

APPENDIX B

Fourth Quarter 2009 Particulate Matter Sampling Sheets

Partisol PM₁₀ FRM Field Form

Site Name: #1

Filter ID: 391149

Sampler ID #: 1-2

Sample Run Date: 10-4-09

Sample Setup

Technician Name: Doug Roberts

Sample Setup Date: 9-29-09

Current Instrument Date: 9-29-09

Sample Setup Time: 1140 MST

Current Instrument Time: 1140 MST

Current Weather Conditions: BREEZY WARM

Notes: _____

Sample Retrieval

Technician Name: Jess Fulbright

Sample Retrieval Date: 10-6-09

Current Instrument Date: 10-6-09

Sample Retrieval Time: 1024 MST

Current Instrument Time: 1024 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): 16.9 °C

Total Sampling Time (Tot): 24

Average Pressure (Pres Ave): 613 mm Hg

Volume Sampled (Vol): 24

Flow Rate Coefficient of Variation (%CV): 0.2

Current Weather Conditions: Clear, calm, warm

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: #1

Filter ID: 391, 151

Sampler ID #: 1-2

Sample Run Date: 10-10-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 10-6-09

Current Instrument Date: 10-6-09

Sample Setup Time: 1026 MST

Current Instrument Time: 1026 MST

Current Weather Conditions: Clear, calm, warm

Notes:

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 10/13/09

Current Instrument Date: 10/13/09

Sample Retrieval Time: 0731 MST

Current Instrument Time: 0731 MST

Status Code (Stat): XE

Average Temperature (AmbT Ave):

Total Sampling Time (Tot): 17.09

Average Pressure (Pres Ave):

Volume Sampled (Vol): 17.1

Flow Rate Coefficient of Variation (%CV): 3.2

Current Weather Conditions:

Notes: Void sample, Hardware reset, set to run with new filter (391, 153) 10/14 - 10/15

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID:

Current Instrument Date:

Current Instrument Time:

Notes:

Partisol PM₁₀ FRM Field Form

Site Name: #1 ^{TW}
 Sampler ID #: 1-2 ^{FW}

Filter ID: 391,153
 Sample Run Date: 10-14-09

Sample Setup

Technician Name: _____
 Sample Setup Date: 10/13/09
 Sample Setup Time: 1204 MST
 Current Instrument Date: 10/13/09
 Current Instrument Time: 1204 MST
 Current Weather Conditions: Windy, Partly Cloudy, cool
 Notes: _____

Sample Retrieval

Technician Name: Jess
 Sample Retrieval Date: 10-15-09
 Sample Retrieval Time: 1259 MST
 Status Code (Stat): XE
 Total Sampling Time (Tot): 14.01
 Volume Sampled (Vol): _____
 Current Weather Conditions: _____
 Notes: Void Sample: 5 point flow calibration, set to run Filter # 391,155

Current Instrument Date: 10-15-09
 Current Instrument Time: 1259 MST
 Average Temperature (AmbT Ave): _____
 Average Pressure (Pres Ave): _____
 Flow Rate Coefficient of Variation (%CV): 3.9

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____
 Current Instrument Date: _____
 Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: #1

Filter ID: 391,155

Sampler ID #: 1-2

Sample Run Date: 10-16-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 10-15-09

Current Instrument Date: 10/15/09

Sample Setup Time: 1625 MST

Current Instrument Time: 1625 MST

Current Weather Conditions: Clear, light breeze, warm

Notes: _____

Sample Retrieval

Technician Name: Jess / Arch

Sample Retrieval Date: 10/22/09

Current Instrument Date: 10/22/09

Sample Retrieval Time: 1804 MST

Current Instrument Time: 1804 MST

Status Code (Stat): XE

Average Temperature (AmbT Ave): 17.6

Total Sampling Time (Tot): 14.01

Average Pressure (Pres Ave): 622

Volume Sampled (Vol): 14.00

Flow Rate Coefficient of Variation (%CV): 3.9

Current Weather Conditions: Partly Cloudy, warm, light Breeze

Notes: _____

Rebuilt Pump, complete calibration prior to setting up samples

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: #1

Filter ID: 391,157

Sampler ID #: 1-2

Sample Run Date: 10/23/09

Sample Setup

Technician Name: Jess

Sample Setup Date: 10/22/09

Current Instrument Date: 10/22/09

Sample Setup Time: 1204 MST

Current Instrument Time: 1204 MST

Current Weather Conditions: Partly Cloudy, warm, light breeze

Notes: Pump rebuilt and complete calibration performed prior to setting up sample.

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 10-23-09

Current Instrument Date: 10-23-09

Sample Retrieval Time: 1735 MST

Current Instrument Time: 1735 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): 9.0 °C

Total Sampling Time (Tot): 24

Average Pressure (Pres Ave): 625 mmHg

Volume Sampled (Vol): 24

Flow Rate Coefficient of Variation (%CV): 0.8

Current Weather Conditions: Clear, cool, calm

Notes:

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID:

Current Instrument Date:

Current Instrument Time:

Notes:

Partisol PM₁₀ FRM Field Form

Site Name: #1

Filter ID: 391,159

Sampler ID #: 1-2

Sample Run Date: 10-24-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 10-23-09

Current Instrument Date: 10-23-09

Sample Setup Time: 1744 MST

Current Instrument Time: 1744 MST

Current Weather Conditions: Clear, cool, calm

Notes:

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 10-27-09

Current Instrument Date: 10-27-09

Sample Retrieval Time: 1235 MST

Current Instrument Time: 1235 MST

Status Code (Stat): XE Mode: ERR

Average Temperature (AmbT Ave): 7.4 °C

Total Sampling Time (Tot): 12.05

Average Pressure (Pres Ave): 624

Volume Sampled (Vol): 12.1

Flow Rate Coefficient of Variation (%CV): 3.9

Current Weather Conditions: Snow Flurries, cold, west wind

Notes:

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID:

Current Instrument Date:

Current Instrument Time:

Notes:

Partisol PM₁₀ FRM Field Form

Site Name: #1

Filter ID: 391, 161

Sampler ID #: 1-2

Sample Run Date: 10-28-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 10-27-09

Current Instrument Date: 10-27-09

Sample Setup Time: 1240 MST

Current Instrument Time: 1240 MST

Current Weather Conditions: Snow Flurries, cold, west wind

Notes: _____

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 10-30-09

Current Instrument Date: 10-30-09

Sample Retrieval Time: 1144 MST

Current Instrument Time: 1144 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): -0.5 °C

Total Sampling Time (Tot): 23.57

Average Pressure (Pres Ave): 613 mm Hg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.0

Current Weather Conditions: Flurries, cold, calm

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field FormSite Name: #1Filter ID: 391,163Sampler ID #: 1-2Sample Run Date: 11-3-09**Sample Setup**Technician Name: FessSample Setup Date: 10-30-09Current Instrument Date: 10-30-09Sample Setup Time: 1145 MSTCurrent Instrument Time: 1145 MSTCurrent Weather Conditions: Occasional flurries, cold, calm

Notes: _____

Sample RetrievalTechnician Name: FessSample Retrieval Date: 10-6-09Current Instrument Date: 10-6-09Sample Retrieval Time: 0853 MSTCurrent Instrument Time: 0853 MSTStatus Code (Stat): OKAverage Temperature (AmbT Ave): 7.7 °CTotal Sampling Time (Tot): 24.0Average Pressure (Pres Ave): 631 mmHgVolume Sampled (Vol): 24.0Flow Rate Coefficient of Variation (%CV): 0.1Current Weather Conditions: light clouds, calm, cool

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: 391,172Current Instrument Date: 11-6-09Current Instrument Time: 0856 MST

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: #1

Filter ID: 391,162

Sampler ID #: 1-2

Sample Run Date: 10-9-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 10-6-09

Current Instrument Date: 10-6-09

Sample Setup Time: 0858 MST

Current Instrument Time: 0858 MST

Current Weather Conditions: light clouds, calm, cool

Notes:

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 11-10-09

Current Instrument Date: 11-10-09

Sample Retrieval Time: 1009 MST

Current Instrument Time: 1009 MST

Status Code (Stat): XE

Average Temperature (AmbT Ave): 8.9 °C

Total Sampling Time (Tot): 20.05

Average Pressure (Pres Ave): 628 mmHg

Volume Sampled (Vol): 20.1

Flow Rate Coefficient of Variation (%CV): 2.0

Current Weather Conditions: Light clouds, warm, calm

Notes: Void, reset

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID:

Current Instrument Date:

Current Instrument Time:

Notes:

Partisol PM₁₀ FRM Field Form

Site Name: #1

Filter ID: 391,165

Sampler ID #: 1-2

Sample Run Date: 11-11-09

Sample Setup

Technician Name: F-SS

Sample Setup Date: 11-10-09

Current Instrument Date: 11-10-09

Sample Setup Time: 1025 MST

Current Instrument Time: 1025 MST

Current Weather Conditions: light clouds, warm, calm

Notes:

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 11-13-09

Current Instrument Date: 11-13-09

Sample Retrieval Time: 0734 MST

Current Instrument Time: 0734 MST

Status Code (Stat): XE

Average Temperature (AmbT Ave): 8.0 °C

Total Sampling Time (Tot): 12.28

Average Pressure (Pres Ave): 629 mmHg

Volume Sampled (Vol): 12.4

Flow Rate Coefficient of Variation (%CV): 4.3

Current Weather Conditions: SW wind, cool, cloudy

Notes:

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID:

Current Instrument Date:

Current Instrument Time:

Notes:

Partisol PM₁₀ FRM Field Form

Site Name: #1

Filter ID: 391,167

Sampler ID #: 1-2

Sample Run Date: 11-15-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 0738 MST 11-13-09

Current Instrument Date: 11-13-09

Sample Setup Time: 0738 MST

Current Instrument Time: 0738 MST

Current Weather Conditions: _____

Notes: SW wind, cool, cloudy

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 11-18-09

Current Instrument Date: 11-18-09

Sample Retrieval Time: 1206 MST

Current Instrument Time: 1206 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): -0.0 °C

Total Sampling Time (Tot): 24.0

Average Pressure (Pres Ave): 627 mmHg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.1

Current Weather Conditions: Clear, calm, warm

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: #1

Filter ID: 391, 169

Sampler ID #: 1-2

Sample Run Date: 11-21-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 11-18-09

Current Instrument Date: 11-18-09

Sample Setup Time: 1212 MST

Current Instrument Time: 1212 MST

Current Weather Conditions: Clear, calm, warm

Notes: _____

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 11-24-09

Current Instrument Date: 11-24-09

Sample Retrieval Time: 0930 MST

Current Instrument Time: 0930 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): 4.4 °C

Total Sampling Time (Tot): 24.00

Average Pressure (Pres Ave): 622 mmHg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.1

Current Weather Conditions: Clear Calm Cold

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: #1
 Sampler ID #: 1-2

Filter ID: 391, 171
 Sample Run Date: 11-27-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 11-24-09
 Sample Setup Time: 0932 MST

Current Instrument Date: 11-24-09
 Current Instrument Time: 0932 MST

Current Weather Conditions: Clear Calm Cold

Notes:

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 11-30-09
 Sample Retrieval Time: 1707 MST

Current Instrument Date: 11-30-09
 Current Instrument Time: 1707 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): 3.3 °C

Total Sampling Time (Tot): 24.00

Average Pressure (Pres Ave): 626 mmHg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.1

Current Weather Conditions: light clouds, cold, calm

Notes:

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes:

Partisol PM₁₀ FRM Field Form

Site Name: #1

Filter ID: 391,303

Sampler ID #: 1-2

Sample Run Date: 12-3-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 11-30-09

Current Instrument Date: 11-30-09

Sample Setup Time: 1711 MST

Current Instrument Time: 1711 MST

Current Weather Conditions: light clouds, calm, cold

Notes:

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 12-4-09

Current Instrument Date: 12-4-09

Sample Retrieval Time: 1336 MST

Current Instrument Time: 1336 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): -6.4 °C

Total Sampling Time (Tot): 24.00

Average Pressure (Pres Ave): 624 mmHg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.1

Current Weather Conditions: Partly Cloudy, cold, calm

Notes:

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes:

Partisol PM₁₀ FRM Field Form

Site Name: #1

Filter ID: 391,305

Sampler ID #: 1-2

Sample Run Date: 12-9-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 12-4-09

Current Instrument Date: 12-4-09

Sample Setup Time: 1340 MST

Current Instrument Time: 1340 MST

Current Weather Conditions: Partly Cloudy, cold, calm

Notes:

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 12-11-09

Current Instrument Date: 12-11-09

Sample Retrieval Time: 1101 MST

Current Instrument Time: 1101 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): -11.5 °C

Total Sampling Time (Tot): 24.00

Average Pressure (Pres Ave): 622 mm Hg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.2

Current Weather Conditions: Partly Cloudy, cold, calm

Notes: Monthly maint. and verification

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes:

Partisol PM₁₀ FRM Field FormSite Name: # 1Filter ID: 391,307Sampler ID #: 1-2Sample Run Date: 12-15-09**Sample Setup**Technician Name: JessSample Setup Date: 12-11-09Current Instrument Date: 12-11-09Sample Setup Time: 1135 MSTCurrent Instrument Time: 1135 MSTCurrent Weather Conditions: Partly Cloudy, cold, calm

Notes: _____

Sample RetrievalTechnician Name: JessSample Retrieval Date: 12-18-09Current Instrument Date: 12-18-09Sample Retrieval Time: 1116 MSTCurrent Instrument Time: 1116 MSTStatus Code (Stat): OKAverage Temperature (AmbT Ave): -3.6 °CTotal Sampling Time (Tot): 24.00Average Pressure (Pres Ave): 632 mmHgVolume Sampled (Vol): 24.0Flow Rate Coefficient of Variation (%CV): 0.5Current Weather Conditions: Partly Cloudy, cold, calm

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: #1

Filter ID: 391,309

Sampler ID #: 1-2

Sample Run Date: 12-21-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 12-18-09

Current Instrument Date: 12-18-09

Sample Setup Time: 1118 MST

Current Instrument Time: 1118 MST

Current Weather Conditions: Partly Cloudy, cold, calm

Notes:

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 12-22-09

Current Instrument Date: 12-22-09

Sample Retrieval Time: 1141 MST

Current Instrument Time: 1141 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): -2.5 °C

Total Sampling Time (Tot): 24.00

Average Pressure (Pres Ave): 626 mmHg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.1

Current Weather Conditions: Snowing, Cold, calm

Notes:

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID:

Current Instrument Date:

Current Instrument Time:

Notes:

Partisol PM₁₀ FRM Field Form

Site Name: # 1 Filter ID: 391, ~~311~~
 Sampler ID #: 1-2 Sample Run Date: 12-27-09

Sample Setup

Technician Name: Jess
 Sample Setup Date: 12-22-09 Current Instrument Date: 12-22-09
 Sample Setup Time: 1143 MST Current Instrument Time: 1143 MST
 Current Weather Conditions: Snowing, Cold, calm
 Notes: _____

Sample Retrieval

Technician Name: Jess
 Sample Retrieval Date: 12-29-09 Current Instrument Date: 12-29-09
 Sample Retrieval Time: 1031 MST Current Instrument Time: 1031 MST
 Status Code (Stat): OK Average Temperature (AmbT Ave): -10.2 °C
 Total Sampling Time (Tot): 24.00 Average Pressure (Pres Ave): 629 mmHg
 Volume Sampled (Vol): 24.0 Flow Rate Coefficient of Variation (%CV): 0.2
 Current Weather Conditions: Light intermit. snow, cold, calm
 Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____
 Current Instrument Date: _____
 Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: # 2

Filter ID: 391150

Sampler ID #: 2-2

Sample Run Date: 10-4-09

Sample Setup

Technician Name: DOUG ROBERTS

Sample Setup Date: 9-29-09

Current Instrument Date: 9-29-09

Sample Setup Time: 1245MST

Current Instrument Time: 1245MST

Current Weather Conditions: BREEZY + WARM

Notes: _____

Sample Retrieval

Technician Name: JESS

Sample Retrieval Date: 10-6-09

Current Instrument Date: 10-6-09

Sample Retrieval Time: 1216 MST

Current Instrument Time: 1216 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): 16.2°C

Total Sampling Time (Tot): 24

Average Pressure (Pres Ave): 612 mmHg

Volume Sampled (Vol): 24

Flow Rate Coefficient of Variation (%CV): 0.0

Current Weather Conditions: Clear, calm, warm

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: 391,173

Current Instrument Date: 10-6-09

Current Instrument Time: 1218 MST

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: #2

Filter ID: 391, 152

Sampler ID #: 2-2

Sample Run Date: 10-10-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 10-6-09

Current Instrument Date: 10-6-09

Sample Setup Time: 1220 MST

Current Instrument Time: 1220 MST

Current Weather Conditions: Clear, Calm, Warm

Notes:

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 10-13-09

Current Instrument Date: 10-13-09

Sample Retrieval Time: 0820 MST

Current Instrument Time: 0820 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): 12.6°C

Total Sampling Time (Tot): 24

Average Pressure (Pres Ave): 618 mmHg

Volume Sampled (Vol): 24

Flow Rate Coefficient of Variation (%CV): 0.0

Current Weather Conditions: Windy, Partly Cloudy, cool

Notes:

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes:

Partisol PM₁₀ FRM Field Form

Site Name: # 2

Filter ID: 391, 154

Sampler ID #: PM10 2-2

Sample Run Date: 10-16-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 10-13-09

Current Instrument Date: 10-13-09

Sample Setup Time: 0842 MST

Current Instrument Time: 0842 MST

Current Weather Conditions: Windy, partly cloudy, cool

Notes: _____

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 10-20-09

Current Instrument Date: 10-20-09

Sample Retrieval Time: 0630 MST

Current Instrument Time: 0630 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): 13.5° C

Total Sampling Time (Tot): 24

Average Pressure (Pres Ave): 626 mmHg

Volume Sampled (Vol): 24

Flow Rate Coefficient of Variation (%CV): 0.2

Current Weather Conditions: Sprinkle, light East wind, cooling off

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: #2

Filter ID: 391, 156

Sampler ID #: 2-2

Sample Run Date: 10-22-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 10-20-09

Current Instrument Date: 10-20-09

Sample Setup Time: 0630 MST

Current Instrument Time: 0630 MST

Current Weather Conditions: Sprinkles, East Breeze, cooling off

Notes: _____

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 10/26/09

Current Instrument Date: 10/26/09

Sample Retrieval Time: 0742 MST

Current Instrument Time: 0742 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): 8.5 °C

Total Sampling Time (Tot): 24

Average Pressure (Pres Ave): 621 mmHg

Volume Sampled (Vol): 24

Flow Rate Coefficient of Variation (%CV): 0.1

Current Weather Conditions: clear, cool, calm

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: #2

Filter ID: 391,158

Sampler ID #: 2-2

Sample Run Date: 10-28-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 10-26-09

Current Instrument Date: 10-26-09

Sample Setup Time: 0745 MST

Current Instrument Time: 0745 MST

Current Weather Conditions: clear, cool, calm

Notes: _____

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 10-30-09

Current Instrument Date: 10/30/09

Sample Retrieval Time: 1248 MST

Current Instrument Time: 1248 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): -0.9°c

Total Sampling Time (Tot): 23.57

Average Pressure (Pres Ave): 609 mmHg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.2

Current Weather Conditions: Overcast, cold, calm

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: #2

Filter ID: 391,160

Sampler ID #: 2-2

Sample Run Date: 11-3-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 10-30-09

Current Instrument Date: 10-30-09

Sample Setup Time: 1250 MST

Current Instrument Time: 1250 MST

Current Weather Conditions: Overcast, cold, calm

Notes: _____

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 11-6-09

Current Instrument Date: 11-6-09

Sample Retrieval Time: 0947 MST

Current Instrument Time: 0947 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): 7.9 °C

Total Sampling Time (Tot): 24.00

Average Pressure (Pres Ave): 627 mmHg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.0

Current Weather Conditions: Clearing, warming, calm

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: #2

Filter ID: 391,164

Sampler ID #: 2-2

Sample Run Date: 11-9-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 11-6-09

Current Instrument Date: 11-6-09

Sample Setup Time: 0951 MST

Current Instrument Time: 0951 MST

Current Weather Conditions: clearing, warming, calm

Notes:

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 11-11-09

Current Instrument Date: 11-11-09

Sample Retrieval Time: 0740 MST

Current Instrument Time: 0740 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): 9.4°

Total Sampling Time (Tot): 24.0

Average Pressure (Pres Ave): 625 mmHg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.2

Current Weather Conditions: High light clouds, calm, cool

Notes:

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes:

Partisol PM₁₀ FRM Field Form

Site Name: #2

Filter ID: 391,166

Sampler ID #: 2-2

Sample Run Date: 11-15-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 11-11-09

Current Instrument Date: 11-11-09

Sample Setup Time: 0755 MST

Current Instrument Time: 0755 MST

Current Weather Conditions: High light clouds, cool, calm

Notes: _____

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 11-18-09

Current Instrument Date: 11-18-09

Sample Retrieval Time: 1400 MST

Current Instrument Time: 1400 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): -0.6 °C

Total Sampling Time (Tot): 24.00

Average Pressure (Pres Ave): 624 mmHg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.0

Current Weather Conditions: Clear, calm, warm

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: #2

Filter ID: 391, 168

Sampler ID #: 2-2

Sample Run Date: 11-21-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 11-18-09

Current Instrument Date: 11-18-09

Sample Setup Time: 1405 MST

Current Instrument Time: 1405 MST

Current Weather Conditions: Clear, calm, warm

Notes: _____

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 11-24-09

Current Instrument Date: 11-24-09

Sample Retrieval Time: 0858 MST

Current Instrument Time: 0858 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): 4.5 °C

Total Sampling Time (Tot): 24.00

Average Pressure (Pres Ave): 619 mmHg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.2

Current Weather Conditions: Clear, calm cold

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field FormSite Name: #2Filter ID: 391,170Sampler ID #: 2-2Sample Run Date: 11-27-09**Sample Setup**Technician Name: JessSample Setup Date: 11-24-09Current Instrument Date: 11-24-09Sample Setup Time: 0859 MSTCurrent Instrument Time: 0859 MSTCurrent Weather Conditions: Clear Calm Cold

Notes: _____

Sample RetrievalTechnician Name: JessSample Retrieval Date: 11-30-09Current Instrument Date: 11-30-09Sample Retrieval Time: 1719 MSTCurrent Instrument Time: 1719 MSTStatus Code (Stat): OKAverage Temperature (AmbT Ave): 3.7 °CTotal Sampling Time (Tot): 24.00Average Pressure (Pres Ave): 622 mmHgVolume Sampled (Vol): 24.0Flow Rate Coefficient of Variation (%CV): 0.2Current Weather Conditions: light clouds, cold ~~and~~ calm

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: #2

Filter ID: 391,302

Sampler ID #: 2-2

Sample Run Date: 12-3-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 11-30-09

Current Instrument Date: 11-30-09

Sample Setup Time: 1722 MST

Current Instrument Time: 1722 MST

Current Weather Conditions: light clouds, cold, calm

Notes:

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 12-4-09

Current Instrument Date: 12-4-09

Sample Retrieval Time: 1520 MST

Current Instrument Time: 1520 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): -6.5 °C

Total Sampling Time (Tot): 24.00

Average Pressure (Pres Ave): 621 mmHg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.0

Current Weather Conditions: Partly Cloudy, cold, calm

Notes:

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID:

Current Instrument Date:

Current Instrument Time:

Notes:

Partisol PM₁₀ FRM Field FormSite Name: #2Filter ID: 391,304Sampler ID #: 2-2Sample Run Date: 12-9-09**Sample Setup**Technician Name: JessSample Setup Date: 12-4-09Current Instrument Date: 12-4-09Sample Setup Time: 1522 MSTCurrent Instrument Time: 1522 MSTCurrent Weather Conditions: Partly Cloudy, cold, calm

Notes: _____

Sample RetrievalTechnician Name: JessSample Retrieval Date: 12-11-09Current Instrument Date: 12-11-09Sample Retrieval Time: 1410 MSTCurrent Instrument Time: 1410 MSTStatus Code (Stat): OKAverage Temperature (AmbT Ave): -11.3 °CTotal Sampling Time (Tot): 24.00Average Pressure (Pres Ave): 619 mmHgVolume Sampled (Vol): 24.0Flow Rate Coefficient of Variation (%CV): 0.2Current Weather Conditions: Partly Cloudy, cold, calm

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: 391,334Current Instrument Date: 12-11-09Current Instrument Time: 1412 MST

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: #2

Filter ID: 391,306

Sampler ID #: 2-2

Sample Run Date: 12-15-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 12-11-09

Current Instrument Date: 12-11-09

Sample Setup Time: 1510 MST

Current Instrument Time: _____

Current Weather Conditions: Partly Cloudy, cold, calm

Notes: _____

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 12-18-09

Current Instrument Date: 12-18-09

Sample Retrieval Time: 1231 MST

Current Instrument Time: 1231 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): -3.8°C

Total Sampling Time (Tot): 24.00

Average Pressure (Pres Ave): 629 mmHg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.3

Current Weather Conditions: Partly Cloudy, cold, calm

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes: _____

Partisol PM₁₀ FRM Field Form

Site Name: # 2

Filter ID: 391,310

Sampler ID #: 2-2

Sample Run Date: 12-21-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 12-18-09

Current Instrument Date: 12-18-09

Sample Setup Time: 1234 MST

Current Instrument Time: 1234 MST

Current Weather Conditions: 0 Partly cloudy, cold, calm.

Notes:

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 12-22-09

Current Instrument Date: 12-22-09

Sample Retrieval Time: 1052 MST

Current Instrument Time: 1052 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): -2.1 °C

Total Sampling Time (Tot): 24.00

Average Pressure (Pres Ave): 622 mmHg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.2

Current Weather Conditions: Snowing, cold, calm

Notes:

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID:

Current Instrument Date:

Current Instrument Time:

Notes:

Partisol PM₁₀ FRM Field Form

Site Name: #2

Filter ID: 310.312

Sampler ID #: 2-2

Sample Run Date: 12-27-09

Sample Setup

Technician Name: Jess

Sample Setup Date: 12-22-09

Current Instrument Date: 12-22-09

Sample Setup Time: 1056 MST

Current Instrument Time: 1056 MST

Current Weather Conditions: Snowing, cold, calm

Notes: _____

Sample Retrieval

Technician Name: Jess

Sample Retrieval Date: 12-29-09

Current Instrument Date: 12-29-09

Sample Retrieval Time: 0928 MST

Current Instrument Time: 0928 MST

Status Code (Stat): OK

Average Temperature (AmbT Ave): -9.5 °C

Total Sampling Time (Tot): 24.00

Average Pressure (Pres Ave): 625 mmHg

Volume Sampled (Vol): 24.0

Flow Rate Coefficient of Variation (%CV): 0.3

Current Weather Conditions: Light snow, cold, calm

Notes: _____

Field Blank

Note: Field Blank information should be recorded on Field Form for Retrieved Filter.

Field Blank procedure should be performed once a month at one site.

Filter ID: _____

Current Instrument Date: _____

Current Instrument Time: _____

Notes: _____

Field Form for Tisch Hi-Vol Sampler

Filter Setup Technician: Doug

Filter Retrieval Technician: Jess

Site Name & Number & Sampler ID #	Filter Number	Filter Holder Frame Number	Start Date & Time	End Date & Time	Elapsed Time Indicator at Stop	Set-up P _{stag}	Retrieval P _{stag}	Flow Rate*
Site # 1: (North): 10 m Tower Sampler ID: 1-1	8229671	1-1-A	10-1-09 @ 1039 MST	10-16-09 @ 0807 MST	357.4 hrs	-18.31" WC	-20.58" WC	
Site #2 (East): 30 m Tower Sampler ID: 2-1	8229672	2-1-B	10-1-09 @ 1011 MST	10-16-09 @ 1620 MST	360.2 hrs	-17.50" WC	-20.63" WC	
Site #3: West: Sampler ID: 3-1	8229673	3-1-A	10-1-09 @ 915 MST	10-16-09 @ 1155 MST	362.7 hrs	-18.13" WC	-20.84" WC	
Site #4 (Northwest): Cooper Sampler ID: 4-1	8229674	4-1-A	10-1-09 @ 840 MST	10-16-09 @ 1628 MST	158.5 + 131.9 hrs 362.0 hrs	-18.19" WC	-20.84" WC	
Site #5 (Southeast): Carver Sampler ID: 5-1	8229675	5-1-A	10-1-09 @ 726 MST	10-16-09 @ 1322 MST	365.9 hrs	-17.50" WC	-20.98" WC	
Trip Blank		N/A			N/A	N/A	N/A	N/A

* Flow Rate will be calculated using an Excel spreadsheet provided by Inter-Mountain Laboratories. Please contact the appropriate Kleinfelder personnel at the end of each sampling cycle (14-days per cycle) to obtain the Average Temperature and Pressure required to calculate the Flow Rate for each sample collected during the sample cycle.

Calculation Performed By: _____

Date: _____

Site # 3 (West): Generator Maintenance

Date	Sampler Shut Off Time	Generator Off Time	Shut	Generator Restart Time	Sampler Restart Time	Is Sampler Motor Mount Ring Tight?	Reason for Generator Shut down

Notes: * 362.0 hrs was indicated of elapsed time indicator but was not accurate, due to two motor failures. Based on our estimated failure times the run times were calculated to be 158.5 hrs (10/16/09 @ 15:42 to 10/7/09 @ 23:11 MST) and 131.9 hrs (10/13/09 @ 12:45 to 10/15/09 @ 00:49) for a cumulative run time of 290.4 hrs.

Zach Jones 8/30/10

Field Form for Tisch Hi-Vol Sampler

Filter Setup Technician: Jess

Filter Retrieval Technician: Doug Roberts

Site Name & Number & Sampler ID #	Filter Number	Filter Holder Frame Number	Start Date & Time	End Date & Time	Elapsed Time Indicator at Stop	Set-up P _{stag}	Retrieval P _{stag}	Flow Rate*
Site # 1: (North): 10 m Tower Sampler ID: 1-1	8034690	1-1-C	10-13-09 @ 0722 MST	11-27-09 @ 1248 MST	341.1	-21.51" wc	-22.34" wc	
Site #2 (East): 30 m Tower Sampler ID: 2-1	8034691	2-1-C	10-13-09 @ 0814 MST	11-27-09 @ 1217 MST	339.3	-21.67" wc	-22.56" wc	
Site #3: West: Sampler ID: 3-1	8034675	3-1-C	10-13-09 @ 0841 MST	11-27-09 @ 1149 MST	338.9	-20.84" wc	-21.53" wc	
Site #4 (Northwest): Cooper Sampler ID: 4-1	8034676	4-1-C	10-13-09 @ 0912 MST	11-27-09 @ 1118 MST	337.8	-21.56" wc	-22.30" wc	
Site #5 (Southeast): Carver Sampler ID: 5-1	8034677	5-1-C	10-13-09 @ 0941 MST	11-27-09 @ 1045 MST	336.8	-21.11" wc	-21.95" wc	
Trip Blank		N/A			N/A	N/A	N/A	N/A

* Flow Rate will be calculated using an Excel spreadsheet provided by Inter-Mountain Laboratories. Please contact the appropriate Kleinfelder personnel at the end of each sampling cycle (14-days per cycle) to obtain the Average Temperature and Pressure required to calculate the Flow Rate for each sample collected during the sample cycle.

Calculation Performed By: _____

Date: _____

Site # 3 (West): Generator Maintenance

Date	Sampler Shut Off Time	Generator Off Time	Shut	Generator Restart Time	Sampler Restart Time	Is Sampler Motor Mount Ring Tight?	Reason for Generator Shut down

Notes: _____

Field Form for Tisch Hi-Vol Sampler

Filter Setup Technician: Doug ROBERTS

Filter Retrieval Technician: _____

Site Name & Number & Sampler ID #	Filter Number	Filter Holder Frame Number	Start Date & Time	End Date & Time	Elapsed Time Indicator at Stop	Set-up P _{stag}	Retrieval P _{stag}	Flow Rate*
Site # 1: (North): 10 m Tower Sampler ID: 1-1	8034678	1-1-A	11-27-09 @ 12:55 MST	12-15-09 @ 12:01 MST	78.2+* 67.8	-21.12" w _c	-20.75" w _c	
Site #2 (East): 30 m Tower Sampler ID: 2-1	8034679	2-1-A	11-27-09 @ 12:22 MST	12-15-09 @ 11:25 MST	429.5	-20.48" w _c	-20.58" w _c	
Site #3: West: Sampler ID: 3-1	8034680	3-1-A	11-27-09 @ 11:55 MST	12-15-09 @ 10:54 MST	431.0	-20.65" w _c	-20.88" w _c	
Site #4 (Northwest): Cooper Sampler ID: 4-1	8034681	4-1-A	11-27-09 @ 11:23 MST	12-15-09 @ 13:03 MST	431.6	-20.64" w _c	-21.05" w _c	
Site #5 (Southeast): Carver Sampler ID: 5-1	8034682	5-1-A	11-27-09 @ 10:50 MST	12-15-09 @ 12:36 MST	433.7	-20.42" w _c	-21.05" w _c	
Trip Blank		N/A			N/A	N/A	N/A	N/A

* Flow Rate will be calculated using an Excel spreadsheet provided by Inter-Mountain Laboratories. Please contact the appropriate Kleinfelder personnel at the end of each sampling cycle (14-days per cycle) to obtain the Average Temperature and Pressure required to calculate the Flow Rate for each sample collected during the sample cycle.

Calculation Performed By: _____ Date: _____

Site # 3 (West): Generator Maintenance

Date	Sampler Shut Off Time	Generator Off Time	Shut	Generator Restart Time	Sampler Restart Time	Is Sampler Motor Mount Ring Tight?	Reason for Generator Shut down

Notes: * sampler motor failed @ approximately 1900 MST on 11/30/09. Based on transducer charts, calculated run time from filter install to failure is 78.2 hrs. 67.8 hrs was from restart to filter collection. Zach Lopez - 8/30/10

Field Form for Tisch Hi-Vol Sampler

Filter Setup Technician: Drug ROBERTS

Filter Retrieval Technician: JES

Site Name & Number & Sampler ID #	Filter Number	Filter Holder Frame Number	Start Date & Time	End Date & Time	Elapsed Time Indicator at Stop	Set-up P _{stag}	Retrieval P _{stag}	Flow Rate*
Site # 1: (North): 10 m Tower Sampler ID: 1-1	8034683	1-1-C	12-15-09 @ 1207 MST	1-1-10 @ 1709 MST	413.4 hrs	-20.37"wc	-20.72"wc	
Site #2 (East): 30 m Tower Sampler ID: 2-1	8034684	2-1-C	12-15-09 @ 1134 MST	1-1-10 @ 1651 MST	413.2 hrs	-19.91"wc	-20.32"wc	
Site #3: West: Sampler ID: 3-1	8034685	3-1-C	12-15-09 @ 1059 MST	1-1-10 @ 1608 MST	413.1 hrs	-20.22"wc	-21.87"wc	
Site #4 (Northwest): Cooper Sampler ID: 4-1	8034686	4-1-C	12-15-09 @ 1309 MST	1-1-10 @ 1408 MST	409.0 hrs	-20.75"wc	-21.82"wc	
Site #5 (Southeast): Carver Sampler ID: 5-1	8034687	5-1-C	12/15/09 @ 1240 MST	1-1-10 @ 1307 MST	408.4 hrs	-20.45"wc	-20.95"wc	
Trip Blank	8034698	N/A	10-1-09	1-1-10	N/A	N/A	N/A	N/A

* Flow Rate will be calculated using an Excel spreadsheet provided by Inter-Mountain Laboratories. Please contact the appropriate Kleinfelder personnel at the end of each sampling cycle (14-days per cycle) to obtain the Average Temperature and Pressure required to calculate the Flow Rate for each sample collected during the sample cycle.

Calculation Performed By: _____

Date: _____

Site # 3 (West): Generator Maintenance

Date	Sampler Shut Off Time	Generator Shut Off Time	Generator Restart Time	Sampler Restart Time	Is Sampler Motor Mount Ring Tight?	Reason for Generator Shut down

Notes: _____

