 30 | 34 | 38 | 43 | 47 | 51 | 53 | N | N | N | N | N | N | N | N | N | 53.4 |
| 3-Jul-04 | N | N | 29 | 23 | 17 | 14 | 12 | 11 | 13 | 16 | 20 | 26 | 31 | 36 | 40 | 43 | 44 | 45 | 44 | 43 | 40 | 36 | 32 | 29 | 29.2 | 44.7 | |
| 4-Jul-04 | 27 | 23 | 19 | 17 | 15 | 14 | 14 | 13 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 16.4 | 26.6 |
| 5-Jul-04 | 16 | 16 | 16 | 15 | 15 | 15 | 15 | 16 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 26 | 25 | 19.4 | 26.2 | |
| 6-Jul-04 | 23 | 21 | 19 | 16 | 13 | 10 | 10 | 11 | 12 | 14 | 15 | 18 | 22 | 26 | 29 | 32 | 33 | 34 | 34 | 35 | 34 | 34 | 32 | 29 | 23.1 | 34.5 | |
| 7-Jul-04 | 27 | 26 | 25 | 23 | 21 | 21 | 20 | 21 | 20 | 19 | 18 | 19 | 20 | 22 | 24 | 26 | 27 | 30 | 32 | 31 | 32 | 30 | 27 | 24 | 24.4 | 31.7 | |
| 8-Jul-04 | 22 | 20 | 19 | 18 | 18 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 22 | 23 | 25 | 27 | 27 | 27 | 27 | 27 | 27 | 26 | 22 | 19 | 21.7 | 27.0 | |
| 9-Jul-04 | 14 | 12 | 10 | 9 | 8 | 8 | 9 | 10 | 11 | 14 | 16 | 19 | 22 | 25 | 28 | 30 | 31 | 32 | 32 | 33 | 33 | 32 | 30 | 27 | 20.6 | 32.9 | |
| 10-Jul-04 | 25 | 22 | 21 | 18 | 15 | 12 | 12 | 12 | 13 | 15 | 18 | 22 | 26 | 30 | 33 | 36 | 39 | 40 | 41 | 42 | 42 | 42 | 42 | 42 | 42 | 27.5 | 42.5 |
| 11-Jul-04 | 41 | 40 | 39 | 36 | 34 | 32 | 30 | 29 | 28 | 27 | 28 | 30 | 32 | 35 | 37 | 38 | 39 | 39 | 38 | 37 | 35 | 34 | 33 | 31 | 34.2 | 41.1 | |
| 12-Jul-04 | 30 | 29 | 28 | 28 | 27 | 26 | 25 | 25 | 26 | 27 | 29 | 31 | 32 | 34 | 37 | 38 | 39 | 40 | 41 | 40 | 39 | 36 | 31 | 28 | 32.0 | 40.7 | |
| 13-Jul-04 | 24 | 20 | 16 | 12 | 9 | 7 | 7 | 8 | 10 | 14 | 19 | 24 | 30 | 34 | 38 | 42 | 45 | 45 | 44 | 43 | 42 | 41 | 41 | 41 | 27.4 | 44.8 | |
| 14-Jul-04 | 40 | 38 | 36 | 34 | 31 | 28 | 25 | 23 | 22 | 24 | 25 | 28 | 32 | 34 | 40 | 45 | 48 | 51 | 53 | 53 | 52 | 51 | 49 | 46 | 37.9 | 52.9 | |
| 15-Jul-04 | 43 | 40 | 36 | 31 | 27 | 23 | 19 | 17 | 18 | 20 | 23 | 27 | 29 | 35 | 41 | 45 | 47 | 47 | 47 | 47 | 47 | 46 | 45 | 42 | 41 | 34.8 | 47.4 |
| 16-Jul-04 | 41 | 41 | 40 | 39 | 37 | 35 | 34 | 32 | 31 | 31 | 32 | 32 | 36 | 42 | 48 | 52 | 55 | 57 | 57 | 56 | 55 | 52 | 48 | 46 | 42.8 | 57.1 | |
| 17-Jul-04 | 44 | 43 | 41 | 39 | 37 | 35 | 34 | 32 | 31 | 31 | 29 | 30 | 34 | 38 | 43 | 46 | 50 | 50 | 48 | 47 | 45 | 41 | 36 | 33 | 39.1 | 50.1 | |
| 18-Jul-04 | 28 | 26 | 24 | 22 | 20 | 19 | 20 | 20 | 20 | 20 | 24 | 30 | 36 | 43 | 49 | 55 | 61 | 60 | 60 | 58 | 55 | 51 | 46 | 39 | 37.0 | 61.2 | |
| 19-Jul-04 | 34 | 30 | 28 | 26 | 25 | 25 | 25 | 28 | 29 | 31 | 32 | 33 | 35 | 39 | 43 | 45 | 46 | 46 | 46 | 45 | 42 | 39 | 35 | 32 | 35.0 | 46.1 | |
| 20-Jul-04 | 29 | 26 | 23 | 21 | 21 | 19 | 18 | 17 | 18 | 19 | 22 | 25 | 28 | 31 | 34 | 34 | 35 | 36 | 36 | 36 | 36 | 36 | 37 | 37 | 28.0 | 36.7 | |
| 21-Jul-04 | 36 | 35 | 34 | 33 | 30 | 28 | 26 | 24 | 23 | 24 | 25 | 27 | 29 | 30 | 30 | 32 | 33 | 33 | 33 | 33 | 33 | 32 | 31 | 31 | 30 | 30.0 | 35.9 |
| 22-Jul-04 | 29 | 28 | 26 | 23 | 21 | 20 | 18 | 16 | 15 | 17 | 19 | 23 | 28 | 30 | 34 | 38 | 40 | 42 | 43 | 42 | 41 | 39 | 37 | 34 | 29.3 | 42.5 | |
| 23-Jul-04 | 29 | 25 | 21 | 17 | 14 | 11 | 9 | 9 | 13 | 17 | 22 | 28 | 31 | 38 | 44 | 49 | 52 | 54 | 55 | 55 | 53 | 48 | 43 | 40 | 32.5 | 55.1 | |
| 24-Jul-04 | 38 | 37 | 35 | 33 | 34 | 37 | 39 | 39 | 40 | 40 | 41 | 42 | 43 | 45 | 47 | 50 | 52 | 52 | 53 | 52 | 50 | 47 | 45 | 44 | 43.2 | 52.9 | |
| 25-Jul-04 | 42 | 41 | 40 | 39 | 38 | 39 | 38 | 37 | 36 | 36 | 37 | 38 | 41 | 43 | 46 | 48 | 49 | 51 | 52 | 51 | 50 | 47 | 42 | 38 | 42.5 | 51.8 | |
| 26-Jul-04 | 35 | 32 | 28 | 26 | 24 | 23 | 25 | 28 | 31 | 33 | 36 | 40 | 45 | 50 | 55 | 57 | 58 | 58 | 56 | 53 | 51 | 48 | 44 | 40 | 40.7 | 58.5 | |
| 27-Jul-04 | 38 | 35 | 32 | 30 | 27 | 25 | 23 | 23 | 24 | 24 | 25 | 27 | 28 | 28 | 29 | 30 | 32 | 33 | 33 | 33 | 34 | 34 | 33 | 33 | 29.7 | 37.6 | |
| 28-Jul-04 | 32 | 30 | 27 | 24 | 22 | 19 | 17 | 19 | 19 | 20 | 22 | 26 | 30 | 34 | 39 | 42 | 45 | 47 | 49 | 50 | 49 | 47 | 47 | 44 | 33.3 | 49.6 | |
| 29-Jul-04 | 40 | 36 | 31 | 27 | 23 | 20 | 19 | 18 | 18 | 19 | 22 | 25 | 30 | 34 | 38 | 40 | 42 | 43 | 43 | 43 | 41 | 40 | 34 | 30 | 31.5 | 43.4 | |
| 30-Jul-04 | 25 | 20 | 16 | 12 | 9 | 9 | 10 | 11 | 13 | 16 | 18 | 21 | 26 | 31 | 37 | 41 | 45 | 47 | 49 | 49 | 50 | 49 | 45 | 44 | 28.9 | 50.3 | |
| 31-Jul-04 | 42 | 41 | 39 | 38 | 36 | 34 | 33 | 31 | 30 | 30 | 32 | 34 | 37 | 41 | 46 | 50 | 53 | 55 | 55 | 55 | 56 | 53 | 49 | 46 | 41 | 41.7 | 55.7 |
| Hourly Avg | 32.3 | 29.8 | 27.7 | 25.3 | 23.2 | 21.8 | 21.0 | 20.9 | 21.4 | 22.6 | 24.6 | 27.2 | 30.4 | 33.9 | 37.4 | 40.2 | 42.2 | 42.7 | 43.0 | 42.7 | 41.6 | 39.7 | 37.1 | 34.6 | | | |
| Hourly Max | 44.3 | 42.6 | 41.3 | 39.5 | 38.4 | 38.5 | 38.7 | 39.5 | 39.8 | 40.3 | 41.2 | 42.3 | 44.9 | 50.3 | 54.5 | 57.0 | 61.2 | 60.1 | 60.2 | 58.5 | 55.5 | 51.8 | 48.7 | 46.3 | | | |



Concentration Rose for the 1-hr O₃ Average Concentration Occurrences at the Crescent Heights Site for July 2004



| Frequency Distribution of O ₃ in ppb | | | |
|---|-------|-----------------|-----|
| Range | | Frequency (hrs) | |
| 0 | < 2 | 2 | |
| 2 | to 10 | 43 | |
| 10 | to 20 | 122 | |
| 20 | to 40 | 320 | |
| 40 | to 82 | 221 | |
| | > 82 | 0 | |
| Total Non-Zero Values | | | 708 |

| Calms | |
|-------|------|
| Range | |
| ppb | |
| 2-10 | 0.0% |
| 10-20 | 0.0% |
| 20-40 | 0.0% |
| 40-82 | 0.0% |
| >82 | 0.0% |



Total Hydrocarbons (THC) Concentration in ppm

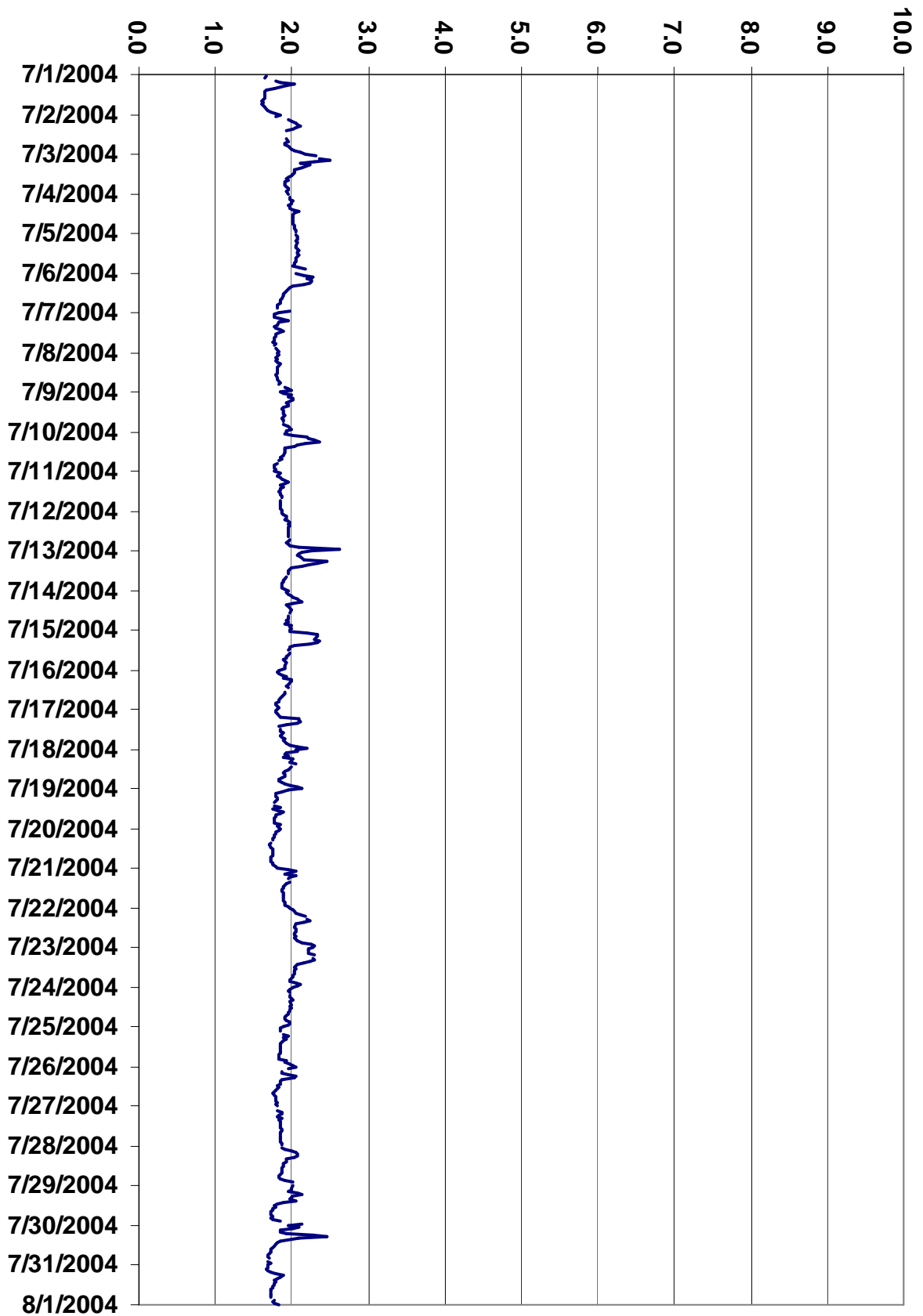


Figure 7. PAS - Crescent Heights Total Hydrocarbons 1-hr Average Monthly Trend



Total Hydrocarbons (THC) Concentration in ppm

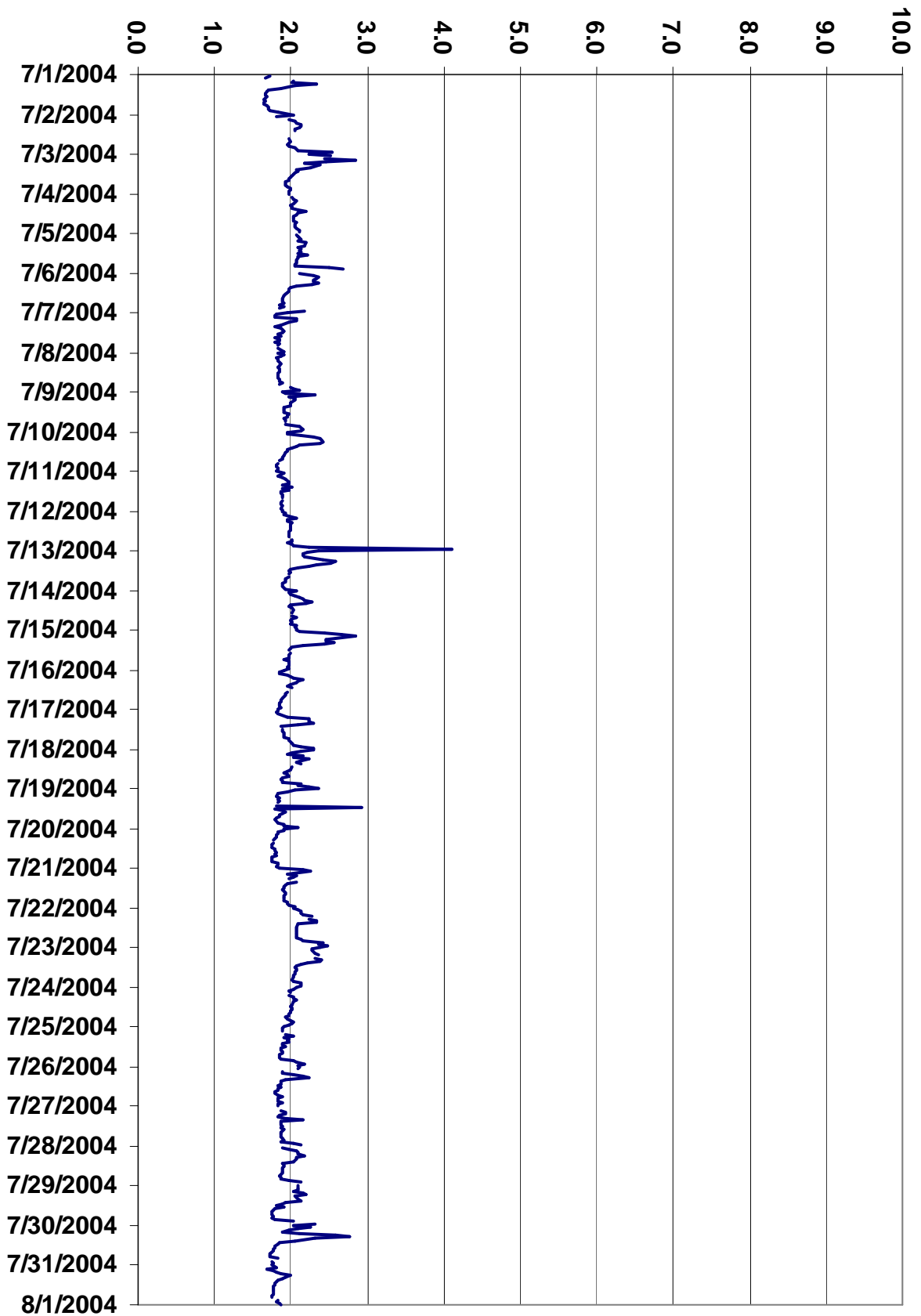


Figure 8. PAS - Crescent Heights Total Hydrocarbons 1-hr Maximum Value Monthly Trend



PAS - Crescent Heights Particulate Matter (less than 2.5 microns) Monthly Summary

Station: Crescent Heights

HOURLY AVERAGE TABLE

Particulate Matter (PM_{2.5})

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| | |
|------------------------------|--|
| Number of 1-hr Exceedances: | 0 |
| Number of 24-hr Exceedances: | 0 |
| Maximum 1-hr Average: | 25.3 $\mu\text{g}/\text{m}^3$ 30-Jul 22:00 23:00 |
| Maximum 24-hr Average: | 13.8 $\mu\text{g}/\text{m}^3$ 23-Jul |

| | | | | | | | |
|-----------------------------------|----------------------|------|---|--------------------------|-------|----|--------------------------|
| Guideline Limit | Canada Wide Standard | 1-hr | - | $\mu\text{g}/\text{m}^3$ | 24-hr | 30 | $\mu\text{g}/\text{m}^3$ |
| (considered as an absolute value) | | | | | | | |

| | | | |
|-------------------|-------|-------------------------|------------------------------|
| AIC Time: | 0 hrs | Operational Time: | 735 hrs |
| Calibration Time: | 2 hrs | AMD Operational Uptime: | 99.1% |
| Percentile | 99 | 95 | 75 |
| | 50 | 25 | 5 |
| | 1 | Average | |
| | 18.7 | 12.4 | 6.3 |
| | 3.7 | 1.8 | 0.0 |
| | 0.0 | 0.0 | 4.5 $\mu\text{g}/\text{m}^3$ |
| | | | 3.6 $\mu\text{g}/\text{m}^3$ |

Status Flag Characters

| | |
|------------------------------|---------------------------|
| C Calibration | A AIC - Zero / Span Check |
| S Instrument out of Service | X Filter Exchange |
| N No Data | M Equipment Maintenance |
| D Excessive Instrument Drift | P Power Failure |

Day Mountain Standard Time

| Day | Hour Start | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 24-hour Average | Daily Maximum |
|------------|------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------|---------------|
| Hour End | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 0:00 | | | |
| 1-Jul-04 | 1 | 3 | 8 | 7 | 4 | 6 | 6 | 6 | 6 | 4 | 5 | 2 | 9 | 5 | 1 | 4 | 0 | 6 | 9 | 2 | 7 | 3 | 0 | 4 | 4.5 | 8.7 | |
| 2-Jul-04 | 4 | 9 | 9 | 7 | 2 | 3 | 6 | 11 | 5 | 0 | 3 | 5 | 2 | 7 | 4 | 0 | 11 | C | C | D | D | 0 | 0 | 4.6 | 11.0 | | |
| 3-Jul-04 | 2 | 2 | 3 | 3 | 2 | 2 | 5 | 6 | 5 | 3 | 2 | 3 | 2 | 1 | 2 | 8 | 4 | 5 | 2 | 4 | 5 | 7 | 6 | 3 | 3.6 | 7.7 | |
| 4-Jul-04 | 2 | 2 | 3 | 4 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.7 | 3.6 | |
| 5-Jul-04 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 1 | 0.4 | 1.7 | |
| 6-Jul-04 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 5 | 6 | 9 | 7 | 5 | 4 | 8 | 5 | 5 | 4 | 2.8 | 9.0 | |
| 7-Jul-04 | 2 | 0 | 0 | 1 | 1 | 3 | 3 | 3 | 4 | 6 | 10 | 5 | 3 | 4 | 2 | 3 | 4 | 3 | 4 | 1 | 1 | 1 | 2 | 1 | 2.7 | 9.6 | |
| 8-Jul-04 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 2 | 2 | 3 | 2 | 2 | 1 | 5 | 4 | 0 | 1.3 | 4.5 | |
| 9-Jul-04 | 3 | 0 | 2 | 2 | 3 | 3 | 5 | 5 | 3 | 2 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 1 | 2 | 3 | 4 | 4 | 3 | 2 | 2.2 | 5.4 | |
| 10-Jul-04 | 3 | 4 | 3 | 4 | 3 | 5 | 2 | 4 | 5 | 0 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 6 | 3 | 4 | 8 | 2 | 1 | 3.3 | 8.1 | |
| 11-Jul-04 | 0 | 4 | 2 | 3 | 2 | 2 | 3 | 4 | 2 | 4 | 3 | 0 | 0 | 2 | 2 | 3 | 5 | 4 | 3 | 3 | 2 | 3 | 2 | 2 | 2.5 | 4.9 | |
| 12-Jul-04 | 3 | 2 | 3 | 2 | 2 | 3 | 4 | 6 | 5 | 5 | 5 | 4 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 6 | 8 | 8 | 11 | 8 | 4.6 | 11.1 | |
| 13-Jul-04 | 5 | 5 | 5 | 5 | 7 | 6 | 7 | 7 | 7 | 1 | 1 | 2 | 3 | 4 | 4 | 4 | 3 | 5 | 4 | 6 | 6 | 6 | 4 | 5 | 4.7 | 7.2 | |
| 14-Jul-04 | 6 | 6 | 6 | 5 | 8 | 8 | 12 | 7 | 8 | 8 | 7 | 7 | 4 | 6 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 5 | 6.1 | 11.8 | |
| 15-Jul-04 | 5 | 4 | 5 | 4 | 6 | 9 | 9 | 8 | 10 | 2 | 0 | 1 | 0 | 1 | 3 | 4 | 3 | 3 | 3 | 4 | 6 | 8 | 11 | 0 | 4.5 | 10.7 | |
| 16-Jul-04 | 1 | 0 | 5 | 5 | 3 | 5 | 7 | 6 | 4 | 2 | 2 | 1 | 0 | 0 | 2 | 2 | 2 | 3 | 5 | 6 | 4 | 6 | 4 | 5 | 3.3 | 7.2 | |
| 17-Jul-04 | 3 | 3 | 4 | 3 | 6 | 5 | 7 | 9 | 7 | 1 | 6 | 6 | 1 | D | 4 | 2 | 3 | 11 | 8 | 9 | 9 | 12 | 14 | 4 | 5.9 | 13.8 | |
| 18-Jul-04 | 6 | 5 | 5 | 7 | 6 | 9 | 7 | 9 | 9 | 7 | 10 | 8 | 5 | 3 | 5 | 6 | 4 | 7 | 5 | 12 | 10 | 12 | 9 | 9 | 7.3 | 12.4 | |
| 19-Jul-04 | 3 | 2 | 3 | 4 | 5 | 6 | 8 | 7 | 6 | 6 | 8 | 4 | 12 | 10 | 5 | 3 | 6 | 11 | 8 | 6 | 8 | 0 | 7 | 5 | 5.8 | 12.2 | |
| 20-Jul-04 | 5 | 1 | 2 | 1 | 2 | 2 | 4 | 3 | 2 | 0 | D | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 3 | 8 | 3 | 2 | 3 | 1.9 | 7.9 | |
| 21-Jul-04 | 4 | 1 | 3 | 3 | 0 | 1 | 4 | 2 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 2 | 8 | 5 | 4 | 5 | 2.0 | 7.7 | |
| 22-Jul-04 | 3 | 4 | 5 | 6 | 6 | 7 | 8 | 9 | 10 | 6 | 10 | 10 | 13 | 14 | 19 | 11 | 13 | 14 | 16 | 16 | 21 | 22 | 21 | 19 | 11.8 | 22.0 | |
| 23-Jul-04 | 12 | 10 | 13 | 14 | 14 | 16 | 19 | 19 | 14 | 14 | 12 | 13 | 12 | 15 | 14 | 13 | 13 | 12 | 12 | 12 | 15 | 17 | 13 | 12 | 13.8 | 19.2 | |
| 24-Jul-04 | 6 | 6 | 6 | 6 | 7 | 10 | 12 | 16 | 13 | 5 | 7 | 6 | 7 | 6 | 7 | 5 | 6 | 6 | 7 | 6 | 12 | 7 | 4 | 3 | 7.3 | 16.4 | |
| 25-Jul-04 | 2 | 3 | 3 | 4 | 5 | 6 | 8 | 8 | 2 | 3 | 2 | 3 | 4 | 1 | 3 | 5 | 5 | 7 | 11 | 12 | 10 | 12 | 5 | 10 | 5.6 | 12.4 | |
| 26-Jul-04 | 6 | 3 | 8 | 9 | 14 | 11 | 6 | 7 | 3 | 3 | 3 | 3 | 6 | 5 | 4 | 5 | 1 | 0 | 12 | 8 | 19 | 14 | 11 | 11 | 7.1 | 18.8 | |
| 27-Jul-04 | 8 | 5 | 7 | 3 | 3 | 4 | 7 | 3 | 6 | D | 3 | 2 | 4 | 5 | 4 | 3 | 2 | 0 | 2 | 1 | 3 | 4 | 2 | 0 | 3.5 | 7.9 | |
| 28-Jul-04 | 0 | 0 | 2 | 2 | 1 | 6 | 8 | 1 | 3 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 2 | 1 | 3 | 4 | 6 | 5 | 4 | 2.2 | 7.6 | |
| 29-Jul-04 | 5 | 3 | 5 | 4 | 6 | 10 | 7 | 6 | 3 | 4 | 5 | 3 | 3 | 2 | 5 | 0 | D | 0 | 3 | 5 | 7 | 12 | 9 | 5 | 4.9 | 12.1 | |
| 30-Jul-04 | 11 | 7 | 6 | 6 | 6 | 3 | 8 | 6 | 1 | 4 | 4 | 2 | 5 | 6 | 6 | 6 | 7 | 6 | 11 | 8 | 13 | 9 | 25 | 2 | 7.1 | 25.3 | |
| 31-Jul-04 | 3 | 0 | 2 | 1 | 2 | 4 | 5 | 6 | 5 | 0 | 1 | 2 | 0 | 4 | 4 | 5 | 4 | 4 | 3 | 3 | 1 | 0 | 1 | 4 | 2.7 | 6.5 | |
| Hourly Avg | 3.7 | 3.1 | 4.0 | 4.0 | 4.3 | 5.1 | 6.2 | 6.0 | 4.8 | 3.2 | 3.7 | 3.2 | 3.3 | 3.7 | 3.9 | 3.7 | 4.0 | 4.4 | 5.2 | 5.2 | 6.9 | 6.9 | 6.2 | 4.3 | | | |
| Hourly Max | 12.2 | 10.0 | 12.6 | 13.5 | 14.3 | 16.2 | 19.1 | 19.2 | 14.0 | 13.7 | 12.3 | 13.3 | 13.5 | 15.5 | 18.8 | 13.3 | 13.1 | 13.9 | 15.8 | 16.4 | 21.0 | 22.0 | 25.3 | 18.6 | | | |



PM_{2.5} Mass Concentration in $\mu\text{g}/\text{m}^3$

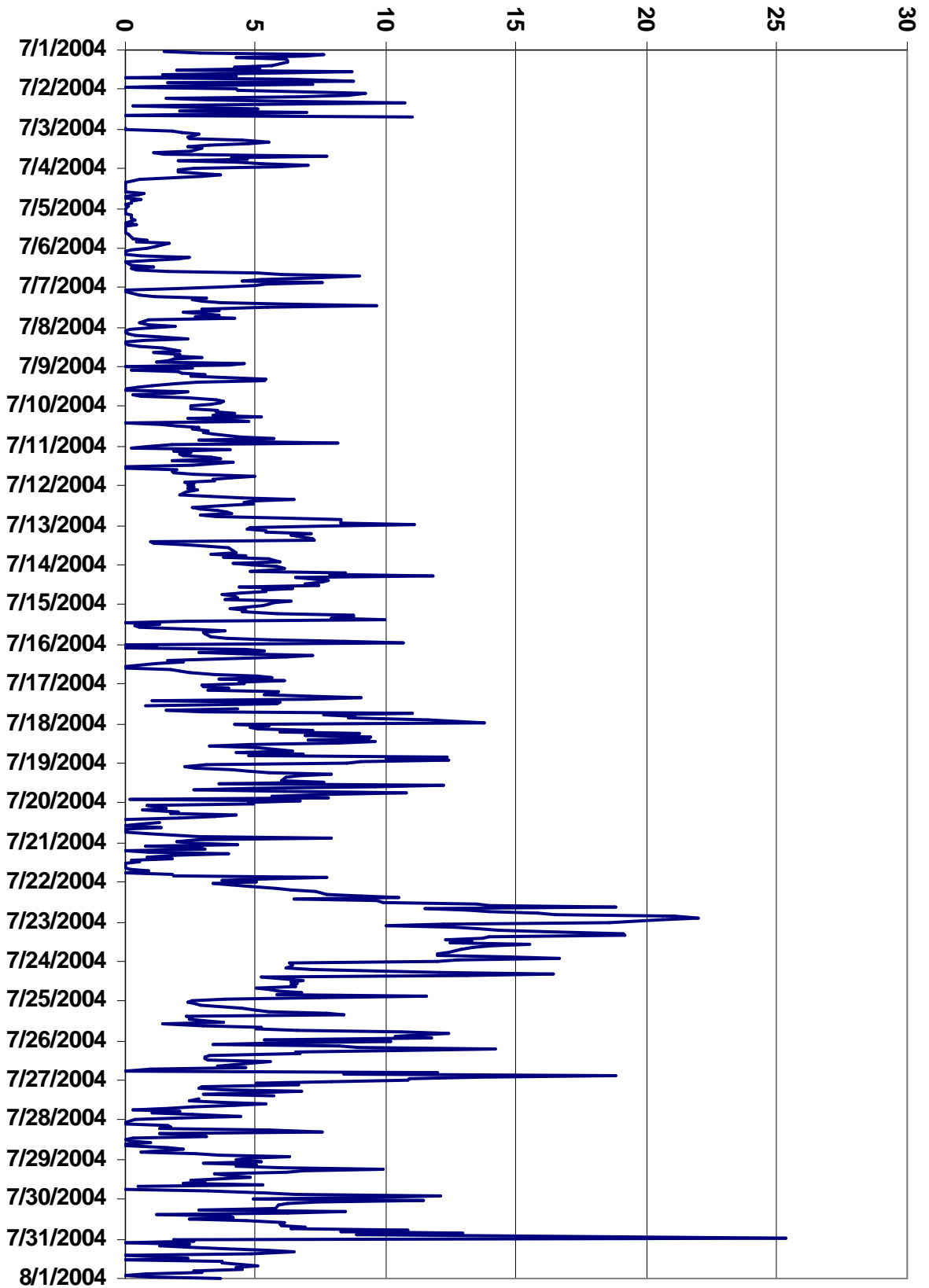


Figure 9. PAS - Crescent Heights Particulate Matter (less than 2.5 microns) 1-hr Average Monthly Trend



Station: Crescent Heights

HOURLY MAXIMUM TABLE

Particulate Matter (PM_{2.5})

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| | | | | |
|----------------------|------|-------------------|--------|-------------|
| Maximum 1-hr Value: | 72.4 | µg/m ³ | 30-Jul | 22:00 23:00 |
| Maximum 24-hr Value: | 18.6 | µg/m ³ | 23-Jul | |

| | | | | | | | | | |
|-------------------|-------|-------------------------|---------|-----|-----|-----|-----|-----------------------|-----------------------|
| AIC Time: | 0 hrs | Operational Time: | 739 hrs | | | | | | |
| Calibration Time: | 2 hrs | AMD Operational Uptime: | 99.6% | | | | | | |
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 | Average | Geomean |
| | 29.1 | 21.4 | 12.9 | 8.3 | 5.7 | 2.5 | 1.6 | 9.9 µg/m ³ | 9.0 µg/m ³ |

Status Flag Characters

| | | | |
|---|----------------------------|---|-------------------------|
| C | Calibration | A | AIC - Zero / Span Check |
| S | Instrument out of Service | X | Filter Exchange |
| N | No Data | M | Equipment Maintenance |
| D | Excessive Instrument Drift | P | Power Failure |

Day Mountain Standard Time

| Hour Start | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 24-hour Average | Daily Maximum |
|------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------|---------------|
| 1-Jul-04 | 9 | 8 | 18 | 14 | 8 | 8 | 12 | 15 | 12 | 12 | 15 | 14 | 21 | 17 | 12 | 19 | 16 | 33 | 19 | 14 | 16 | 16 | 4 | 12 | 14.4 | 33.1 |
| 2-Jul-04 | 10 | 13 | 11 | 10 | 5 | 6 | 11 | 17 | 11 | 9 | 9 | 14 | 19 | 26 | 29 | 13 | 37 | C | C | D | D | D | 3 | 1 | 13.3 | 36.9 |
| 3-Jul-04 | 5 | 18 | 6 | 6 | 5 | 5 | 7 | 9 | 9 | 5 | 5 | 6 | 6 | 4 | 6 | 19 | 8 | 8 | 6 | 8 | 8 | 9 | 10 | 6 | 7.7 | 19.4 |
| 4-Jul-04 | 5 | 4 | 6 | 6 | 6 | 2 | 3 | 4 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 3 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 3.2 | 6.3 |
| 5-Jul-04 | 1 | 2 | 1 | 2 | 4 | 3 | 2 | 2 | 2 | 3 | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 2 | 3 | 4 | 4 | 3 | 2.5 | 4.0 |
| 6-Jul-04 | 3 | 2 | 2 | 2 | 5 | 5 | 5 | 4 | 3 | 3 | 3 | 3 | 3 | 5 | 8 | 10 | 13 | 10 | 10 | 10 | 11 | 18 | 7 | 6 | 6.2 | 17.7 |
| 7-Jul-04 | 5 | 2 | 1 | 2 | 3 | 6 | 7 | 7 | 6 | 10 | 13 | 10 | 6 | 8 | 6 | 7 | 8 | 8 | 10 | 7 | 5 | 4 | 4 | 3 | 6.3 | 12.9 |
| 8-Jul-04 | 4 | 2 | 2 | 3 | 2 | 4 | 9 | 3 | 2 | 3 | 2 | 3 | 6 | 4 | 4 | 5 | 5 | 7 | 6 | 16 | 5 | 7 | 8 | 3 | 4.6 | 16.0 |
| 9-Jul-04 | 6 | 3 | 3 | 4 | 4 | 5 | 8 | 8 | 5 | 4 | 4 | 5 | 3 | 3 | 4 | 4 | 3 | 3 | 16 | 7 | 6 | 6 | 6 | 5 | 5.3 | 16.2 |
| 10-Jul-04 | 5 | 6 | 6 | 7 | 7 | 9 | 7 | 6 | 9 | 4 | 4 | 5 | 7 | 6 | 5 | 5 | 7 | 7 | 9 | 6 | 6 | 22 | 7 | 5 | 6.9 | 21.7 |
| 11-Jul-04 | 7 | 7 | 5 | 4 | 5 | 7 | 10 | 8 | 9 | 10 | 5 | 6 | 3 | 4 | 5 | 5 | 6 | 8 | 7 | 6 | 6 | 4 | 4 | 4 | 6.0 | 9.7 |
| 12-Jul-04 | 5 | 5 | 4 | 4 | 4 | 5 | 10 | 9 | 10 | 7 | 9 | 7 | 6 | 7 | 7 | 15 | 8 | 6 | 7 | 9 | 10 | 12 | 16 | 9 | 7.9 | 15.7 |
| 13-Jul-04 | 7 | 6 | 8 | 8 | 10 | 9 | 9 | 10 | 10 | 9 | 5 | 6 | 6 | 8 | 8 | 9 | 10 | 8 | 7 | 9 | 8 | 7 | 7 | 8 | 8.0 | 10.1 |
| 14-Jul-04 | 8 | 8 | 8 | 8 | 11 | 10 | 15 | 13 | 11 | 12 | 11 | 13 | 9 | 22 | 11 | 10 | 9 | 10 | 8 | 7 | 8 | 9 | 8 | 7 | 10.2 | 22.2 |
| 15-Jul-04 | 9 | 8 | 10 | 8 | 9 | 16 | 12 | 11 | 15 | 8 | 6 | 9 | 6 | 4 | 8 | 7 | 6 | 6 | 7 | 6 | 9 | 10 | 16 | 5 | 8.8 | 16.2 |
| 16-Jul-04 | 16 | 7 | 20 | 22 | 22 | 15 | 10 | 10 | 8 | 7 | 7 | 8 | 5 | 3 | 9 | 6 | 7 | 8 | 10 | 13 | 6 | 8 | 8 | 7 | 10.1 | 22.2 |
| 17-Jul-04 | 5 | 6 | 6 | 6 | 10 | 8 | 10 | 22 | 15 | 12 | 16 | 10 | 6 | 6 | 11 | 6 | 11 | 15 | 15 | 14 | 15 | 16 | 17 | 16 | 11.5 | 22.3 |
| 18-Jul-04 | 9 | 10 | 9 | 15 | 12 | 17 | 12 | 14 | 17 | 14 | 16 | 11 | 13 | 8 | 20 | 20 | 24 | 14 | 21 | 29 | 13 | 17 | 16 | 28 | 15.8 | 28.6 |
| 19-Jul-04 | 7 | 6 | 6 | 8 | 8 | 7 | 11 | 12 | 12 | 9 | 12 | 12 | 23 | 17 | 15 | 7 | 11 | 16 | 18 | 10 | 14 | 12 | 12 | 8 | 11.5 | 22.6 |
| 20-Jul-04 | 11 | 4 | 5 | 5 | 8 | 4 | 7 | 18 | 7 | 5 | 4 | 6 | 10 | 6 | 7 | 7 | 6 | 3 | 4 | 12 | 29 | 8 | 4 | 6 | 7.8 | 28.7 |
| 21-Jul-04 | 12 | 7 | 9 | 7 | 3 | 3 | 10 | 5 | 6 | 7 | 7 | 7 | 7 | 9 | 9 | 6 | 5 | 2 | 5 | 5 | 13 | 10 | 7 | 8 | 7.1 | 13.0 |
| 22-Jul-04 | 6 | 6 | 6 | 9 | 9 | 20 | 11 | 14 | 14 | 14 | 17 | 16 | 21 | 17 | 37 | 18 | 19 | 21 | 24 | 20 | 28 | 25 | 23 | 30 | 17.7 | 37.0 |
| 23-Jul-04 | 15 | 14 | 15 | 16 | 29 | 20 | 24 | 25 | 22 | 18 | 17 | 17 | 20 | 20 | 18 | 17 | 19 | 16 | 14 | 17 | 18 | 20 | 18 | 17 | 18.6 | 29.4 |
| 24-Jul-04 | 11 | 8 | 8 | 8 | 9 | 14 | 16 | 20 | 22 | 12 | 11 | 12 | 9 | 12 | 13 | 10 | 11 | 9 | 12 | 9 | 17 | 15 | 7 | 5 | 11.7 | 22.1 |
| 25-Jul-04 | 5 | 6 | 6 | 8 | 9 | 14 | 13 | 15 | 10 | 16 | 9 | 14 | 12 | 10 | 8 | 11 | 15 | 12 | 15 | 17 | 17 | 33 | 13 | 22 | 13.0 | 33.4 |
| 26-Jul-04 | 26 | 9 | 11 | 13 | 22 | 16 | 11 | 12 | 7 | 8 | 7 | 8 | 10 | 12 | 9 | 14 | 7 | 3 | 48 | 26 | 25 | 21 | 26 | 20 | 15.4 | 47.8 |
| 27-Jul-04 | 16 | 10 | 12 | 8 | 7 | 8 | 13 | 13 | 10 | 9 | 7 | 8 | 8 | 9 | 8 | 7 | 7 | 7 | 7 | 4 | 5 | 7 | 5 | 4 | 8.3 | 16.4 |
| 28-Jul-04 | 2 | 2 | 3 | 3 | 3 | 10 | 21 | 12 | 11 | 7 | 6 | 6 | 6 | 5 | 6 | 6 | 6 | 5 | 5 | 7 | 7 | 11 | 18 | 14 | 7.6 | 21.1 |
| 29-Jul-04 | 13 | 10 | 10 | 7 | 14 | 15 | 10 | 10 | 14 | 9 | 12 | 8 | 9 | 10 | 14 | 11 | 7 | 18 | 16 | 10 | 9 | 25 | 25 | 9 | 12.3 | 25.4 |
| 30-Jul-04 | 21 | 13 | 11 | 13 | 15 | 13 | 17 | 15 | 15 | 10 | 9 | 8 | 18 | 17 | 13 | 13 | 12 | 14 | 17 | 14 | 25 | 15 | 72 | 11 | 16.8 | 72.4 |
| 31-Jul-04 | 9 | 5 | 9 | 12 | 7 | 8 | 11 | 19 | 14 | 12 | 14 | 14 | 8 | 17 | 13 | 13 | 13 | 15 | 8 | 18 | 13 | 5 | 4 | 7 | 11.2 | 18.6 |
| Hourly Avg | 8.8 | 6.9 | 7.7 | 8.0 | 8.9 | 9.5 | 10.8 | 11.6 | 10.3 | 8.7 | 8.6 | 8.7 | 9.4 | 9.8 | 10.6 | 9.9 | 10.3 | 10.0 | 11.9 | 11.2 | 11.9 | 12.6 | 12.3 | 9.5 | | |
| Hourly Max | 25.5 | 18.2 | 20.5 | 21.6 | 29.4 | 20.0 | 23.8 | 24.8 | 22.1 | 17.8 | 16.9 | 17.1 | 22.6 | 25.8 | 37.0 | 19.9 | 36.9 | 33.1 | 47.8 | 28.6 | 28.7 | 33.4 | 72.4 | 29.5 | | |

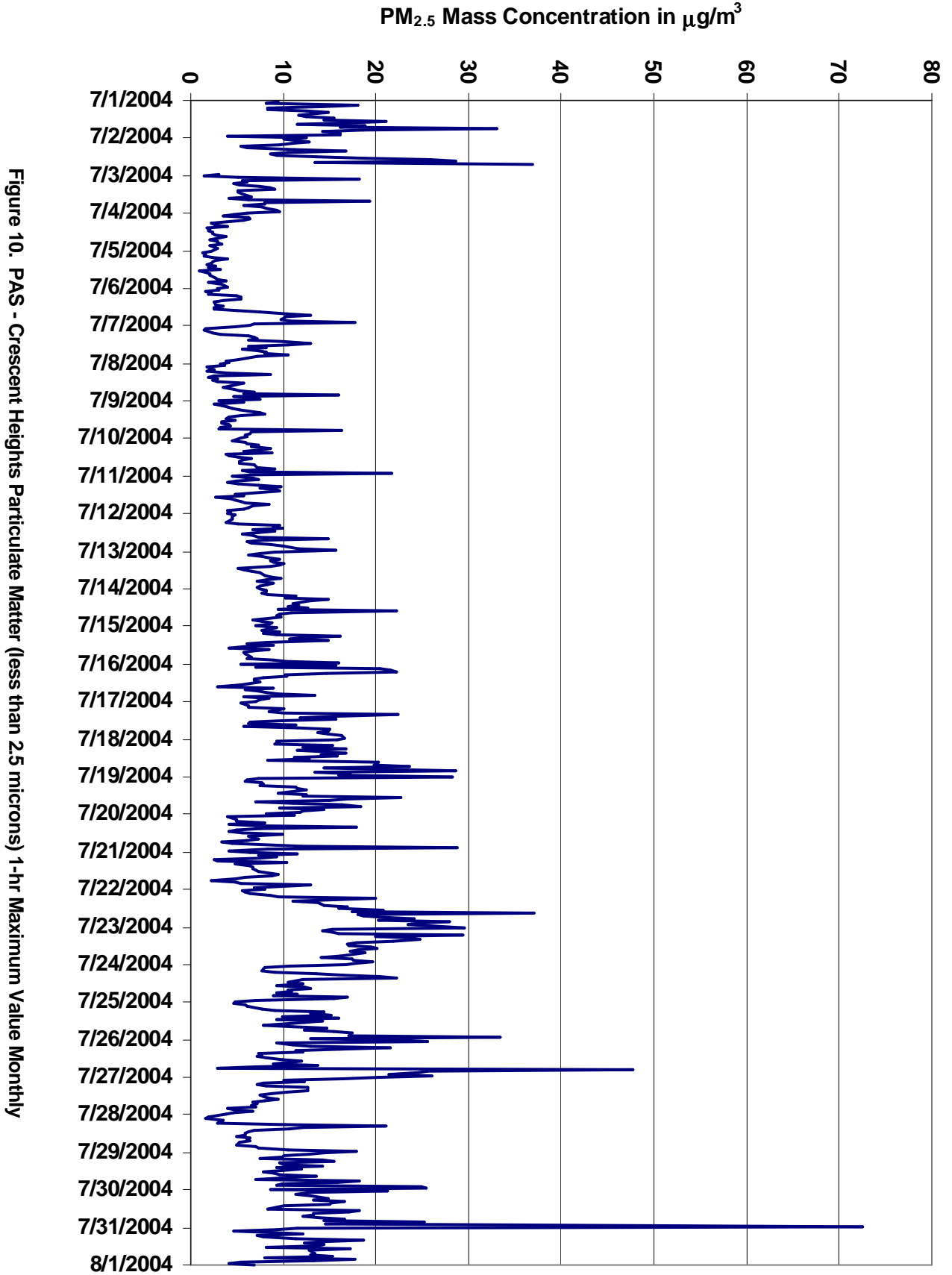
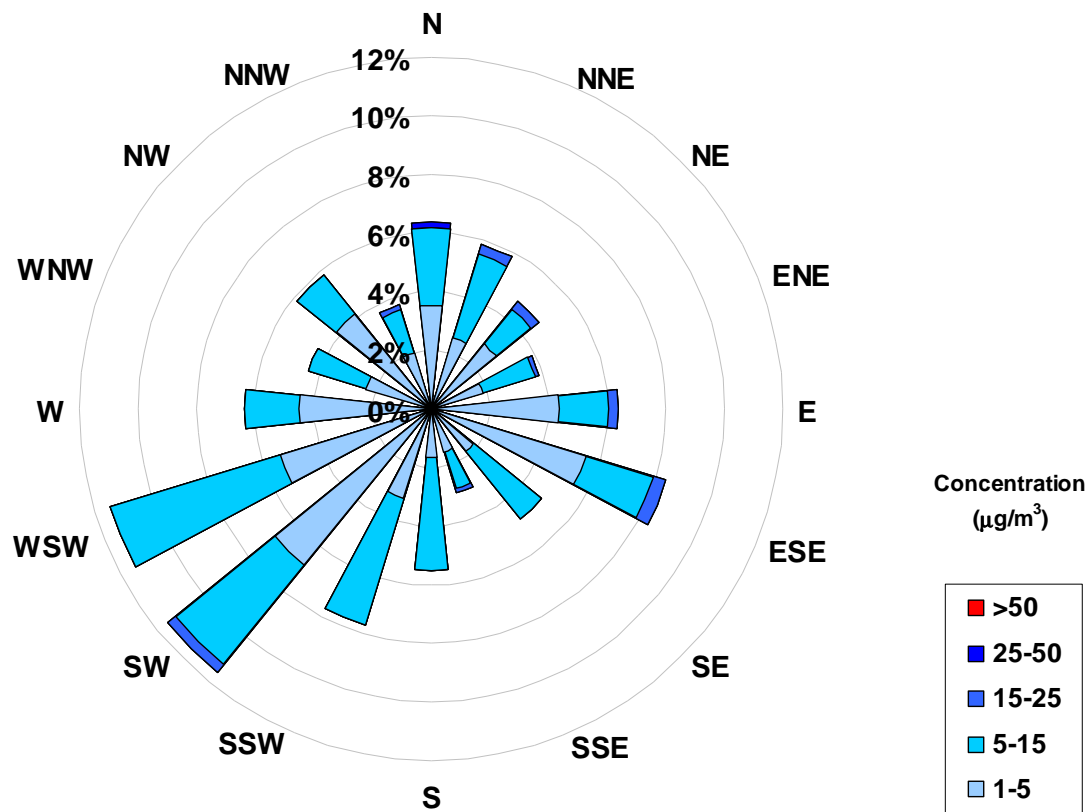


Figure 10. PAS - Crescent Heights Particulate Matter (less than 2.5 microns) 1-hr Maximum Value Monthly



Concentration Rose for the 1-hr PM_{2.5} Average Concentration Occurrences at the Crescent Heights Site for July 2004



| Frequency Distribution of PM _{2.5} in $\mu\text{g}/\text{m}^3$ | | | |
|---|----|----|-----------------|
| Range | | | Frequency (hrs) |
| 0 | < | 1 | 138 |
| 1 | to | 5 | 324 |
| 5 | to | 15 | 258 |
| 15 | to | 25 | 14 |
| 25 | to | 50 | 1 |
| | > | 50 | 0 |
| Total Non-Zero Values | | | 735 |

| Calms | |
|--------------------------------|------|
| Range $\mu\text{g}/\text{m}^3$ | |
| 1-5 | 0.0% |
| 5-15 | 0.0% |
| 15-25 | 0.0% |
| 25-50 | 0.0% |
| >50 | 0.0% |



PAS - Crescent Heights Meteorological Parameters Monthly Summary

Station: Crescent Heights **HOURLY AVERAGE TABLE** **Relative Humidity (RH - %)**

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

| | | | | |
|------------------------------|------|---|-------|-----------|
| Number of 1-hr Exceedances: | 0 | | | |
| Number of 24-hr Exceedances: | 0 | | | |
| Maximum 1-hr Average: | 92.6 | % | 6-Jul | 4:00 5:00 |
| Maximum 24-hr Average: | 80.2 | % | 4-Jul | |

| | | | | | | | | |
|-------------------|-------|-------------------------|---------|------|------|------|------|----------|
| AIC Time: | 0 hrs | Operational Time: | 744 hrs | | | | | |
| Calibration Time: | 0 hrs | AMD Operational Uptime: | 100.0% | | | | | |
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 | Average |
| | 90.7 | 87.1 | 71.9 | 55.4 | 37.8 | 25.9 | 14.9 | 55.3 ppb |

| Status Flag Characters | | | |
|------------------------|----------------------------|---|-------------------------|
| C | Calibration | A | AIC - Zero / Span Check |
| S | Instrument out of Service | X | Filter Exchange |
| N | No Data | M | Equipment Maintenance |
| D | Excessive Instrument Drift | P | Power Failure |

| Day | Mountain Standard Time | | | | | | | | | | | | | | | | | | | | | | | | 24-hour Average | Daily Maximum | |
|------------|------------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------|---------------|--|
| Hour Start | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 24:00 | | |
| Hour End | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 0:00 | Average | Maximum | |
| 1-Jul-04 | 69 | 69 | 70 | 81 | 84 | 84 | 75 | 63 | 57 | 54 | 52 | 47 | 48 | 51 | 46 | 46 | 41 | 42 | 51 | 54 | 62 | 66 | 68 | 74 | 61 | 84 | |
| 2-Jul-04 | 79 | 85 | 89 | 90 | 89 | 87 | 84 | 77 | 69 | 60 | 54 | 50 | 45 | 44 | 43 | 38 | 54 | 58 | 54 | 59 | 67 | 76 | 81 | 86 | 67 | 90 | |
| 3-Jul-04 | 90 | 89 | 90 | 91 | 91 | 86 | 81 | 79 | 72 | 66 | 58 | 53 | 49 | 42 | 37 | 44 | 63 | 68 | 66 | 72 | 79 | 83 | 85 | 85 | 72 | 91 | |
| 4-Jul-04 | 85 | 86 | 86 | 87 | 87 | 89 | 88 | 86 | 81 | 73 | 71 | 72 | 69 | 68 | 68 | 74 | 78 | 78 | 78 | 82 | 83 | 83 | 85 | 89 | 80 | 89 | |
| 5-Jul-04 | 90 | 88 | 87 | 87 | 88 | 89 | 89 | 85 | 76 | 66 | 66 | 65 | 60 | 56 | 52 | 49 | 48 | 48 | 48 | 52 | 58 | 66 | 77 | 83 | 70 | 90 | |
| 6-Jul-04 | 83 | 85 | 86 | 89 | 93 | 83 | 76 | 67 | 55 | 48 | 44 | 38 | 32 | 30 | 35 | 33 | 32 | 37 | 41 | 40 | 58 | 64 | 64 | 67 | 58 | 93 | |
| 7-Jul-04 | 68 | 63 | 64 | 70 | 74 | 72 | 66 | 62 | 61 | 67 | 75 | 63 | 59 | 56 | 48 | 56 | 78 | 79 | 78 | 86 | 87 | 89 | 91 | 91 | 71 | 91 | |
| 8-Jul-04 | 89 | 86 | 86 | 87 | 87 | 81 | 81 | 75 | 64 | 53 | 49 | 49 | 48 | 53 | 49 | 53 | 58 | 65 | 59 | 64 | 66 | 71 | 73 | 71 | 67 | 89 | |
| 9-Jul-04 | 79 | 84 | 81 | 85 | 86 | 79 | 74 | 70 | 65 | 57 | 51 | 47 | 42 | 35 | 36 | 34 | 30 | 28 | 29 | 37 | 46 | 53 | 63 | 67 | 57 | 86 | |
| 10-Jul-04 | 70 | 72 | 77 | 78 | 78 | 73 | 65 | 59 | 52 | 33 | 33 | 30 | 32 | 28 | 30 | 29 | 30 | 33 | 38 | 44 | 48 | 54 | 62 | 64 | 50 | 78 | |
| 11-Jul-04 | 64 | 73 | 75 | 79 | 78 | 71 | 63 | 65 | 73 | 69 | 58 | 39 | 28 | 27 | 26 | 25 | 25 | 29 | 32 | 37 | 43 | 46 | 52 | 57 | 51 | 79 | |
| 12-Jul-04 | 62 | 57 | 56 | 61 | 64 | 62 | 61 | 61 | 59 | 56 | 51 | 46 | 41 | 37 | 35 | 34 | 34 | 32 | 33 | 39 | 48 | 56 | 64 | 68 | 51 | 68 | |
| 13-Jul-04 | 71 | 77 | 78 | 82 | 82 | 78 | 70 | 59 | 53 | 39 | 29 | 26 | 25 | 25 | 25 | 27 | 28 | 29 | 33 | 37 | 43 | 50 | 52 | 53 | 49 | 82 | |
| 14-Jul-04 | 59 | 65 | 68 | 68 | 76 | 76 | 68 | 59 | 53 | 49 | 45 | 39 | 36 | 36 | 35 | 35 | 33 | 33 | 35 | 41 | 48 | 56 | 63 | 69 | 52 | 76 | |
| 15-Jul-04 | 75 | 77 | 84 | 85 | 87 | 84 | 79 | 72 | 64 | 55 | 45 | 38 | 34 | 30 | 29 | 30 | 31 | 33 | 35 | 41 | 46 | 52 | 64 | 66 | 56 | 87 | |
| 16-Jul-04 | 56 | 68 | 63 | 75 | 76 | 79 | 72 | 67 | 60 | 52 | 48 | 43 | 38 | 31 | 29 | 30 | 31 | 34 | 37 | 43 | 52 | 62 | 69 | 65 | 53 | 79 | |
| 17-Jul-04 | 62 | 58 | 62 | 64 | 75 | 74 | 68 | 58 | 51 | 43 | 41 | 37 | 30 | 15 | 16 | 16 | 17 | 25 | 29 | 36 | 42 | 47 | 58 | 57 | 45 | 75 | |
| 18-Jul-04 | 57 | 58 | 59 | 63 | 63 | 60 | 58 | 56 | 48 | 45 | 37 | 34 | 28 | 24 | 22 | 22 | 22 | 28 | 26 | 35 | 40 | 45 | 52 | 58 | 43 | 63 | |
| 19-Jul-04 | 59 | 57 | 52 | 55 | 57 | 57 | 52 | 48 | 42 | 45 | 48 | 41 | 43 | 41 | 36 | 31 | 32 | 39 | 39 | 41 | 46 | 45 | 56 | 63 | 47 | 63 | |
| 20-Jul-04 | 69 | 74 | 77 | 75 | 72 | 71 | 66 | 61 | 55 | 49 | 34 | 30 | 29 | 27 | 27 | 28 | 30 | 29 | 30 | 35 | 44 | 62 | 65 | 71 | 50 | 77 | |
| 21-Jul-04 | 72 | 73 | 74 | 75 | 72 | 66 | 68 | 62 | 55 | 50 | 45 | 47 | 39 | 37 | 33 | 32 | 32 | 33 | 34 | 37 | 49 | 63 | 68 | 73 | 54 | 75 | |
| 22-Jul-04 | 78 | 82 | 85 | 87 | 87 | 85 | 83 | 76 | 72 | 63 | 53 | 46 | 43 | 43 | 52 | 49 | 44 | 46 | 52 | 50 | 54 | 62 | 69 | 77 | 64 | 87 | |
| 23-Jul-04 | 82 | 81 | 80 | 83 | 83 | 80 | 71 | 63 | 51 | 42 | 35 | 31 | 27 | 26 | 26 | 27 | 27 | 26 | 26 | 32 | 40 | 45 | 50 | 49 | 49 | 83 | |
| 24-Jul-04 | 42 | 35 | 34 | 35 | 35 | 37 | 37 | 37 | 35 | 26 | 22 | 20 | 18 | 16 | 16 | 14 | 14 | 15 | 16 | 19 | 27 | 36 | 35 | 31 | 27 | 42 | |
| 25-Jul-04 | 30 | 31 | 32 | 37 | 44 | 43 | 40 | 37 | 31 | 25 | 23 | 21 | 17 | 14 | 12 | 11 | 10 | 12 | 17 | 24 | 31 | 35 | 39 | 45 | 28 | 45 | |
| 26-Jul-04 | 45 | 39 | 45 | 50 | 60 | 68 | 63 | 60 | 50 | 45 | 42 | 39 | 37 | 35 | 34 | 33 | 32 | 31 | 37 | 46 | 61 | 74 | 85 | 89 | 50 | 89 | |
| 27-Jul-04 | 92 | 91 | 91 | 90 | 89 | 85 | 84 | 75 | 70 | 56 | 53 | 53 | 56 | 59 | 59 | 55 | 55 | 51 | 55 | 58 | 63 | 66 | 69 | 73 | 69 | 92 | |
| 28-Jul-04 | 75 | 81 | 81 | 83 | 84 | 84 | 79 | 65 | 62 | 57 | 52 | 45 | 39 | 36 | 31 | 26 | 27 | 28 | 28 | 32 | 38 | 44 | 52 | 57 | 54 | 84 | |
| 29-Jul-04 | 61 | 63 | 66 | 70 | 74 | 81 | 81 | 75 | 66 | 59 | 54 | 47 | 45 | 43 | 41 | 40 | 34 | 29 | 32 | 36 | 44 | 51 | 60 | 64 | 55 | 81 | |
| 30-Jul-04 | 70 | 72 | 74 | 77 | 81 | 80 | 70 | 62 | 55 | 42 | 38 | 32 | 31 | 29 | 29 | 30 | 31 | 32 | 36 | 42 | 50 | 56 | 67 | 88 | 53 | 88 | |
| 31-Jul-04 | 89 | 88 | 88 | 87 | 89 | 90 | 84 | 80 | 73 | 68 | 57 | 52 | 47 | 44 | 41 | 43 | 43 | 44 | 46 | 50 | 52 | 54 | 58 | 64 | 64 | 90 | |
| Hourly Avg | 70 | 71 | 72 | 75 | 77 | 75 | 71 | 65 | 59 | 52 | 47 | 43 | 39 | 37 | 35 | 35 | 37 | 39 | 40 | 45 | 52 | 58 | 64 | 68 | | | |
| Hourly Max | 92 | 91 | 91 | 91 | 93 | 90 | 89 | 86 | 81 | 73 | 75 | 72 | 69 | 68 | 68 | 74 | 78 | 79 | 78 | 86 | 87 | 89 | 91 | 91 | | | |

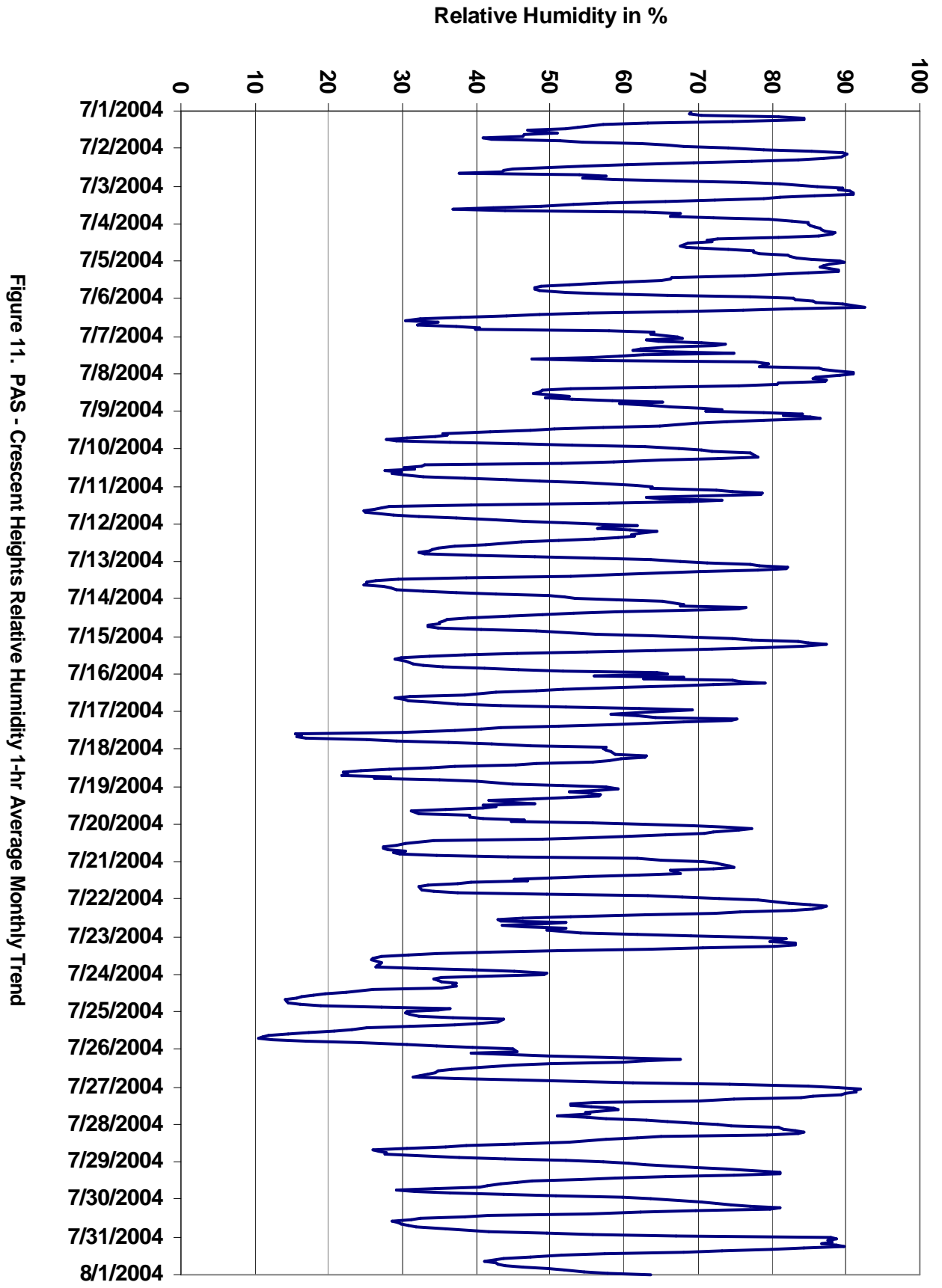


Figure 11. PAS - Crescent Heights Relative Humidity 1-hr Average Monthly Trend



Station: Crescent Heights

HOURLY AVERAGE TABLE**Ambient Temperature (AT - °C)**

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| | |
|------------------------------|----------------------------|
| Number of 1-hr Exceedances: | 0 |
| Number of 24-hr Exceedances: | 0 |
| Maximum 1-hr Average: | 37.1 °C 18-Jul 15:00 16:00 |
| Maximum 24-hr Average: | 28.6 °C 17-Jul |

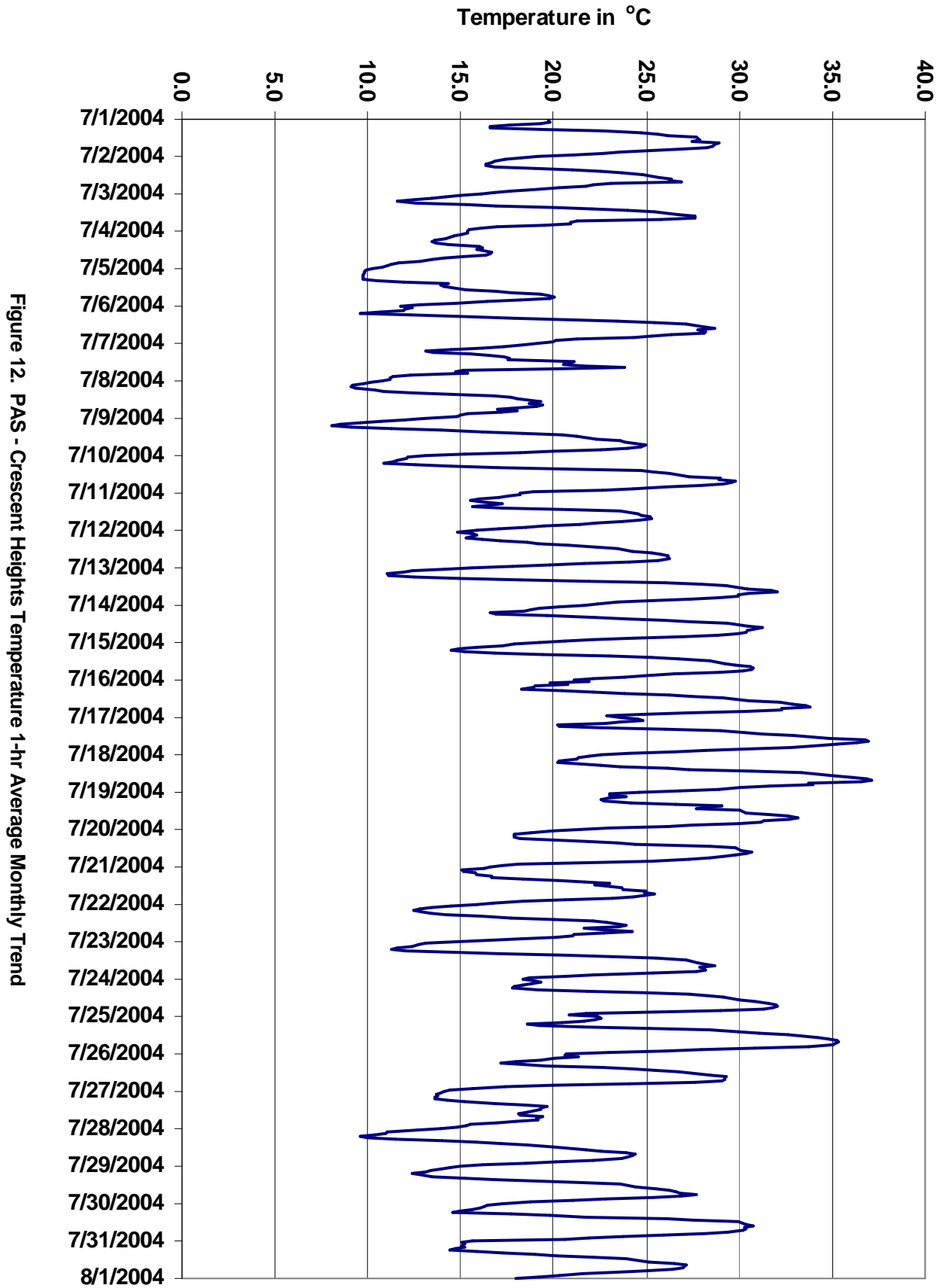
| | | | | | | | | |
|-------------------|-------|-------------------------|---------|------|------|------|-----|----------|
| AIC Time: | 0 hrs | Operational Time: | 744 hrs | | | | | |
| Calibration Time: | 0 hrs | AMD Operational Uptime: | 100.0% | | | | | |
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 | Average |
| | 35.3 | 31.7 | 26.1 | 20.7 | 16.2 | 11.3 | 9.6 | 21.2 ppb |

Status Flag Characters

| | | | |
|---|----------------------------|---|-------------------------|
| C | Calibration | A | AIC - Zero / Span Check |
| S | Instrument out of Service | X | Filter Exchange |
| N | No Data | M | Equipment Maintenance |
| D | Excessive Instrument Drift | P | Power Failure |

Day Mountain Standard Time

| Hour Start Hour End | 0:00 1:00 | 1:00 2:00 | 2:00 3:00 | 3:00 4:00 | 4:00 5:00 | 5:00 6:00 | 6:00 7:00 | 7:00 8:00 | 8:00 9:00 | 9:00 10:00 | 10:00 11:00 | 11:00 12:00 | 12:00 13:00 | 13:00 14:00 | 14:00 15:00 | 15:00 16:00 | 16:00 17:00 | 17:00 18:00 | 18:00 19:00 | 19:00 20:00 | 20:00 21:00 | 21:00 22:00 | 22:00 23:00 | 23:00 0:00 | 24-hour Average | Daily Maximum |
|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|--------------------|------------------|
| 1-Jul-04 | 20 | 20 | 19 | 18 | 17 | 17 | 19 | 23 | 25 | 26 | 28 | 28 | 27 | 29 | 29 | 29 | 28 | 27 | 25 | 24 | 23 | 21 | 19 | 23.5 | 28.9 | |
| 2-Jul-04 | 18 | 17 | 17 | 17 | 16 | 16 | 17 | 19 | 21 | 23 | 24 | 25 | 26 | 26 | 26 | 27 | 23 | 22 | 20 | 19 | 18 | 17 | 16 | 20.5 | 26.9 | |
| 3-Jul-04 | 15 | 14 | 13 | 12 | 12 | 13 | 15 | 17 | 20 | 22 | 24 | 25 | 27 | 28 | 28 | 26 | 21 | 21 | 19 | 17 | 16 | 15 | 15 | 19.0 | 27.6 | |
| 4-Jul-04 | 15 | 15 | 15 | 14 | 14 | 14 | 13 | 14 | 14 | 16 | 16 | 16 | 17 | 17 | 16 | 15 | 14 | 13 | 13 | 12 | 11 | 11 | 11 | 10 | 14.0 | 16.7 |
| 5-Jul-04 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 12 | 14 | 14 | 14 | 15 | 17 | 18 | 19 | 20 | 20 | 20 | 18 | 16 | 15 | 13 | 12 | 14.0 | 20.0 |
| 6-Jul-04 | 12 | 12 | 12 | 11 | 10 | 12 | 15 | 18 | 21 | 23 | 25 | 27 | 28 | 29 | 28 | 28 | 28 | 26 | 25 | 24 | 21 | 20 | 20 | 19 | 20.6 | 28.7 |
| 7-Jul-04 | 18 | 17 | 16 | 14 | 13 | 14 | 16 | 16 | 17 | 18 | 18 | 21 | 21 | 22 | 24 | 20 | 15 | 15 | 15 | 12 | 11 | 11 | 11 | 11 | 16.1 | 23.8 |
| 8-Jul-04 | 10 | 10 | 9 | 9 | 9 | 10 | 11 | 12 | 15 | 17 | 18 | 18 | 19 | 19 | 19 | 19 | 18 | 17 | 18 | 17 | 15 | 15 | 15 | 13 | 14.7 | 19.4 |
| 9-Jul-04 | 12 | 11 | 10 | 9 | 8 | 9 | 11 | 14 | 16 | 18 | 20 | 21 | 22 | 24 | 24 | 24 | 25 | 25 | 24 | 23 | 20 | 18 | 15 | 13 | 17.3 | 24.9 |
| 10-Jul-04 | 12 | 12 | 12 | 11 | 11 | 13 | 14 | 17 | 21 | 25 | 25 | 26 | 27 | 29 | 29 | 30 | 30 | 29 | 28 | 26 | 24 | 23 | 19 | 18 | 21.3 | 29.8 |
| 11-Jul-04 | 18 | 18 | 17 | 16 | 16 | 16 | 17 | 16 | 16 | 17 | 21 | 24 | 25 | 25 | 25 | 25 | 25 | 24 | 22 | 21 | 20 | 18 | 17 | 16 | 19.7 | 25.3 |
| 12-Jul-04 | 15 | 16 | 16 | 16 | 15 | 16 | 17 | 19 | 19 | 21 | 22 | 23 | 24 | 25 | 26 | 26 | 26 | 26 | 26 | 24 | 22 | 20 | 18 | 16 | 20.5 | 26.2 |
| 13-Jul-04 | 14 | 12 | 12 | 11 | 11 | 12 | 15 | 18 | 22 | 26 | 28 | 29 | 30 | 32 | 32 | 30 | 30 | 30 | 29 | 27 | 25 | 23 | 22 | 22 | 22.7 | 32.0 |
| 14-Jul-04 | 20 | 19 | 19 | 18 | 17 | 17 | 20 | 22 | 24 | 26 | 27 | 29 | 30 | 31 | 31 | 30 | 30 | 30 | 29 | 27 | 24 | 22 | 21 | 19 | 24.3 | 31.2 |
| 15-Jul-04 | 18 | 17 | 16 | 15 | 14 | 15 | 17 | 19 | 23 | 25 | 27 | 28 | 29 | 30 | 31 | 31 | 31 | 30 | 29 | 27 | 25 | 24 | 22 | 21 | 23.5 | 30.7 |
| 16-Jul-04 | 22 | 20 | 21 | 19 | 19 | 18 | 20 | 22 | 24 | 26 | 27 | 29 | 31 | 32 | 33 | 34 | 34 | 32 | 32 | 30 | 27 | 25 | 23 | 24 | 26.0 | 33.8 |
| 17-Jul-04 | 25 | 25 | 24 | 23 | 20 | 20 | 23 | 26 | 29 | 30 | 31 | 33 | 35 | 37 | 37 | 36 | 35 | 34 | 33 | 30 | 28 | 26 | 24 | 23 | 28.6 | 36.9 |
| 18-Jul-04 | 22 | 21 | 21 | 20 | 20 | 21 | 23 | 24 | 26 | 27 | 31 | 33 | 35 | 36 | 37 | 37 | 37 | 34 | 34 | 32 | 30 | 29 | 27 | 25 | 28.4 | 37.1 |
| 19-Jul-04 | 23 | 23 | 24 | 23 | 23 | 23 | 24 | 27 | 29 | 28 | 28 | 30 | 30 | 32 | 33 | 33 | 33 | 31 | 31 | 30 | 27 | 26 | 23 | 21 | 27.3 | 33.2 |
| 20-Jul-04 | 20 | 19 | 18 | 18 | 18 | 18 | 20 | 22 | 23 | 24 | 28 | 30 | 30 | 31 | 30 | 30 | 29 | 28 | 27 | 25 | 22 | 18 | 17 | 17 | 23.5 | 30.6 |
| 21-Jul-04 | 16 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 20 | 22 | 23 | 22 | 24 | 24 | 25 | 25 | 25 | 25 | 24 | 23 | 21 | 18 | 17 | 16 | 20.1 | 25.4 |
| 22-Jul-04 | 14 | 13 | 13 | 12 | 13 | 13 | 14 | 16 | 18 | 20 | 22 | 23 | 24 | 24 | 22 | 23 | 24 | 23 | 21 | 21 | 20 | 18 | 17 | 15 | 18.5 | 24.2 |
| 23-Jul-04 | 13 | 13 | 12 | 12 | 11 | 12 | 15 | 17 | 21 | 23 | 26 | 27 | 28 | 28 | 29 | 28 | 28 | 28 | 28 | 25 | 22 | 21 | 19 | 18 | 20.9 | 28.7 |
| 24-Jul-04 | 19 | 19 | 19 | 18 | 18 | 18 | 19 | 22 | 25 | 27 | 28 | 29 | 30 | 31 | 32 | 32 | 32 | 32 | 31 | 29 | 25 | 22 | 21 | 22 | 25.0 | 32.0 |
| 25-Jul-04 | 22 | 22 | 22 | 20 | 19 | 19 | 22 | 25 | 28 | 30 | 31 | 33 | 34 | 35 | 35 | 35 | 35 | 35 | 34 | 31 | 28 | 26 | 23 | 21 | 27.7 | 35.3 |
| 26-Jul-04 | 21 | 21 | 20 | 19 | 18 | 17 | 18 | 20 | 23 | 24 | 25 | 27 | 28 | 29 | 29 | 29 | 29 | 28 | 24 | 20 | 17 | 16 | 14 | 14 | 22.2 | 29.3 |
| 27-Jul-04 | 14 | 14 | 14 | 14 | 14 | 14 | 15 | 17 | 18 | 20 | 19 | 19 | 19 | 18 | 18 | 19 | 19 | 19 | 18 | 17 | 16 | 15 | 15 | 14 | 16.6 | 19.6 |
| 28-Jul-04 | 13 | 11 | 11 | 10 | 10 | 10 | 12 | 14 | 16 | 17 | 19 | 20 | 22 | 23 | 24 | 24 | 24 | 24 | 24 | 22 | 20 | 18 | 16 | 15 | 17.4 | 24.4 |
| 29-Jul-04 | 14 | 14 | 13 | 13 | 12 | 13 | 13 | 15 | 17 | 19 | 22 | 24 | 24 | 25 | 26 | 27 | 27 | 28 | 27 | 25 | 23 | 21 | 19 | 17 | 20.0 | 27.7 |
| 30-Jul-04 | 16 | 16 | 16 | 16 | 15 | 15 | 18 | 20 | 22 | 26 | 27 | 30 | 30 | 31 | 30 | 30 | 30 | 29 | 28 | 26 | 24 | 22 | 21 | 16 | 23.1 | 30.8 |
| 31-Jul-04 | 15 | 15 | 15 | 15 | 15 | 14 | 16 | 17 | 19 | 20 | 22 | 24 | 25 | 26 | 27 | 27 | 27 | 26 | 25 | 23 | 22 | 20 | 19 | 18 | 20.6 | 27.1 |
| Hourly Avg | 16.7 | 16.2 | 15.8 | 15.2 | 14.6 | 15.1 | 16.6 | 18.6 | 20.7 | 22.6 | 24.1 | 25.4 | 26.4 | 27.1 | 27.5 | 27.4 | 26.9 | 26.2 | 25.4 | 23.7 | 21.5 | 20.0 | 18.4 | 17.3 | | |
| Hourly Max | 24.5 | 24.8 | 23.9 | 22.9 | 22.5 | 22.7 | 24.2 | 26.5 | 29.1 | 30.3 | 31.3 | 33.3 | 35.2 | 36.7 | 36.9 | 37.1 | 36.6 | 35.0 | 34.0 | 31.7 | 30.0 | 28.9 | 26.8 | 24.6 | | |





Station: Crescent Heights

HOURLY AVERAGE TABLE

Solar Radiation (SR - W/m²)

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| | | | | |
|------------------------------|-------|------------------|--------|-------------|
| Number of 1-hr Exceedances: | 0 | | | |
| Number of 24-hr Exceedances: | 0 | | | |
| Maximum 1-hr Average: | 942.5 | W/m ² | 20-Jul | 13:00 14:00 |
| Maximum 24-hr Average: | 347.1 | W/m ² | 9-Jul | |

| | | | | | | | | | |
|-------------------|-------|-------|-------|-------|-----|-----|-----|-------------------------|---------|
| AIC Time: | 0 hrs | | | | | | | Operational Time: | 744 hrs |
| Calibration Time: | 0 hrs | | | | | | | AMD Operational Uptime: | 100.0% |
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 | Average | |
| | 904.6 | 851.0 | 533.1 | 155.8 | 1.1 | 1.1 | 0.0 | 277.1 ppb | |

Status Flag Characters

| | | | |
|---|----------------------------|---|-------------------------|
| C | Calibration | A | AIC - Zero / Span Check |
| S | Instrument out of Service | X | Filter Exchange |
| N | No Data | M | Equipment Maintenance |
| D | Excessive Instrument Drift | P | Power Failure |

Day Mountain Standard Time

| Day | Hour Start | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 24-hour Average | Daily Maximum |
|------------|------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------|---------------|
| | Hour End | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 0:00 | | |
| 1-Jul-04 | 0 | 0 | 0 | 0 | 9 | 74 | 267 | 434 | 590 | 643 | 599 | 650 | 781 | 654 | 825 | 660 | 476 | 312 | 210 | 65 | 4 | 0 | 0 | 0 | 302 | 825 | |
| 2-Jul-04 | 0 | 0 | 0 | 0 | 11 | 68 | 103 | 354 | 489 | 573 | 460 | 646 | 737 | 840 | 669 | 720 | 413 | 364 | 186 | 50 | 15 | 1 | 1 | 1 | 279 | 840 | |
| 3-Jul-04 | 1 | 1 | 1 | 1 | 14 | 99 | 208 | 371 | 576 | 682 | 731 | 864 | 737 | 564 | 547 | 447 | 330 | 413 | 256 | 55 | 6 | 1 | 1 | 1 | 288 | 864 | |
| 4-Jul-04 | 1 | 1 | 1 | 1 | 4 | 18 | 102 | 134 | 208 | 494 | 428 | 349 | 431 | 395 | 306 | 130 | 133 | 92 | 62 | 20 | 2 | 1 | 1 | 1 | 138 | 494 | |
| 5-Jul-04 | 1 | 1 | 1 | 1 | 4 | 20 | 71 | 102 | 208 | 356 | 189 | 153 | 282 | 414 | 474 | 645 | 606 | 394 | 248 | 86 | 10 | 1 | 1 | 1 | 178 | 645 | |
| 6-Jul-04 | 1 | 1 | 1 | 1 | 14 | 111 | 247 | 414 | 569 | 710 | 818 | 888 | 899 | 707 | 345 | 409 | 393 | 122 | 61 | 21 | 2 | 1 | 1 | 1 | 281 | 899 | |
| 7-Jul-04 | 1 | 1 | 1 | 1 | 7 | 85 | 262 | 215 | 233 | 247 | 329 | 719 | 225 | 547 | 806 | 346 | 123 | 188 | 101 | 10 | 2 | 1 | 1 | 1 | 186 | 806 | |
| 8-Jul-04 | 1 | 1 | 1 | 1 | 5 | 20 | 87 | 370 | 539 | 654 | 565 | 552 | 785 | 551 | 291 | 306 | 136 | 105 | 122 | 60 | 7 | 1 | 1 | 1 | 215 | 785 | |
| 9-Jul-04 | 1 | 1 | 1 | 1 | 10 | 100 | 253 | 409 | 580 | 722 | 886 | 789 | 849 | 929 | 717 | 717 | 591 | 420 | 258 | 85 | 8 | 1 | 1 | 1 | 347 | 929 | |
| 10-Jul-04 | 1 | 1 | 1 | 1 | 11 | 99 | 236 | 373 | 445 | 622 | 438 | 438 | 649 | 809 | 797 | 704 | 565 | 397 | 181 | 40 | 5 | 1 | 1 | 1 | 284 | 809 | |
| 11-Jul-04 | 1 | 1 | 1 | 1 | 6 | 96 | 161 | 52 | 106 | 354 | 812 | 906 | 927 | 896 | 833 | 721 | 574 | 411 | 206 | 87 | 7 | 1 | 1 | 1 | 298 | 927 | |
| 12-Jul-04 | 1 | 1 | 1 | 1 | 8 | 112 | 242 | 391 | 343 | 586 | 794 | 858 | 923 | 842 | 833 | 724 | 598 | 421 | 241 | 80 | 8 | 1 | 1 | 1 | 334 | 923 | |
| 13-Jul-04 | 1 | 1 | 1 | 1 | 8 | 91 | 237 | 403 | 570 | 714 | 822 | 892 | 910 | 877 | 718 | 347 | 304 | 261 | 200 | 87 | 7 | 1 | 1 | 1 | 311 | 910 | |
| 14-Jul-04 | 1 | 1 | 1 | 1 | 8 | 85 | 226 | 388 | 518 | 692 | 807 | 877 | 903 | 837 | 688 | 598 | 581 | 407 | 245 | 80 | 7 | 1 | 1 | 1 | 331 | 903 | |
| 15-Jul-04 | 1 | 1 | 1 | 1 | 11 | 41 | 127 | 333 | 554 | 619 | 799 | 870 | 894 | 868 | 802 | 694 | 552 | 397 | 205 | 25 | 3 | 1 | 1 | 1 | 325 | 894 | |
| 16-Jul-04 | 1 | 1 | 1 | 1 | 3 | 46 | 224 | 390 | 556 | 686 | 803 | 877 | 898 | 851 | 804 | 690 | 533 | 262 | 236 | 89 | 6 | 1 | 1 | 1 | 332 | 898 | |
| 17-Jul-04 | 1 | 1 | 1 | 1 | 6 | 79 | 222 | 386 | 550 | 691 | 802 | 876 | 902 | 891 | 827 | 672 | 503 | 241 | 138 | 49 | 9 | 1 | 1 | 1 | 327 | 902 | |
| 18-Jul-04 | 1 | 1 | 1 | 1 | 7 | 98 | 193 | 376 | 535 | 676 | 723 | 826 | 901 | 851 | 679 | 649 | 484 | 291 | 184 | 51 | 7 | 1 | 1 | 1 | 314 | 901 | |
| 19-Jul-04 | 1 | 1 | 1 | 1 | 5 | 56 | 116 | 280 | 406 | 320 | 315 | 722 | 429 | 686 | 668 | 655 | 332 | 205 | 159 | 63 | 5 | 1 | 1 | 1 | 226 | 722 | |
| 20-Jul-04 | 1 | 1 | 1 | 1 | 4 | 54 | 181 | 199 | 268 | 416 | 784 | 934 | 821 | 942 | 816 | 631 | 543 | 393 | 236 | 63 | 4 | 1 | 1 | 1 | 304 | 942 | |
| 21-Jul-04 | 1 | 1 | 1 | 1 | 2 | 20 | 62 | 323 | 347 | 500 | 556 | 468 | 775 | 492 | 515 | 450 | 464 | 298 | 176 | 67 | 4 | 1 | 1 | 1 | 230 | 775 | |
| 22-Jul-04 | 1 | 1 | 1 | 1 | 3 | 20 | 73 | 206 | 384 | 550 | 632 | 499 | 565 | 294 | 304 | 391 | 474 | 308 | 89 | 37 | 5 | 1 | 1 | 1 | 202 | 632 | |
| 23-Jul-04 | 1 | 1 | 1 | 1 | 5 | 55 | 173 | 339 | 503 | 654 | 769 | 866 | 925 | 884 | 655 | 574 | 446 | 367 | 213 | 63 | 5 | 1 | 1 | 1 | 313 | 925 | |
| 24-Jul-04 | 1 | 1 | 1 | 1 | 4 | 61 | 200 | 366 | 534 | 683 | 797 | 876 | 901 | 876 | 808 | 699 | 553 | 388 | 223 | 63 | 5 | 1 | 1 | 1 | 335 | 901 | |
| 25-Jul-04 | 1 | 1 | 1 | 1 | 4 | 68 | 208 | 374 | 540 | 689 | 803 | 879 | 898 | 868 | 794 | 688 | 551 | 377 | 213 | 46 | 3 | 1 | 1 | 1 | 334 | 898 | |
| 26-Jul-04 | 1 | 1 | 1 | 1 | 3 | 58 | 191 | 307 | 506 | 663 | 773 | 754 | 847 | 757 | 502 | 629 | 479 | 354 | 69 | 36 | 2 | 1 | 1 | 1 | 289 | 847 | |
| 27-Jul-04 | 1 | 1 | 1 | 1 | 2 | 30 | 189 | 394 | 506 | 439 | 309 | 222 | 244 | 185 | 214 | 391 | 251 | 300 | 137 | 49 | 3 | 1 | 1 | 1 | 161 | 506 | |
| 28-Jul-04 | 1 | 1 | 1 | 1 | 3 | 66 | 164 | 227 | 512 | 531 | 456 | 560 | 690 | 738 | 854 | 741 | 467 | 292 | 198 | 46 | 3 | 1 | 1 | 1 | 273 | 854 | |
| 29-Jul-04 | 1 | 1 | 1 | 1 | 2 | 16 | 82 | 197 | 462 | 522 | 630 | 880 | 787 | 766 | 798 | 447 | 365 | 411 | 209 | 52 | 3 | 1 | 1 | 1 | 277 | 880 | |
| 30-Jul-04 | 1 | 1 | 1 | 1 | 2 | 23 | 188 | 305 | 499 | 646 | 758 | 648 | 826 | 792 | 674 | 636 | 467 | 319 | 151 | 32 | 2 | 1 | 1 | 1 | 291 | 826 | |
| 31-Jul-04 | 1 | 1 | 1 | 1 | 2 | 31 | 162 | 268 | 388 | 450 | 691 | 836 | 850 | 824 | 765 | 619 | 494 | 348 | 125 | 22 | 2 | 1 | 1 | 1 | 287 | 850 | |
| Hourly Avg | 1 | 1 | 1 | 1 | 6 | 61 | 176 | 312 | 452 | 574 | 648 | 715 | 748 | 723 | 656 | 572 | 445 | 318 | 179 | 54 | 5 | 1 | 1 | 1 | | | |
| Hourly Max | 1 | 1 | 1 | 1 | 14 | 112 | 267 | 434 | 590 | 722 | 886 | 934 | 927 | 942 | 854 | 741 | 606 | 421 | 258 | 89 | 15 | 1 | 1 | 1 | | | |

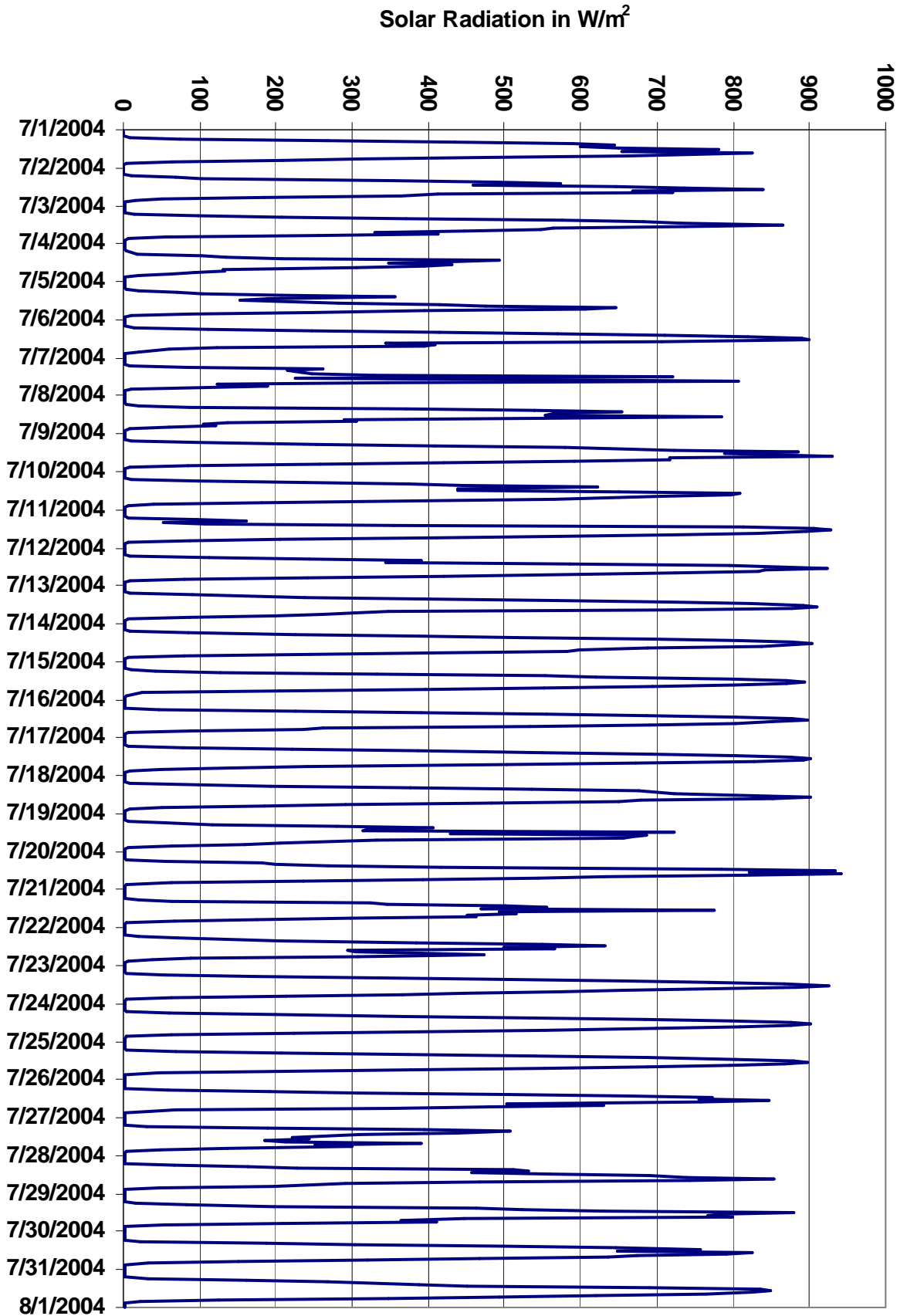


Figure 13. PAS - Crescent Heights Solar Radiation 1-hr Average Monthly Trend



Station: Crescent Heights

HOURLY AVERAGE TABLE

Wind Speed (WSv - km/hr)

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| | | | | |
|------------------------|------|-------|--------|-------------|
| Maximum 1-hr Average: | 34.7 | km/hr | 26-Jul | 19:00 20:00 |
| Maximum 24-hr Average: | 14.5 | km/hr | 20-Jul | |

| | | | | | | | | | |
|-------------------|-------|----------|-------------------------|---------|-----|-----|-----|------------|-----------|
| Calm Time: | 0 hrs | 0% calms | Operational Time: | 744 hrs | | | | | |
| Calibration Time: | 0 hrs | | AMD Operational Uptime: | 100.0% | | | | | |
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 | AverageS | AverageV |
| | 24.7 | 19.8 | 14.5 | 10.5 | 6.8 | 4.2 | 3.0 | 11.1 km/hr | 1.9 km/hr |

Status Flag Characters

| | | | |
|---|----------------------------|---|-------------------------|
| C | Calibration | A | AIC - Zero / Span Check |
| S | Instrument out of Service | X | Filter Exchange |
| N | No Data | M | Equipment Maintenance |
| D | Excessive Instrument Drift | P | Power Failure |

Day Mountain Standard Time

| Day | Hour Start | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 24:00 | 24-hr Vector Average | Daily Max |
|-------------|------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|-----------|
| 1-Jul-04 | Hour End | 15 | 10 | 5 | 8 | 4 | 5 | 4 | 5 | 8 | 12 | 9 | 8 | 15 | 18 | 14 | 17 | 17 | 16 | 16 | 17 | 16 | 15 | 9 | 9 | 9.0 | 17.5 | |
| 2-Jul-04 | | 11 | 8 | 7 | 8 | 9 | 8 | 7 | 9 | 11 | 11 | 12 | 13 | 15 | 16 | 16 | 16 | 23 | 19 | 13 | 8 | 7 | 6 | 4 | 4 | 8.5 | 22.8 | |
| 3-Jul-04 | | 4 | 2 | 5 | 3 | 6 | 5 | 5 | 9 | 11 | 15 | 12 | 11 | 8 | 9 | 12 | 20 | 20 | 20 | 15 | 16 | 15 | 15 | 16 | 13 | 6.2 | 19.8 | |
| 4-Jul-04 | | 11 | 11 | 12 | 13 | 13 | 12 | 13 | 11 | 12 | 13 | 16 | 15 | 16 | 17 | 17 | 18 | 18 | 19 | 18 | 16 | 14 | 12 | 11 | 12 | 14.0 | 19.2 | |
| 5-Jul-04 | | 12 | 10 | 10 | 9 | 8 | 8 | 8 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 7 | 7 | 6 | 5 | 5 | 6 | 10 | 6 | 5 | 1.7 | 12.3 | |
| 6-Jul-04 | | 6 | 6 | 9 | 5 | 5 | 4 | 6 | 7 | 8 | 8 | 9 | 10 | 12 | 14 | 8 | 17 | 18 | 13 | 17 | 14 | 9 | 5 | 6 | 7 | 5.0 | 18.0 | |
| 7-Jul-04 | | 10 | 18 | 14 | 14 | 10 | 7 | 13 | 17 | 19 | 16 | 15 | 14 | 10 | 12 | 13 | 18 | 16 | 7 | 10 | 15 | 9 | 9 | 9 | 9 | 10.2 | 19.2 | |
| 8-Jul-04 | | 11 | 15 | 15 | 14 | 12 | 12 | 11 | 12 | 13 | 15 | 12 | 9 | 11 | 9 | 5 | 11 | 13 | 9 | 5 | 9 | 7 | 3 | 5 | 12 | 5.2 | 15.3 | |
| 9-Jul-04 | | 6 | 5 | 7 | 7 | 8 | 12 | 10 | 12 | 15 | 14 | 12 | 10 | 11 | 11 | 11 | 9 | 10 | 11 | 12 | 9 | 8 | 8 | 8 | 8 | 5.5 | 14.5 | |
| 10-Jul-04 | | 6 | 5 | 6 | 5 | 4 | 2 | 6 | 6 | 7 | 15 | 13 | 17 | 16 | 18 | 19 | 16 | 20 | 22 | 22 | 25 | 24 | 20 | 26 | 16 | 10.6 | 25.5 | |
| 11-Jul-04 | | 13 | 9 | 11 | 6 | 7 | 9 | 12 | 15 | 16 | 14 | 19 | 20 | 25 | 24 | 25 | 24 | 27 | 24 | 24 | 18 | 14 | 15 | 13 | 13 | 13.5 | 26.9 | |
| 12-Jul-04 | | 13 | 14 | 14 | 14 | 14 | 14 | 15 | 17 | 15 | 17 | 18 | 19 | 21 | 18 | 18 | 16 | 14 | 11 | 11 | 8 | 7 | 4 | 4 | 5 | 11.4 | 20.6 | |
| 13-Jul-04 | | 6 | 6 | 4 | 4 | 5 | 4 | 4 | 4 | 8 | 9 | 10 | 12 | 13 | 13 | 12 | 14 | 17 | 16 | 20 | 22 | 19 | 14 | 12 | 10 | 10.2 | 21.5 | |
| 14-Jul-04 | | 10 | 12 | 11 | 7 | 9 | 6 | 5 | 8 | 7 | 8 | 8 | 8 | 8 | 11 | 13 | 14 | 15 | 15 | 16 | 16 | 13 | 12 | 13 | 13 | 6 | 7.7 | 16.0 |
| 15-Jul-04 | | 3 | 4 | 3 | 4 | 6 | 4 | 3 | 8 | 10 | 12 | 13 | 13 | 12 | 14 | 15 | 17 | 19 | 20 | 22 | 20 | 18 | 15 | 10 | 20 | 9.4 | 22.0 | |
| 16-Jul-04 | | 18 | 12 | 12 | 8 | 11 | 7 | 5 | 8 | 7 | 6 | 8 | 11 | 12 | 11 | 10 | 10 | 9 | 9 | 10 | 13 | 15 | 9 | 5 | 6 | 4.1 | 17.6 | |
| 17-Jul-04 | | 9 | 8 | 3 | 5 | 7 | 6 | 5 | 3 | 5 | 19 | 21 | 17 | 16 | 12 | 14 | 17 | 18 | 14 | 9 | 9 | 8 | 7 | 6 | 8 | 7.6 | 20.6 | |
| 18-Jul-04 | | 8 | 11 | 10 | 6 | 6 | 6 | 5 | 6 | 6 | 11 | 5 | 11 | 9 | 8 | 7 | 7 | 9 | 15 | 10 | 10 | 7 | 5 | 3 | 5 | 1.3 | 15.0 | |
| 19-Jul-04 | | 4 | 10 | 16 | 11 | 11 | 14 | 18 | 17 | 23 | 24 | 22 | 24 | 18 | 13 | 14 | 14 | 11 | 13 | 10 | 7 | 7 | 12 | 7 | 10 | 11.8 | 23.9 | |
| 20-Jul-04 | | 11 | 17 | 19 | 20 | 17 | 14 | 11 | 12 | 16 | 19 | 19 | 17 | 16 | 19 | 17 | 17 | 22 | 22 | 22 | 20 | 18 | 10 | 3 | 4 | 14.5 | 22.1 | |
| 21-Jul-04 | | 7 | 6 | 8 | 7 | 8 | 7 | 7 | 8 | 8 | 9 | 13 | 15 | 16 | 14 | 13 | 15 | 17 | 17 | 16 | 15 | 12 | 9 | 11 | 12 | 9.6 | 17.1 | |
| 22-Jul-04 | | 11 | 8 | 6 | 3 | 5 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 4 | 8 | 7 | 6 | 13 | 10 | 5 | 5 | 5 | 3 | 5 | 2.2 | 13.4 | |
| 23-Jul-04 | | 4 | 6 | 5 | 4 | 4 | 2 | 2 | 5 | 5 | 5 | 6 | 5 | 8 | 7 | 7 | 6 | 8 | 6 | 3 | 5 | 4 | 6 | 5 | 7 | 3.6 | 7.9 | |
| 24-Jul-04 | | 14 | 13 | 14 | 14 | 13 | 14 | 12 | 8 | 12 | 14 | 14 | 13 | 14 | 14 | 12 | 13 | 13 | 10 | 8 | 10 | 9 | 7 | 9 | 17 | 11.7 | 16.8 | |
| 25-Jul-04 | | 16 | 14 | 14 | 9 | 6 | 8 | 6 | 6 | 13 | 17 | 17 | 18 | 15 | 14 | 14 | 13 | 12 | 10 | 10 | 7 | 6 | 5 | 5 | 4 | 10.0 | 18.3 | |
| 26-Jul-04 | | 7 | 17 | 16 | 14 | 9 | 7 | 11 | 12 | 6 | 11 | 12 | 12 | 9 | 10 | 12 | 14 | 16 | 25 | 31 | 35 | 24 | 13 | 8 | 5 | 8.7 | 34.7 | |
| 27-Jul-04 | | 9 | 8 | 9 | 11 | 12 | 13 | 13 | 15 | 15 | 18 | 19 | 17 | 21 | 19 | 17 | 21 | 20 | 21 | 22 | 14 | 10 | 13 | 17 | 17 | 12.4 | 21.7 | |
| 28-Jul-04 | | 12 | 7 | 9 | 9 | 7 | 6 | 7 | 7 | 8 | 9 | 9 | 9 | 9 | 11 | 12 | 13 | 15 | 15 | 10 | 11 | 8 | 7 | 8 | 5 | 8 | 6.7 | 15.3 |
| 29-Jul-04 | | 5 | 6 | 5 | 4 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 8 | 9 | 12 | 15 | 12 | 12 | 15 | 13 | 7 | 4 | 4 | 5 | 5 | 2.3 | 15.0 | |
| 30-Jul-04 | | 5 | 6 | 6 | 4 | 4 | 3 | 3 | 8 | 12 | 5 | 6 | 5 | 8 | 11 | 12 | 12 | 11 | 11 | 13 | 15 | 13 | 10 | 11 | 27 | 3.7 | 27.0 | |
| 31-Jul-04 | | 15 | 13 | 15 | 9 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 8 | 9 | 7 | 7 | 8 | 13 | 16 | 15 | 17 | 20 | 19 | 15 | 8.0 | 20.1 | |
| 1-hr Vector | | 2.4 | 3.1 | 3.2 | 3.0 | 4.0 | 4.6 | 3.6 | 3.7 | 3.2 | 4.1 | 3.6 | 3.1 | 3.9 | 4.5 | 4.4 | 4.8 | 4.0 | 4.0 | 3.0 | 3.1 | 3.5 | 2.4 | 2.0 | 1.4 | | | |
| Hourly Max | | 17.6 | 17.8 | 19.3 | 19.8 | 16.6 | 14.4 | 18.2 | 17.3 | 22.7 | 23.9 | 22.0 | 23.7 | 24.7 | 24.2 | 25.1 | 23.7 | 26.9 | 25.1 | 31.3 | 34.7 | 23.9 | 20.1 | 25.5 | 27.0 | | | |



Station: Crescent Heights

HOURLY AVERAGE TABLE

Wind Direction (WD - Degrees)

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| |
|--|
| |
| |

| | | | | | | | | |
|-------------------|-------|----------|-------------------------|---------|------|------|-----|---------|
| Calm Time: | 0 hrs | 0% calms | Operational Time: | 744 hrs | | | | |
| Calibration Time: | 0 hrs | | AMD Operational Uptime: | 100.0% | | | | |
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 | Average |
| | 354.4 | 337.3 | 259.5 | 209.9 | 99.2 | 11.7 | 3.3 | 267 deg |

Status Flag Characters

| | | | |
|---|----------------------------|---|-------------------------|
| C | Calibration | A | AIC - Zero / Span Check |
| S | Instrument out of Service | X | Filter Exchange |
| N | No Data | M | Equipment Maintenance |
| D | Excessive Instrument Drift | P | Power Failure |

Day Mountain Standard Time

| Hour Start | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 24-hour Average |
|------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------|
| Hour End | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 0:00 | |
| 1-Jul-04 | 163 | 179 | 314 | 347 | 340 | 343 | 355 | 212 | 194 | 199 | 181 | 175 | 215 | 205 | 197 | 223 | 223 | 211 | 200 | 207 | 197 | 220 | 238 | 247 | 210 |
| 2-Jul-04 | 271 | 255 | 267 | 265 | 265 | 272 | 282 | 279 | 277 | 297 | 295 | 283 | 284 | 279 | 280 | 301 | 5 | 7 | 6 | 346 | 347 | 334 | 4 | 21 | 304 |
| 3-Jul-04 | 188 | 264 | 174 | 117 | 128 | 112 | 67 | 34 | 71 | 95 | 97 | 86 | 96 | 160 | 226 | 311 | 13 | 359 | 52 | 65 | 77 | 24 | 22 | 38 | 54 |
| 4-Jul-04 | 18 | 28 | 8 | 3 | 1 | 351 | 9 | 8 | 9 | 14 | 27 | 13 | 22 | 8 | 7 | 24 | 22 | 25 | 29 | 41 | 32 | 36 | 16 | 12 | 18 |
| 5-Jul-04 | 14 | 13 | 11 | 8 | 356 | 354 | 5 | 323 | 291 | 263 | 23 | 229 | 245 | 168 | 211 | 214 | 227 | 182 | 184 | 76 | 71 | 83 | 111 | 109 | 13 |
| 6-Jul-04 | 89 | 81 | 78 | 108 | 126 | 125 | 120 | 118 | 115 | 131 | 176 | 185 | 203 | 215 | 226 | 235 | 248 | 246 | 238 | 268 | 297 | 217 | 229 | 201 | 205 |
| 7-Jul-04 | 199 | 213 | 230 | 232 | 223 | 193 | 212 | 218 | 219 | 242 | 254 | 260 | 242 | 217 | 214 | 280 | 341 | 5 | 265 | 279 | 265 | 226 | 286 | 260 | 242 |
| 8-Jul-04 | 270 | 274 | 271 | 247 | 251 | 258 | 240 | 227 | 211 | 225 | 254 | 282 | 341 | 26 | 198 | 51 | 29 | 21 | 39 | 359 | 9 | 153 | 227 | 238 | 269 |
| 9-Jul-04 | 311 | 243 | 239 | 213 | 231 | 236 | 227 | 218 | 232 | 228 | 250 | 258 | 267 | 259 | 265 | 272 | 263 | 318 | 333 | 13 | 55 | 91 | 111 | 117 | 252 |
| 10-Jul-04 | 121 | 41 | 36 | 40 | 31 | 55 | 34 | 36 | 51 | 105 | 97 | 117 | 117 | 121 | 114 | 122 | 108 | 112 | 111 | 110 | 102 | 151 | 348 | 26 | 97 |
| 11-Jul-04 | 47 | 121 | 120 | 161 | 219 | 228 | 229 | 222 | 203 | 216 | 228 | 241 | 243 | 243 | 237 | 244 | 245 | 255 | 250 | 247 | 258 | 261 | 263 | 260 | 238 |
| 12-Jul-04 | 248 | 264 | 278 | 273 | 270 | 270 | 272 | 290 | 287 | 278 | 289 | 297 | 312 | 313 | 316 | 319 | 319 | 309 | 324 | 337 | 1 | 11 | 145 | 147 | 294 |
| 13-Jul-04 | 129 | 126 | 141 | 125 | 171 | 141 | 122 | 65 | 74 | 78 | 94 | 90 | 95 | 117 | 114 | 109 | 108 | 113 | 125 | 118 | 110 | 99 | 98 | 82 | 108 |
| 14-Jul-04 | 63 | 48 | 63 | 62 | 323 | 315 | 292 | 249 | 256 | 227 | 318 | 328 | 311 | 315 | 324 | 340 | 350 | 352 | 7 | 17 | 12 | 11 | 10 | 9 | 350 |
| 15-Jul-04 | 180 | 58 | 3 | 27 | 269 | 220 | 68 | 62 | 87 | 98 | 92 | 73 | 67 | 53 | 72 | 83 | 84 | 100 | 99 | 93 | 101 | 89 | 144 | 178 | 92 |
| 16-Jul-04 | 212 | 168 | 308 | 299 | 337 | 276 | 335 | 330 | 11 | 104 | 114 | 94 | 105 | 117 | 124 | 147 | 131 | 114 | 125 | 112 | 115 | 129 | 128 | 151 | 123 |
| 17-Jul-04 | 148 | 169 | 140 | 89 | 337 | 354 | 351 | 8 | 218 | 228 | 223 | 218 | 214 | 255 | 261 | 252 | 235 | 248 | 254 | 241 | 240 | 229 | 188 | 212 | 233 |
| 18-Jul-04 | 218 | 228 | 226 | 186 | 219 | 295 | 205 | 239 | 354 | 37 | 131 | 119 | 105 | 209 | 192 | 206 | 274 | 26 | 68 | 70 | 51 | 17 | 187 | 153 | 168 |
| 19-Jul-04 | 203 | 197 | 200 | 191 | 197 | 205 | 199 | 203 | 213 | 209 | 211 | 221 | 231 | 261 | 286 | 285 | 273 | 237 | 241 | 256 | 253 | 294 | 297 | 239 | 227 |
| 20-Jul-04 | 242 | 235 | 230 | 233 | 237 | 242 | 239 | 237 | 247 | 256 | 263 | 277 | 276 | 266 | 263 | 261 | 250 | 254 | 256 | 253 | 297 | 351 | 225 | 97 | 255 |
| 21-Jul-04 | 275 | 314 | 259 | 233 | 246 | 252 | 243 | 288 | 274 | 303 | 320 | 324 | 328 | 326 | 295 | 324 | 326 | 319 | 319 | 323 | 351 | 354 | 347 | 353 | 313 |
| 22-Jul-04 | 344 | 355 | 311 | 253 | 258 | 259 | 243 | 311 | 7 | 12 | 64 | 53 | 220 | 138 | 336 | 140 | 212 | 50 | 46 | 84 | 24 | 58 | 44 | 113 | 18 |
| 23-Jul-04 | 115 | 131 | 120 | 121 | 125 | 100 | 113 | 109 | 60 | 21 | 150 | 120 | 193 | 223 | 127 | 237 | 100 | 121 | 89 | 115 | 126 | 146 | 165 | 215 | 135 |
| 24-Jul-04 | 194 | 181 | 181 | 187 | 189 | 207 | 210 | 219 | 212 | 190 | 186 | 183 | 185 | 196 | 182 | 187 | 182 | 169 | 171 | 166 | 153 | 142 | 148 | 165 | 184 |
| 25-Jul-04 | 170 | 190 | 196 | 225 | 246 | 244 | 210 | 187 | 217 | 218 | 221 | 219 | 223 | 253 | 242 | 245 | 250 | 232 | 228 | 220 | 227 | 184 | 154 | 171 | 219 |
| 26-Jul-04 | 233 | 233 | 237 | 241 | 251 | 251 | 347 | 14 | 359 | 3 | 7 | 9 | 33 | 28 | 9 | 33 | 23 | 25 | 14 | 17 | 19 | 10 | 11 | 224 | 2 |
| 27-Jul-04 | 210 | 226 | 242 | 250 | 254 | 258 | 241 | 258 | 253 | 285 | 308 | 305 | 320 | 321 | 324 | 328 | 339 | 325 | 329 | 322 | 305 | 324 | 344 | 347 | 303 |
| 28-Jul-04 | 337 | 310 | 291 | 299 | 294 | 246 | 250 | 305 | 251 | 247 | 272 | 296 | 298 | 313 | 311 | 310 | 324 | 324 | 346 | 3 | 13 | 41 | 82 | 98 | 312 |
| 29-Jul-04 | 82 | 119 | 300 | 317 | 140 | 238 | 245 | 309 | 52 | 218 | 182 | 231 | 230 | 221 | 232 | 236 | 325 | 330 | 350 | 14 | 65 | 175 | 145 | 143 | 260 |
| 30-Jul-04 | 200 | 198 | 205 | 146 | 101 | 104 | 25 | 2 | 40 | 131 | 219 | 187 | 236 | 273 | 3 | 14 | 27 | 30 | 47 | 83 | 113 | 123 | 2 | 41 | 51 |
| 31-Jul-04 | 114 | 70 | 43 | 48 | 353 | 297 | 287 | 287 | 315 | 358 | 81 | 103 | 93 | 108 | 80 | 82 | 82 | 61 | 59 | 51 | 43 | 55 | 84 | 89 | 63 |
| Hourly Avg | 198 | 208 | 245 | 242 | 256 | 253 | 252 | 265 | 245 | 232 | 238 | 247 | 255 | 257 | 264 | 284 | 321 | 350 | 5 | 35 | 49 | 61 | 27 | 107 | |



Station: Crescent Heights

STANDARD DEVIATION TABLE

Wind Direction (WD - Degrees)

Station Owner: PAS

Monitoring Dates: July 1, 2004 to August 1, 2004

Summary

| | | | | | | | |
|--|--|--|--|--|--|--|--|
| | | | | | | | |
| | | | | | | | |

Determined by the Yamartino 15-min interval calculation

| | | | | | | | |
|-------------------|-------|-------------------------|-------------------|---------|-----|-----|-----|
| Calm Time: | 0 hrs | 0% calms | Operational Time: | 744 hrs | | | |
| Calibration Time: | 0 hrs | AMD Operational Uptime: | 100.0% | | | | |
| Percentile | 99 | 95 | 75 | 50 | 25 | 5 | 1 |
| | 56.4 | 46.5 | 22.2 | 13.9 | 8.8 | 6.0 | 4.9 |

Status Flag Characters

| | | | |
|---|----------------------------|---|-------------------------|
| C | Calibration | A | AIC - Zero / Span Check |
| S | Instrument out of Service | X | Filter Exchange |
| N | No Data | M | Equipment Maintenance |
| D | Excessive Instrument Drift | P | Power Failure |

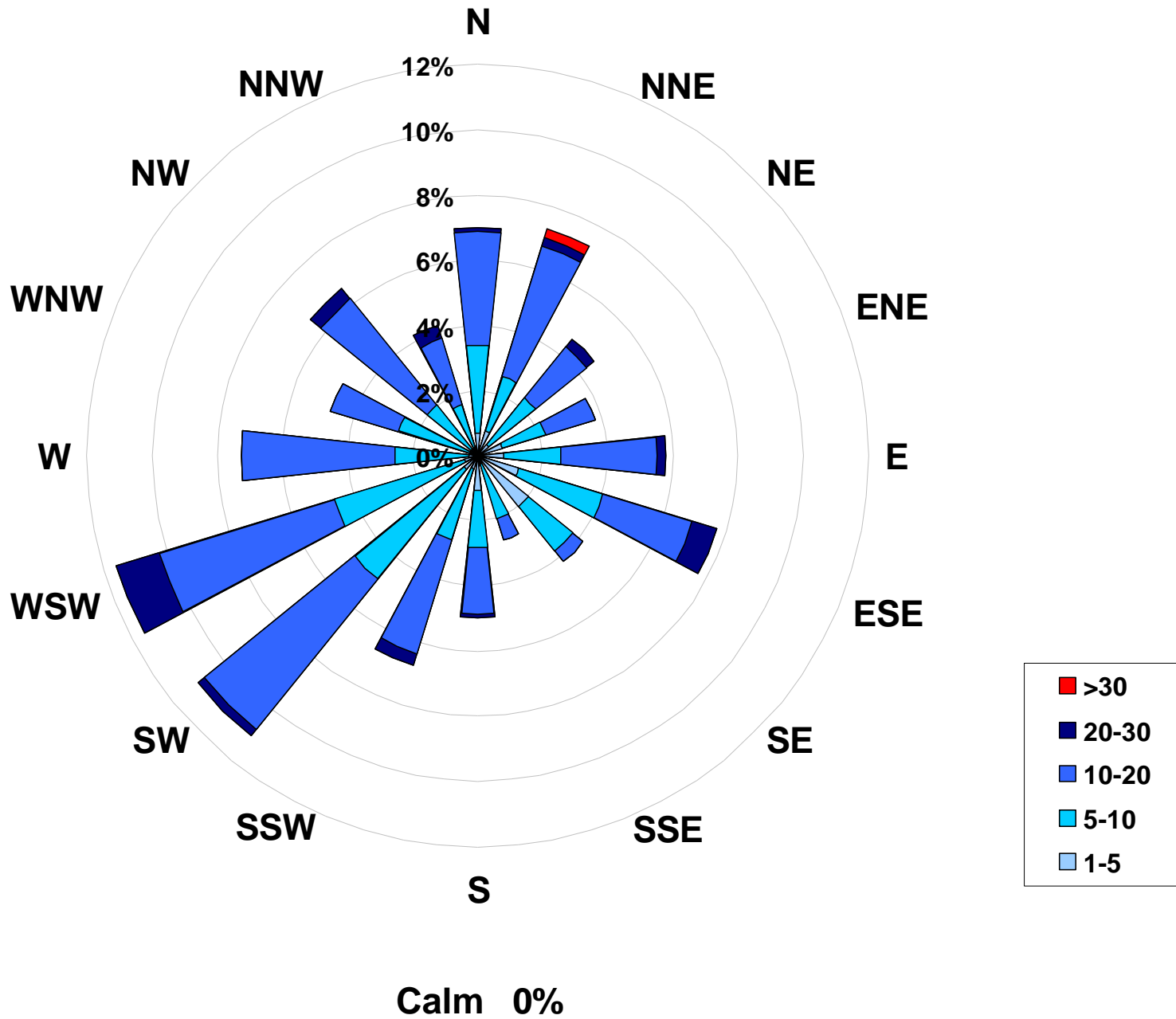
Day Mountain Standard Time

| Hour Start | 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | Daily Maximum |
|------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------|
| Hour End | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 | 0:00 | |
| 1-Jul-04 | 8 | 14 | 38 | 13 | 31 | 24 | 17 | 35 | 22 | 18 | 22 | 22 | 18 | 15 | 21 | 13 | 12 | 9 | 10 | 8 | 6 | 8 | 12 | 13 | 38.3 |
| 2-Jul-04 | 8 | 12 | 13 | 10 | 10 | 16 | 16 | 18 | 15 | 20 | 17 | 15 | 16 | 15 | 15 | 17 | 10 | 8 | 9 | 9 | 8 | 22 | 48 | 13 | 48.4 |
| 3-Jul-04 | 13 | 35 | 23 | 29 | 14 | 18 | 21 | 13 | 16 | 16 | 19 | 30 | 42 | 40 | 25 | 17 | 11 | 8 | 11 | 12 | 10 | 9 | 7 | 7 | 42.3 |
| 4-Jul-04 | 9 | 9 | 7 | 6 | 7 | 8 | 7 | 12 | 11 | 13 | 14 | 12 | 12 | 9 | 9 | 10 | 8 | 9 | 8 | 8 | 9 | 9 | 8 | 8 | 14.0 |
| 5-Jul-04 | 8 | 8 | 7 | 7 | 9 | 9 | 13 | 24 | 45 | 55 | 36 | 26 | 44 | 47 | 41 | 49 | 58 | 47 | 42 | 29 | 6 | 7 | 19 | 13 | 58.4 |
| 6-Jul-04 | 20 | 15 | 6 | 14 | 16 | 20 | 12 | 17 | 20 | 25 | 33 | 31 | 19 | 18 | 26 | 9 | 11 | 8 | 7 | 10 | 29 | 31 | 15 | 11 | 33.2 |
| 7-Jul-04 | 8 | 6 | 10 | 8 | 13 | 20 | 11 | 8 | 7 | 9 | 9 | 17 | 12 | 14 | 18 | 22 | 8 | 51 | 24 | 13 | 17 | 14 | 14 | 10 | 51.2 |
| 8-Jul-04 | 11 | 9 | 8 | 10 | 7 | 8 | 11 | 10 | 14 | 14 | 17 | 25 | 26 | 28 | 47 | 39 | 16 | 11 | 24 | 9 | 23 | 27 | 49 | 13 | 48.7 |
| 9-Jul-04 | 20 | 36 | 13 | 16 | 19 | 4 | 8 | 9 | 8 | 16 | 21 | 24 | 33 | 31 | 29 | 34 | 24 | 16 | 11 | 10 | 6 | 8 | 8 | 9 | 35.7 |
| 10-Jul-04 | 8 | 13 | 8 | 37 | 35 | 53 | 13 | 17 | 15 | 11 | 11 | 11 | 9 | 14 | 10 | 11 | 9 | 8 | 5 | 4 | 6 | 23 | 7 | 9 | 53.0 |
| 11-Jul-04 | 14 | 21 | 12 | 21 | 11 | 14 | 13 | 15 | 14 | 10 | 7 | 13 | 11 | 9 | 10 | 9 | 10 | 6 | 6 | 6 | 6 | 6 | 8 | 6 | 21.1 |
| 12-Jul-04 | 10 | 8 | 8 | 8 | 8 | 10 | 11 | 11 | 12 | 10 | 12 | 12 | 12 | 12 | 15 | 19 | 17 | 18 | 11 | 9 | 5 | 6 | 15 | 17 | 19.0 |
| 13-Jul-04 | 9 | 4 | 27 | 12 | 10 | 22 | 18 | 18 | 16 | 20 | 20 | 22 | 28 | 19 | 22 | 14 | 12 | 9 | 7 | 7 | 5 | 6 | 6 | 8 | 28.4 |
| 14-Jul-04 | 9 | 6 | 6 | 15 | 16 | 18 | 26 | 14 | 33 | 30 | 33 | 28 | 27 | 19 | 19 | 16 | 14 | 14 | 8 | 6 | 5 | 5 | 4 | 14 | 32.8 |
| 15-Jul-04 | 31 | 31 | 46 | 25 | 19 | 30 | 26 | 13 | 17 | 13 | 18 | 21 | 24 | 19 | 23 | 21 | 14 | 9 | 8 | 7 | 7 | 10 | 27 | 10 | 46.0 |
| 16-Jul-04 | 16 | 27 | 47 | 26 | 51 | 51 | 40 | 17 | 26 | 40 | 36 | 25 | 17 | 24 | 22 | 22 | 32 | 16 | 14 | 7 | 6 | 7 | 11 | 21 | 51.0 |
| 17-Jul-04 | 19 | 26 | 58 | 33 | 9 | 16 | 14 | 55 | 50 | 9 | 8 | 10 | 14 | 17 | 14 | 10 | 8 | 7 | 8 | 8 | 8 | 21 | 13 | 11 | 57.7 |
| 18-Jul-04 | 8 | 7 | 10 | 18 | 17 | 30 | 42 | 24 | 31 | 14 | 57 | 16 | 47 | 42 | 37 | 29 | 25 | 9 | 9 | 7 | 44 | 35 | 30 | 30 | 57.2 |
| 19-Jul-04 | 26 | 7 | 5 | 8 | 7 | 5 | 5 | 6 | 7 | 7 | 8 | 12 | 11 | 16 | 15 | 14 | 17 | 10 | 9 | 9 | 9 | 12 | 15 | 9 | 25.9 |
| 20-Jul-04 | 8 | 5 | 5 | 4 | 9 | 12 | 13 | 9 | 7 | 5 | 12 | 14 | 14 | 16 | 20 | 16 | 8 | 7 | 6 | 6 | 11 | 47 | 61 | 16 | 61.1 |
| 21-Jul-04 | 19 | 42 | 11 | 14 | 12 | 22 | 40 | 19 | 23 | 30 | 16 | 13 | 16 | 27 | 21 | 15 | 14 | 9 | 9 | 8 | 6 | 5 | 5 | 5 | 42.0 |
| 22-Jul-04 | 5 | 8 | 39 | 15 | 15 | 15 | 13 | 34 | 25 | 47 | 55 | 46 | 46 | 45 | 19 | 32 | 30 | 26 | 12 | 11 | 9 | 26 | 33 | 9 | 54.8 |
| 23-Jul-04 | 15 | 11 | 26 | 39 | 6 | 21 | 50 | 14 | 24 | 41 | 77 | 69 | 46 | 39 | 45 | 50 | 24 | 25 | 47 | 17 | 8 | 10 | 9 | 17 | 77.5 |
| 24-Jul-04 | 7 | 8 | 8 | 8 | 8 | 10 | 6 | 11 | 12 | 12 | 17 | 22 | 21 | 19 | 20 | 19 | 20 | 16 | 15 | 9 | 9 | 12 | 9 | 7 | 21.9 |
| 25-Jul-04 | 7 | 10 | 8 | 19 | 15 | 9 | 12 | 11 | 10 | 9 | 10 | 11 | 16 | 14 | 17 | 14 | 16 | 17 | 8 | 7 | 14 | 12 | 12 | 21 | 20.8 |
| 26-Jul-04 | 12 | 6 | 6 | 8 | 20 | 14 | 15 | 12 | 32 | 16 | 16 | 20 | 27 | 38 | 32 | 17 | 14 | 8 | 5 | 5 | 7 | 13 | 52 | 31 | 52.1 |
| 27-Jul-04 | 15 | 18 | 10 | 8 | 9 | 9 | 8 | 10 | 10 | 12 | 11 | 12 | 7 | 8 | 9 | 8 | 10 | 7 | 5 | 8 | 9 | 8 | 6 | 5 | 18.1 |
| 28-Jul-04 | 7 | 11 | 10 | 9 | 12 | 11 | 12 | 20 | 26 | 31 | 29 | 27 | 22 | 22 | 20 | 20 | 16 | 15 | 15 | 7 | 4 | 6 | 47 | 11 | 47.5 |
| 29-Jul-04 | 16 | 19 | 31 | 45 | 47 | 15 | 19 | 19 | 37 | 51 | 43 | 57 | 34 | 24 | 15 | 27 | 16 | 18 | 10 | 7 | 23 | 24 | 10 | 9 | 56.6 |
| 30-Jul-04 | 14 | 14 | 15 | 38 | 16 | 43 | 30 | 15 | 19 | 45 | 51 | 61 | 31 | 23 | 22 | 23 | 22 | 19 | 9 | 7 | 24 | 10 | 50 | 10 | 61.2 |
| 31-Jul-04 | 28 | 17 | 14 | 37 | 49 | 17 | 17 | 36 | 35 | 28 | 27 | 40 | 40 | 32 | 56 | 47 | 23 | 14 | 6 | 5 | 8 | 6 | 8 | 8 | 56.2 |

Hourly Max 31 42 58 45 51 53 50 55 50 55 77 69 47 47 56 50 58 51 47 29 44 47 61 31



Wind Rose for the 1-hr Average Meterological Data at the Crescent Heights Site for July 2004





Passive Monitoring

Ambient Air Compliance Network

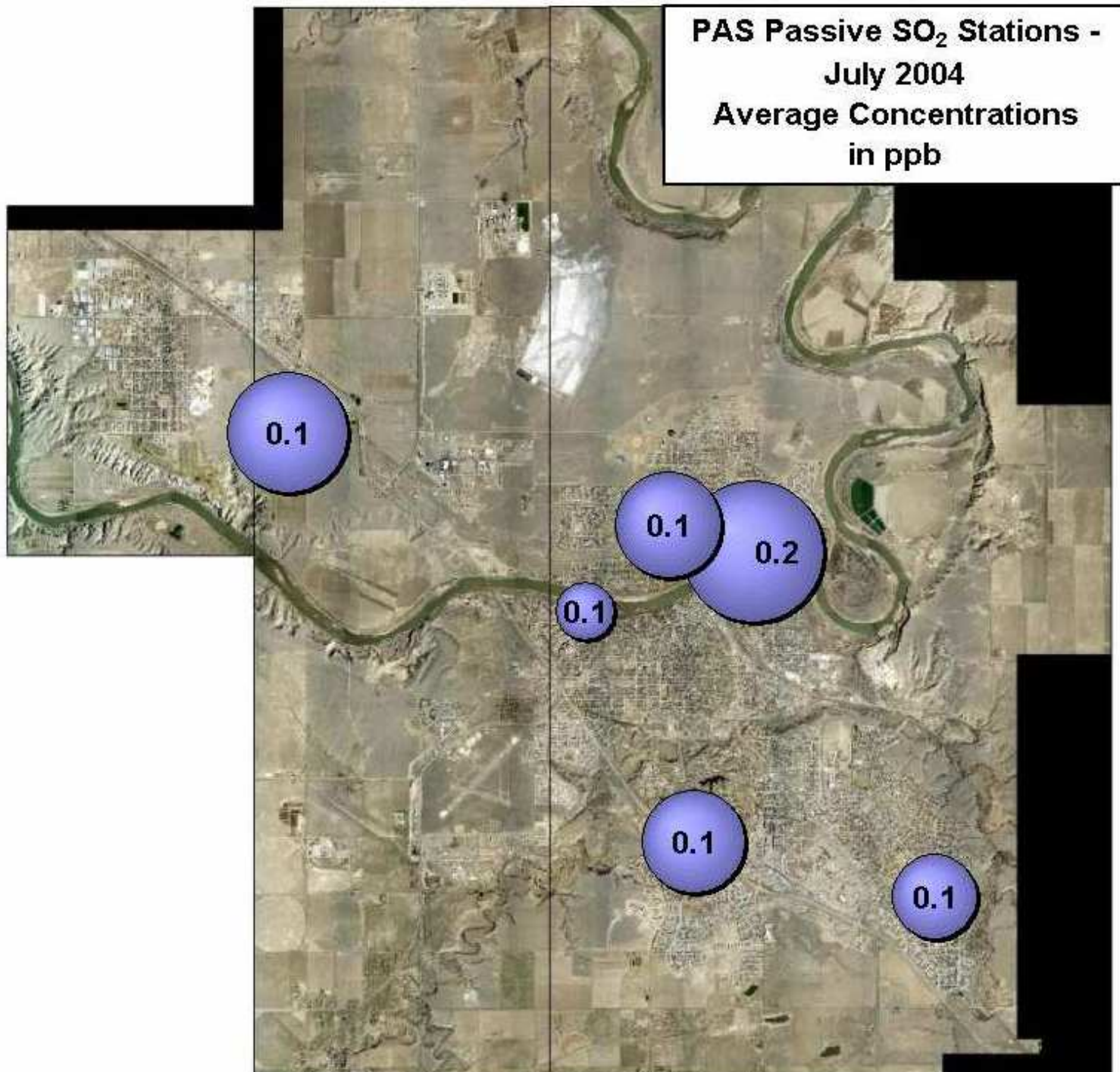
Pallisar Airshed Society - PAS Passive Stations for July 2004

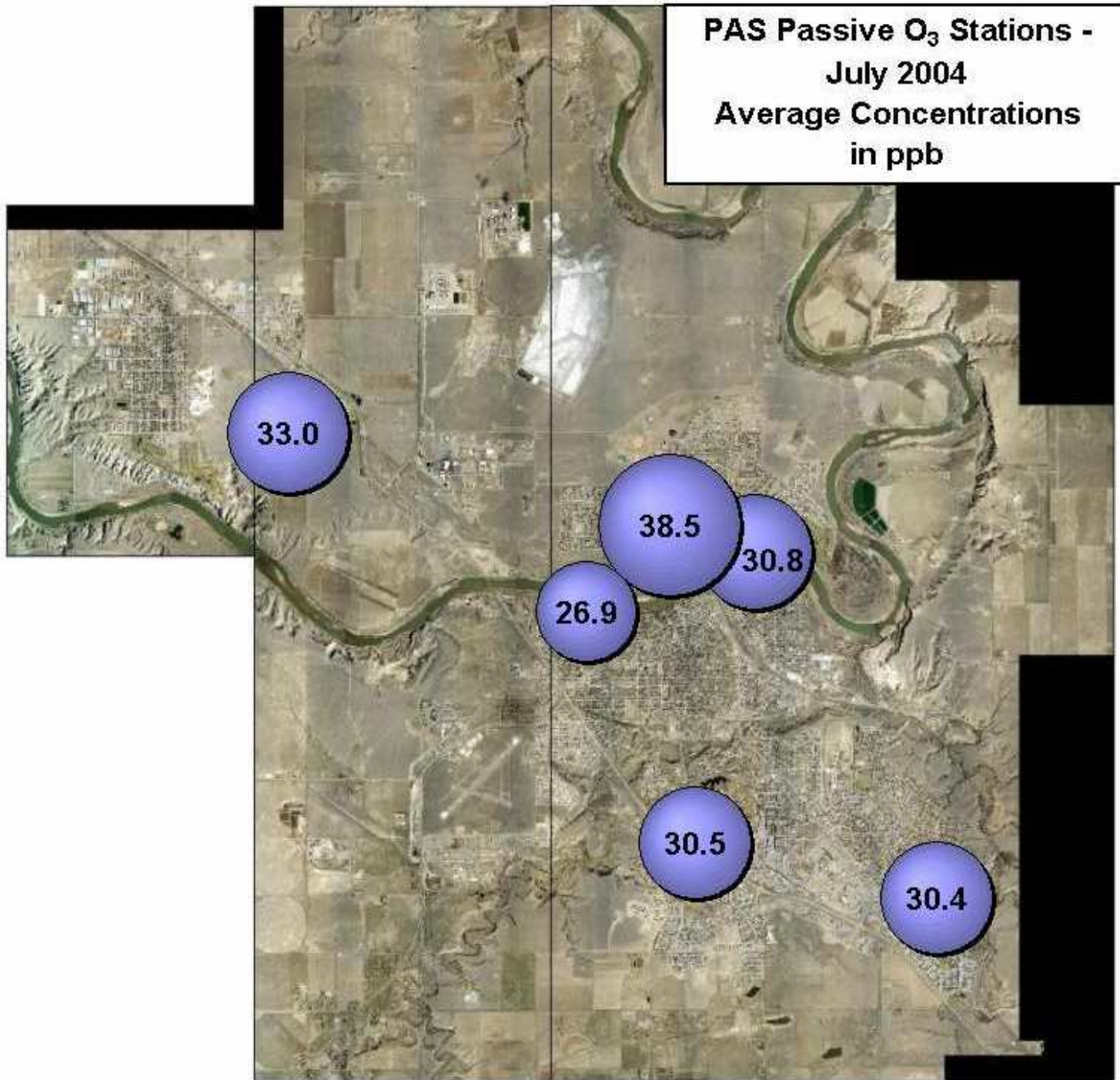
| Station Number | Station | SO ₂ ppb | O ₃ ppb | NO ₂ ppb | Location | | |
|-------------------|-----------------------|------------------------|-----------------------|------------------------|----------|----------|-----------|
| | Name | | | | Easting | Northing | Elevation |
| Duplicates | | | | | | | |
| 4a | Redcliff | 0.1 | 33.8 | 3.1 | | | |
| 4b | Redcliff | 0.2 | 32.1 | 3.1 | | | |
| 1 | Hospital | 0.1 | 26.9 | 4.4 | 521648 | 5542721 | 698 |
| 2 | Ball Park | 0.2 | 30.8 | 4.2 | 524019 | 5543686 | 660 |
| 3 | Monitoring Station | 0.1 | 38.5 | 4.0 | 522812 | 5544133 | 714 |
| 4 | Redcliff | 0.1 | 33.0 | 3.1 | 517448 | 5545608 | 725 |
| 5 | Southridge | 0.1 | 30.5 | 3.9 | 523172 | 5539016 | 721 |
| 6 | Christian School Park | 0.1 | 30.4 | 3.5 | 526577 | 5538133 | 709 |

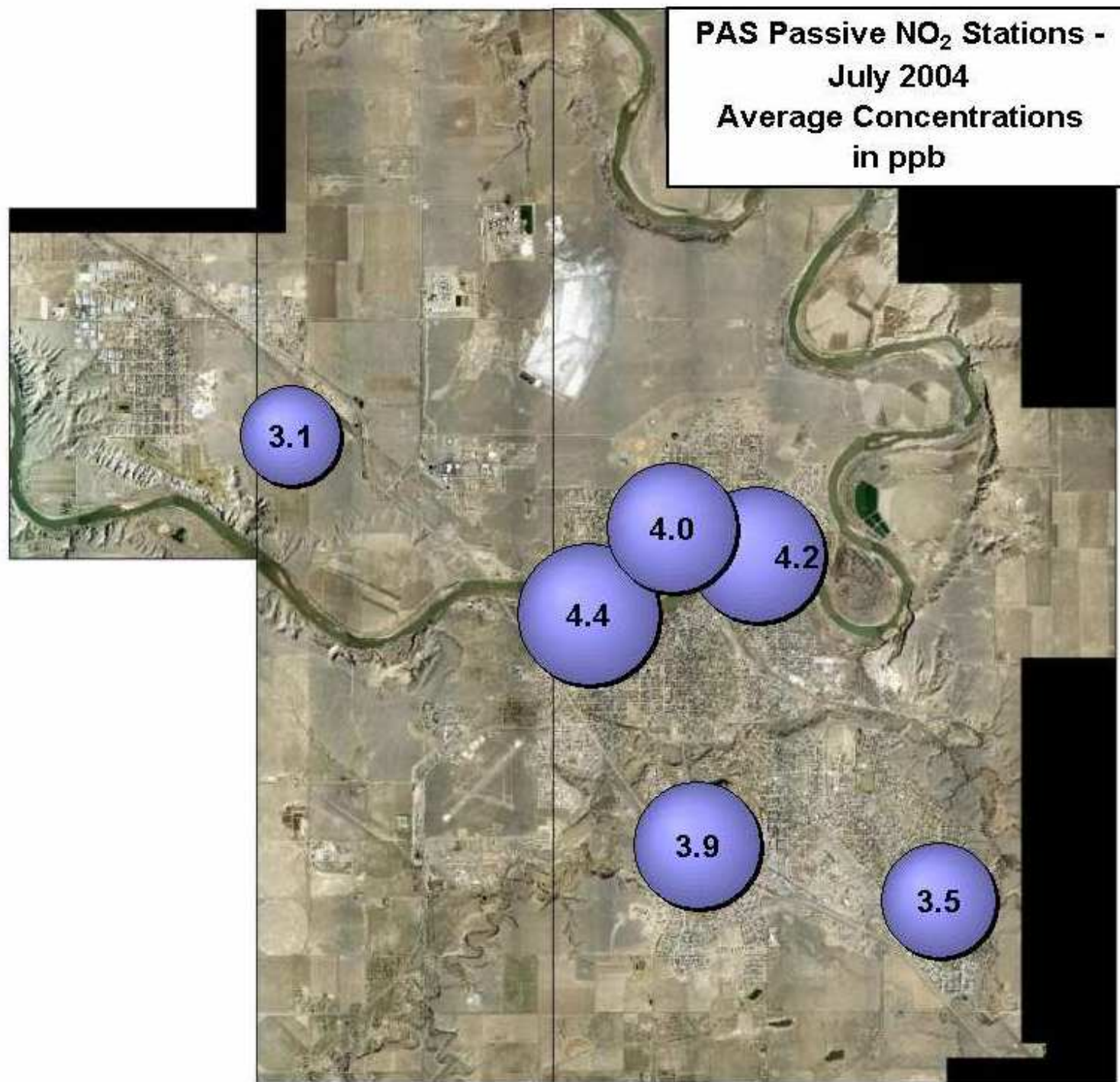
| | | | | | | | |
|--------|---------------------------|-----|------|-----|---|--|--------------------|
| Stats: | | | | | | | |
| | Mean | 0.1 | 31.7 | 3.9 | | | |
| | Standard Deviation | 0.0 | 3.9 | 0.5 | | | |
| | Minimum | 0.1 | | | 1 | | Hospital |
| | Maximum | 0.2 | | | 2 | | Ball Park |
| | Minimum | | 26.9 | | 1 | | Hospital |
| | Maximum | | 38.5 | | 3 | | Monitoring Station |
| | Minimum | | | 3.1 | 4 | | Redcliff |
| | Maximum | | | 4.4 | 1 | | Hospital |

Comparison between Continuous and Passive monitoring (passive #3)

| | SO ₂ | O ₃ | NO ₂ |
|-------------|-----------------|----------------|-----------------|
| PAS Station | - | 30.5 | 5.8 |
| PAS Passive | 0.1 | 38.5 | 4.0 |







July 2004 - Calibration Reports

PAS - Crescent Heights Station

O₃, NO_x, NO, NO₂, THC, PM_{2.5}

Calibration Summary

Parameter
 Air Monitoring Network
Palliser Airshed

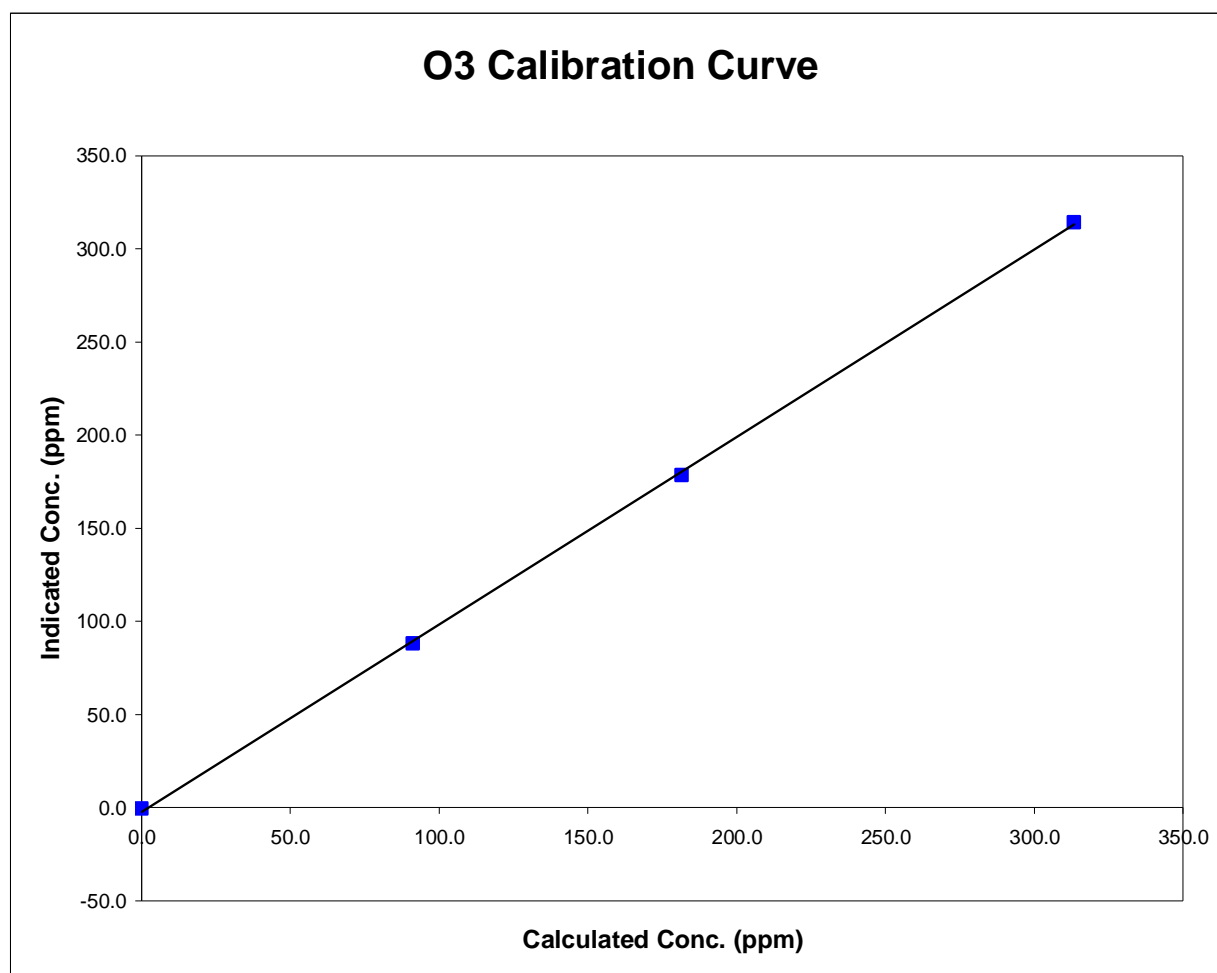


Station Information

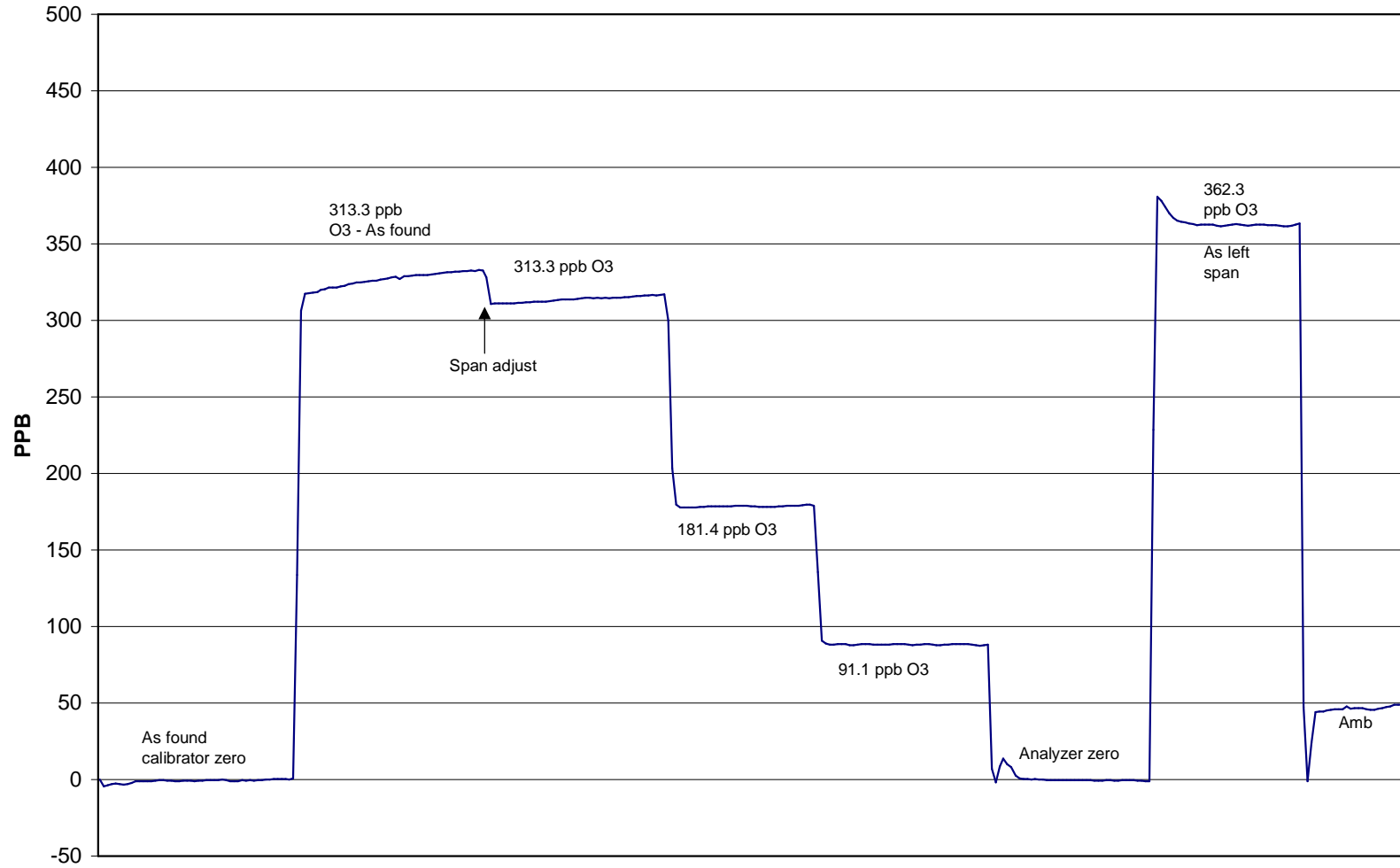
| | | | |
|---------------------|----------------|----------------------|------------------|
| Calibration Date | July 2, 2003 | Previous Calibration | June 8, 2003 |
| Station Number | 1 | Station Location | Crescent Heights |
| Start Time (MST) | 16:03 | End Time (MST) | 18:50 |
| Analyzer make/model | API Model 400E | Analyzer serial # | 331 |

Calibration Data

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|-------------------------------------|------------------------------------|---------------------------|-------------------------|----------|
| 313.3 | 314.4 | 0.9964 | | |
| 181.4 | 178.6 | 1.0158 | Correlation Coefficient | 0.999824 |
| 91.1 | 88.2 | 1.0324 | | |
| 0.0 | -0.4 | N/A | | |
| | | | Slope | 0.994041 |
| | | | Intercept | 2.117075 |



O3 Calibration



July 02, 2004

Calibration Report

Parameter **NOx-NO-NO₂**
 Air Monitoring Network **Palliser Airshed**



Station Information

Calibration Date July 2, 2004 Previous Calibration June 8, 2004
 Station Number 1 Station Location Crescent Heights

Reason: Routine Installation Removal Other: _____

Start Time (MST) 12:25 End Time (MST) 16:45
 Barometric Pressure 0.919 mmHg Station Temperature 20.5 Deg C
 Calibrator Envionics 6100 Serial Number 3016
 NO Cal Gas Conc 49.8 ppm Cal Gas Expiry Date 12-Dec-05
 NOx Cal Gas Conc 49.9 ppm Cal Gas Serial # ALM011558

DACS Information

DACS make FOCUS AP1000 DACS serial No. 45270

| Parameter | | NO ₂ | NO _x | NO |
|---------------|-------------|-----------------|-----------------|-----------|
| Before | DACS slope | 0.050000 | 0.050000 | 0.050000 |
| | DACS offset | 0.000000 | 0.000000 | 0.000000 |
| After | DACS slope | 0.050000 | 0.050000 | 0.050000 |
| | DACS offset | 0.000000 | 0.000000 | 0.000000 |
| Before | Data Slope | 1.011947 | 1.007904 | 1.006934 |
| | Data Offset | -0.875978 | -1.427434 | -1.077981 |
| After | Data Slope | 1.016537 | 1.008891 | 1.009296 |
| | Data Offset | -2.140260 | -2.888216 | -1.255868 |
| Channel # | | 8 | 6 | 7 |
| Voltage Range | | 0 - 1 VDC | 0 - 1 VDC | 0 - 1 VDC |

Analyzer Information

Analyzer make/model API Model 200E Analyzer serial # 219

| Test Point | before | | after | |
|-----------------------------|---------|-----------|---------|-----------|
| Concentration range | 0 - 500 | ppb | 0 - 500 | ppb |
| NO background | -2.1 | mV | -2.1 | mV |
| NO _x background | -0.7 | mV | -0.7 | mV |
| NO coefficient | 1.313 | | 1.319 | |
| NO _x coefficient | 1.305 | | 1.312 | |
| Chamber Temp | 50.0 | Deg C | 49.9 | Deg C |
| Cooler Temp | 7.0 | Deg C | 6.9 | Deg C |
| Azero | 27.0 | | 27.0 | |
| Perm Temp | 40.3 | Deg C | 40.3 | Deg C |
| Pressure | 3.7 | inches Hg | 3.7 | inches Hg |
| Sample Flow | 458.0 | ccm | 458.0 | ccm |

Notes: Analyzer was span adjusted. No other maintenance performed.

Calibration Report

Parameter **NOx-NO-NO₂**
 Air Monitoring Network **Palliser Airshed**



Station Information

Calibration Date: July 2, 2004 Station Location: Crescent Heights

Calibration Data

| | Dilution flow rate (ccm) | Source gas flow rate (ccm) | Calculated NOx conc (ppb) | Calculated NO conc (ppb) | Calculated NO2 conc (ppb) | Indicated NOx conc (ppb) | Indicated NO conc (ppb) | Indicated NO2 conc (ppb) | NOx Correction factor | NO Correction factor |
|---------------------------|--------------------------|----------------------------|---------------------------|--------------------------|---------------------------|--------------------------|-------------------------|--------------------------|-----------------------|----------------------|
| zero | 4993 | 0.00 | 0.0 | 0.0 | 0.0 | 2.6 | 1.6 | 1.7 | N/A | N/A |
| 1 | 4993 | 39.98 | 396.4 | 395.6 | 0.8 | 395.4 | 393.2 | 3.3 | 1.0024 | 1.0062 |
| 2 | 4993 | 19.97 | 198.8 | 198.4 | 0.4 | 200.6 | 198.3 | 2.9 | 0.9911 | 1.0006 |
| 3 | 4993 | 9.97 | 99.4 | 99.2 | 0.2 | 101.4 | 98.8 | 2.9 | 0.9811 | 1.0045 |
| AFZ | 4993 | 0.00 | 0.0 | 0.0 | 0.0 | 3.8 | 1.7 | 2.6 | 0.0000 | 0.0000 |
| AFS | 4993 | 39.98 | 396.4 | 395.6 | 0.8 | 394.3 | 394.8 | 0.5 | 1.0053 | 1.0020 |
| Average Correction Factor | | | | | | | | | 0.9915 | 1.0038 |

As Found Concentrations NO_x= 389.1 NO= 392.0 As Found Percent Change NO_x= -1.8% NO= -0.9%

GPT Calibration Data

Dilution Flow 4993 ccm Source Gas Flow 39.98 ccm

| O3 Setpoint (ppb) | Calculated NOx conc (ppb) | Calculated NO conc (ppb) | Calculated NO2 conc (ppb) | Indicated NOx conc (ppb) | Indicated NO conc (ppb) | Indicated NO2 conc (ppb) | NOx Correction factor | NO Correction factor | NO2 Correction factor | Converter Efficiency |
|---------------------------|---------------------------|--------------------------|---------------------------|--------------------------|-------------------------|--------------------------|-----------------------|----------------------|-----------------------|----------------------|
| 0 | 396.2 | 394.8 | 1.5 | 394.6 | 392.4 | 1.7 | N/A | N/A | N/A | N/A |
| 300 | 396.2 | 82.9 | 313.3 | 392.7 | 83.4 | 310.0 | 1.0089 | 0.9942 | 1.0109 | 98.9% |
| 200 | 396.2 | 214.8 | 181.4 | 394.2 | 214.1 | 181.1 | 1.0051 | 1.0034 | 1.0018 | 99.8% |
| 100 | 396.2 | 305.2 | 91.1 | 394.7 | 303.6 | 92.0 | 1.0038 | 1.0052 | 0.9897 | 101.0% |
| Average Correction Factor | | | | | | | 1.0059 | 1.0009 | 1.0008 | 99.9% |

AIC Data

| Parameter | Previous calibration | | | | Current calibration | | | |
|-----------|----------------------|-------|-----|-----|---------------------|-------|-----|-----|
| | NOx | NO2 | NO | | NOx | NO2 | NO | |
| Auto zero | 0.2 | -0.4 | 0.3 | ppb | -0.2 | -0.4 | 0.0 | ppb |
| Auto span | 378.5 | 374.6 | 5.3 | ppb | 362.8 | 360.7 | 5.0 | ppb |

Calibration Performed By: Kelly Baragar

Calibration Summary

Parameter NO₂
 Air Monitoring Network Palliser Airshed

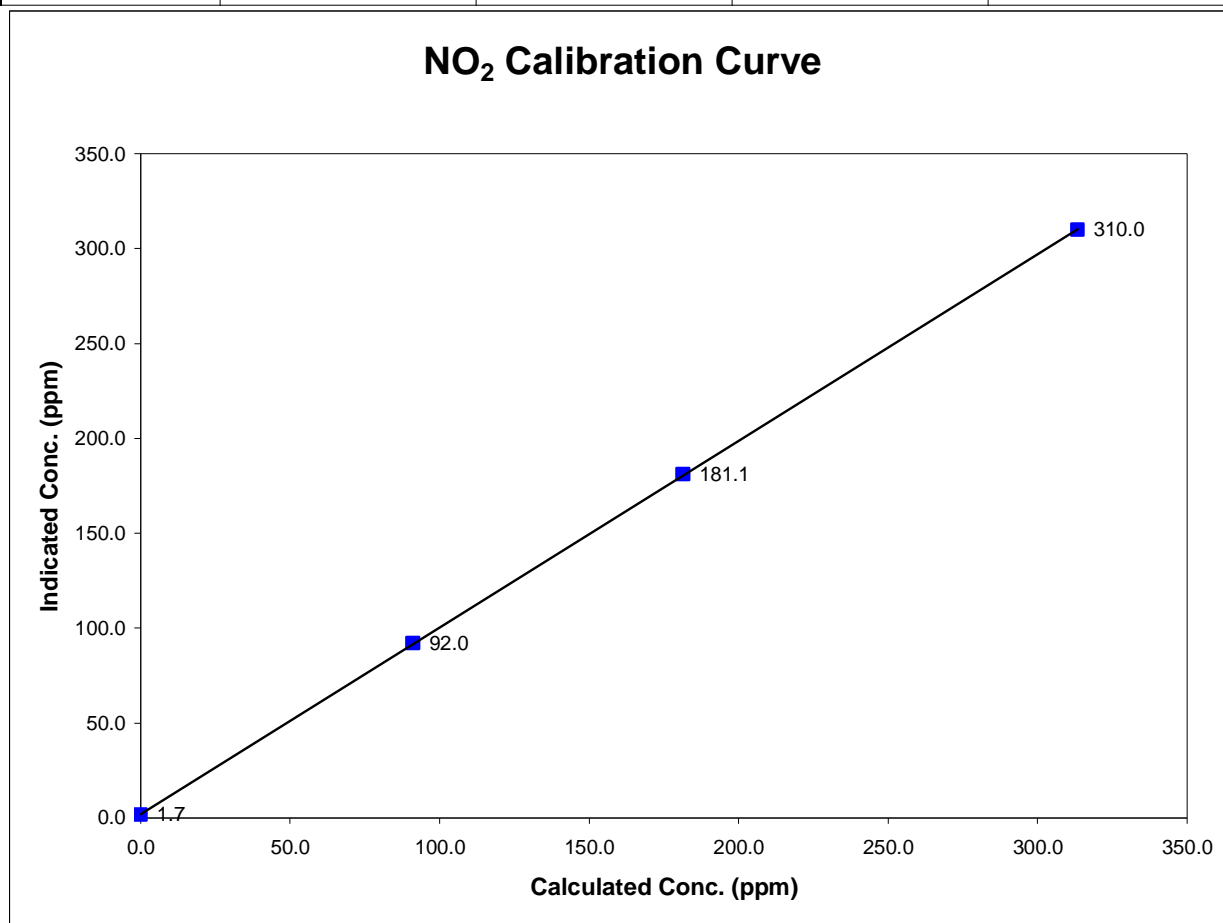


Station Information

| | | | |
|------------------|----------------|----------------------|------------------|
| Calibration Date | July 2, 2004 | Previous Calibration | June 8, 2004 |
| Station Number | 1 | Station Location | Crescent Heights |
| Start Time (MST) | 12:25 | End Time (MST) | 16:45 |
| Analyzer make | API Model 200E | Analyzer serial # | 219 |

Calibration Data

| Calculated conc (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|----------------------------|------------------------------------|---------------------------|-------------------------|-----------|
| 0.0 | 1.7 | 0.0000 | | |
| 91.1 | 92.0 | 0.9897 | Correlation Coefficient | 0.999986 |
| 181.4 | 181.1 | 1.0018 | | |
| 313.3 | 310.0 | 1.0109 | Slope | 1.016537 |
| | | | Intercept | -2.140260 |



Calibration Summary

Parameter NO_x
 Air Monitoring Network Palliser Airshed



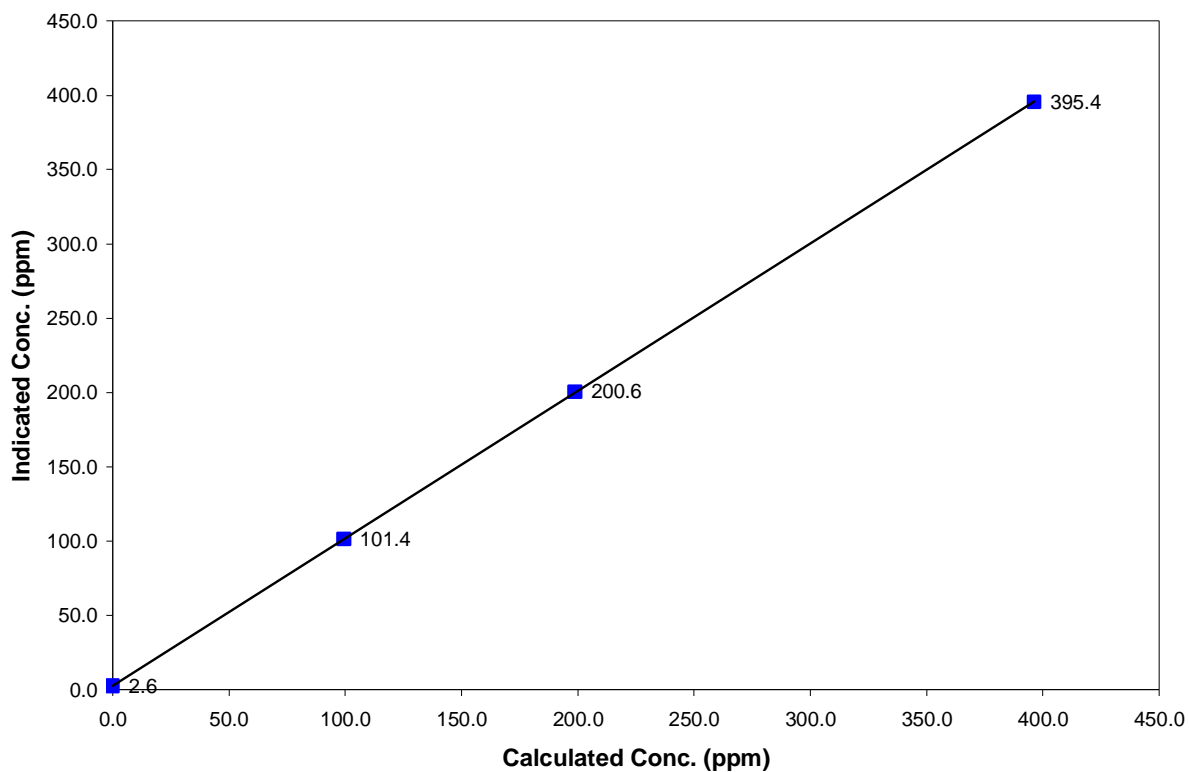
Station Information

| | | | |
|------------------|----------------|----------------------|------------------|
| Calibration Date | July 2, 2004 | Previous Calibration | June 8, 2004 |
| Station Number | 1 | Station Location | Crescent Heights |
| Start Time (MST) | 12:25 | End Time (MST) | 16:45 |
| Analyzer make | API Model 200E | Analyzer serial # | 219 |

Calibration Data

| Calculated conc (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|----------------------------|------------------------------------|---------------------------|-------------------------|-----------|
| 0.0 | 2.6 | 0.0000 | Correlation Coefficient | 0.999993 |
| 396.4 | 395.4 | 1.0024 | | |
| 198.8 | 200.6 | 0.9911 | | |
| 99.4 | 101.4 | 0.9811 | | |
| | | | Slope | 1.008891 |
| | | | Intercept | -2.888216 |

NO_x Calibration Curve



Calibration Summary

Parameter NO
 Air Monitoring Network Palliser Airshed

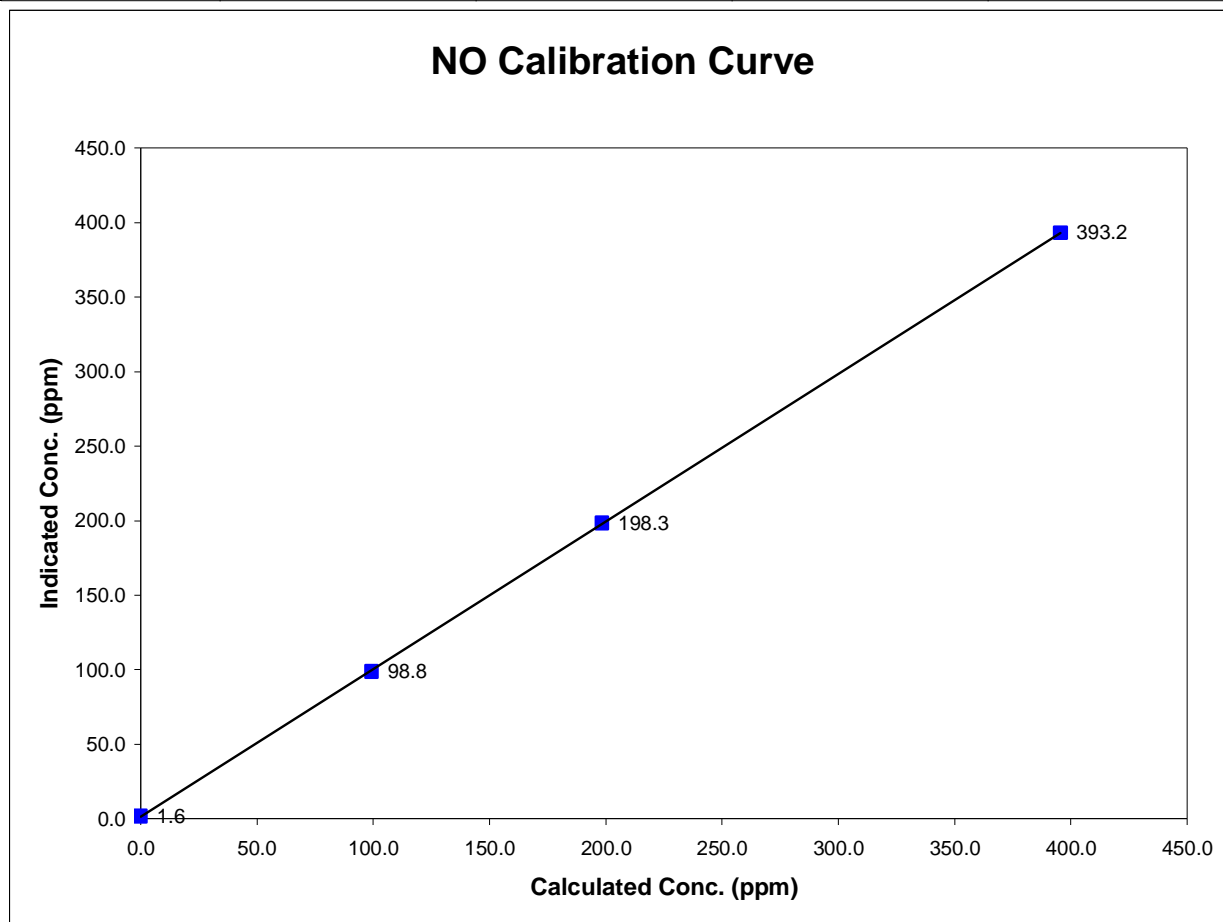


Station Information

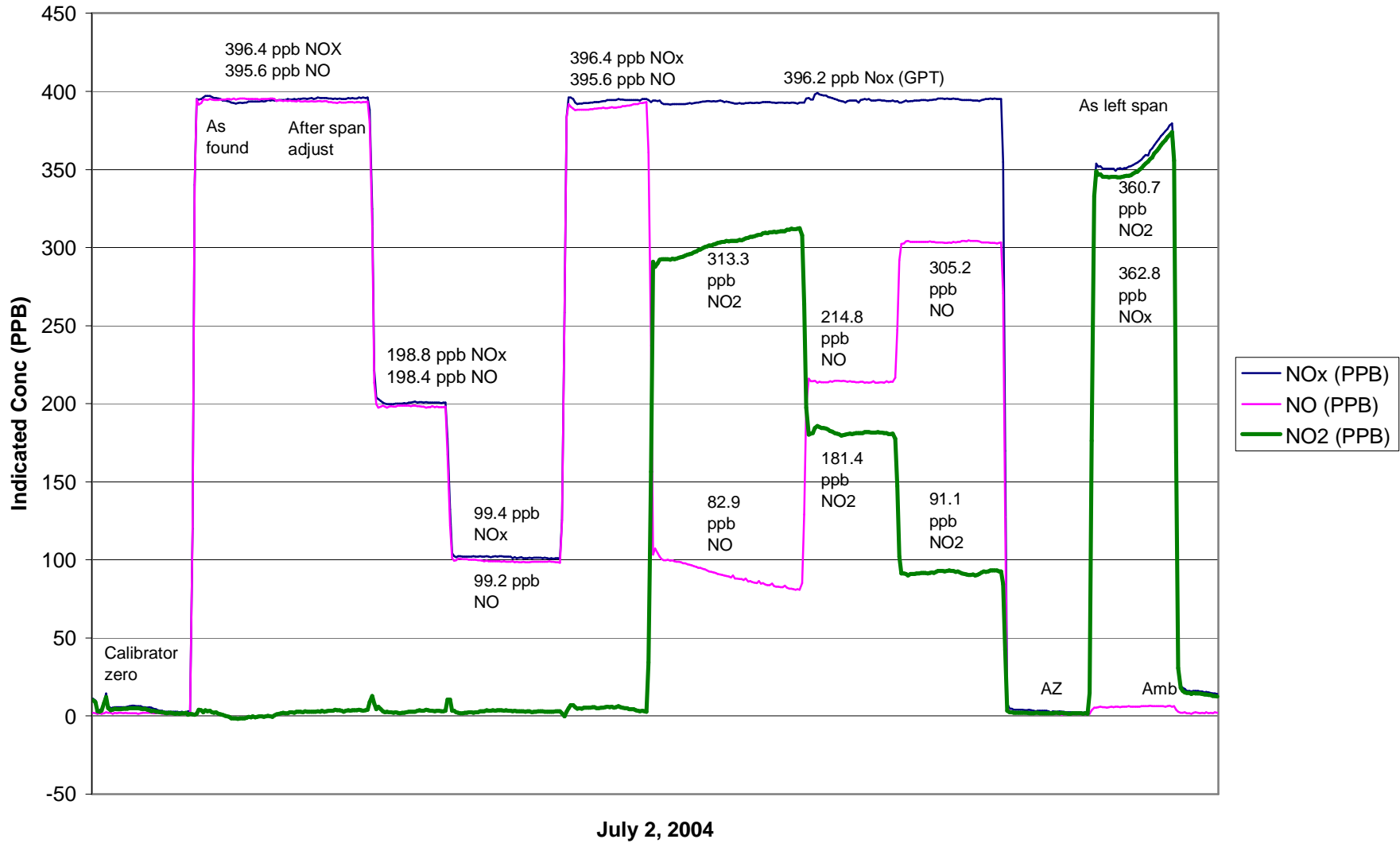
| | | | |
|------------------|----------------|----------------------|------------------|
| Calibration Date | July 2, 2004 | Previous Calibration | June 8, 2004 |
| Station Number | 1 | Station Location | Crescent Heights |
| Start Time (MST) | 12:25 | End Time (MST) | 16:45 |
| Analyzer make | API Model 200E | Analyzer serial # | 219 |

Calibration Data

| Calculated conc (ppb) (Cc) | Indicated concentration (ppb) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|----------------------------|------------------------------------|---------------------------|-------------------------|-----------|
| 0.0 | 1.6 | N/A | | |
| 395.6 | 393.2 | 1.0062 | Correlation Coefficient | 0.999989 |
| 198.4 | 198.3 | 1.0006 | | |
| 99.2 | 98.8 | 1.0045 | Slope | 1.009296 |
| | | | Intercept | -1.255868 |



NOx Calibration



Calibration Report

Parameter THC
 Air Monitoring Network Palliser Airshed



Station Information

| | | | |
|-------------------------------|---|----------------------------------|----------------------------------|
| Calibration Date | July 2, 2004 | Previous Calibration | June 8, 2004 |
| Station Number | 1 | Station Location | Crescent Heights |
| Reason: | <input checked="" type="checkbox"/> Routine | <input type="checkbox"/> Install | <input type="checkbox"/> Removal |
| | | | <input type="checkbox"/> Other: |
| Start Time (MST) | 10:16 | End Time (MST) | 13:05 |
| Barometric Pressure | 0.920 mb | Station Temperature | 20.5 Deg C |
| Calibrator | EnviroNics 6100 | Serial Number | 3016 |
| Cal Gas Concentration | 700 ppm CH ₄ / 301 ppm C ₃ H ₈ | Cal Gas Expiry Date | 8/28/2005 |
| Cal Gas CH ₄ equiv | 1527.75 ppm | Cal Gas Cylinder # | ALM030358 |
| DACS make | Focus AP1000 | DACS serial No. | 45270 |
| DACS voltage range | 0 - 10 volt | DACS channel # | 9 |
| | <u>Before</u> | | <u>After</u> |
| DACS slope | 0.005000 | DACS slope | 0.005000 |
| DACS intercept | 0.000000 | DACS intercept | 0.000000 |
| Calculated slope | 1.003229 | Calculated slope | 0.997840 |
| Calculated intercept | 0.021029 | Calculated intercept | 0.046664 |
| Analyzer make | TEI model 51C-LT | Analyzer serial # | 407505596 |

| | before | | after | |
|---------------------|--------|-----|--------|-----|
| Concentration range | NA | ppm | 0 - 50 | ppm |
| THC sample pressure | 5.85 | PSI | 5.89 | PSI |
| THC span counts | NA | raw | NA | raw |
| THC zero counts | NA | raw | NA | raw |

Calibration Data

| Dilution air flow rate (cc/min) | Source gas flow rate (cc/min) | Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) |
|---------------------------------|-------------------------------|-------------------------------------|------------------------------------|---------------------------|
| 2994 | 0.00 | 0.00 | 0.00 | N/A |
| 2994 | 39.98 | 20.13 | 20.17 | 0.9982 |
| 2994 | 19.98 | 10.13 | 10.03 | 1.0095 |
| 2994 | 9.97 | 5.07 | 5.01 | 1.0112 |
| zero | 0.00 | 0.00 | 0.15 | As Found Zero |
| 2994 | 39.98 | 20.13 | 20.28 | As Found Span |
| Average Correction Factor | | | | 1.0063 |

Calculated value of As Found Response: 20.216 ppm Percent Change of As Found: -0.4

| | before calibration | | after calibration | |
|-----------|--------------------|-----|-------------------|-----|
| Auto zero | 0.03 | ppm | -0.02 | ppm |
| Auto span | 21.49 | ppm | 22.51 | ppm |

Notes: Analyzer was zero and span adjusted. All test parameters holding steady.
Both hydrogen and methane span cylinders replaced.

Calibration Performed By: Kelly Baragar

Calibration Summary

Parameter THC
 Air Monitoring Network Palliser Airshed

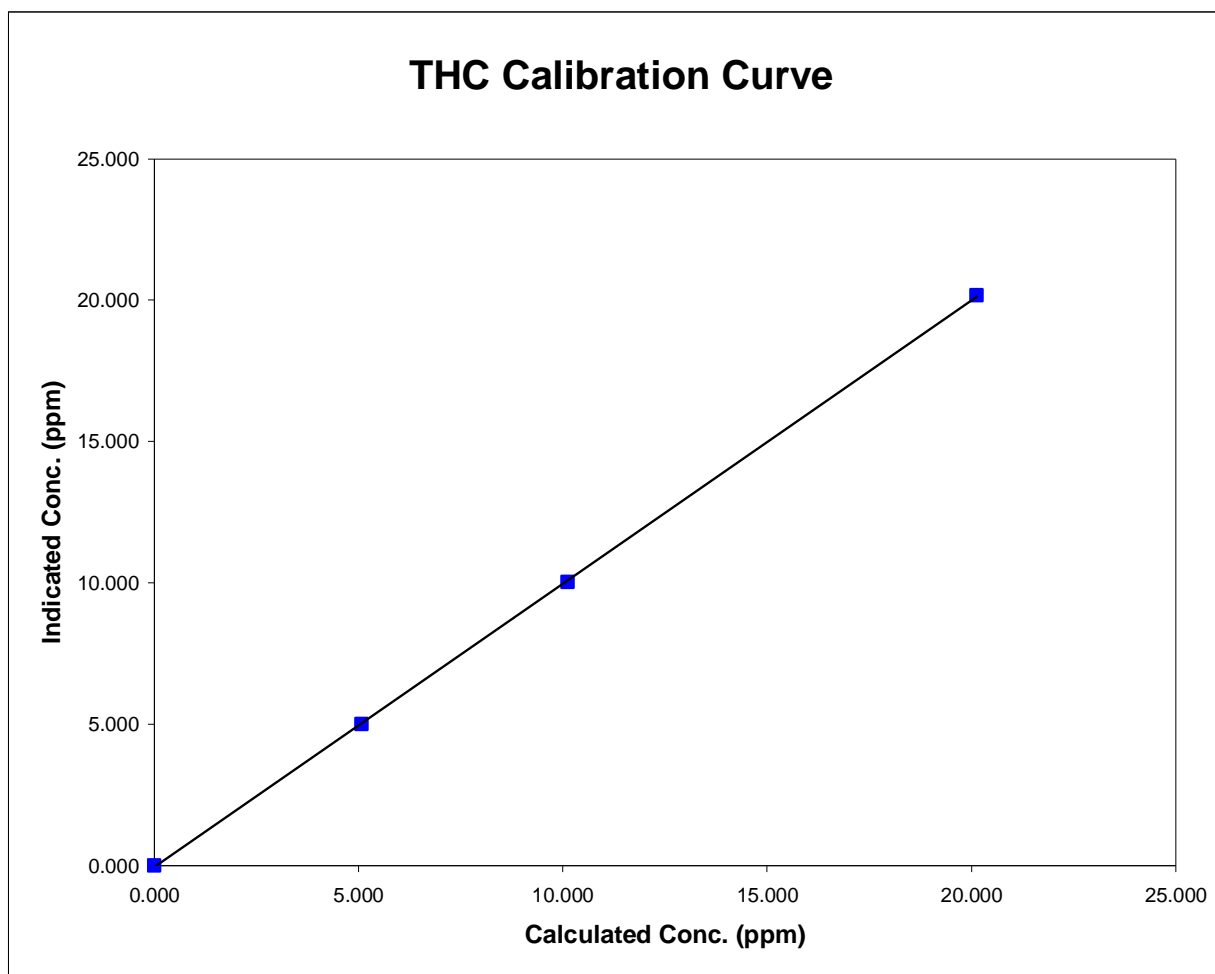


Station Information

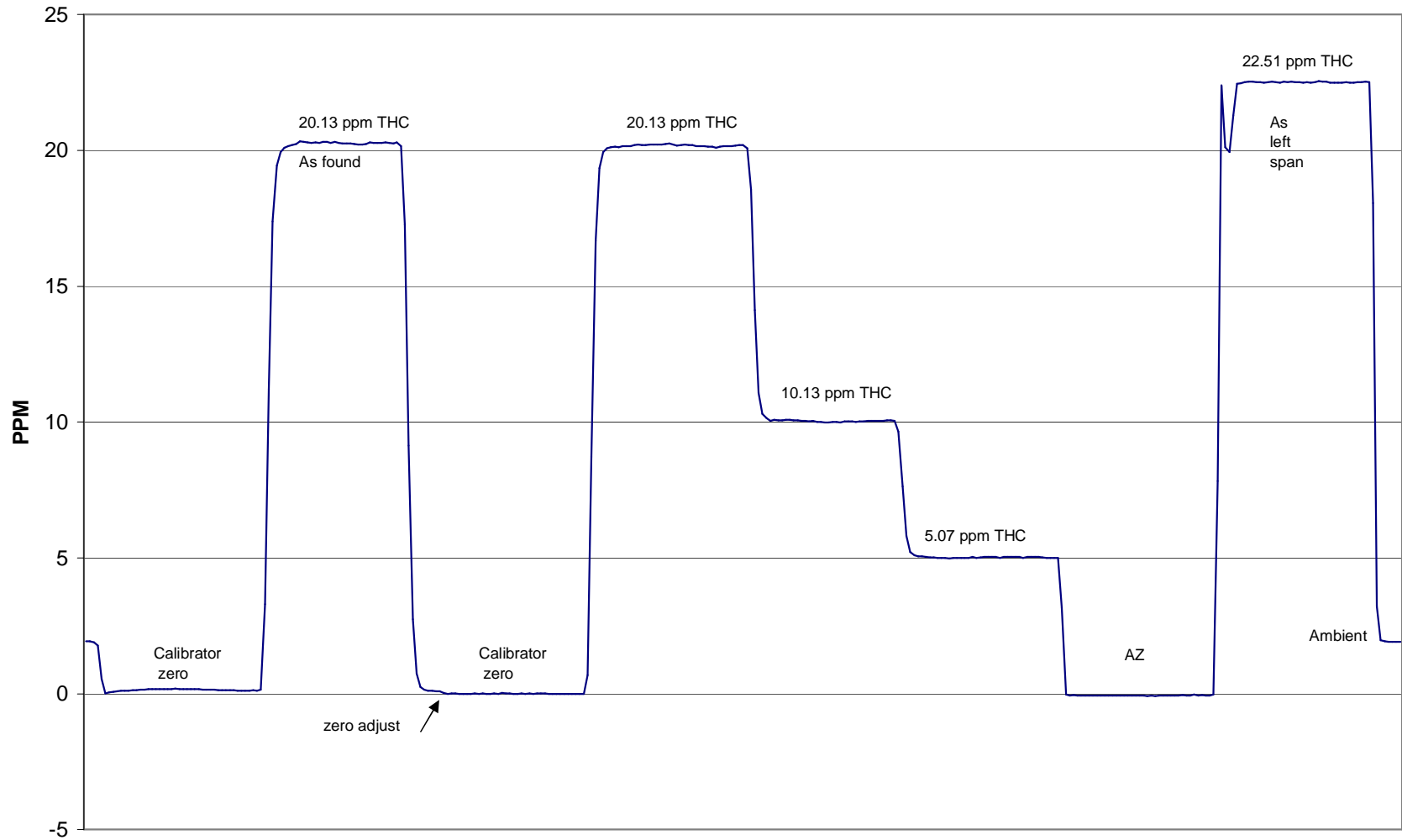
| | | | |
|---------------------|------------------|----------------------|------------------|
| Calibration Date | July 2, 2004 | Previous Calibration | June 8, 2004 |
| Station Number | 1 | Station Location | Crescent Heights |
| Start Time (MST) | 10:16 | End Time (MST) | 13:05 |
| Analyzer make/model | TEI model 51C-LT | Analyzer serial # | 407505596 |

Calibration Data

| Calculated concentration (ppm) (Cc) | Indicated concentration (ppm) (Ic) | Correction factor (Cc/Ic) | Statistical Evaluation | |
|-------------------------------------|------------------------------------|---------------------------|-------------------------|----------|
| 0.000 | 0.004 | N/A | | |
| 20.132 | 20.169 | 0.9982 | Correlation Coefficient | 0.999957 |
| 10.128 | 10.032 | 1.0095 | | |
| 5.071 | 5.015 | 1.0112 | Slope | 0.997840 |
| | | | Intercept | 0.046664 |



THC Calibration



July 02, 2004

Calibration Report



Parameter PM2.5
 Air Monitoring Network Palliser Airshed

Station Information

| | | | |
|---------------------|---|----------------------------------|----------------------------------|
| Calibration Date | July 2, 2004 | Previous Calibration | June 8, 2004 |
| Station Number | 1 | Station Location | Muskoseepi Park |
| Reason: | <input checked="" type="checkbox"/> Routine | <input type="checkbox"/> Install | <input type="checkbox"/> Removal |
| | | | <input type="checkbox"/> Other: |
| Start Time (MST) | 17:05 | End Time (MST) | 18:35 |
| Barometric Pressure | 0.918 inches Hg | Station Temperature | 18.5 Deg C |
| Flow Calibrator | BIOS Drycal DCL-MH | Serial Number | 101780 |
| DACS make | AP 1000 | DACS serial No. | 45269 |
| DACS voltage range | 0 - 1 V | DACS channel # | 15 |
| | <u>Before</u> | | <u>After</u> |
| DACS slope | 0.050000 | DACS slope | 0.050000 |
| DACS intercept | -50.000000 | DACS intercept | -50.000000 |

Analyzer Information

| | | | |
|----------------|-------------|-----------------------|----------------|
| Analyzer make | R&P | Control Unit serial # | 140AB237960110 |
| Analyzer model | TEOM 1400AB | Sensor Unit serial # | 140AB237960110 |

| | before | | after | |
|---------------------|--------|-------|-------|-------|
| Main Flow Set Point | 3.000 | SLPM | 3.000 | SLPM |
| Aux Flow Set Point | 16.67 | SLPM | 16.67 | SLPM |
| Filter Load | 21 | % | 21 | % |
| Ko Factor | 12578 | | 12578 | |
| Temperature | 15.9 | Deg C | 15.9 | Deg C |
| Pressure | 0.918 | ATM | 0.918 | ATM |

Calibration Data

| Parameter | Set Point | Indicated Reading | Tolerance | New Reading |
|-----------------------|-----------------|-------------------|-----------------|-------------|
| zero flow - main | 0.0 | 0.08 | | 0.08 |
| zero flow - auxillary | 0.0 | 0.09 | | 0.09 |
| flow recovery - main | 45 - 60 Seconds | >45 | 45 - 60 Seconds | >45 |
| flow recovery - aux | 46 - 60 Seconds | >45 | 46 - 60 Seconds | >45 |
| Temperature | measured | 15.9 | +/- 1.0 Deg C | 15.9 |
| Pressure | measured | 0.918 | +/- 1.5% ΔATM | 0.918 |
| Total Flow | 16.67 SLPM | 16.85 | | 16.85 |
| Main Flow | 13.67 SLPM | 13.70 | +/- 1.0 SLPM | 13.70 |
| Auxillary Flow | 3.0 SLPM | 3.050 | +/- 0.2 SLPM | 3.050 |
| Leak Check - main | 0.0 | 0.03 | <0.15 SLPM | 0.03 |
| Leak Check - aux | 0.0 | 0.10 | <0.15 SLPM | 0.10 |
| Ko Factor | measured | 12758 | | 12647.8 |

Notes: Performed pump restart, leak checks, and flow audits. Unit appears OK on all counts
Verification filter indicates indicated values are within 1% of measured value.

Calibration Performed By: Kelly Baragar