

## Oregon Endurance Line

### M11 Site (25m)

#### Surface Expression - Type I

| Instrument                                | Manufacturer, Model                                          | Unit purchase costs | Location | References |
|-------------------------------------------|--------------------------------------------------------------|---------------------|----------|------------|
| Wind Speed/ Direction, Sonic              | Vaisala Inc., PN 425                                         | \$1,607             | Surface  | CND_Tbl_4b |
| Relative Humidity - Air Temp.             | ASIMET/Star Engineering                                      | \$7,752             | Surface  | CND_Tbl_4b |
| Pressure, Barometric                      | ASIMET/Star Engineering                                      | \$7,477             | Surface  | CND_Tbl_4b |
| Radiometer, Short-wave                    | ASIMET/Star Engineering                                      | \$9,103             | Surface  | CND_Tbl_4b |
| Radiometer, Long-wave                     | ASIMET/Star Engineering                                      | \$11,246            | Surface  | CND_Tbl_4b |
| Precipitation sensor                      | ASIMET/Star Engineering                                      | \$8,200             | Surface  | CND_Tbl_4b |
| CTD                                       | Seabird SBE 37SM Temp and Salinity with Paro pressure xducer | \$6,487             | Surface  | CND_Tbl_4b |
| Current Meter, ADCP, profiling 600m range | RD Instruments Workhorse Long Ranger                         | \$57,261            | Surface  | CND_Tbl_4b |
| <b>Subtotals</b>                          |                                                              | <b>\$109,133</b>    |          |            |

#### Benthic Expression

| Instrument                                        | Manufacturer, Model                                          | Unit purchase costs | Location | References |
|---------------------------------------------------|--------------------------------------------------------------|---------------------|----------|------------|
| CTD                                               | Seabird SBE 37SM Temp and Salinity with Paro pressure xducer | \$6,487             | Benthic  | CND_Tbl_4b |
| Oxygen (optrode)                                  | Aanderaa Instruments OXYGEN OPTRODE 0973830                  | \$4,687             | Benthic  | CND_Tbl_4b |
| Fluorometer/Backscatter, Wetlabs ECO triplett     | Wetlabs ECO Triplett                                         | \$10,583            | Benthic  | CND_Tbl_4b |
| Current meter, point measurement, 3 Axis acoustic | 2ACM-7000 Falmouth Scientific Inc.                           | \$8,171             | Benthic  | CND_Tbl_4b |
| Current Meter, ADCP, profiling, 47 meter range    | RD Instruments Workhorse Sentinel                            | \$31,923            | Benthic  | CND_Tbl_4b |
| <b>Subtotals</b>                                  |                                                              | <b>\$61,850</b>     |          |            |

#### Vertical Profiler System (winched)

| Instrument                                    | Manufacturer, Model                                                                   | Unit purchase costs | Location | References |
|-----------------------------------------------|---------------------------------------------------------------------------------------|---------------------|----------|------------|
| CTD                                           | Seabird SBE 37SM Temp and Salinity with Paro pressure xducer                          | \$6,487             | Profiler | CND_Tbl_4b |
| Oxygen (optrode)                              | Aanderaa Instruments OXYGEN OPTRODE 0973830                                           | \$4,687             | Profiler | CND_Tbl_4b |
| Fluorometer/Backscatter, Wetlabs ECO triplett | Wetlabs ECO Triplett                                                                  | \$10,583            | Profiler | CND_Tbl_4b |
| PAR sensor                                    | QSP-2150 Biospherical Instruments Inc.                                                | \$1,125             | Profiler | CND_Tbl_4b |
| Turbidity, Nephelometer, C-Star, 6000m        | Wetlabs Inc. C-star transmissometer, wavelength 660nm, pathlength 25cm, 6000m housing | \$4,589             | Profiler | CND_Tbl_4b |
| Profiler current meter (FSI/McLane)           | FSI-ACM FSI/McLane                                                                    | \$10,450            | Profiler | CND_Tbl_4b |
| <b>Subtotals</b>                              |                                                                                       | <b>\$37,921</b>     |          |            |

## Oregon Endurance Line

### M12 Site (50m)

#### Surface Expression - Type I

| Instrument                                   | Manufacturer, Model                                             | Unit purchase costs | Location | References |
|----------------------------------------------|-----------------------------------------------------------------|---------------------|----------|------------|
| Wind Speed/ Direction, Sonic                 | Vaisala Inc., PN 425                                            | \$1,607             | Surface  | CND_Tbl_4b |
| Relative Humidity - Air Temp.                | ASIMET/Star Engineering                                         | \$7,752             | Surface  | CND_Tbl_4b |
| Pressure, Barometric                         | ASIMET/Star Engineering                                         | \$7,477             | Surface  | CND_Tbl_4b |
| Radiometer, Short-wave                       | ASIMET/Star Engineering                                         | \$9,103             | Surface  | CND_Tbl_4b |
| Radiometer, Long-wave                        | ASIMET/Star Engineering                                         | \$11,246            | Surface  | CND_Tbl_4b |
| Precipitation sensor                         | ASIMET/Star Engineering                                         | \$8,200             | Surface  | CND_Tbl_4b |
| CTD                                          | Seabird SBE 37SM Temp and Salinity with<br>Paro pressure xducer | \$6,487             | Surface  | CND_Tbl_4b |
| Current Meter, ADCP, profiling<br>600m range | RD Instruments Workhorse Long Ranger                            | \$57,261            | Surface  | CND_Tbl_4b |
| <b>Subtotals</b>                             |                                                                 | <b>\$109,133</b>    |          |            |

#### Vertical Profiler System (winched)

| Instrument                                       | Manufacturer, Model                                                                         | Unit purchase costs | Location | References |
|--------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------|----------|------------|
| CTD                                              | Seabird SBE 37SM Temp and Salinity with<br>Paro pressure xducer                             | \$6,487             | Profiler | CND_Tbl_4b |
| Oxygen (optrode)                                 | Aanderaa Instruments OXYGEN OPTRODE<br>0973830                                              | \$4,687             | Profiler | CND_Tbl_4b |
| Fluorometer/Backscatter,<br>Wetlabs ECO triplett | Wetlabs ECO Triplett                                                                        | \$10,583            | Profiler | CND_Tbl_4b |
| PAR sensor                                       | QSP-2150 Biospherical Instruments Inc.                                                      | \$1,125             | Profiler | CND_Tbl_4b |
| Turbidity, Nephelometer, C-<br>Star, 6000m       | Wetlabs Inc. C-star transmissometer,<br>wavelength 660nm, pathlength 25cm, 6000m<br>housing | \$4,589             | Profiler | CND_Tbl_4b |
| Profiler current meter<br>(FSI/McLane)           | FSI-ACM FSI/McLane                                                                          | \$10,450            | Profiler | CND_Tbl_4b |
| <b>Subtotals</b>                                 |                                                                                             | <b>\$37,921</b>     |          |            |

## Oregon Endurance Line

### M13 Site (80m)

#### Surface Expression - Type I

| Instrument                                | Manufacturer, Model                                          | Unit purchase costs | Location | References |
|-------------------------------------------|--------------------------------------------------------------|---------------------|----------|------------|
| Wind Speed/ Direction, Sonic              | Vaisala Inc., PN 425                                         | \$1,607             | Surface  | CND_Tbl_4b |
| Relative Humidity - Air Temp.             | ASIMET/Star Engineering                                      | \$7,752             | Surface  | CND_Tbl_4b |
| Pressure, Barometric                      | ASIMET/Star Engineering                                      | \$7,477             | Surface  | CND_Tbl_4b |
| Radiometer, Short-wave                    | ASIMET/Star Engineering                                      | \$9,103             | Surface  | CND_Tbl_4b |
| Radiometer, Long-wave                     | ASIMET/Star Engineering                                      | \$11,246            | Surface  | CND_Tbl_4b |
| Precipitation sensor                      | ASIMET/Star Engineering                                      | \$8,200             | Surface  | CND_Tbl_4b |
| CTD                                       | Seabird SBE 37SM Temp and Salinity with Paro pressure xducer | \$6,487             | Surface  | CND_Tbl_4b |
| Current Meter, ADCP, profiling 600m range | RD Instruments Workhorse Long Ranger                         | \$57,261            | Surface  | CND_Tbl_4b |
| <b>Subtotals</b>                          |                                                              | <b>\$109,133</b>    |          |            |

#### Benthic Expression

| Instrument                                        | Manufacturer, Model                                          | Unit purchase costs | Location | References |
|---------------------------------------------------|--------------------------------------------------------------|---------------------|----------|------------|
| CTD                                               | Seabird SBE 37SM Temp and Salinity with Paro pressure xducer | \$6,487             | Benthic  | CND_Tbl_4b |
| Oxygen (optrode)                                  | Aanderaa Instruments OXYGEN OPTRODE 0973830                  | \$4,687             | Benthic  | CND_Tbl_4b |
| Fluorometer/Backscatter, Wetlabs ECO triplett     | Wetlabs ECO Triplett                                         | \$10,583            | Benthic  | CND_Tbl_4b |
| Current meter, point measurement, 3 Axis acoustic | 2ACM-7000 Falmouth Scientific Inc.                           | \$8,171             | Benthic  | CND_Tbl_4b |
| Current Meter, ADCP, profiling, 47 meter range    | RD Instruments Workhorse Sentinel                            | \$31,923            | Benthic  | CND_Tbl_4b |
| <b>Subtotals</b>                                  |                                                              | <b>\$61,850</b>     |          |            |

#### Vertical Profiler System (winched)

| Instrument                                    | Manufacturer, Model                                                                   | Unit purchase costs | Location | References |
|-----------------------------------------------|---------------------------------------------------------------------------------------|---------------------|----------|------------|
| CTD                                           | Seabird SBE 37SM Temp and Salinity with Paro pressure xducer                          | \$6,487             | Profiler | CND_Tbl_4b |
| Oxygen (optrode)                              | Aanderaa Instruments OXYGEN OPTRODE 0973830                                           | \$4,687             | Profiler | CND_Tbl_4b |
| Fluorometer/Backscatter, Wetlabs ECO triplett | Wetlabs ECO Triplett                                                                  | \$10,583            | Profiler | CND_Tbl_4b |
| PAR sensor                                    | QSP-2150 Biospherical Instruments Inc.                                                | \$1,125             | Profiler | CND_Tbl_4b |
| Turbidity, Nephelometer, C-Star, 6000m        | Wetlabs Inc. C-star transmissometer, wavelength 660nm, pathlength 25cm, 6000m housing | \$4,589             | Profiler | CND_Tbl_4b |
| Profiler current meter (FSI/McLane)           | FSI-ACM FSI/McLane                                                                    | \$10,450            | Profiler | CND_Tbl_4b |
| <b>Subtotals</b>                              |                                                                                       | <b>\$37,921</b>     |          |            |

## Oregon Endurance Line

### M14 Site

#### Surface Expression - Type I

| Instrument                                   | Manufacturer, Model                                             | Unit purchase costs | Location | References |
|----------------------------------------------|-----------------------------------------------------------------|---------------------|----------|------------|
| Wind Speed/ Direction, Sonic                 | Vaisala Inc., PN 425                                            | \$1,607             | Surface  | CND_Tbl_4b |
| Relative Humidity - Air Temp.                | ASIMET/Star Engineering                                         | \$7,752             | Surface  | CND_Tbl_4b |
| Pressure, Barometric                         | ASIMET/Star Engineering                                         | \$7,477             | Surface  | CND_Tbl_4b |
| Radiometer, Short-wave                       | ASIMET/Star Engineering                                         | \$9,103             | Surface  | CND_Tbl_4b |
| Radiometer, Long-wave                        | ASIMET/Star Engineering                                         | \$11,246            | Surface  | CND_Tbl_4b |
| Precipitation sensor                         | ASIMET/Star Engineering                                         | \$8,200             | Surface  | CND_Tbl_4b |
| CTD                                          | Seabird SBE 37SM Temp and Salinity with<br>Paro pressure xducer | \$6,487             | Surface  | CND_Tbl_4b |
| Current Meter, ADCP, profiling<br>600m range | RD Instruments Workhorse Long Ranger                            | \$57,261            | Surface  | CND_Tbl_4b |
| <b>Subtotals</b>                             |                                                                 | <b>\$109,133</b>    |          |            |

#### Vertical Profiler System (winched)

| Instrument                                       | Manufacturer, Model                                                                         | Unit purchase costs | Location | References |
|--------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------|----------|------------|
| CTD                                              | Seabird SBE 37SM Temp and Salinity with<br>Paro pressure xducer                             | \$6,487             | Profiler | CND_Tbl_4b |
| Oxygen (optrode)                                 | Aanderaa Instruments OXYGEN OPTRODE<br>0973830                                              | \$4,687             | Profiler | CND_Tbl_4b |
| Fluorometer/Backscatter,<br>Wetlabs ECO triplett | Wetlabs ECO Triplett                                                                        | \$10,583            | Profiler | CND_Tbl_4b |
| PAR sensor                                       | QSP-2150 Biospherical Instruments Inc.                                                      | \$1,125             | Profiler | CND_Tbl_4b |
| Turbidity, Nephelometer, C-<br>Star, 6000m       | Wetlabs Inc. C-star transmissometer,<br>wavelength 660nm, pathlength 25cm, 6000m<br>housing | \$4,589             | Profiler | CND_Tbl_4b |
| Profiler current meter<br>(FSI/McLane)           | FSI-ACM FSI/McLane                                                                          | \$10,450            | Profiler | CND_Tbl_4b |
| <b>Subtotals</b>                                 |                                                                                             | <b>\$37,921</b>     |          |            |

## Oregon Endurance Line

### M15 Site

#### Surface Expression - Type I

| Instrument                                   | Manufacturer, Model                                             | Unit purchase costs | Location | References |
|----------------------------------------------|-----------------------------------------------------------------|---------------------|----------|------------|
| Wind Speed/ Direction, Sonic                 | Vaisala Inc., PN 425                                            | \$1,607             | Surface  | CND_Tbl_4b |
| Relative Humidity - Air Temp.                | ASIMET/Star Engineering                                         | \$7,752             | Surface  | CND_Tbl_4b |
| Pressure, Barometric                         | ASIMET/Star Engineering                                         | \$7,477             | Surface  | CND_Tbl_4b |
| Radiometer, Short-wave                       | ASIMET/Star Engineering                                         | \$9,103             | Surface  | CND_Tbl_4b |
| Radiometer, Long-wave                        | ASIMET/Star Engineering                                         | \$11,246            | Surface  | CND_Tbl_4b |
| Precipitation sensor                         | ASIMET/Star Engineering                                         | \$8,200             | Surface  | CND_Tbl_4b |
| CTD                                          | Seabird SBE 37SM Temp and Salinity with<br>Paro pressure xducer | \$6,487             | Surface  | CND_Tbl_4b |
| Current Meter, ADCP, profiling<br>600m range | RD Instruments Workhorse Long Ranger                            | \$57,261            | Surface  | CND_Tbl_4b |
| <b>Subtotals</b>                             |                                                                 | <b>\$109,133</b>    |          |            |

#### Benthic Expression

| Instrument                                           | Manufacturer, Model                                             | Unit purchase costs | Location | References |
|------------------------------------------------------|-----------------------------------------------------------------|---------------------|----------|------------|
| CTD                                                  | Seabird SBE 37SM Temp and Salinity with<br>Paro pressure xducer | \$6,487             | Benthic  | CND_Tbl_4b |
| Oxygen (optrode)                                     | Aanderaa Instruments OXYGEN OPTRODE<br>0973830                  | \$4,687             | Benthic  | CND_Tbl_4b |
| Fluorometer/Backscatter,<br>Wetlabs ECO triplett     | Wetlabs ECO Triplett                                            | \$10,583            | Benthic  | CND_Tbl_4b |
| Current meter, point<br>measurement, 3 Axis acoustic | 2ACM-7000 Falmouth Scientific Inc.                              | \$8,171             | Benthic  | CND_Tbl_4b |
| Current Meter, ADCP, profiling,<br>47 meter range    | RD Instruments Workhorse Sentinel                               | \$31,923            | Benthic  | CND_Tbl_4b |
| <b>Subtotals</b>                                     |                                                                 | <b>\$61,850</b>     |          |            |

## Oregon Endurance Line

### Instrument Spares

#### Surface Expression Spares

| Instrument                                | Manufacturer, Model                                          | Unit purchase costs | Location | References |
|-------------------------------------------|--------------------------------------------------------------|---------------------|----------|------------|
| Wind Speed/ Direction, Sonic              | Vaisala Inc., PN 425                                         | \$1,607             | Surface  | CND_Tbl_4b |
| Relative Humidity - Air Temp.             | ASIMET/Star Engineering                                      | \$7,752             | Surface  | CND_Tbl_4b |
| Pressure, Barometric                      | ASIMET/Star Engineering                                      | \$7,477             | Surface  | CND_Tbl_4b |
| Radiometer, Short-wave                    | ASIMET/Star Engineering                                      | \$9,103             | Surface  | CND_Tbl_4b |
| Radiometer, Long-wave                     | ASIMET/Star Engineering                                      | \$11,246            | Surface  | CND_Tbl_4b |
| Precipitation sensor                      | ASIMET/Star Engineering                                      | \$8,200             | Surface  | CND_Tbl_4b |
| CTD                                       | Seabird SBE 37SM Temp and Salinity with Paro pressure xducer | \$6,487             | Surface  | CND_Tbl_4b |
| Current Meter, ADCP, profiling 600m range | RD Instruments Workhorse Long Ranger                         | \$57,261            | Surface  | CND_Tbl_4b |
| <b>Subtotals</b>                          |                                                              | <b>\$109,133</b>    |          |            |

#### Benthic Expression Spares

| Instrument                                        | Manufacturer, Model                                          | Unit purchase costs | Location | References |
|---------------------------------------------------|--------------------------------------------------------------|---------------------|----------|------------|
| CTD                                               | Seabird SBE 37SM Temp and Salinity with Paro pressure xducer | \$6,487             | Benthic  | CND_Tbl_4b |
| Oxygen (optrode)                                  | Aanderaa Instruments OXYGEN OPTRODE 0973830                  | \$4,687             | Benthic  | CND_Tbl_4b |
| Fluorometer/Backscatter, Wetlabs ECO triplett     | Wetlabs ECO Triplett                                         | \$10,583            | Benthic  | CND_Tbl_4b |
| Current meter, point measurement, 3 Axis acoustic | 2ACM-7000 Falmouth Scientific Inc.                           | \$8,171             | Benthic  | CND_Tbl_4b |
| Current Meter, ADCP, profiling, 47 meter range    | RD Instruments Workhorse Sentinel                            | \$31,923            | Benthic  | CND_Tbl_4b |
| <b>Subtotals</b>                                  |                                                              | <b>\$61,850</b>     |          |            |

#### Vertical Profiler System (winched) Spares

| Instrument                                    | Manufacturer, Model                                                                   | Unit purchase costs | Location | References |
|-----------------------------------------------|---------------------------------------------------------------------------------------|---------------------|----------|------------|
| CTD                                           | Seabird SBE 37SM Temp and Salinity with Paro pressure xducer                          | \$6,487             | Profiler | CND_Tbl_4b |
| Oxygen (optrode)                              | Aanderaa Instruments OXYGEN OPTRODE 0973830                                           | \$4,687             | Profiler | CND_Tbl_4b |
| Fluorometer/Backscatter, Wetlabs ECO triplett | Wetlabs ECO Triplett                                                                  | \$10,583            | Profiler | CND_Tbl_4b |
| PAR sensor                                    | QSP-2150 Biospherical Instruments Inc.                                                | \$1,125             | Profiler | CND_Tbl_4b |
| Turbidity, Nephelometer, C-Star, 6000m        | Wetlabs Inc. C-star transmissometer, wavelength 660nm, pathlength 25cm, 6000m housing | \$4,589             | Profiler | CND_Tbl_4b |
| Profiler current meter (FSI/McLane)           | FSI-ACM FSI/McLane                                                                    | \$10,450            | Profiler | CND_Tbl_4b |
| <b>Subtotals</b>                              |                                                                                       | <b>\$37,921</b>     |          |            |