

Quick self-extraction Step 1: Read Number of General Header lines

```

18 ; NUMBER OF GENERAL HEADER LINES (AFTER THIS LINE)
v1.0 ; TOLNET STANDARDIZED FORMAT VERSION FOR PROFILE DATA
2 ; NUMBER OF PROFILES IN THIS FILE
14 ; NUMBER OF DATA COLUMNS FOR ALL PROFILES
ALT, m, Altitude above sea level (center of sampling bin) ; COLUMN 1
O3ND, molec.m-3, Ozone Number Density (measured) ; COLUMN 2
O3NDUncert, molec.m-3, Ozone Number Density Combined Standard Uncertainty ; COLUMN 3
O3NDResol, m, Ozone Number Density Standardized Vertical Resolution ; COLUMN 4
Precision, %, Measurement Precision ; COLUMN 5
ChRange, #, Channel Range (1.0 to N.0, nearest-field to farthest field) ; COLUMN 6
O3MR, ppbv, Ozone Mixing Ratio (derived) ; COLUMN 7
O3MRUncert, ppbv, Ozone Mixing Ratio Combined Standard Uncertainty ; COLUMN 8
Press, hPa, Air Pressure used to derive Ozone Mixing Ratio ; COLUMN 9
PressUncert, hPa, Air Pressure Standard Uncertainty ; COLUMN 10
Temp, K, Air Temperature used to derive Ozone Mixing Ratio ; COLUMN 11
TempUncert, K, Air Temperature Ratio Standard Uncertainty ; COLUMN 12
AirND, molec.m-3, Air Number Density used to derive Ozone Mixing Ratio ; COLUMN 13
AirNDUncert, molec.m-3, Air Number Density Standard Uncertainty ; COLUMN 14
-9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -999 ; MISSING DATA VALUES
7 ; NUMBER OF GENERAL COMMENTS LINES (AFTER THIS LINE)
JPL-Table Mountain Facility Tropospheric Ozone Lidar ; INSTRUMENT NAME
Thierry Leblanc, JPL, leblanc@tmf.jpl.nasa.gov ; PI AND CONTACT INFO
Table Mountain, CA ; SITE NAME
242.300, 34.4000, 2285.00 ; SITE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
R1 ; DATA REVISION # (if value >0 then provide text below)
There is a "1" for data revision, so here is the additional ; DATA REVISION DETAILS, NEWEST ON TOP
comment that is mandatory when revision is not "0" ; DATA REVISION DETAILS, NEWEST ON TOP
#BEGIN PROFILE ;-----
13 ; NUMBER OF HEADER LINES IN THIS PROFILE'S HEADER (AFTER THIS LINE)
1167 ; NUMBER OF DATA LINES IN THIS PROFILE
2013-05-31, 00:29:26 ; DATA PROCESSING DATE, TIME
LidAna v06.25 ; DATA PROCESSING VERSION
NOMINAL ; RESULTS QUALITY (NOMINAL, FAIR, POOR)
2013-05-09, 04:20:30 ; PROFILE DATE, TIME (UT) START
2013-05-09, 05:20:37 ; PROFILE DATE, TIME (UT) END
2013-05-09, 04:50:34 ; PROFILE DATE, TIME (UT) MEAN
NCEP-Analysis ; SOURCE OF A PRIORI Press, Temp, AirND USED TO DERIVE OZONE MIXING RATIO
2013-05-09, 12:00:00 ; SOURCE DATE, TIME (UT)
242.300, 34.4000, 2285.00 ; SOURCE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
NONE ; OPERATOR COMMENTS
58.8 ppbv mean surface ozone during lidar meas. ; OTHER COMMENTS SPECIFIC TO THIS PROFILE
ALT, O3ND, O3NDUncert, O3NDResol, Precision, ChRange, O3MR, O3MRUncert, Press, PressUncert, Temp, TempUncert, AirND, AirNDUncert ;
2503.0, 1.143e+018, 2.257e+017, 506.2, 14.59, 1.00, 57.92, 12.25, 7.540e+002, -9.999e+003, 276.80, -9999.00, 1.973e+025, -9.999e+003
2518.0, 9.643e+017, 2.150e+017, 543.8, 16.77, 1.00, 48.95, 11.58, 7.526e+002, -9.999e+003, 276.72, -9999.00, 1.970e+025, -9.999e+003
2533.0, 9.787e+017, 2.126e+017, 581.3, 16.13, 1.00, 49.76, 11.50, 7.512e+002, -9.999e+003, 276.66, -9999.00, 1.967e+025, -9.999e+003
2548.0, 9.205e+017, 2.070e+017, 618.7, 16.66, 1.00, 46.90, 11.20, 7.498e+002, -9.999e+003, 276.70, -9999.00, 1.963e+025, -9.999e+003
.....

```

Number of General Header lines (ngh)

Quick self-extraction Step 2: Read Number of profiles in file

```

18 ; NUMBER OF GENERAL HEADER LINES (AFTER THIS LINE)
v1.0 ; TOLNET STANDARDIZED FORMAT VERSION FOR PROFILE DATA
2 ; NUMBER OF PROFILES IN THIS FILE
14 ; NUMBER OF DATA COLUMNS FOR ALL PROFILES
ALT, m, Altitude above sea level (center of sampling bin) ; COLUMN 1
O3ND, molec.m-3, Ozone Number Density (measured) ; COLUMN 2
O3NDUncert, molec.m-3, Ozone Number Density Combined Standard Uncertainty ; COLUMN 3
O3NDResol, m, Ozone Number Density Standardized Vertical Resolution ; COLUMN 4
Precision, %, Measurement Precision ; COLUMN 5
ChRange, #, Channel Range (1.0 to N.0, nearest-field to farthest-field) ; COLUMN 6
O3MR, ppbv, Ozone Mixing Ratio (derived) ; COLUMN 7
O3MRUncert, ppbv, Ozone Mixing Ratio Combined Standard Uncertainty ; COLUMN 8
Press, hPa, Air Pressure used to derive Ozone Mixing Ratio ; COLUMN 9
PressUncert, hPa, Air Pressure Standard Uncertainty ; COLUMN 10
Temp, K, Air Temperature used to derive Ozone Mixing Ratio ; COLUMN 11
TempUncert, K, Air Temperature Ratio Standard Uncertainty ; COLUMN 12
AirND, molec.m-3, Air Number Density used to derive Ozone Mixing Ratio ; COLUMN 13
AirNDUncert, molec.m-3, Air Number Density Standard Uncertainty ; COLUMN 14
-9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -999 ; MISSING DATA VALUES
7 ; NUMBER OF GENERAL COMMENTS LINES (AFTER THIS LINE)
JPL-Table Mountain Facility Tropospheric Ozone Lidar ; INSTRUMENT NAME
Thierry Leblanc, JPL, leblanc@tmf.jpl.nasa.gov ; PI AND CONTACT INFO
Table Mountain, CA ; SITE NAME
242.300, 34.4000, 2285.00 ; SITE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
R1 ; DATA REVISION # (if value >0 then provide text below)
This is v1.0 of data for profile is the additional ; DATA REVISION DETAILS, NEWEST ON TOP
comment that is mandatory when revision is not "0" ; DATA REVISION DETAILS, NEWEST ON TOP

```

Number of profiles in file (nprof)

```

#BEGIN PROFILE ;-----
13 ; NUMBER OF HEADER LINES IN THIS PROFILE'S HEADER (AFTER THIS LINE)
1167 ; NUMBER OF DATA LINES IN THIS PROFILE
2013-05-31, 00:29:26 ; DATA PROCESSING DATE, TIME
LidAna v06.25 ; DATA PROCESSING VERSION
NOMINAL ; RESULTS QUALITY (NOMINAL, FAIR, POOR)
2013-05-09, 04:20:30 ; PROFILE DATE, TIME (UT) START
2013-05-09, 05:20:37 ; PROFILE DATE, TIME (UT) END
2013-05-09, 04:50:34 ; PROFILE DATE, TIME (UT) MEAN
NCEP-Analysis ; SOURCE OF A PRIORI Press, Temp, AirND USED TO DERIVE OZONE MIXING RATIO
2013-05-09, 12:00:00 ; SOURCE DATE, TIME (UT)
242.300, 34.4000, 2285.00 ; SOURCE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
NONE ; OPERATOR COMMENTS
58.8 ppbv mean surface ozone during lidar meas. ; OTHER COMMENTS SPECIFIC TO THIS PROFILE
ALT, O3ND, O3NDUncert, O3NDResol, Precision, ChRange, O3MR, O3MRUncert, Press, PressUncert, Temp, TempUncert, AirND, AirNDUncert ;
2503.0, 1.143e+018, 2.257e+017, 506.2, 14.59, 1.00, 57.92, 12.25, 7.540e+002, -9.999e+003, 276.80, -9999.00, 1.973e+025, -9.999e+003
2518.0, 9.643e+017, 2.150e+017, 543.8, 16.77, 1.00, 48.95, 11.58, 7.526e+002, -9.999e+003, 276.72, -9999.00, 1.970e+025, -9.999e+003
2533.0, 9.787e+017, 2.126e+017, 581.3, 16.13, 1.00, 49.76, 11.50, 7.512e+002, -9.999e+003, 276.66, -9999.00, 1.967e+025, -9.999e+003
2548.0, 9.205e+017, 2.070e+017, 618.7, 16.66, 1.00, 46.90, 11.20, 7.498e+002, -9.999e+003, 276.70, -9999.00, 1.963e+025, -9.999e+003
.....

```

Quick self-extraction Step 3: Read Number of data columns (all profiles)

```

18      ; NUMBER OF GENERAL HEADER LINES (AFTER THIS LINE)
v1.0    ; TOLNET STANDARDIZED FORMAT VERSION FOR PROFILE DATA
2       ; NUMBER OF PROFILES IN THIS FILE
14      ; NUMBER OF DATA COLUMNS FOR ALL PROFILES
ALT, m, Altitude above sea level (center of sampling bin)           ; COLUMN 1
O3ND, molec.m-3, Ozone Number Density (measured)                   ; COLUMN 2
O3NDUncert, molec.m-3, Ozone Number Density Combined Standard Uncertainty ; COLUMN 3
O3NDResol, m, Ozone Number Density Standardized Vertical Resolution ; COLUMN 4
Precision, %, Measurement Precision                                ; COLUMN 5
ChRange, #, Channel Range (1.0 to N.0, nearest-field to farthest-field) ; COLUMN 6
O3MR, ppbv, Ozone Mixing Ratio (derived)                           ; COLUMN 7
O3MRUncert, ppbv, Ozone Mixing Ratio Combined Standard Uncertainty ; COLUMN 8
Press, hPa, Air Pressure used to derive Ozone Mixing Ratio         ; COLUMN 9
PressUncert, hPa, Air Pressure Standard Uncertainty                ; COLUMN 10
Temp, K, Air Temperature used to derive Ozone Mixing Ratio        ; COLUMN 11
TempUncert, K, Air Temperature Ratio Standard Uncertainty         ; COLUMN 12
AirND, molec.m-3, Air Number Density used to derive Ozone Mixing Ratio ; COLUMN 13
AirNDUncert, molec.m-3, Air Number Density Standard Uncertainty   ; COLUMN 14
-9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999 ; MISSING DATA VALUES
7       ; NUMBER OF GENERAL COMMENTS LINES (AFTER THIS LINE)
JPL-Table Mountain Facility Tropospheric Ozone Lidar               ; INSTRUMENT NAME
Thierry Leblanc, JPL, leblanc@tmf.jpl.nasa.gov                    ; PI AND CONTACT INFO
Table Mountain, CA                                                ; SITE NAME
242.300, 34.4000, 2285.00                                         ; SITE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
R1       ; DATA REVISION # (if value >0 then provide text below)
There is a "1" for data revision, so here is the additional        ; DATA REVISION DETAILS, NEWEST ON TOP
comment that is mandatory when revision is not "0"                ; DATA REVISION DETAILS, NEWEST ON TOP
#BEGIN PROFILE ;-----
13      ; NUMBER OF HEADER LINES IN THIS PROFILE'S HEADER (AFTER THIS LINE)
1167    ; NUMBER OF DATA LINES IN THIS PROFILE
2013-05-31, 00:29:26      ; DATA PROCESSING DATE, TIME
LidAna v06.25             ; DATA PROCESSING VERSION
NOMINAL                   ; RESULTS QUALITY (NOMINAL, FAIR, POOR)
2013-05-09, 04:20:30     ; PROFILE DATE, TIME (UT) START
2013-05-09, 05:20:37     ; PROFILE DATE, TIME (UT) END
2013-05-09, 04:50:34     ; PROFILE DATE, TIME (UT) MEAN
NCEP-Analysis            ; SOURCE OF A PRIORI Press, Temp, AirND USED TO DERIVE OZONE MIXING RATIO
2013-05-09, 12:00:00     ; SOURCE DATE, TIME (UT)
242.300, 34.4000,        2285.00 ; SOURCE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
NONE                       ; OPERATOR COMMENTS
58.8 ppbv mean surface ozone during lidar meas. ; OTHER COMMENTS SPECIFIC TO THIS PROFILE
Number of Data Columns (ncol)
ALT, O3ND, O3NDUncert, O3NDResol, Precision, ChRange, O3MR, O3MRUncert, Press, PressUncert, Temp, TempUncert, AirND, AirNDUncert ;
2503.0, 1.143e+018, 2.257e+017, 506.2, 14.59, 1.00, 57.92, 12.25, 7.540e+002, -9.999e+003, 276.80, -9999.00, 1.973e+025, -9.999e+003
2518.0, 9.643e+017, 2.150e+017, 543.8, 16.77, 1.00, 48.95, 11.58, 7.526e+002, -9.999e+003, 276.72, -9999.00, 1.970e+025, -9.999e+003
2533.0, 9.787e+017, 2.126e+017, 581.3, 16.13, 1.00, 49.76, 11.50, 7.512e+002, -9.999e+003, 276.66, -9999.00, 1.967e+025, -9.999e+003
2548.0, 9.205e+017, 2.070e+017, 618.7, 16.66, 1.00, 46.90, 11.20, 7.498e+002, -9.999e+003, 276.70, -9999.00, 1.963e+025, -9.999e+003
.....

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Quick self-extraction Step 4: Read missing values (1 line)

```
18      ; NUMBER OF GENERAL HEADER LINES (AFTER THIS LINE)
v1.0    ; TOLNET STANDARDIZED FORMAT VERSION FOR PROFILE DATA
2       ; NUMBER OF PROFILES IN THIS FILE
14      ; NUMBER OF DATA COLUMNS FOR ALL PROFILES
ALT, m, Altitude above sea level (center of sampling bin) ; COLUMN 1
O3ND, molec.m-3, Ozone Number Density (measured) ; COLUMN 2
O3NDUncert, molec.m-3, Ozone Number Density Combined Standard Uncertainty ; COLUMN 3
O3NDResol, m, Ozone Number Density Standardized Vertical Resolution ; COLUMN 4
Precision, %, Measurement Precision ; COLUMN 5
ChRange, #, Channel Range (1.0 to N.0, nearest-field to farthest-field) ; COLUMN 6
O3MR, ppbv, Ozone Mixing Ratio (derived) ; COLUMN 7
O3MRUncert, ppbv, Ozone Mixing Ratio Combined Standard Uncertainty ; COLUMN 8
Press, hPa, Air Pressure used to derive Ozone Mixing Ratio ; COLUMN 9
PressUncert, hPa, Air Pressure Standard Uncertainty ; COLUMN 10
Temp, K, Air Temperature used to derive Ozone Mixing Ratio ; COLUMN 11
TempUncert, K, Air Temperature Ratio Standard Uncertainty ; COLUMN 12
AirND, molec.m-3, Air Number Density used to derive Ozone Mixing Ratio ; COLUMN 13
AirNDUncert, molec.m-3, Air Number Density Standard Uncertainty ; COLUMN 14
-9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999 ; MISSING DATA VALUES
7       ; NUMBER OF GENERAL COMMENTS LINES (AFTER THIS LINE)
JPL-Table Mountain Facility Tropospheric Ozone Lidar ; INSTRUMENT NAME
Thierry Leblanc, JPL, leblanc@tmf.jpl.nasa.gov ; PI AND CONTACT INFO
Table Mountain, CA ; SITE NAME
242.300, 34.4000, 2285.00 ; SITE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
R1      ; DATA REVISION # (if value >0 then provide text below)
There is a "1" for data revision, so here is the additional ; DATA REVISION DETAILS, NEWEST ON TOP
comment that is mandatory when revision is not "0" ; DATA REVISION DETAILS, NEWEST ON TOP
#BEGIN PROFILE ;-----
13      ; NUMBER OF HEADER LINES IN THIS PROFILE'S HEADER (AFTER THIS LINE)
1167    ; NUMBER OF DATA LINES IN THIS PROFILE
2013-05-31, 00:29:26 ; DATA PROCESSING DATE, TIME
LidAna v06.25 ; DATA PROCESSING VERSION
NOMINAL ; RESULTS QUALITY (NOMINAL, FAIR, POOR)
2013-05-09, 04:20:30 ; PROFILE DATE, TIME (UT) START
2013-05-09, 05:20:37 ; PROFILE DATE, TIME (UT) END
2013-05-09, 04:50:34 ; PROFILE DATE, TIME (UT) MEAN
NCEP-Analysis ; SOURCE OF A PRIORI Press, Temp, AirND USED TO DERIVE OZONE MIXING RATIO
2013-05-09, 12:00:00 ; SOURCE DATE, TIME (UT)
242.300, 34.4000, 2285.00 ; SOURCE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
NONE ; OPERATOR COMMENTS
58.8 ppbv mean surface ozone during lidar meas. ; OTHER COMMENTS SPECIFIC TO THIS PROFILE
ALT, O3ND, O3NDUncert, O3NDResol, Precision, ChRange, O3MR, O3MRUncert, Press, PressUncert, Temp, TempUncert, AirND, AirNDUncert ;
2503.0, 1.143e+018, 2.257e+017, 506.2, 14.59, 1.00, 57.92, 12.25, 7.540e+002, -9.999e+003, 276.80, -9999.00, 1.973e+025, -9.999e+003
2518.0, 9.643e+017, 2.150e+017, 543.8, 16.77, 1.00, 48.95, 11.58, 7.526e+002, -9.999e+003, 276.72, -9999.00, 1.970e+025, -9.999e+003
2533.0, 9.787e+017, 2.126e+017, 581.3, 16.13, 1.00, 49.76, 11.50, 7.512e+002, -9.999e+003, 276.66, -9999.00, 1.967e+025, -9.999e+003
2548.0, 9.205e+017, 2.070e+017, 618.7, 16.66, 1.00, 46.90, 11.20, 7.498e+002, -9.999e+003, 276.70, -9999.00, 1.963e+025, -9.999e+003
.....
```

ncol values separated by commas

Quick self-extraction Step 5: Read number of general comments lines

```

18      ; NUMBER OF GENERAL HEADER LINES (AFTER THIS LINE)
v1.0    ; TOLNET STANDARDIZED FORMAT VERSION FOR PROFILE DATA
2       ; NUMBER OF PROFILES IN THIS FILE
14      ; NUMBER OF DATA COLUMNS FOR ALL PROFILES
ALT, m, Altitude above sea level (center of sampling bin) ; COLUMN 1
O3ND, molec.m-3, Ozone Number Density (measured) ; COLUMN 2
O3NDUncert, molec.m-3, Ozone Number Density Combined Standard Uncertainty ; COLUMN 3
O3NDResol, m, Ozone Number Density Standardized Vertical Resolution ; COLUMN 4
Precision, %, Measurement Precision ; COLUMN 5
ChRange, #, Channel Range (1.0 to N.0, nearest-field to farthest-field) ; COLUMN 6
O3MR, ppbv, Ozone Mixing Ratio (derived) ; COLUMN 7
O3MRUncert, ppbv, Ozone Mixing Ratio Combined Standard Uncertainty ; COLUMN 8
Press, hPa, Air Pressure used to derive Ozone Mixing Ratio ; COLUMN 9
PressUncert, hPa, Air Pressure Standard Uncertainty ; COLUMN 10
Temp, K, Air Temperature used to derive Ozone Mixing Ratio ; COLUMN 11
TempUncert, K, Air Temperature Ratio Standard Uncertainty ; COLUMN 12
AirND, molec.m-3, Air Number Density used to derive Ozone Mixing Ratio ; COLUMN 13
AirNDUncert, molec.m-3, Air Number Density Standard Uncertainty ; COLUMN 14
-9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999 ; MISSING DATA VALUES
7       ; NUMBER OF GENERAL COMMENTS LINES (AFTER THIS LINE)
JPL-Table Mountain Facility Tropospheric Ozone Lidar ; INSTRUMENT NAME
Thierry Leblanc, JPL, leblanc@tmf.jpl.nasa.gov ; PI AND CONTACT INFO
Table Mountain, CA ; SITE NAME
242.300, 34.4000, 2285.00 ; SITE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
R1      ; DATA REVISION # (if value >0 then provide text below)
There is a "1" for data revision, so here is the additional ; DATA REVISION DETAILS, NEWEST ON TOP
comment that is mandatory when revision is not "0" ; DATA REVISION DETAILS, NEWEST ON TOP
#BEGIN PROFILE ;-----
13      ; NUMBER OF HEADER LINES IN THIS PROFILE'S HEADER (AFTER THIS LINE)
1167    ; NUMBER OF DATA LINES IN THIS PROFILE
2013-05-31, 00:29:26 ; DATA PROCESSING DATE, TIME
LidAna v06.25 ; DATA PROCESSING VERSION
NOMINAL ; RESULTS QUALITY (NOMINAL, FAIR, POOR)
2013-05-09, 04:20:30 ; PROFILE DATE, TIME (UT) START
2013-05-09, 05:20:37 ; PROFILE DATE, TIME (UT) END
2013-05-09, 04:50:34 ; PROFILE DATE, TIME (UT) MEAN
NCEP-Analysis ; SOURCE OF A PRIORI Press, Temp, AirND USED TO DERIVE OZONE MIXING RATIO
2013-05-09, 12:00:00 ; SOURCE DATE, TIME (UT)
242.300, 34.4000, 2285.00 ; SOURCE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
NONE    ; OPERATOR COMMENTS
58.8 ppbv mean surface ozone during lidar meas. ; OTHER COMMENTS SPECIFIC TO THIS PROFILE
ALT, O3ND, O3NDUncert, O3NDResol, Precision, ChRange, O3MR, O3MRUncert, Press, PressUncert, Temp, TempUncert, AirND, AirNDUncert ;
2503.0, 1.143e+018, 2.257e+017, 506.2, 14.59, 1.00, 57.92, 12.25, 7.540e+002, -9.999e+003, 276.80, -9999.00, 1.973e+025, -9.999e+003
2518.0, 9.643e+017, 2.150e+017, 543.8, 16.77, 1.00, 48.95, 11.58, 7.526e+002, -9.999e+003, 276.72, -9999.00, 1.970e+025, -9.999e+003
2533.0, 9.787e+017, 2.126e+017, 581.3, 16.13, 1.00, 49.76, 11.50, 7.512e+002, -9.999e+003, 276.66, -9999.00, 1.967e+025, -9.999e+003
2548.0, 9.205e+017, 2.070e+017, 618.7, 16.66, 1.00, 46.90, 11.20, 7.498e+002, -9.999e+003, 276.70, -9999.00, 1.963e+025, -9.999e+003
.....

```

Number of General comments lines (ngc)

Quick self-extraction Step 6: Skip profile separator line (1 line)

```
18      ; NUMBER OF GENERAL HEADER LINES (AFTER THIS LINE)
v1.0    ; TOLNET STANDARDIZED FORMAT VERSION FOR PROFILE DATA
2       ; NUMBER OF PROFILES IN THIS FILE
14      ; NUMBER OF DATA COLUMNS FOR ALL PROFILES
ALT, m, Altitude above sea level (center of sampling bin) ; COLUMN 1
O3ND, molec.m-3, Ozone Number Density (measured) ; COLUMN 2
O3NDUncert, molec.m-3, Ozone Number Density Combined Standard Uncertainty ; COLUMN 3
O3NDResol, m, Ozone Number Density Standardized Vertical Resolution ; COLUMN 4
Precision, %, Measurement Precision ; COLUMN 5
ChRange, #, Channel Range (1.0 to N.0, nearest-field to farthest-field) ; COLUMN 6
O3MR, ppbv, Ozone Mixing Ratio (derived) ; COLUMN 7
O3MRUncert, ppbv, Ozone Mixing Ratio Combined Standard Uncertainty ; COLUMN 8
Press, hPa, Air Pressure used to derive Ozone Mixing Ratio ; COLUMN 9
PressUncert, hPa, Air Pressure Standard Uncertainty ; COLUMN 10
Temp, K, Air Temperature used to derive Ozone Mixing Ratio ; COLUMN 11
TempUncert, K, Air Temperature Ratio Standard Uncertainty ; COLUMN 12
AirND, molec.m-3, Air Number Density used to derive Ozone Mixing Ratio ; COLUMN 13
AirNDUncert, molec.m-3, Air Number Density Standard Uncertainty ; COLUMN 14
-9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -999 ; MISSING DATA VALUES
7       ; NUMBER OF GENERAL COMMENTS LINES (AFTER THIS LINE)
JPL-Table Mountain Facility Tropospheric Ozone Lidar ; INSTRUMENT NAME
Thierry Leblanc, JPL, leblanc@tmf.jpl.nasa.gov ; PI AND CONTACT INFO
Table Mountain, CA ; SITE NAME
242.300, 34.4000, 2285.00 ; SITE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
R1      ; DATA REVISION # (if value >0 then provide text below)
There is a "1" for data revision, so here is the additional ; DATA REVISION DETAILS, NEWEST ON TOP
comment that is mandatory when revision is not "0" ; DATA REVISION DETAILS, NEWEST ON TOP
#BEGIN PROFILE ----- Profile separator: this line is not accounted for in ngc -----
13      ; NUMBER OF HEADER LINES IN THIS PROFILE'S HEADER (AFTER THIS LINE)
1167    ; NUMBER OF DATA LINES IN THIS PROFILE
2013-05-31, 00:29:26 ; DATA PROCESSING DATE, TIME
LidAna v06.25 ; DATA PROCESSING VERSION
NOMINAL ; RESULTS QUALITY (NOMINAL, FAIR, POOR)
2013-05-09, 04:20:30 ; PROFILE DATE, TIME (UT) START
2013-05-09, 05:20:37 ; PROFILE DATE, TIME (UT) END
2013-05-09, 04:50:34 ; PROFILE DATE, TIME (UT) MEAN
NCEP-Analysis ; SOURCE OF A PRIORI Press, Temp, AirND USED TO DERIVE OZONE MIXING RATIO
2013-05-09, 12:00:00 ; SOURCE DATE, TIME (UT)
242.300, 34.4000, 2285.00 ; SOURCE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
NONE ; OPERATOR COMMENTS
58.8 ppbv mean surface ozone during lidar meas. ; OTHER COMMENTS SPECIFIC TO THIS PROFILE
ALT, O3ND, O3NDUncert, O3NDResol, Precision, ChRange, O3MR, O3MRUncert, Press, PressUncert, Temp, TempUncert, AirND, AirNDUncert ;
2503.0, 1.143e+018, 2.257e+017, 506.2, 14.59, 1.00, 57.92, 12.25, 7.540e+002, -9.999e+003, 276.80, -9999.00, 1.973e+025, -9.999e+003
2518.0, 9.643e+017, 2.150e+017, 543.8, 16.77, 1.00, 48.95, 11.58, 7.526e+002, -9.999e+003, 276.72, -9999.00, 1.970e+025, -9.999e+003
2533.0, 9.787e+017, 2.126e+017, 581.3, 16.13, 1.00, 49.76, 11.50, 7.512e+002, -9.999e+003, 276.66, -9999.00, 1.967e+025, -9.999e+003
2548.0, 9.205e+017, 2.070e+017, 618.7, 16.66, 1.00, 46.90, 11.20, 7.498e+002, -9.999e+003, 276.70, -9999.00, 1.963e+025, -9.999e+003
.....
```

Quick self-extraction Step 7: Read number of profile header lines

```

18      ; NUMBER OF GENERAL HEADER LINES (AFTER THIS LINE)
v1.0    ; TOLNET STANDARDIZED FORMAT VERSION FOR PROFILE DATA
2       ; NUMBER OF PROFILES IN THIS FILE
14      ; NUMBER OF DATA COLUMNS FOR ALL PROFILES
ALT, m, Altitude above sea level (center of sampling bin) ; COLUMN 1
O3ND, molec.m-3, Ozone Number Density (measured) ; COLUMN 2
O3NDUncert, molec.m-3, Ozone Number Density Combined Standard Uncertainty ; COLUMN 3
O3NDResol, m, Ozone Number Density Standardized Vertical Resolution ; COLUMN 4
Precision, %, Measurement Precision ; COLUMN 5
ChRange, #, Channel Range (1.0 to N.0, nearest-field to farthest-field) ; COLUMN 6
O3MR, ppbv, Ozone Mixing Ratio (derived) ; COLUMN 7
O3MRUncert, ppbv, Ozone Mixing Ratio Combined Standard Uncertainty ; COLUMN 8
Press, hPa, Air Pressure used to derive Ozone Mixing Ratio ; COLUMN 9
PressUncert, hPa, Air Pressure Standard Uncertainty ; COLUMN 10
Temp, K, Air Temperature used to derive Ozone Mixing Ratio ; COLUMN 11
TempUncert, K, Air Temperature Ratio Standard Uncertainty ; COLUMN 12
AirND, molec.m-3, Air Number Density used to derive Ozone Mixing Ratio ; COLUMN 13
AirNDUncert, molec.m-3, Air Number Density Standard Uncertainty ; COLUMN 14
-9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -999 ; MISSING DATA VALUES
7       ; NUMBER OF GENERAL COMMENTS LINES (AFTER THIS LINE)
JPL-Table Mountain Facility Tropospheric Ozone Lidar ; INSTRUMENT NAME
Thierry Leblanc, JPL, leblanc@tmf.jpl.nasa.gov ; PI AND CONTACT INFO
Table Mountain, CA ; SITE NAME
242.300, 34.4000, 2285.00 ; SITE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
R1      ; DATA REVISION # (if value >0 then provide text below)
There is a "1" for data revision, so here is the additional ; DATA REVISION DETAILS, NEWEST ON TOP
comment that is mandatory when revision is not "0" ; DATA REVISION DETAILS, NEWEST ON TOP
#BEGIN PROFILE ;-----
13      ; NUMBER OF HEADER LINES IN THIS PROFILE'S HEADER (AFTER THIS LINE)
1167    ; NUMBER OF DATA LINES IN THIS PROFILE
2013-05-31, 00:29:26 ; DATA PROCESSING DATE, TIME
LidAna v06.25 ; DATA PROCESSING VERSION
NOMINAL ; RESULTS QUALITY (NOMINAL, FAIR, POOR)
2013-05-09, 04:20:30 ; PROFILE DATE, TIME (UT) START
2013-05-09, 05:20:37 ; PROFILE DATE, TIME (UT) END
2013-05-09, 04:50:34 ; PROFILE DATE, TIME (UT) MEAN
NCEP-Analysis ; SOURCE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m), Temp, AirND USED TO DERIVE OZONE MIXING RATIO
2013-05-09, 12:00:00 ; SOURCE DATE, TIME (UT)
242.300, 34.4000, 2285.00 ; SOURCE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
NONE ; OPERATOR COMMENTS
58.8 ppbv mean surface ozone during lidar meas. ; OTHER COMMENTS SPECIFIC TO THIS PROFILE
ALT, O3ND, O3NDUncert, O3NDResol, Precision, ChRange, O3MR, O3MRUncert, Press, PressUncert, Temp, TempUncert, AirND, AirNDUncert ;
2503.0, 1.143e+018, 2.257e+017, 506.2, 14.59, 1.00, 57.92, 12.25, 7.540e+002, -9.999e+003, 276.80, -9999.00, 1.973e+025, -9.999e+003
2518.0, 9.643e+017, 2.150e+017, 543.8, 16.77, 1.00, 48.95, 11.58, 7.526e+002, -9.999e+003, 276.72, -9999.00, 1.970e+025, -9.999e+003
2533.0, 9.787e+017, 2.126e+017, 581.3, 16.13, 1.00, 49.76, 11.50, 7.512e+002, -9.999e+003, 276.66, -9999.00, 1.967e+025, -9.999e+003
2548.0, 9.205e+017, 2.070e+017, 618.7, 16.66, 1.00, 46.90, 11.20, 7.498e+002, -9.999e+003, 276.70, -9999.00, 1.963e+025, -9.999e+003
.....

```

Number of Profile Header lines (nph)

Quick self-extraction Step 8: Read number of data lines in profile

```

18      ; NUMBER OF GENERAL HEADER LINES (AFTER THIS LINE)
v1.0    ; TOLNET STANDARDIZED FORMAT VERSION FOR PROFILE DATA
2       ; NUMBER OF PROFILES IN THIS FILE
14      ; NUMBER OF DATA COLUMNS FOR ALL PROFILES
ALT, m, Altitude above sea level (center of sampling bin) ; COLUMN 1
O3ND, molec.m-3, Ozone Number Density (measured) ; COLUMN 2
O3NDUncert, molec.m-3, Ozone Number Density Combined Standard Uncertainty ; COLUMN 3
O3NDResol, m, Ozone Number Density Standardized Vertical Resolution ; COLUMN 4
Precision, %, Measurement Precision ; COLUMN 5
ChRange, #, Channel Range (1.0 to N.0, nearest-field to farthest-field) ; COLUMN 6
O3MR, ppbv, Ozone Mixing Ratio (derived) ; COLUMN 7
O3MRUncert, ppbv, Ozone Mixing Ratio Combined Standard Uncertainty ; COLUMN 8
Press, hPa, Air Pressure used to derive Ozone Mixing Ratio ; COLUMN 9
PressUncert, hPa, Air Pressure Standard Uncertainty ; COLUMN 10
Temp, K, Air Temperature used to derive Ozone Mixing Ratio ; COLUMN 11
TempUncert, K, Air Temperature Ratio Standard Uncertainty ; COLUMN 12
AirND, molec.m-3, Air Number Density used to derive Ozone Mixing Ratio ; COLUMN 13
AirNDUncert, molec.m-3, Air Number Density Standard Uncertainty ; COLUMN 14
-9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -999 ; MISSING DATA VALUES
7       ; NUMBER OF GENERAL COMMENTS LINES (AFTER THIS LINE)
JPL-Table Mountain Facility Tropospheric Ozone Lidar ; INSTRUMENT NAME
Thierry Leblanc, JPL, leblanc@tmf.jpl.nasa.gov ; PI AND CONTACT INFO
Table Mountain, CA ; SITE NAME
242.300, 34.4000, 2285.00 ; SITE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
R1      ; DATA REVISION # (if value >0 then provide text below)
There is a "1" for data revision, so here is the additional ; DATA REVISION DETAILS, NEWEST ON TOP
comment that is mandatory when revision is not "0" ; DATA REVISION DETAILS, NEWEST ON TOP
#BEGIN PROFILE ;-----
13      ; NUMBER OF HEADER LINES IN THIS PROFILE'S HEADER (AFTER THIS LINE)
1167    ; NUMBER OF DATA LINES IN THIS PROFILE
2013-05-31, 00:29:26 ; DATA PROCESSING DATE, TIME
LidAna v06.25 ; DATA PROCESSING VERSION
NOMINAL ; RESULTS QUALITY (NOMINAL, FAIR, POOR)
2013-05-09, 04:20:30 ; PROFILE DATE, TIME (UT) START
2013-05-09, 05:20:37 ; PROFILE DATE, TIME (UT) END
2013-05-09, 04:50:34 ; PROFILE DATE, TIME (UT) MEAN
NCEP-Analysis ; SOURCE OF A PRIORI Press, Temp, AirND USED TO DERIVE OZONE MIXING RATIO
2013-05-09, 12:00:00 ; SOURCE DATE, TIME (UT)
242.300, 34.4000, 2285.00 ; SOURCE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
NONE ; OPERATOR COMMENTS
58.8 ppbv mean surface ozone during lidar meas. ; OTHER COMMENTS SPECIFIC TO THIS PROFILE
ALT, O3ND, O3NDUncert, O3NDResol, Precision, ChRange, O3MR, O3MRUncert, Press, PressUncert, Temp, TempUncert, AirND, AirNDUncert ;
2503.0, 1.143e+018, 2.257e+017, 506.2, 14.59, 1.00, 57.92, 12.25, 7.540e+002, -9.999e+003, 276.80, -9999.00, 1.973e+025, -9.999e+003
2518.0, 9.643e+017, 2.150e+017, 543.8, 16.77, 1.00, 48.95, 11.58, 7.526e+002, -9.999e+003, 276.72, -9999.00, 1.970e+025, -9.999e+003
2533.0, 9.787e+017, 2.126e+017, 581.3, 16.13, 1.00, 49.76, 11.50, 7.512e+002, -9.999e+003, 276.66, -9999.00, 1.967e+025, -9.999e+003
2548.0, 9.205e+017, 2.070e+017, 618.7, 16.66, 1.00, 46.90, 11.20, 7.498e+002, -9.999e+003, 276.70, -9999.00, 1.963e+025, -9.999e+003
. . . . .

```

└─ Number of data lines in profile (*nalt(iprof)*)

Quick self-extraction Step 9: Read data of dimension *nalt(iprof) x ncol*

```

18      ; NUMBER OF GENERAL HEADER LINES (AFTER THIS LINE)
v1.0    ; TOLNET STANDARDIZED FORMAT VERSION FOR PROFILE DATA
2       ; NUMBER OF PROFILES IN THIS FILE
14      ; NUMBER OF DATA COLUMNS FOR ALL PROFILES
ALT, m, Altitude above sea level (center of sampling bin)           ; COLUMN 1
O3ND, molec.m-3, Ozone Number Density (measured)                   ; COLUMN 2
O3NDUncert, molec.m-3, Ozone Number Density Combined Standard Uncertainty ; COLUMN 3
O3NDResol, m, Ozone Number Density Standardized Vertical Resolution ; COLUMN 4
Precision, %, Measurement Precision                                ; COLUMN 5
ChRange, #, Channel Range (1.0 to N.0, nearest-field to farthest-field) ; COLUMN 6
O3MR, ppbv, Ozone Mixing Ratio (derived)                           ; COLUMN 7
O3MRUncert, ppbv, Ozone Mixing Ratio Combined Standard Uncertainty ; COLUMN 8
Press, hPa, Air Pressure used to derive Ozone Mixing Ratio         ; COLUMN 9
PressUncert, hPa, Air Pressure Standard Uncertainty                 ; COLUMN 10
Temp, K, Air Temperature used to derive Ozone Mixing Ratio        ; COLUMN 11
TempUncert, K, Air Temperature Ratio Standard Uncertainty         ; COLUMN 12
AirND, molec.m-3, Air Number Density used to derive Ozone Mixing Ratio ; COLUMN 13
AirNDUncert, molec.m-3, Air Number Density Standard Uncertainty   ; COLUMN 14
-9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999 ; MISSING DATA VALUES
7       ; NUMBER OF GENERAL COMMENTS LINES (AFTER THIS LINE)
JPL-Table Mountain Facility Tropospheric Ozone Lidar                ; INSTRUMENT NAME
Thierry Leblanc, JPL, leblanc@tmf.jpl.nasa.gov                       ; PI AND CONTACT INFO
Table Mountain, CA                                                  ; SITE NAME
242.300, 34.4000, 2285.00                                           ; SITE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
R1       ; DATA REVISION # (if value >0 then provide text below)
There is a "1" for data revision, so here is the additional         ; DATA REVISION DETAILS, NEWEST ON TOP
comment that is mandatory when revision is not "0"                 ; DATA REVISION DETAILS, NEWEST ON TOP
#BEGIN PROFILE ;-----
13      ; NUMBER OF HEADER LINES IN THIS PROFILE'S HEADER (AFTER THIS LINE)
1167    ; NUMBER OF DATA LINES IN THIS PROFILE
2013-05-31, 00:29:26        ; DATA PROCESSING DATE, TIME
LidAna v06.25               ; DATA PROCESSING VERSION
NOMINAL                     ; RESULTS QUALITY (NOMINAL, FAIR, POOR)
2013-05-09, 04:20:30        ; PROFILE DATE, TIME (UT) START
2013-05-09, 05:20:37        ; PROFILE DATE, TIME (UT) END
2013-05-09, 04:50:34        ; PROFILE DATE, TIME (UT) MEAN
NCEP-Analysis              ; SOURCE OF A PRIORI Press, Temp, AirND USED TO DERIVE OZONE MIXING RATIO
2013-05-09, 12:00:00        ; SOURCE DATE, TIME (UT)
242.300, 34.4000,          2285.00 ; SOURCE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
NONE                        ; OPERATOR COMMENTS
58.8 ppbv mean surface ozone during lidar meas. ; OTHER COMMENTS SPECIFIC TO THIS PROFILE
ALT, O3ND, O3NDUncert, O3NDResol, Precision, ChRange, O3MR, O3MRUncert, Press, PressUncert, Temp, TempUncert, AirND, AirNDUncert ;
2503.0, 1.143e+018, 2.257e+017, 506.2, 14.59, 1.00, 57.92, 12.25, 7.540e+002, -9.999e+003, 276.80, -9999.00, 1.973e+025, -9.999e+003
2518.0, 9.643e+017, 2.150e+017, 543.8, 16.77, 1.00, 48.95, 11.58, 7.526e+002, -9.999e+003, 276.72, -9999.00, 1.970e+025, -9.999e+003
2533.0, 9.787e+017, 2.126e+017, 581.3, 16.13, 1.00, 49.76, 11.50, 7.512e+002, -9.999e+003, 276.66, -9999.00, 1.967e+025, -9.999e+003
2548.0, 9.205e+017, 2.070e+017, 618.7, 16.66, 1.00, 46.90, 11.20, 7.498e+002, -9.999e+003, 276.70, -9999.00, 1.963e+025, -9.999e+003

```



... data array for one profile is *nalt(iprof) x ncol* ...

Quick self-extraction Steps 10+: If more than 1 profile in file, repeat steps 6 through 9 until end of file

```

18      ; NUMBER OF GENERAL HEADER LINES (AFTER THIS LINE)
v1.0    ; TOLNET STANDARDIZED FORMAT VERSION FOR PROFILE DATA
2       ; NUMBER OF PROFILES IN THIS FILE
14      ; NUMBER OF DATA COLUMNS FOR ALL PROFILES
ALT, m, Altitude above sea level (center of sampling bin)           ; COLUMN 1
O3ND, molec.m-3, Ozone Number Density (measured)                   ; COLUMN 2
O3NDUncert, molec.m-3, Ozone Number Density Combined Standard Uncertainty ; COLUMN 3
O3NDResol, m, Ozone Number Density Standardized Vertical Resolution ; COLUMN 4
Precision, %, Measurement Precision                                ; COLUMN 5
ChRange, #, Channel Range (1.0 to N.0, nearest-field to farthest-field) ; COLUMN 6
O3MR, ppbv, Ozone Mixing Ratio (derived)                           ; COLUMN 7
O3MRUncert, ppbv, Ozone Mixing Ratio Combined Standard Uncertainty ; COLUMN 8
Press, hPa, Air Pressure used to derive Ozone Mixing Ratio         ; COLUMN 9
PressUncert, hPa, Air Pressure Standard Uncertainty                ; COLUMN 10
Temp, K, Air Temperature used to derive Ozone Mixing Ratio        ; COLUMN 11
TempUncert, K, Air Temperature Ratio Standard Uncertainty          ; COLUMN 12
AirND, molec.m-3, Air Number Density used to derive Ozone Mixing Ratio ; COLUMN 13
AirNDUncert, molec.m-3, Air Number Density Standard Uncertainty    ; COLUMN 14
-9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999 ; MISSING DATA VALUES
7       ; NUMBER OF GENERAL COMMENTS LINES (AFTER THIS LINE)
JPL-Table Mountain Facility Tropospheric Ozone Lidar                ; INSTRUMENT NAME
Thierry Leblanc, JPL, leblanc@tmf.jpl.nasa.gov                       ; PI AND CONTACT INFO
Table Mountain, CA                                                  ; SITE NAME
242.300, 34.4000, 2285.00                                           ; SITE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
R1       ; DATA REVISION # (if value >0 then provide text below)
There is a "1" for data revision, so here is the additional          ; DATA REVISION DETAILS, NEWEST ON TOP
comment that is mandatory when revision is not "0"                  ; DATA REVISION DETAILS, NEWEST ON TOP
#BEGIN PROFILE ;-----
13      ; NUMBER OF HEADER LINES IN THIS PROFILE'S HEADER (AFTER THIS LINE)
1167    ; NUMBER OF DATA LINES IN THIS PROFILE
2013-05-31, 00:29:26        ; DATA PROCESSING DATE, TIME
LidAna v06.25                ; DATA PROCESSING VERSION
NOMINAL                       ; RESULTS QUALITY (NOMINAL, FAIR, POOR)
2013-05-09, 04:20:30        ; PROFILE DATE, TIME (UT) START
2013-05-09, 05:20:37        ; PROFILE DATE, TIME (UT) END
2013-05-09, 04:50:34        ; PROFILE DATE, TIME (UT) MEAN
NCEP-Analysis                ; SOURCE OF A PRIORI Press, Temp, AirND USED TO DERIVE OZONE MIXING RATIO
2013-05-09, 12:00:00        ; SOURCE DATE, TIME (UT)
242.300, 34.4000,          2285.00 ; SOURCE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
NONE                           ; OPERATOR COMMENTS
58.8 ppbv mean surface ozone during lidar meas. ; OTHER COMMENTS SPECIFIC TO THIS PROFILE
ALT, O3ND, O3NDUncert, O3NDResol, Precision, ChRange, O3MR, O3MRUncert, Press, PressUncert, Temp, TempUncert, AirND, AirNDUncert ;
2503.0, 1.143e+018, 2.257e+017, 506.2, 14.59, 1.00, 57.92, 12.25, 7.540e+002, -9.999e+003, 276.80, -9999.00, 1.973e+025, -9.999e+003 ;
2518.0, 9.643e+017, 2.150e+017, 543.8, 16.77, 1.00, 48.95, 11.58, 7.526e+002, -9.999e+003, 276.72, -9999.00, 1.970e+025, -9.999e+003 ;
2533.0, 9.787e+017, 2.126e+017, 581.3, 16.13, 1.00, 49.76, 11.50, 7.512e+002, -9.999e+003, 276.66, -9999.00, 1.967e+025, -9.999e+003 ;
2548.0, 9.205e+017, 2.070e+017, 618.7, 16.66, 1.00, 46.90, 11.20, 7.498e+002, -9.999e+003, 276.70, -9999.00, 1.963e+025, -9.999e+003 ;
.....

```



Other remarks: TOLNet Format version is for future use only

v1.0 TOLNet Format version (no effect on data extraction at the moment)

```
16 ; NUMBER OF GENERAL HEADER LINES (AFTER THIS LINE)
v1.0 ; TOLNET STANDARDIZED FORMAT VERSION FOR PROFILE DATA
2 ; NUMBER OF PROFILES IN THIS FILE
14 ; NUMBER OF DATA COLUMNS FOR ALL PROFILES
ALT, m, Altitude above sea level (center of sampling bin) ; COLUMN 1
O3ND, molec.m-3, Ozone Number Density (measured) ; COLUMN 2
O3NDUncert, molec.m-3, Ozone Number Density Combined Standard Uncertainty ; COLUMN 3
O3NDResol, m, Ozone Number Density Standardized Vertical Resolution ; COLUMN 4
Precision, %, Measurement Precision ; COLUMN 5
ChRange, #, Channel Range (1.0 to N.0, nearest-field to farthest-field) ; COLUMN 6
O3MR, ppbv, Ozone Mixing Ratio (derived) ; COLUMN 7
O3MRUncert, ppbv, Ozone Mixing Ratio Combined Standard Uncertainty ; COLUMN 8
Press, hPa, Air Pressure used to derive Ozone Mixing Ratio ; COLUMN 9
PressUncert, hPa, Air Pressure Standard Uncertainty ; COLUMN 10
Temp, K, Air Temperature used to derive Ozone Mixing Ratio ; COLUMN 11
TempUncert, K, Air Temperature Ratio Standard Uncertainty ; COLUMN 12
AirND, molec.m-3, Air Number Density used to derive Ozone Mixing Ratio ; COLUMN 13
AirNDUncert, molec.m-3, Air Number Density Standard Uncertainty ; COLUMN 14
-9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -999 ; MISSING DATA VALUES
7 ; NUMBER OF GENERAL COMMENTS LINES (AFTER THIS LINE)
JPL-Table Mountain Facility Tropospheric Ozone Lidar ; INSTRUMENT NAME
Thierry Leblanc, JPL, leblanc@tmf.jpl.nasa.gov ; PI AND CONTACT INFO
Table Mountain, CA ; SITE NAME
242.300, 34.4000, 2285.00 ; SITE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
R1 ; DATA REVISION # (if value >0 then provide text below)
There is a "1" for data revision, so here is the additional ; DATA REVISION DETAILS, NEWEST ON TOP
comment that is mandatory when revision is not "0" ; DATA REVISION DETAILS, NEWEST ON TOP
#BEGIN PROFILE ;-----
13 ; NUMBER OF HEADER LINES IN THIS PROFILE'S HEADER (AFTER THIS LINE)
1167 ; NUMBER OF DATA LINES IN THIS PROFILE
2013-05-31, 00:29:26 ; DATA PROCESSING DATE, TIME
LidAna v06.25 ; DATA PROCESSING VERSION
NOMINAL ; RESULTS QUALITY (NOMINAL, FAIR, POOR)
2013-05-09, 04:20:30 ; PROFILE DATE, TIME (UT) START
2013-05-09, 05:20:37 ; PROFILE DATE, TIME (UT) END
2013-05-09, 04:50:34 ; PROFILE DATE, TIME (UT) MEAN
NCEP-Analysis ; SOURCE OF A PRIORI Press, Temp, AirND USED TO DERIVE OZONE MIXING RATIO
2013-05-09, 12:00:00 ; SOURCE DATE, TIME (UT)
242.300, 34.4000, 2285.00 ; SOURCE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
NONE ; OPERATOR COMMENTS
58.8 ppbv mean surface ozone during lidar meas. ; OTHER COMMENTS SPECIFIC TO THIS PROFILE
ALT, O3ND, O3NDUncert, O3NDResol, Precision, ChRange, O3MR, O3MRUncert, Press, PressUncert, Temp, TempUncert, AirND, AirNDUncert ;
2503.0, 1.143e+018, 2.257e+017, 506.2, 14.59, 1.00, 57.92, 12.25, 7.540e+002, -9.999e+003, 276.80, -9999.00, 1.973e+025, -9.999e+003
2518.0, 9.643e+017, 2.150e+017, 543.8, 16.77, 1.00, 48.95, 11.58, 7.526e+002, -9.999e+003, 276.72, -9999.00, 1.970e+025, -9.999e+003
2533.0, 9.787e+017, 2.126e+017, 581.3, 16.13, 1.00, 49.76, 11.50, 7.512e+002, -9.999e+003, 276.66, -9999.00, 1.967e+025, -9.999e+003
2548.0, 9.205e+017, 2.070e+017, 618.7, 16.66, 1.00, 46.90, 11.20, 7.498e+002, -9.999e+003, 276.70, -9999.00, 1.963e+025, -9.999e+003
.....
```

Other remarks (2): Prescribed content (in red) must appear as is

```
18      ; NUMBER OF GENERAL HEADER LINES (AFTER THIS LINE)
v1.0    ; TOLNET STANDARDIZED FORMAT VERSION FOR PROFILE DATA
2       ; NUMBER OF PROFILES IN THIS FILE
14      ; NUMBER OF DATA COLUMNS FOR ALL PROFILES
ALT, m, Altitude above sea level (center of sampling bin) ; COLUMN 1
O3ND, molec.m-3, Ozone Number Density (measured) ; COLUMN 2
O3NDUncert, molec.m-3, Ozone Number Density Combined Standard Uncertainty ; COLUMN 3
O3NDResol, m, Ozone Number Density Standardized Vertical Resolution ; COLUMN 4
Precision, %, Measurement Precision ; COLUMN 5
ChRange #, Channel Range (1.0 to N.0, nearest-field to farthest-field) ; COLUMN 6
O3MR, ppbv, Ozone Mixing Ratio (derived) ; COLUMN 7
O3MRUncert, ppbv, Ozone Mixing Ratio Combined Standard Uncertainty ; COLUMN 8
Press, hPa, Air Pressure used to derive Ozone Mixing Ratio ; COLUMN 9
PressUncert, hPa, Air Pressure Standard Uncertainty ; COLUMN 10
Temp, K, Air Temperature used to derive Ozone Mixing Ratio ; COLUMN 11
TempUncert, K, Air Temperature Standard Uncertainty ; COLUMN 12
AirND, molec.m-3, Air Number Density used to derive Ozone Mixing Ratio ; COLUMN 13
AirNDUncert, molec.m-3, Air Number Density Standard Uncertainty ; COLUMN 14
-9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999 ; MISSING DATA VALUES
7       ; NUMBER OF GENERAL COMMENTS LINES (AFTER THIS LINE)
JPL-Table Mountain Facility Tropospheric Ozone Lidar ; INSTRUMENT NAME
Thierry Leblanc, JPL, leblanc@tmf.jpl.nasa.gov ; PI AND CONTACT INFO
Table Mountain, CA ; SITE NAME
242.300, 34.4000, 2285.00 ; SITE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
R1      ; DATA REVISION # (if value >0 then provide text below)
There is a "1" for data revision, so here is the additional ; DATA REVISION DETAILS, NEWEST ON TOP
comment that is mandatory when revision is not "0" ; DATA REVISION DETAILS, NEWEST ON TOP
#BEGIN PROFILE ;-----
13      ; NUMBER OF GENERAL HEADER LINES IN THIS PROFILE'S HEADER (AFTER THIS LINE)
1167    ; NUMBER OF DATA LINES IN THIS PROFILE
2013-05-31, 00:29:26 ; DATE, TIME
LidAna v06.25 ; DATA PROCESSING VERSION
NOMINAL ; RESULTS QUALITY (NOMINAL, FAIR, POOR)
2013-05-09, 04:20:30 ; PROFILE DATE, TIME (UT) START
2013-05-09, 05:20:37 ; PROFILE DATE, TIME (UT) END
2013-05-09, 04:50:34 ; PROFILE DATE, TIME (UT) MEAN
NCEP-Analysis ; SOURCE OF A PRIORI Press, Temp, AirND USED TO DERIVE OZONE MIXING RATIO
2013-05-09, 12:00:00 ; SOURCE DATE, TIME (UT)
242.300, 34.4000, 2285.00 ; SOURCE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
NONE ; OPERATOR COMMENTS
58.8 ppbv mean surface ozone during lidar mea ; OTHER COMMENTS SPECIFIC TO THIS PROFILE
ALT, O3ND, O3NDUncert, O3NDResol, Precision, ChRange, O3MR, O3MRUncert, Press, PressUncert, Temp, TempUncert, AirND, AirNDUncert ;
2503.0, 1.143e+018, 2.257e+017, 506.2, 14.59, 1.00, 57.92, 12.25, 7.540e+002, -9.999e+003, 276.80, -9999.00, 1.973e+025, -9.999e+003
2518.0, 9.643e+017, 2.150e+017, 543.8, 16.77, 1.00, 48.95, 11.58, 7.526e+002, -9.999e+003, 276.72, -9999.00, 1.970e+025, -9.999e+003
2533.0, 9.787e+017, 2.126e+017, 581.3, 16.13, 1.00, 49.76, 11.50, 7.512e+002, -9.999e+003, 276.66, -9999.00, 1.967e+025, -9.999e+003
2548.0, 9.205e+017, 2.070e+017, 618.7, 16.66, 1.00, 46.90, 11.20, 7.498e+002, -9.999e+003, 276.70, -9999.00, 1.963e+025, -9.999e+003
.....
```

TOLNet Format version 1.0
prescribes 14 columns

Data variable short names
must match column labels

Other remarks (3): Keep metadata string length short if at all possible

```
18 ; NUMBER OF GENERAL HEADER LINES (AFTER THIS LINE)
v1.0 ; TOLNET STANDARDIZED FORMAT VERSION FOR PROFILE DATA
2 ; NUMBER OF PROFILES IN THIS FILE
14 ; NUMBER OF DATA COLUMNS FOR ALL PROFILES
ALT, m, Altitude above sea level (center of sampling bin) ; COLUMN 1
O3ND, molec.m-3, Ozone Number Density (measured) ; COLUMN 2
O3NDUncert, molec.m-3, Ozone Number Density Combined Standard Uncertainty ; COLUMN 3
O3NDResol, m, Ozone Number Density Standardized Vertical Resolution ; COLUMN 4
Precision, %, Measurement Precision ; COLUMN 5
ChRange, #, Channel Range (1.0 to N.0, nearest-field to farthest-field) ; COLUMN 6
O3MR, ppbv, Ozone Mixing Ratio (derived) ; COLUMN 7
O3MRUncert, ppbv, Ozone Mixing Ratio Combined Standard Uncertainty ; COLUMN 8
Press, hPa, Air Pressure used to derive Ozone Mixing Ratio ; COLUMN 9
PressUncert, hPa, Air Pressure Standard Uncertainty ; COLUMN 10
Temp, K, Air Temperature used to derive Ozone Mixing Ratio ; COLUMN 11
TempUncert, K, Air Temperature Ratio Standard Uncertainty ; COLUMN 12
AirND, molec.m-3, Air Number Density used to derive Ozone Mixing Ratio ; COLUMN 13
AirNDUncert, molec.m-3, Air Number Density Standard Uncertainty ; COLUMN 14
-9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999 ; MISSING DATA VALUES
7 ; NUMBER OF GENERAL COMMENTS LINES (AFTER THIS LINE)
JPL-Table Mountain Facility Tropospheric Ozone Lidar ; INSTRUMENT NAME
Thierry Leblanc, JPL, leblanc@tmf.jpl.nasa.gov ; PI AND CONTACT INFO
Table Mountain, CA ; SITE NAME
242 300 34 4000 2285 00 ; SITE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
R1 ; DATA REVISION # (if value >0 then provide text below)
There is a "1" for data revision, so here is the additional ; DATA REVISION DETAILS, NEWEST ON TOP
comment that is mandatory when revision is not "0" ; DATA REVISION DETAILS, NEWEST ON TOP
#BEGIN PROFILE ;-----
13 ; NUMBER OF HEADER LINES IN THIS PROFILE'S HEADER (AFTER THIS LINE)
1167 ; NUMBER OF DATA LINES IN THIS PROFILE
2013-05-31, 00:29:26 ; DATA PROCESSING DATE, TIME
LidAna v06.25 ; DATA PROCESSING VERSION
NOMINAL ; RESULTS QUALITY (NOMINAL, FAIR, POOR)
2013-05-09, 04:20:30 ; PROFILE DATE, TIME (UT) START
2013-05-09, 05:20:37 ; PROFILE DATE, TIME (UT) END
2013-05-09, 04:50:34 ; PROFILE DATE, TIME (UT) MEAN
NCEP-Analysis ; SOURCE OF A PRIORI Press, Temp, AirND USED TO DERIVE OZONE MIXING RATIO
2013-05-09, 12:00:00 ; SOURCE DATE, TIME (UT)
242.300, 34.4000, 2285.00 ; SOURCE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
NONE ; OPERATOR COMMENTS
58.8 ppbv mean surface ozone during lidar meas. ; OTHER COMMENTS SPECIFIC TO THIS PROFILE
ALT, O3ND, O3NDUncert, O3NDResol, Precision, ChRange, O3MR, O3MRUncert, Press, PressUncert, Temp, TempUncert, AirND, AirNDUncert ;
2503.0, 1.143e+018, 2.257e+017, 506.2, 14.59, 1.00, 57.92, 12.25, 7.540e+002, -9.999e+003, 276.80, -9999.00, 1.973e+025, -9.999e+003
2518.0, 9.643e+017, 2.150e+017, 543.8, 16.77, 1.00, 48.95, 11.58, 7.526e+002, -9.999e+003, 276.72, -9999.00, 1.970e+025, -9.999e+003
2533.0, 9.787e+017, 2.126e+017, 581.3, 16.13, 1.00, 49.76, 11.50, 7.512e+002, -9.999e+003, 276.66, -9999.00, 1.967e+025, -9.999e+003
2548.0, 9.205e+017, 2.070e+017, 618.7, 16.66, 1.00, 46.90, 11.20, 7.498e+002, -9.999e+003, 276.70, -9999.00, 1.963e+025, -9.999e+003
.....
```

Recommended max length: 60 characters

Recommended max length: 48 characters

Other remarks (4): Presence and position of commas (,) and semicolons (;) are critical formatting elements (separators)

```

18      ; NUMBER OF GENERAL HEADER LINES (AFTER THIS LINE)
v1.0    ; TOLNET STANDARDIZED FORMAT VERSION FOR PROFILE DATA
2       ; NUMBER OF PROFILES IN THIS FILE
14      ; NUMBER OF DATA COLUMNS FOR ALL PROFILES
ALT, m, Altitude above sea level (center of sampling bin) ; COLUMN 1
O3ND, molec.m-3, Ozone Number Density (measured) ; COLUMN 2
O3NDUncert, molec.m-3, Ozone Number Density Combined Standard Uncertainty ; COLUMN 3
O3NDResol, m, Ozone Number Density Standardized Vertical Resolution ; COLUMN 4
Precision, %, Measurement Precision ; COLUMN 5
ChRange, #, Channel Range (1.0 to N.0, nearest-field to farthest-field) ; COLUMN 6
O3MR, ppbv, Ozone Mixing Ratio (derived) ; COLUMN 7
O3MRUncert, ppbv, Ozone Mixing Ratio Combined Standard Uncertainty ; COLUMN 8
Press, hPa, Air Pressure used to derive Ozone Mixing Ratio ; COLUMN 9
PressUncert, hPa, Air Pressure Standard Uncertainty ; COLUMN 10
Temp, K, Air Temperature used to derive Ozone Mixing Ratio ; COLUMN 11
TempUncert, K, Air Temperature Ratio Standard Uncertainty ; COLUMN 12
AirND, molec.m-3, Air Number Density used to derive Ozone Mixing Ratio ; COLUMN 13
AirNDUncert, molec.m-3, Air Number Density Standard Uncertainty ; COLUMN 14
-9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999 ; MISSING DATA VALUES
7       ; NUMBER OF GENERAL COMMENTS LINES (AFTER THIS LINE)
JPL-Table Mountain Facility Tropospheric Ozone Lidar ; INSTRUMENT NAME
Thierry Leblanc, JPL, leblanc@tmf.jpl.nasa.gov ; PI AND CONTACT INFO
Table Mountain, CA ; SITE NAME
242.300, 34.4000, 2285.00 ; SITE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
R1      ; DATA REVISION # (if value >0 then provide text below)
There is a "1" for data revision, so here is the additional ; DATA REVISION DETAILS, NEWEST ON TOP
comment that is mandatory when revision is not "0" ; DATA REVISION DETAILS, NEWEST ON TOP
#BEGIN PROFILE ;-----
13      ; NUMBER OF HEADER LINES IN THIS PROFILE'S HEADER (AFTER THIS LINE)
1167    ; NUMBER OF DATA LINES IN THIS PROFILE
2013-05-31, 00:29:26 ; DATA PROCESSING DATE, TIME
LidAna v06.25 ; DATA PROCESSING VERSION
NOMINAL ; RESULTS QUALITY (NOMINAL, FAIR, POOR)
2013-05-09, 04:20:30 ; PROFILE DATE, TIME (UT) START
2013-05-09, 05:20:37 ; PROFILE DATE, TIME (UT) END
2013-05-09, 04:50:34 ; PROFILE DATE, TIME (UT) MEAN
NCEP-Analysis ; SOURCE OF A PRIORI Press, Temp, AirND USED TO DERIVE OZONE MIXING RATIO
2013-05-09, 12:00:00 ; SOURCE DATE, TIME (UT)
242.300, 34.4000, 2285.00 ; SOURCE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
NONE ; OPERATOR COMMENTS
58.8 ppbv mean surface ozone during lidar meas. ; OTHER COMMENTS SPECIFIC TO THIS PROFILE
ALT, O3ND, O3NDUncert, O3NDResol, Precision, ChRange, O3MR, O3MRUncert, Press, PressUncert, Temp, TempUncert, AirND, AirNDUncert ;
2503.0, 1.143e+018, 2.257e+017, 500.2, 14.59, 1.00, 57.92, 12.25, 7.540e+002, -9.999e+003, 276.80, -9999.00, 1.973e+025, -9.999e+003
2518.0, 9.643e+017, 2.150e+017, 543.8, 16.77, 1.00, 48.95, 11.58, 7.526e+002, -9.999e+003, 276.72, -9999.00, 1.970e+025, -9.999e+003
2533.0, 9.787e+017, 2.126e+017, 581.3, 16.13, 1.00, 49.76, 11.50, 7.512e+002, -9.999e+003, 276.66, -9999.00, 1.967e+025, -9.999e+003
2548.0, 9.205e+017, 2.070e+017, 618.7, 16.66, 1.00, 46.90, 11.20, 7.498e+002, -9.999e+003, 276.70, -9999.00, 1.963e+025, -9.999e+003
.....

```

Surface Ozone TOLNet Format

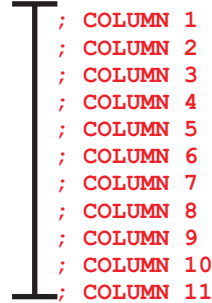
Same as "Profile data", except for the following changes:

```

15 ; NUMBER OF GENERAL HEADER LINES (AFTER THIS LINE)
v1.0 ; TOLNET STANDARDIZED FORMAT VERSION FOR SURFACE DATA
1 ; NUMBER OF RECORDS IN THIS FILE
11 ; NUMBER OF DATA COLUMNS FOR ALL PROFILES
StartTime, s, Start time (seconds elapsed since 00:00 UT same day)
EndTime, s, End time (seconds elapsed since 00:00 UT same day)
MeanTime, s, Weighted averaged time between start and end (UT seconds)
O3MR, ppbv, Ozone Mixing Ratio (derived)
O3MRUncert, ppbv, Ozone Mixing Ratio Combined Standard Uncertainty
Precision, %, Measurement Precision
Press, hPa, Surface Air Pressure
Temp, K, Surface Air Temperature
RHw, %RH, Surface Relative Humidity with respect to water
WndSpd, m.s-1, Surface Wind Speed
WndDir, deg, Surface Wind Direction (clockwise degrees from North)
-9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999, -9999 ; MISSING DATA VALUES
7 ; NUMBER OF GENERAL COMMENTS LINES (AFTER THIS LINE)
JPL-Table Mountain Facility Tropospheric Ozone Lidar ; INSTRUMENT NAME
Thierry Leblanc, JPL, leblanc@tmf.jpl.nasa.gov ; PI AND CONTACT INFO
Table Mountain, CA ; SITE NAME
242.300, 34.4000, 2285.00 ; SITE LONGITUDE, LATITUDE, ELEVATION (degE, degN, m)
R1 ; DATA REVISION # (if value >0 then provide text below)
There is a "1" for data revision, so here is the additional ; DATA REVISION DETAILS, NEWEST ON TOP
comment that is mandatory when revision is not "0" ; DATA REVISION DETAILS, NEWEST ON TOP
#BEGIN RECORD -----
10 ; NUMBER OF HEADER LINES IN THIS RECORDS' HEADER (AFTER THIS LINE)
1167 ; NUMBER OF DATA LINES IN THIS RECORD
2013-05-09, 23:59:59 ; DATA PROCESSING DATE, TIME
Thermo 49i, EQOA-0880-047 ; DATA PROCESSING VERSION
NOMINAL ; RESULTS QUALITY (NOMINAL, FAIR, POOR)
2013-05-09, 12:00:00 ; RECORD DATE, TIME (UT) START
2013-05-09, 23:59:45 ; RECORD DATE, TIME (UT) END
Vaisala MeteoBox ; SOURCE OF SURFACE PRESSURE, TEMPERATURE, RH, AND WIND
Automated ; OPERATOR COMMENTS
Last calibration on May 1st 2009 ; OTHER COMMENTS SPECIFIC TO THIS RECORD
StartTime, EndTime, MeanTime, O3MR, O3MRUncert, Precision, Press, Temp, RHw, WndSpd, WndDir ;
43000, 43120, 43060, 57.92, 3.25, 5.01, 7.541e+002, 276.50, 89.5, 5.13, 270.0
43120, 43240, 43180, 59.12, 3.21, 5.12, 7.545e+002, 276.30, 89.0, 6.02, 275.0
43240, 43360, 43300, 60.34, 3.23, 5.23, 7.543e+002, 276.80, 89.9, 7.21, 272.0
43360, 43480, 43420, 58.56, 3.35, 5.10, 7.542e+002, 276.70, 89.4, 6.30, 273.0
.....

```

Number of variables and variable names are different



Word "PROFILE" replaced by "RECORD"

List of metadata slightly different

“Independent” variable is now time (sec since 00:00:00 same UT day) instead of altitude