

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                | Nisk ID | Nisk Int V S | Sample ID | Flask 1 | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments |  | Nisk ID | Sample ID | Flask 2 | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |  |
|--------------------------------------------------------------------------------|--------------------------------|---------|--------------|-----------|---------|------------------|--------------|----------------|--|---------|-----------|---------|------------------|--------------|----------------|--|
| Cruise Number:                                                                 | 2024-06-09                     | 1       |              | 1         | 130     | 6.1              | 0.865        |                |  | 1       |           |         |                  |              |                |  |
| Event:                                                                         | 907                            | 2       |              | 2         | 923     | 6.5              | 1.377        |                |  | 2       |           |         |                  |              |                |  |
| Station:                                                                       | E03                            | 3       |              | 3         | 3032    | 6.8              | 1.576        |                |  | 3       |           |         |                  |              |                |  |
| Event Date (Local):                                                            | 13-06-24                       | 4       |              | 4         | 913     | 7.3              | 2.053        |                |  | 4       |           |         |                  |              |                |  |
| Analysis Date (Local):                                                         | 14 Jun 24                      | 5       |              | 5A        | 126     | 7.4              | 3.010        |                |  | 5       | 5B        | 1402    | 7.5              | 2.997        |                |  |
| Analyst:                                                                       | Tamara                         | 6       |              | 6         | 3096    | 8.2              | 3.924        |                |  | 6       |           |         |                  |              |                |  |
| Stdization Date (Local):                                                       | 14 Jun 24                      | 7       |              | 7         | 3109    | 8.5              | 5.087        |                |  | 7       |           |         |                  |              |                |  |
| KIO <sub>3</sub> N:                                                            | 0.0118309                      | 8       |              | 8A        | 151     | 9.1              | 6.384        |                |  | 8       | 8B        | 154     | 9.2              | 6.381        |                |  |
| Standard Titer:                                                                | 0.4971168                      | 9       |              | 9         | 129     | 12.0             | 6.519        |                |  | 9       |           |         |                  |              |                |  |
| Blank Titer:                                                                   | 0.000493                       | 10      |              | 10        | 575     | 12.1             | 6.672        |                |  | 10      |           |         |                  |              |                |  |
| THIO N:                                                                        | 0.238408                       | 11      |              | 11        | 171     | 12.5             | 6.618        |                |  | 11      |           |         |                  |              |                |  |
| Sample Flask Water Seal?                                                       | Yes                            | 12      |              | 12        | 903     | 12.6             | 6.605        |                |  | 12      |           |         |                  |              |                |  |
|                                                                                | No                             | 13      |              |           |         |                  |              |                |  | 13      |           |         |                  |              |                |  |
| Reagent Change?                                                                | MnCl <sub>2</sub>              | 14      |              |           |         |                  |              |                |  | 14      |           |         |                  |              |                |  |
| (Please circle reagent that was changed prior to sampling and standardization) | NaI/NaOH                       | 15      |              |           |         |                  |              |                |  | 15      |           |         |                  |              |                |  |
| NOTE NEW BATCH IN LOG BOOK                                                     | H <sub>2</sub> SO <sub>4</sub> | 16      |              |           |         |                  |              |                |  | 16      |           |         |                  |              |                |  |
|                                                                                | KIO <sub>3</sub>               | 17      |              |           |         |                  |              |                |  | 17      |           |         |                  |              |                |  |
|                                                                                | THIO                           | 18      |              |           |         |                  |              |                |  | 18      |           |         |                  |              |                |  |

|        |       |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |    |     |
|--------|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|-----|
| Notes: | 19    | 1        | OXY      | 2        | OXY      | 3        | OXY      | 4        | OXY      | 5A       | OXY      | 5B       | OXY      | 6        | OXY      | 7        | OXY      | 8A       | OXY      | 8B       | OXY      | 9        | OXY      | 10       | OXY      | 11 | OXY |
|        | 20    |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |    |     |
|        | 21    |          | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      | E03      |    |     |
|        | 22    | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 |    |     |
|        | 23    | b-5 m    | 300 m    | 250 m    | 200 m    | 150 m    | 150 m    | 100 m    | 75 m     | 50 m     | 50 m     | 25 m     | 10 m     | 5 m      |          |          |          |          |          |          |          |          |          |          |          |    |     |
| 24     | bot 1 | bot 2    | bot 3    | bot 4    | bot 5    | bot 5    | bot 6    | bot 7    | bot 8    | bot 8    | bot 9    | bot 10   | bot 10   | bot 10   | bot 10   | bot 10   | bot 10   | bot 10   | bot 10   | bot 10   | bot 10   | bot 10   | bot 10   | bot 10   |          |    |     |

Bottle integrity: First test the top vent (V) by open... test the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

2024-069  
0 m  
bot 12

12  
OXY  
E03

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                                                           |                                |  | Nisk ID | Nisk Int V S | Sample ID | Flask 1  | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments | Nisk ID  | Sample ID | Flask 2  | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |          |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------|--|---------|--------------|-----------|----------|------------------|--------------|----------------|----------|-----------|----------|------------------|--------------|----------------|----------|
| Cruise Number:                                                                                                            | 2024-069                       |  | 1       |              |           |          |                  |              |                | 1        |           |          |                  |              |                |          |
| Event:                                                                                                                    | 8                              |  | 2       |              |           |          |                  |              |                | 2        |           |          |                  |              |                |          |
| Station:                                                                                                                  | Q1                             |  | 3       | ✓            | 15        | 3206     | 8.1              | 2.436        |                | 3        |           |          |                  |              |                |          |
| Event Date (Local):                                                                                                       | 13-06-24                       |  | 4       | ✓            | 16        | 3178     | 8.1              | 2.526        |                | 4        |           |          |                  |              |                |          |
| Analysis Date (Local):                                                                                                    | 15 Jun 24                      |  | 5       | ✓            | 17        | 1085     | 8.3              | 2.903        |                | 5        |           |          |                  |              |                |          |
| Analyst:                                                                                                                  | Tamariz                        |  | 6       | ✓            | 18A       | 3196     | 8.4              | 3.151        |                | 6        | 18B       | 3171     | 8.5              | 3.153        | ☺              |          |
| Stdization Date (Local):                                                                                                  | 14 Jun 24                      |  | 7       |              |           |          |                  |              |                | 7        |           |          |                  |              |                |          |
| KIO <sub>3</sub> N:                                                                                                       | 0.0118309                      |  | 8       | ✓            | 20        | 3174     | 9.1              | 3.799        |                | 8        |           |          |                  |              |                |          |
| Standard Titer:                                                                                                           | 0.4971168                      |  | 9       | ✓            | 21A       | 3038     | 11.3             | 5.840        |                | 9        | 21B       | 3182     | 11.3             | 5.841        | ☺              |          |
| Blank Titer:                                                                                                              | 0.000493                       |  | 10      |              | 22        | 1440     | 11.9             | 6.295        |                | 10       |           |          |                  |              |                |          |
| THIO N:                                                                                                                   | 0.238408                       |  | 11      |              | 23        | 3191     | 12.0             | 6.213        |                | 11       |           |          |                  |              |                |          |
| Sample Flask Water Seal?                                                                                                  | Yes                            |  | 12      |              | 24        | 3190     | 12.0             | 6.174        |                | 12       |           |          |                  |              |                |          |
| Reagent Change? (Please circle reagent that was changed prior to sampling and standardization) NOTE NEW BATCH IN LOG BOOK | MnCl <sub>2</sub>              |  | 13      |              | 15        |          | 16               | 17           | 18A            | 18B      | 20        | 21A      | 21B              | 22           | 23             | 24       |
|                                                                                                                           | NaI/NaOH                       |  | 14      |              | OXY       |          | OXY              | OXY          | OXY            | OXY      | OXY       | OXY      | OXY              | OXY          | OXY            | OXY      |
|                                                                                                                           | H <sub>2</sub> SO <sub>4</sub> |  | 15      |              | Q1        |          | Q1               | Q1           | Q1             | Q1       | Q1        | Q1       | Q1               | Q1           | Q1             | Q1       |
|                                                                                                                           | KIO <sub>3</sub>               |  | 16      | 2024-069     | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069       | 2024-069 | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069       | 2024-069 |
|                                                                                                                           | THIO                           |  | 17      | b-5 m        | b-5 m     | 150 m    | 100 m            | 75 m         | 75 m           | 50 m     | 25 m      | 25 m     | 25 m             | 10 m         | 5 m            | 0 m      |
|                                                                                                                           |                                |  | 18      | bot 3        | bot 3     | bot 4    | bot 5            | bot 6        | bot 6          | bot 8    | bot 9     | bot 9    | bot 9            | bot 10       | bot 11         | bot 12   |
| Notes:                                                                                                                    |                                |  | 19      |              |           |          |                  |              |                |          |           |          |                  |              |                |          |
| Trees.xlsx                                                                                                                |                                |  | 20      |              |           |          |                  |              |                |          |           |          |                  |              |                |          |
|                                                                                                                           |                                |  | 21      |              |           |          |                  |              |                |          |           |          |                  |              |                |          |
|                                                                                                                           |                                |  | 22      |              |           |          |                  |              |                |          |           |          |                  |              |                |          |
|                                                                                                                           |                                |  | 23      |              |           |          |                  |              |                |          |           |          |                  |              |                |          |
|                                                                                                                           |                                |  | 24      |              |           |          |                  |              |                |          |           |          |                  |              |                |          |

Bottle integrity: First test the top vent (V) by opening the lower spigot (S) then test the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                     |  | Nisk ID | Nisk Int V S | Sample ID | Flask 1 | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments | Nisk ID  | Sample ID | Flask 2  | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |
|--------------------------------------------------------------------------------|-------------------------------------|--|---------|--------------|-----------|---------|------------------|--------------|----------------|----------|-----------|----------|------------------|--------------|----------------|
| Cruise Number:                                                                 | 2024-069                            |  | 1       |              |           |         |                  |              |                | 1        |           |          |                  |              |                |
| Event:                                                                         | 23                                  |  | 2       |              |           |         |                  |              |                | 2        |           |          |                  |              |                |
| Station:                                                                       | Scott3                              |  | 3       | ✓            | 41        | 1314    | 6.7              | 1.476        |                | 3        |           |          |                  |              |                |
| Event Date (Local):                                                            | 18-06-24                            |  | 4       | ✓            | 42        | 3034    | 6.9              | 1.699        |                | 4        |           |          |                  |              |                |
| Analysis Date (Local):                                                         | 19 Jun 24                           |  | 5       |              | 43        | 912     | 7.3              | 2.244        |                | 5        |           |          |                  |              |                |
| Analyst:                                                                       | Tamariz                             |  | 6       |              | 44        | 3074    | 7.7              | 2.738        |                | 6        |           |          |                  |              |                |
| Standardization Date (Local):                                                  | 18 Jun 24                           |  | 7       |              | 45A       | 1429    | 8.8              | 3.846        |                | 7        | 45B       | 1487     | 8.9              | 3.849        | 😊              |
| KIO <sub>3</sub> N:                                                            | 0.0118309                           |  | 8       |              | 46        | 3133    | 9.8              | 4.696        |                | 8        |           |          |                  |              |                |
| Standard Titer:                                                                | 0.496738                            |  | 9       |              |           |         |                  |              |                | 9        |           |          |                  |              |                |
| Blank Titer:                                                                   | 0.000029                            |  | 10      |              | 48        | 178     | 9.9              | 4.793        |                | 10       |           |          |                  |              | actually 50m   |
| THIO N:                                                                        | 0.238201                            |  | 11      |              | 49        | 981     | 12.8             | 6.791        |                | 11       |           |          |                  |              |                |
| Sample Flask Water Seal?                                                       | Yes                                 |  | 12      |              | 50        | 1491    | 13.1             | 6.786        |                | 12       |           |          |                  |              |                |
|                                                                                | No                                  |  | 13      |              | 51        | 921     | 13.1             | 6.788        |                | 13       |           |          |                  |              |                |
| Reagent Change?                                                                | MnCl <sub>2</sub>                   |  | 14      |              | 41        |         | 42               | 43           |                | 46       |           | 48       | 49               | 50           | 51             |
| (Please circle reagent that was changed prior to sampling and standardization) | NaI/NaOH                            |  | 15      |              | OXY       |         | OXY              | OXY          |                | OXY      |           | OXY      | OXY              | OXY          | OXY            |
| NOTE NEW BATCH IN LOG BOOK                                                     | H <sub>2</sub> SO <sub>4</sub> None |  | 16      |              | Scotts3   |         | Scotts3          | Scotts3      |                | Scotts3  |           | Scotts3  | Scotts3          | Scotts3      | Scotts3        |
|                                                                                | KIO <sub>3</sub>                    |  | 17      |              | 2024-069  |         | 2024-069         | 2024-069     |                | 2024-069 |           | 2024-069 | 2024-069         | 2024-069     | 2024-069       |
|                                                                                | THIO                                |  | 18      |              | b-5 m     |         | 200 m            | 150 m        |                | 50 m     |           | 2025 m   | 10 m             | 5 m          | 0 m            |
|                                                                                |                                     |  | 19      |              | bot 3     |         | bot 4            | bot 5        |                | bot 8    |           | bot 10   | bot 11           | bot 12       | bot 13         |
| Notes:                                                                         |                                     |  | 20      |              |           |         |                  |              |                |          |           |          |                  |              |                |
|                                                                                |                                     |  | 21      |              |           |         |                  |              |                | 20       |           |          |                  |              |                |
|                                                                                |                                     |  | 22      |              |           |         |                  |              |                | 21       |           |          |                  |              |                |
|                                                                                |                                     |  | 23      |              |           |         |                  |              |                | 22       |           |          |                  |              |                |
|                                                                                |                                     |  | 24      |              |           |         |                  |              |                | 23       |           |          |                  |              |                |
|                                                                                |                                     |  |         |              |           |         |                  |              |                | 24       |           |          |                  |              |                |

Bottle integrity: First test the top vent (V) by opening the lower spigot (S) then test the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

Humming Bird.xlsx

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                | Nisk ID | Nisk Int V S | Sample ID | Flask 1 | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments |  | Nisk ID | Sample ID | Flask 2 | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |   |
|--------------------------------------------------------------------------------|--------------------------------|---------|--------------|-----------|---------|------------------|--------------|----------------|--|---------|-----------|---------|------------------|--------------|----------------|---|
| Cruise Number:                                                                 | 2024-069                       | 1       |              |           |         |                  |              |                |  | 1       |           |         |                  |              |                |   |
| Event:                                                                         | 28                             | 2       |              |           |         |                  |              |                |  | 2       |           |         |                  |              |                |   |
| Station:                                                                       | CI06                           | 3       |              | 56        | 1316    | 5.4              | 0.411        |                |  | 3       |           |         |                  |              |                |   |
| Event Date (Local):                                                            | 19-06-24                       | 4       |              | 57        | 974     | 5.5              | 0.440        |                |  | 4       |           |         |                  |              |                |   |
| Analysis Date (Local):                                                         | 19 Jun 24                      | 5       |              | 58        | 2015    | 6.1              | 0.782        |                |  | 5       |           |         |                  |              |                |   |
| Analyst:                                                                       | lanarc                         | 6       |              | 59        | 3072    | 6.3              | 1.052        |                |  | 6       |           |         |                  |              |                |   |
| Stratization Date (Local):                                                     | 18 Jun 24                      | 7       |              | 60A       | 994     | 6.7              | 1.383        |                |  | 7       | 60B       | 970     | 6.8              | 1.380        |                | ☺ |
| KIO <sub>3</sub> N:                                                            | 0.0118309                      | 8       |              | 61        | 140     | 7.1              | 1.983        |                |  | 8       |           |         |                  |              |                |   |
| Standard Titer:                                                                | 0.496738                       | 9       |              | 62        | 131     | 7.1              | 1.989        |                |  | 9       |           |         |                  |              |                |   |
| Blank Titer:                                                                   | 0.000229                       | 10      |              | 63        | 1330    | 7.7              | 2.659        |                |  | 10      |           |         |                  |              |                |   |
| THIO N:                                                                        | 0.238301                       | 11      |              | 64        | 908     | 8.5              | 3.692        |                |  | 11      |           |         |                  |              |                |   |
| Sample Flask Water Seal?                                                       | Yes                            | 12      |              | 65        | 105     | 8.9              | 4.098        |                |  | 12      |           |         |                  |              |                |   |
|                                                                                | No                             | 13      |              | 66A       | 932     | 9.6              | 5.515        |                |  | 13      | 66B       | 173     | 9.7              | 5.514        |                | ☺ |
| Reagent Change?                                                                | MnCl <sub>2</sub>              | 14      |              |           |         |                  |              |                |  | 14      |           |         |                  |              |                |   |
| (Please circle reagent that was changed prior to sampling and standardization) | NaI/NaOH                       | 15      |              | 68        | 1485    | 11.1             | 6.069        |                |  | 15      |           |         |                  |              |                |   |
| NOTE NEW BATCH IN LOG BOOK                                                     | H <sub>2</sub> SO <sub>4</sub> | 16      |              | 69        | 1424    | 12.4             | 6.644        |                |  | 16      |           |         |                  |              |                |   |
|                                                                                | KIO <sub>3</sub>               | 17      |              | 70        | 174     | 12.5             | 6.650        |                |  | 17      |           |         |                  |              |                |   |
|                                                                                | THIO                           | 18      |              | 71        | 148     | 12.5             | 6.643        |                |  | 18      |           |         |                  |              |                |   |

|            |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Notes:     | 56       | 57       | 58       | 59       | 60A      | 60B      | 61       | 62       | 63       | 64       | 65       | 66A      | 66B      | 68       | 69       | 70       |
|            | OXY      | OXY      | OXY      | OXY      | OXY      | OXY      | OXY      | OXY      | OXY      | OXY      | OXY      | OXY      | OXY      | OXY      | OXY      | OXY      |
| Moose.xlsx | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 | 2024-069 |
|            | b-5 m    | 750 m    | 500 m    | 400 m    | 300 m    | 300 m    | 200 m    | 200 m    | 150 m    | 100 m    | 75 m     | 50 m     | 50 m     | 25 m     | 10 m     | 5 m      |
|            | bot 3    | bot 4    | bot 5    | bot 6    | bot 7    | bot 7    | bot 8    | bot 9    | bot 10   | bot 11   | bot 12   | bot 13   | bot 13   | bot 15   | bot 16   | bot 17   |

Bottle integrity: First penning the lower spigot (S) then test the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

71  
OXY  
CI06  
2024-069  
0 m  
bot 18

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                                               |  | Nisk ID | Nisk Int V S | Sample ID | Flask 1 | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments | Nisk ID | Sample ID | Flask 2 | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |
|--------------------------------------------------------------------------------|---------------------------------------------------------------|--|---------|--------------|-----------|---------|------------------|--------------|----------------|---------|-----------|---------|------------------|--------------|----------------|
| Cruise Number:                                                                 | 2024-069                                                      |  | 1       |              | 74A       | 1316    | 10.1             | 5.358        |                | 1       | 74B       | 974     | 10.1             | 5.563        |                |
| Event:                                                                         | 32                                                            |  | 2       |              | 75        | 2015    | 10.9             | 5.763        | lost label     | 2       |           |         |                  |              |                |
| Station:                                                                       | Scott2                                                        |  | 3       |              | 76        | 3072    | 11.7             | 6.363        |                | 3       |           |         |                  |              |                |
| Event Date (Local):                                                            | 19-06-24                                                      |  | 4       |              |           |         |                  |              |                | 4       |           |         |                  |              |                |
| Analysis Date (Local):                                                         | 20 Jun 24                                                     |  | 5       |              | 74A       |         | 74B              |              | 76             | 5       |           |         |                  |              |                |
| Analyst:                                                                       | Tanner                                                        |  | 6       |              | OXY       |         | OXY              |              | OXY            | 6       |           |         |                  |              |                |
| Stratization Date (Local):                                                     | 18 Jun 24                                                     |  | 7       |              | Scott2    |         | Scott2           |              | Scott2         | 7       |           |         |                  |              |                |
| KIO <sub>3</sub> N:                                                            | 0.0118309                                                     |  | 8       |              | 2024-069  |         | 2024-069         |              | 2024-069       | 8       |           |         |                  |              |                |
| Standard Titer:                                                                | 0.496738                                                      |  | 9       |              | 50 m      |         | 50 m             |              | 30 m           | 9       |           |         |                  |              |                |
| Blank Titer:                                                                   | 0.0000229                                                     |  | 10      |              | bot 1     |         | bot 1            |              | bot 3          | 10      |           |         |                  |              |                |
| THIO N:                                                                        | 0.238301                                                      |  | 11      |              |           |         |                  |              |                | 11      |           |         |                  |              |                |
| Sample Flask Water Seal?                                                       | <input checked="" type="radio"/> Yes <input type="radio"/> No |  | 12      |              |           |         |                  |              |                | 12      |           |         |                  |              |                |
| Reagent Change?                                                                | MnCl <sub>2</sub>                                             |  | 13      |              |           |         |                  |              |                | 13      |           |         |                  |              |                |
| (Please circle reagent that was changed prior to sampling and standardization) | NaI/NaOH                                                      |  | 14      |              |           |         |                  |              |                | 14      |           |         |                  |              |                |
| NOTE NEW BATCH IN LOG BOOK                                                     | H <sub>2</sub> SO <sub>4</sub>                                |  | 15      |              |           |         |                  |              |                | 15      |           |         |                  |              |                |
|                                                                                | KIO <sub>3</sub>                                              |  | 16      |              |           |         |                  |              |                | 16      |           |         |                  |              |                |
|                                                                                | THIO                                                          |  | 17      |              |           |         |                  |              |                | 17      |           |         |                  |              |                |
| Notes:                                                                         |                                                               |  | 18      |              |           |         |                  |              |                | 18      |           |         |                  |              |                |
|                                                                                |                                                               |  | 19      |              |           |         |                  |              |                | 19      |           |         |                  |              |                |
|                                                                                |                                                               |  | 20      |              |           |         |                  |              |                | 20      |           |         |                  |              |                |
|                                                                                |                                                               |  | 21      |              |           |         |                  |              |                | 21      |           |         |                  |              |                |
|                                                                                |                                                               |  | 22      |              |           |         |                  |              |                | 22      |           |         |                  |              |                |
|                                                                                |                                                               |  | 23      |              |           |         |                  |              |                | 23      |           |         |                  |              |                |
|                                                                                |                                                               |  | 24      |              |           |         |                  |              |                | 24      |           |         |                  |              |                |

Bottle integrity: First test the top vent (V) by opening the lower spigot (S) then test the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.



**Last Updated: December 2019**

sample 96 hit a wrong bottle  
so not sure if date kept  
end point = 0.6773 ml  
flask vol = 140.8      backslope pr =

**Notes:**

Humming Bird.xlsx

**Bottle integrity:** First



**Last Updated: December 2019**

**Institute of Ocean Sciences  
Water Properties Group**

| Cruise and Analysis Information                                                |  |  |  |  |  |  |  |  |  | Nisk ID  |  | Nisk Int V S |  | Sample ID |  | Flask 1  |  | Draw Temp 1 (°C) |  | OXY-1 (mL/L) |  | OXY-1 Comments |  | Nisk ID  |  | Sample ID |  | Flask 2  |  | Draw Temp 2 (°C) |  | OXY-2 (mL/L) |  | OXY-2 Comments |  |          |  |
|--------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|----------|--|--------------|--|-----------|--|----------|--|------------------|--|--------------|--|----------------|--|----------|--|-----------|--|----------|--|------------------|--|--------------|--|----------------|--|----------|--|
| Cruise Number: 2024-069                                                        |  |  |  |  |  |  |  |  |  | 1        |  |              |  |           |  |          |  |                  |  |              |  |                |  |          |  | 1         |  |          |  |                  |  |              |  |                |  |          |  |
| Event: 44                                                                      |  |  |  |  |  |  |  |  |  | 2        |  |              |  |           |  |          |  |                  |  |              |  |                |  |          |  | 2         |  |          |  |                  |  |              |  |                |  |          |  |
| Station: MT08B                                                                 |  |  |  |  |  |  |  |  |  | 3        |  |              |  | 119A      |  | 1316     |  | 6.3              |  | 0.804        |  |                |  |          |  | 3         |  | 119B     |  | 974              |  | 6.4          |  | 0.824          |  |          |  |
| Event Date (Local): 20-06-24                                                   |  |  |  |  |  |  |  |  |  | 4        |  |              |  | 120       |  | 2015     |  | 6.4              |  | 0.961        |  |                |  |          |  | 4         |  |          |  |                  |  |              |  |                |  |          |  |
| Analysis Date (Local): 20 Jun 24                                               |  |  |  |  |  |  |  |  |  | 5        |  |              |  | 121       |  | 3072     |  | 6.8              |  | 1.305        |  |                |  |          |  | 5         |  |          |  |                  |  |              |  |                |  |          |  |
| Analyst: Tamar                                                                 |  |  |  |  |  |  |  |  |  | 6        |  |              |  | 122       |  | 994      |  | 6.9              |  | 1.570        |  |                |  |          |  | 6         |  |          |  |                  |  |              |  |                |  |          |  |
| Standardization Date (Local): 20 Jun 24                                        |  |  |  |  |  |  |  |  |  | 7        |  |              |  | 123       |  | 970      |  | 7.4              |  | 3.099        |  | 2272           |  |          |  | 7         |  |          |  |                  |  |              |  |                |  |          |  |
| KIO <sub>3</sub> N: 0.0118309                                                  |  |  |  |  |  |  |  |  |  | 8        |  |              |  | 124       |  | 140      |  | 8.4              |  | 3.099        |  |                |  |          |  | 8         |  |          |  |                  |  |              |  |                |  |          |  |
| Standard Titer: 0.4965911                                                      |  |  |  |  |  |  |  |  |  | 9        |  |              |  | 125       |  | 131      |  | 9.2              |  | 4.370        |  |                |  |          |  | 9         |  |          |  |                  |  |              |  |                |  |          |  |
| Blank Titer: -0.0000109                                                        |  |  |  |  |  |  |  |  |  | 10       |  |              |  | 126       |  | 1330     |  | 9.8              |  | 5.444        |  |                |  |          |  | 10        |  |          |  |                  |  |              |  |                |  |          |  |
| THIO N: 0.238328                                                               |  |  |  |  |  |  |  |  |  | 11       |  |              |  |           |  |          |  |                  |  |              |  |                |  |          |  | 11        |  |          |  |                  |  |              |  |                |  |          |  |
| Sample Flask Water Seal? Yes                                                   |  |  |  |  |  |  |  |  |  | 12       |  |              |  | 128A      |  | 908      |  | 11               |  | 6.103        |  |                |  |          |  | 12        |  | 128B     |  | 105              |  | 11           |  | 6.106          |  | C        |  |
|                                                                                |  |  |  |  |  |  |  |  |  | 13       |  |              |  | 129       |  | 932      |  | 11.5             |  | 6.896        |  |                |  |          |  | 13        |  |          |  |                  |  |              |  |                |  |          |  |
| Reagent Change? MnCl <sub>2</sub>                                              |  |  |  |  |  |  |  |  |  | 14       |  |              |  | 130       |  | 173      |  | 13.8             |  | 6.580        |  |                |  |          |  | 14        |  |          |  |                  |  |              |  |                |  |          |  |
| (Please circle reagent that was changed prior to sampling and standardization) |  |  |  |  |  |  |  |  |  | 15       |  |              |  | 131       |  | 1485     |  | 14.3             |  | 6.433        |  |                |  |          |  | 15        |  |          |  |                  |  |              |  |                |  |          |  |
| NOTE NEW BATCH IN LOG BOOK                                                     |  |  |  |  |  |  |  |  |  | 16       |  |              |  | 132       |  | 1424     |  | 14.3             |  | 6.425        |  |                |  |          |  | 16        |  |          |  |                  |  |              |  |                |  |          |  |
| Notes: drawer CW<br>picker SP                                                  |  |  |  |  |  |  |  |  |  | 119A     |  | 119B         |  | 120       |  | 121      |  | 122              |  | 123          |  | 124            |  | 125      |  | 126       |  | 128A     |  | 128B             |  | 129          |  | 130            |  |          |  |
|                                                                                |  |  |  |  |  |  |  |  |  | OXY      |  | OXY          |  | OXY       |  | OXY      |  | OXY              |  | OXY          |  | OXY            |  | OXY      |  | OXY       |  | OXY      |  | OXY              |  | OXY          |  | OXY            |  | OXY      |  |
| Moose.xlsx                                                                     |  |  |  |  |  |  |  |  |  | MT08B    |  | MT08B        |  | MT08B     |  | MT08B    |  | MT08B            |  | MT08B        |  | MT08B          |  | MT08B    |  | MT08B     |  | MT08B    |  | MT08B            |  | MT08B        |  | MT08B          |  | MT08B    |  |
|                                                                                |  |  |  |  |  |  |  |  |  | 2024-069 |  | 2024-069     |  | 2024-069  |  | 2024-069 |  | 2024-069         |  | 2024-069     |  | 2024-069       |  | 2024-069 |  | 2024-069  |  | 2024-069 |  | 2024-069         |  | 2024-069     |  | 2024-069       |  | 2024-069 |  |
|                                                                                |  |  |  |  |  |  |  |  |  | b-5 m    |  | b-5 m        |  | 400 m     |  | 300 m    |  | 250 m            |  | 200 m        |  | 150 m          |  | 100 m    |  | 75 m      |  | 50 m     |  | 50 m             |  | 25 m         |  | 10 m           |  |          |  |
|                                                                                |  |  |  |  |  |  |  |  |  | bot 3    |  | bot 3        |  | bot 4     |  | bot 5    |  | bot 6            |  | bot 7        |  | bot 8          |  | bot 9    |  | bot 10    |  | bot 12   |  | bot 12           |  | bot 12       |  | bot 13         |  | bot 14   |  |
|                                                                                |  |  |  |  |  |  |  |  |  | 23       |  |              |  |           |  |          |  |                  |  |              |  |                |  |          |  | 23        |  |          |  |                  |  |              |  |                |  |          |  |
|                                                                                |  |  |  |  |  |  |  |  |  | 24       |  |              |  |           |  |          |  |                  |  |              |  |                |  |          |  | 24        |  |          |  |                  |  |              |  |                |  |          |  |

Bottle integrity: First test the top vent (V) by opening the bottle. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

Bottle integrity: First test the top vent (V) by opening the bottle and observing the vent. If the vent is open, the bottle is intact. If the vent is closed, the bottle is not intact. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.  
 Bottle integrity: First test the top vent (V) by opening the bottle and observing the vent. If the vent is open, the bottle is intact. If the vent is closed, the bottle is not intact. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                                              |                                |  | Nisk ID |  |  |  |  |  |  |  |  |  | Nisk Int V S |  |  |  |  |  |  |  |  |  | Sample ID |  |  |  |  |  |  |  |  |  | Flask 1 |  |  |  |  |  |  |  |  |  | Draw Temp 1 (°C) |  |  |  |  |  |  |  |  |  | OXY-1 (mL/L) |  |  |  |  |  |  |  |  |  | OXY-1 Comments |  |  |  |  |  |  |  |  |  | Nisk ID |  |  |  |  |  |  |  |  |  | Sample ID |  |  |  |  |  |  |  |  |  | Flask 2 |  |  |  |  |  |  |  |  |  | Draw Temp 2 (°C) |  |  |  |  |  |  |  |  |  | OXY-2 (mL/L) |  |  |  |  |  |  |  |  |  | OXY-2 Comments |  |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------|--------------------------------|--|---------|--|--|--|--|--|--|--|--|--|--------------|--|--|--|--|--|--|--|--|--|-----------|--|--|--|--|--|--|--|--|--|---------|--|--|--|--|--|--|--|--|--|------------------|--|--|--|--|--|--|--|--|--|--------------|--|--|--|--|--|--|--|--|--|----------------|--|--|--|--|--|--|--|--|--|---------|--|--|--|--|--|--|--|--|--|-----------|--|--|--|--|--|--|--|--|--|---------|--|--|--|--|--|--|--|--|--|------------------|--|--|--|--|--|--|--|--|--|--------------|--|--|--|--|--|--|--|--|--|----------------|--|--|--|--|--|--|--|--|--|
| Cruise Number:                                                                                               | 2024-069                       |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
| Event:                                                                                                       | 54                             |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
| Station:                                                                                                     | MT05                           |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
| Event Date (Local):                                                                                          | 20-06-24                       |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
| Analysis Date (Local):                                                                                       | 21 Jun 24                      |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
| Analyst:                                                                                                     | Tamarca                        |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
| Stratization Date (Local):                                                                                   | 20 Jun 24                      |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
| KIO <sub>3</sub> N:                                                                                          | 0.0118309                      |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
| Standard Titer:                                                                                              | 0.4965911                      |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
| Blank Titer:                                                                                                 | -0.000109                      |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
| THIO N:                                                                                                      | 0.238328                       |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
| Sample Flask Water Seal?                                                                                     | <div>Yes</div> No              |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
| Reagent Change?                                                                                              | MnCl <sub>2</sub>              |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
| (Please circle reagent that was changed prior to sampling and standardization)<br>NOTE NEW BATCH IN LOG BOOK | NaI/NaOH                       |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
|                                                                                                              | H <sub>2</sub> SO <sub>4</sub> |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
|                                                                                                              | KIO <sub>3</sub>               |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
|                                                                                                              | THIO                           |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
|                                                                                                              |                                |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
| Notes:                                                                                                       |                                |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |
| Humming Bird.xlsx                                                                                            |                                |  |         |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |           |  |  |  |  |  |  |  |  |  |         |  |  |  |  |  |  |  |  |  |                  |  |  |  |  |  |  |  |  |  |              |  |  |  |  |  |  |  |  |  |                |  |  |  |  |  |  |  |  |  |

Bottle integrity: First test the top vent (V) by opening the lower spigot (S) then test the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                      | Nisk ID | Nisk Int V S | Sample ID | Flask 1 | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments        | Nisk ID | Sample ID | Flask 2 | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |
|--------------------------------------------------------------------------------|--------------------------------------|---------|--------------|-----------|---------|------------------|--------------|-----------------------|---------|-----------|---------|------------------|--------------|----------------|
| Cruise Number:                                                                 | 2024-069                             | 1       |              |           |         |                  |              |                       | 1       |           |         |                  |              |                |
| Event:                                                                         | 69                                   | 2       |              | 175       | 1314    | 8.6              | 3.061        | bubbles, redraw 8.6 C | 2       |           |         |                  |              |                |
| Station:                                                                       | WHA3                                 | 3       |              | 176       | 3034    | 8.6              | 3.082        |                       | 3       |           |         |                  |              |                |
| Event Date (Local):                                                            | 21-06-24                             | 4       |              | 177       | 912     | 8.6              | 3.169        |                       | 4       |           |         |                  |              |                |
| Analysis Date (Local):                                                         | 23 Jun 24                            | 5       |              | 178A      | 3074    | 8.7              | 3.247        |                       | 5       | 178B      | 1429    | 8.8              | 3.253        |                |
| Analyst:                                                                       | Tanner                               | 6       |              | 179       | 1487    | 8.8              | 3.367        | 3.327                 | 6       |           |         |                  |              |                |
| Stdization Date (Local):                                                       | 23 Jun 24                            | 7       |              | 180       | 3133    | 8.9              | 3.361        | 8.8 C                 | 7       |           |         |                  |              |                |
| KIO <sub>3</sub> N:                                                            | 0.0118309                            | 8       |              | 181       | 178     | 8.9              | 3.477        |                       | 8       |           |         |                  |              |                |
| Standard Titer:                                                                | 0.496322                             | 9       |              | 182       | 981     | 9.3              | 3.708        |                       | 9       |           |         |                  |              |                |
| Blank Titer:                                                                   | 0.0000665                            | 10      |              | 183       | 1491    | 9.4              | 3.733        |                       | 10      |           |         |                  |              |                |
| THIO N:                                                                        | 0.23848                              | 11      |              | 184       | 921     | 9.6              | 3.977        |                       | 11      |           |         |                  |              |                |
| Sample Flask Water Seal?                                                       | Yes                                  | 12      |              | 185A      | 3116    | 9.9              | 4.432        |                       | 12      | 185B      | 3126    | 9.9              | 4.427        |                |
| Reagent Change?                                                                | MnCl <sub>2</sub>                    | 13      |              | 186       | 185     | 11.1             | 5.846        |                       | 13      |           |         |                  |              |                |
| (Please circle reagent that was changed prior to sampling and standardization) | NaI/NaOH                             | 14      |              | 187       | 3148    | 13.0             | 7.780        |                       | 14      |           |         |                  |              |                |
| NOTE NEW BATCH IN LOG BOOK                                                     | H <sub>2</sub> SO <sub>4</sub> /None | 15      |              | 188       | 122     | 13.5             | 8.407        |                       | 15      |           |         |                  |              |                |
| Notes:                                                                         | Humming Bird.xlsx                    | 16      | 175          | OXY       | WHA3    | 2024-069         | b-5 m        | bot 2                 | 175     | OXY       | WHA3    | 2024-069         | 200 m        | bot 7          |
|                                                                                |                                      | 17      | 176          | OXY       | WHA3    | 2024-069         | 500 m        | bot 3                 | 176     | OXY       | WHA3    | 2024-069         | 250 m        | bot 6          |
|                                                                                |                                      | 18      | 177          | OXY       | WHA3    | 2024-069         | 400 m        | bot 4                 | 177     | OXY       | WHA3    | 2024-069         | 300 m        | bot 5          |
|                                                                                |                                      | 19      | 178A         | OXY       | WHA3    | 2024-069         | 300 m        | bot 5                 | 178A    | OXY       | WHA3    | 2024-069         | 300 m        | bot 5          |
|                                                                                |                                      | 20      | 178B         | OXY       | WHA3    | 2024-069         | 300 m        | bot 5                 | 178B    | OXY       | WHA3    | 2024-069         | 300 m        | bot 5          |
|                                                                                |                                      | 21      | 179          | OXY       | WHA3    | 2024-069         | 250 m        | bot 6                 | 179     | OXY       | WHA3    | 2024-069         | 250 m        | bot 6          |
|                                                                                |                                      | 22      | 180          | OXY       | WHA3    | 2024-069         | 200 m        | bot 7                 | 180     | OXY       | WHA3    | 2024-069         | 200 m        | bot 7          |
|                                                                                |                                      | 23      | 181          | OXY       | WHA3    | 2024-069         | 150 m        | bot 8                 | 181     | OXY       | WHA3    | 2024-069         | 150 m        | bot 8          |
| 24                                                                             | 182                                  | OXY     | WHA3         | 2024-069  | 100 m   | bot 9            | 182          | OXY                   | WHA3    | 2024-069  | 100 m   | bot 9            |              |                |
| 25                                                                             | 183                                  | OXY     | WHA3         | 2024-069  | 75 m    | bot 10           | 183          | OXY                   | WHA3    | 2024-069  | 75 m    | bot 10           |              |                |
| 26                                                                             | 184                                  | OXY     | WHA3         | 2024-069  | 50 m    | bot 11           | 184          | OXY                   | WHA3    | 2024-069  | 50 m    | bot 11           |              |                |
| 27                                                                             | 185A                                 | OXY     | WHA3         | 2024-069  | 25 m    | bot 12           | 185A         | OXY                   | WHA3    | 2024-069  | 25 m    | bot 12           |              |                |
| 28                                                                             | 185B                                 | OXY     | WHA3         | 2024-069  | 25 m    | bot 12           | 185B         | OXY                   | WHA3    | 2024-069  | 25 m    | bot 12           |              |                |

Bottle integrity: First test the top vent (V) by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                | Nisk ID | Nisk Int V S | Sample ID | Flask 1  | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments | Nisk ID  | Sample ID | Flask 2  | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |          |          |
|--------------------------------------------------------------------------------|--------------------------------|---------|--------------|-----------|----------|------------------|--------------|----------------|----------|-----------|----------|------------------|--------------|----------------|----------|----------|
| Cruise Number:                                                                 | 2024-069                       | 1       |              |           |          |                  |              |                | 1        |           |          |                  |              |                |          |          |
| Event:                                                                         | 85                             | 2       |              |           |          |                  |              |                | 2        |           |          |                  |              |                |          |          |
| Station:                                                                       | DEV14                          | 3       |              | 273       | 130      | 9.0              | 3.604        |                | 3        |           |          |                  |              |                |          |          |
| Event Date (Local):                                                            | 22-06-24                       | 4       |              | 274       | 923      | 8.9              | 3.598        |                | 4        |           |          |                  |              |                |          |          |
| Analysis Date (Local):                                                         | 23 Jun 24                      | 5       |              | 275       | 3032     | 9.0              | 3.654        |                | 5        |           |          |                  |              |                |          |          |
| Analyst:                                                                       | Tamar                          | 6       |              | 276A      | 913      | 9.0              | 3.674        |                | 6        | 276B      | 126      | 9.0              | 3.681        |                |          |          |
| Stdization Date (Local):                                                       | 23 Jun 24                      | 7       |              | 277       | 1402     | 9.1              | 3.769        |                | 7        |           |          |                  |              |                |          |          |
| KIO <sub>3</sub> N:                                                            | 0.018309                       | 8       |              | 278       | 3096     | 9.2              | 3.281        |                | 8        |           |          |                  |              |                |          |          |
| Standard Titer:                                                                | 0.496322                       | 9       |              | 279       | 3109     | 9.3              | 3.548        |                | 9        |           |          |                  |              |                |          |          |
| Blank Titer:                                                                   | 0.0000665                      | 10      |              |           |          |                  |              |                | 10       |           |          |                  |              |                |          |          |
| THIO N:                                                                        | 0.23848                        | 11      |              | 281A      | 151      | 9.6              | 4.310        |                | 11       | 281B      | 154      | 9.7              | 4.309        | ✓              |          |          |
| Sample Flask Water Seal?                                                       | Yes                            | 12      |              | 282       | 129      | 9.8              | 4.185        |                | 12       |           |          |                  |              |                |          |          |
|                                                                                | No                             | 13      |              | 283       | 575      | 11.1             | 6.072        |                | 13       |           |          |                  |              |                |          |          |
| Reagent Change?                                                                | MnCl <sub>2</sub>              | 14      |              | 284       | 171      | 16.1             | 7.445        |                | 14       |           |          |                  |              |                |          |          |
| (Please circle reagent that was changed prior to sampling and standardization) | NaI/NaOH                       | 15      |              | 285       | 903      | 16.3             | 7.429        |                | 15       |           |          |                  |              |                |          |          |
| NOTE NEW BATCH IN LOG BOOK                                                     | H <sub>2</sub> SO <sub>4</sub> | 16      |              | 273       | 274      | 275              | 276A         | 276B           | 277      | 278       | 279      | 281A             | 281B         | 282            | 283      | 284      |
|                                                                                | KIO <sub>3</sub>               | 17      |              | OXY       | OXY      | OXY              | OXY          | OXY            | OXY      | OXY       | OXY      | OXY              | OXY          | OXY            | OXY      | OXY      |
|                                                                                | THIO                           | 18      |              | DEV14     | DEV14    | DEV14            | DEV14        | DEV14          | DEV14    | DEV14     | DEV14    | DEV14            | DEV14        | DEV14          | DEV14    | DEV14    |
| Notes:                                                                         |                                | 19      |              | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069       | 2024-069 | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069       | 2024-069 | 2024-069 |
|                                                                                |                                | 20      |              | b-5 m     | 300 m    | 250 m            | 200 m        | 200 m          | 150 m    | 100 m     | 75 m     | 50 m             | 50 m         | 25 m           | 10 m     | 5 m      |
| Snail.xlsx                                                                     |                                | 21      |              | bot 3     | bot 4    | bot 5            | bot 6        | bot 6          | bot 7    | bot 8     | bot 9    | bot 11           | bot 11       | bot 12         | bot 13   | bot 14   |
|                                                                                |                                | 22      |              | 285       |          |                  |              |                |          |           |          |                  |              |                |          |          |
|                                                                                |                                | 23      |              | OXY       |          |                  |              |                |          |           |          |                  |              |                |          |          |
|                                                                                |                                | 24      |              | DEV14     |          |                  |              |                |          |           |          |                  |              |                |          |          |

Bottle integrity: First test the top vent (V) by opening bot (S) then test the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

0 m  
bot 15

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                     |  | Nisk ID | Nisk Int V S | Sample ID | Flask 1  | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments                       | Nisk ID | Sample ID | Flask 2  | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |
|--------------------------------------------------------------------------------|-------------------------------------|--|---------|--------------|-----------|----------|------------------|--------------|--------------------------------------|---------|-----------|----------|------------------|--------------|----------------|
| Cruise Number:                                                                 | 2024-069                            |  | 1       |              |           |          |                  |              |                                      | 1       |           |          |                  |              |                |
| Event:                                                                         | 87                                  |  | 2       |              |           |          |                  |              |                                      | 2       |           |          |                  |              |                |
| Station:                                                                       | DO9                                 |  | 3       |              | 290       | 1316     | 9.0              | 9.00         | problem - OXY two burette - NO (out) | 3       |           |          |                  |              |                |
| Event Date (Local):                                                            | 24-06-24                            |  | 4       |              | 291A      | 974      | 9.0              | 3.673        | 25m bar - had to fish one out        | 4       | 291B      | 2015     | 9.0              | 3.673        | 3.662          |
| Analysis Date (Local):                                                         | 24 Jun 24                           |  | 5       |              | 292       | 3072     | 9.0              | 3.768        |                                      | 5       |           |          |                  |              |                |
| Analyst:                                                                       | Tanner                              |  | 6       |              | 293       | 994      | 9.2              | 3.316        |                                      | 6       |           |          |                  |              |                |
| Stdization Date (Local):                                                       | 23 Jun 24                           |  | 7       |              | 294       | 970      | 9.4              | 3.458        |                                      | 7       |           |          |                  |              |                |
| KIO <sub>3</sub> N:                                                            | 0.0118309                           |  | 8       |              | 295       | 140      | 9.7              | 4.310        |                                      | 8       |           |          |                  |              |                |
| Standard Titer:                                                                | 0.496322                            |  | 9       |              |           |          |                  |              |                                      | 9       |           |          |                  |              |                |
| Blank Titer:                                                                   | 0.0000665                           |  | 10      |              | 297       | 131      | 9.4              | 5.085        |                                      | 10      |           |          |                  |              |                |
| THIO N:                                                                        | 0.23848                             |  | 11      |              | 298       | 1330     | 11.0             | 6.655        |                                      | 11      |           |          |                  |              |                |
| Sample Flask Water Seal?                                                       | Yes                                 |  | 12      |              | 299       | 908      | 16.2             | 7.160        | 105                                  | 12      |           |          |                  |              |                |
|                                                                                | No                                  |  | 13      |              | 300       | 105      | 16.9             | 6.989        | 908                                  | 13      |           |          |                  |              |                |
| Reagent Change?                                                                | MnCl <sub>2</sub>                   |  | 14      |              |           |          |                  |              |                                      | 14      |           |          |                  |              |                |
| (Please circle reagent that was changed prior to sampling and standardization) | NaI/NaOH                            |  | 15      |              |           |          |                  |              |                                      | 15      |           |          |                  |              |                |
| NOTE NEW BATCH IN LOG BOOK                                                     | H <sub>2</sub> SO <sub>4</sub> none |  | 16      |              | 290       | 291A     | 2024-069         | 2024-069     | 2024-069                             | 16      | 290       | 297      | 2024-069         | 2024-069     | 300            |
|                                                                                | KIO <sub>3</sub>                    |  | 17      |              | OXY       | OXY      | OXY              | OXY          | OXY                                  | 17      | OXY       | OXY      | OXY              | OXY          | OXY            |
|                                                                                | THIO                                |  | 18      |              | DO9       | DO9      | DO9              | DO9          | DO9                                  | 18      | DO9       | DO9      | DO9              | DO9          | DO9            |
| Notes:                                                                         |                                     |  | 19      |              | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069                             | 19      | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069       |
|                                                                                |                                     |  | 20      |              | b-5 m     | 200 m    | 150 m            | 100 m        | 75 m                                 | 20      | 50 m      | 25 m     | 10 m             | 5 m          | 0 m            |
|                                                                                |                                     |  | 21      |              | bot 3     | bot 4    | bot 5            | bot 6        | bot 7                                | 21      | bot 8     | bot 10   | bot 11           | bot 12       | bot 13         |
| Moose.xlsx                                                                     |                                     |  | 22      |              |           |          |                  |              |                                      | 22      |           |          |                  |              |                |
|                                                                                |                                     |  | 23      |              |           |          |                  |              |                                      | 23      |           |          |                  |              |                |
|                                                                                |                                     |  | 24      |              |           |          |                  |              |                                      | 24      |           |          |                  |              |                |

Bottle integrity: First test the top vent (V) by opening the lower spigot (S) then test the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

# Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                | Nisk ID | Nisk Int V S | Sample ID    | Flask 1      | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments | Nisk ID      | Sample ID    | Flask 2      | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |
|--------------------------------------------------------------------------------|--------------------------------|---------|--------------|--------------|--------------|------------------|--------------|----------------|--------------|--------------|--------------|------------------|--------------|----------------|
| Cruise Number:                                                                 | 2024-069                       | 1       |              |              |              |                  |              |                | 1            |              |              |                  |              |                |
| Event:                                                                         | 103                            | 2       |              |              |              |                  |              |                | 2            |              |              |                  |              |                |
| Station:                                                                       | SRN1 (MT01)                    | 3       |              | 339A         | 1314         | 6.9              | 1.004        |                | 3            | 339B         | 3034         | 7.0              | 0.999        |                |
| Event Date (Local):                                                            | 23-06-24                       | 4       |              | 340          | 912          | 7.5              | 1.704        |                | 4            |              |              |                  |              |                |
| Analysis Date (Local):                                                         | 24 June 24                     | 5       |              | 341          | 3074         | 8.8              | 3.205        |                | 5            |              |              |                  |              |                |
| Analyst:                                                                       | Tanner                         | 6       |              | 342          | 1429         | 9.8              | 4.556        |                | 6            |              |              |                  |              |                |
| Stratization Date (Local):                                                     | 23 June 24                     | 7       |              | 343          | 1487         | 10.6             | 5.210        |                | 7            |              |              |                  |              |                |
| KIO <sub>3</sub> N:                                                            | 0.0118309                      | 8       |              |              |              |                  |              |                | 8            |              |              |                  |              |                |
| Standard Titer:                                                                | 0.496322                       | 9       |              | 345          | 3133         | 11.3             | 5.670        |                | 9            |              |              |                  |              |                |
| Blank Titer:                                                                   | 0.0000665                      | 10      |              | 346          | 178          | 13.6             | 6.651        |                | 10           |              |              |                  |              |                |
| THIO N:                                                                        | 0.23848                        | 11      |              | 347          | 981          | 13.8             | 6.650        |                | 11           |              |              |                  |              |                |
| Sample Flask Water Seal?                                                       | Yes                            | 12      |              | 348          | 1491         | 13.8             | 6.651        |                | 12           |              |              |                  |              |                |
| Reagent Change?                                                                | MnCl <sub>2</sub>              | 13      |              | 339A         | 339B         | 339B             | 340          |                | 3            | 346          | 347          | 348              |              |                |
| (Please circle reagent that was changed prior to sampling and standardization) | NaI/NaOH                       | 14      |              | OXY          | OXY          | OXY              | OXY          |                | 345          | OXY          | OXY          | OXY              |              |                |
| NOTE NEW BATCH IN LOG BOOK                                                     | H <sub>2</sub> SO <sub>4</sub> | 15      |              | SKIN1 (MT01) | SKIN1 (MT01) | SKIN1 (MT01)     | SKIN1 (MT01) |                | SKIN1 (MT01) | SKIN1 (MT01) | SKIN1 (MT01) | SKIN1 (MT01)     |              |                |
|                                                                                | KIO <sub>3</sub>               | 16      |              | 2024-069     | 2024-069     | 2024-069         | 2024-069     |                | 2024-069     | 2024-069     | 2024-069     | 2024-069         |              |                |
|                                                                                | THIO                           | 17      |              | b-5 m        | b-5 m        | 100 m            | 150 m        |                | 25 m         | 10 m         | 5 m          | 0 m              |              |                |
|                                                                                |                                | 18      |              | bot 3        | bot 3        | bot 5            | bot 4        |                | bot 9        | bot 10       | bot 11       | bot 12           |              |                |
| Notes:                                                                         |                                | 19      |              |              |              |                  |              |                |              |              |              |                  |              |                |
|                                                                                |                                | 20      |              |              |              |                  |              |                |              |              |              |                  |              |                |
|                                                                                |                                | 21      |              |              |              |                  |              |                |              |              |              |                  |              |                |
|                                                                                |                                | 22      |              |              |              |                  |              |                |              |              |              |                  |              |                |
|                                                                                |                                | 23      |              |              |              |                  |              |                |              |              |              |                  |              |                |
|                                                                                |                                | 24      |              |              |              |                  |              |                |              |              |              |                  |              |                |

Bottle integrity: First test the top vent (V) by opening the lower spigot (S) then test the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

Humming Bird.xlsx

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                |  | Nisk ID | Nisk Int V S | Sample ID | Flask 1  | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments |          | Nisk ID  | Sample ID | Flask 2  | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |  |
|--------------------------------------------------------------------------------|--------------------------------|--|---------|--------------|-----------|----------|------------------|--------------|----------------|----------|----------|-----------|----------|------------------|--------------|----------------|--|
| Cruise Number:                                                                 | 2024-069                       |  | 1       |              |           |          |                  |              |                |          | 1        |           |          |                  |              |                |  |
| Event:                                                                         | 108                            |  | 2       |              | 366       | 130      | 9.0              | 2.486        |                |          | 2        |           |          |                  |              |                |  |
| Station:                                                                       | HECS4                          |  | 3       |              | 367       | 923      | 8.9              | 2.507        |                |          | 3        |           |          |                  |              |                |  |
| Event Date (Local):                                                            | 24-06-24                       |  | 4       |              | 368A      | 3032     | 9.8              | 4.083        |                |          | 4        | 368B      | 913      | 9.8              | 4.088        |                |  |
| Analysis Date (Local):                                                         | 24 June 24                     |  | 5       |              | 369       | 126      | 11.7             | 6.112        |                |          | 5        |           |          |                  |              |                |  |
| Analyst:                                                                       | Tanner                         |  | 6       |              | 370       | 1402     | 11.8             | 6.144        |                |          | 6        |           |          |                  |              |                |  |
| Stdization Date (Local):                                                       | 23 June 24                     |  | 7       |              | 371       | 3096     | 12.7             | 6.594        |                |          | 7        |           |          |                  |              |                |  |
| KIO <sub>3</sub> N:                                                            | 0.0118309                      |  | 8       |              | 372A      | 3109     | 13.1             | 6.912        |                |          | 8        | 372B      | 151      | 13.1             | 6.909        |                |  |
| Standard Titer:                                                                | 0.496322                       |  | 9       |              | 373       | 154      | 13.1             | 6.924        |                |          | 9        |           |          |                  |              |                |  |
| Blank Titer:                                                                   | 0.0000665                      |  | 10      |              | 374       | 129      | 13.1             | 6.926        |                |          | 10       |           |          |                  |              |                |  |
| THIO N:                                                                        | 0.23848                        |  | 11      |              |           |          |                  |              |                |          | 11       |           |          |                  |              |                |  |
| Sample Flask Water Seal?                                                       | Yes                            |  | 12      |              | 366       | 367      | 368A             | 368B         | 369            | 370      | 371      | 372A      | 372B     | 373              | 374          |                |  |
| Reagent Change?                                                                | MnCl <sub>2</sub>              |  | 13      |              | OXY       | OXY      | OXY              | OXY          | OXY            | OXY      | OXY      | OXY       | OXY      | OXY              | OXY          |                |  |
| (Please circle reagent that was changed prior to sampling and standardization) | NaI/NaOH                       |  | 14      |              | HECS4     | HECS4    | HECS4            | HECS4        | HECS4          | HECS4    | HECS4    | HECS4     | HECS4    | HECS4            | HECS4        |                |  |
| NOTE NEW BATCH IN LOG BOOK                                                     | H <sub>2</sub> SO <sub>4</sub> |  | 15      |              | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069       | 2024-069 | 2024-069 | 2024-069  | 2024-069 | 2024-069         | 2024-069     |                |  |
|                                                                                | KIO <sub>3</sub>               |  | 16      |              | b-5 m     | b-5 m    | 75 m             | 75 m         | 50 m           | 50 m     | 25 m     | 10 m      | 10 m     | 5 m              | 0 m          |                |  |
|                                                                                | THIO                           |  | 17      |              | bot 2     | bot 3    | bot 4            | bot 4        | bot 5          | bot 6    | bot 7    | bot 8     | bot 8    | bot 9            | bot 10       |                |  |
| Notes:                                                                         |                                |  | 18      |              |           |          |                  |              |                |          |          |           |          |                  |              |                |  |
|                                                                                |                                |  | 19      |              |           |          |                  |              |                |          |          |           |          |                  |              |                |  |
|                                                                                |                                |  | 20      |              |           |          |                  |              |                |          |          |           |          |                  |              |                |  |
|                                                                                |                                |  | 21      |              |           |          |                  |              |                |          |          |           |          |                  |              |                |  |
|                                                                                |                                |  | 22      |              |           |          |                  |              |                |          |          |           |          |                  |              |                |  |
|                                                                                |                                |  | 23      |              |           |          |                  |              |                |          |          |           |          |                  |              |                |  |
|                                                                                |                                |  | 24      |              |           |          |                  |              |                |          |          |           |          |                  |              |                |  |

Bottle integrity: First test the top vent (V) by opening the lower spigot (S) then test the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                                                                                                                          |  | Nisk ID | Nisk Int V S | Sample ID | Flask 1  | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments          | Nisk ID  | Sample ID | Flask 2  | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |  |
|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--|---------|--------------|-----------|----------|------------------|--------------|-------------------------|----------|-----------|----------|------------------|--------------|----------------|--|
| Cruise Number:                                                                 | 2024-069                                                                                                                                 |  | 1       |              |           |          |                  |              |                         | 1        |           |          |                  |              |                |  |
| Event:                                                                         | 143                                                                                                                                      |  | 2       |              |           |          |                  |              |                         | 2        |           |          |                  |              |                |  |
| Station:                                                                       | Dix1                                                                                                                                     |  | 3       |              | 413       | 2098     | 7.0              | 1.920        |                         | 3        |           |          |                  |              |                |  |
| Event Date (Local):                                                            | 25-06-24                                                                                                                                 |  | 4       |              | 414       | 3114     | 7.0              | 2.036        |                         | 4        |           |          |                  |              |                |  |
| Analysis Date (Local):                                                         | 25 June 24                                                                                                                               |  | 5       |              | 415       | 904      | 7.6              | 2.444        |                         | 5        |           |          |                  |              |                |  |
| Analyst:                                                                       | Tamarz                                                                                                                                   |  | 6       | X            | 416       | 973      | 8.2              | 2.916        | septa not fully closed. | 6        |           |          |                  |              |                |  |
| Stratization Date (Local):                                                     | 23 June 24                                                                                                                               |  | 7       |              | 417       | 196      | 8.8              | 3.569        |                         | 7        |           |          |                  |              |                |  |
| KIO <sub>3</sub> N:                                                            | 0.0118309                                                                                                                                |  | 8       |              |           |          |                  |              |                         | 8        |           |          |                  |              |                |  |
| Standard Titer:                                                                | 0.496322                                                                                                                                 |  | 9       |              | 419A      | 1346     | 9.3              | 4.453        |                         | 9        | 419B      | 3005     | 7.4              | 4.445        | CO             |  |
| Blank Titer:                                                                   | 0.0000665                                                                                                                                |  | 10      |              | 420       | 118      | 10.3             | 5.221        |                         | 10       |           |          |                  |              |                |  |
| THIO N:                                                                        | 0.23848                                                                                                                                  |  | 11      |              | 421       | 169      | 12.0             | 6.415        |                         | 11       |           |          |                  |              |                |  |
| Sample Flask Water Seal?                                                       | <div><div>Yes</div><div>No</div></div>                                                                                                   |  | 12      |              | 422       | 3050     | 12.5             | 6.667        |                         | 12       |           |          |                  |              |                |  |
| Reagent Change?                                                                | <div><div>MnCl<sub>2</sub></div><div>NaI/NaOH</div><div>H<sub>2</sub>SO<sub>4</sub></div><div>KIO<sub>3</sub></div><div>THIO</div></div> |  | 13      |              | 423       | 3044     | 13.2             | 7.057        |                         | 13       |           |          |                  |              |                |  |
| (Please circle reagent that was changed prior to sampling and standardization) |                                                                                                                                          |  | 14      |              | 413       | 414      | 415              | 416          | 417                     | 419A     | 419B      | 420      | 421              | 422          | 423            |  |
| NOTE NEW BATCH IN LOG BOOK                                                     |                                                                                                                                          |  | 15      |              | OXY       | OXY      | OXY              | OXY          | OXY                     | OXY      | OXY       | OXY      | OXY              | OXY          | OXY            |  |
|                                                                                |                                                                                                                                          |  | 16      |              | Dix1      | Dix1     | Dix1             | Dix1         | Dix1                    | Dix1     | Dix1      | Dix1     | Dix1             | Dix1         | Dix1           |  |
|                                                                                |                                                                                                                                          |  | 17      |              | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069                | 2024-069 | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069       |  |
|                                                                                |                                                                                                                                          |  | 18      |              | b-5 m     | 200 m    | 150 m            | 100 m        | 75 m                    | 50 m     | 50 m      | 25 m     | 10 m             | 5 m          | 0 m            |  |
|                                                                                |                                                                                                                                          |  | 19      |              | bot 3     | bot 4    | bot 5            | bot 6        | bot 7                   | bot 9    | bot 9     | bot 10   | bot 11           | bot 12       | bot 13         |  |
| Notes:                                                                         | didn't do water temp                                                                                                                     |  | 20      |              |           |          |                  |              |                         |          |           |          |                  |              |                |  |
| Chicken & Egg.xlsx                                                             | 21.5.15.15                                                                                                                               |  | 21      |              |           |          |                  |              |                         |          |           |          |                  |              |                |  |
|                                                                                |                                                                                                                                          |  | 22      |              |           |          |                  |              |                         |          |           |          |                  |              |                |  |
|                                                                                |                                                                                                                                          |  | 23      |              |           |          |                  |              |                         |          |           |          |                  |              |                |  |
|                                                                                |                                                                                                                                          |  | 24      |              |           |          |                  |              |                         |          |           |          |                  |              |                |  |

Bottle integrity: First test the top vent (V) by opening the lower spigot (S) then test the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                | Nisk ID | Nisk Int V S | Sample ID | Flask 1  | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments | Nisk ID  | Sample ID | Flask 2  | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |          |          |
|--------------------------------------------------------------------------------|--------------------------------|---------|--------------|-----------|----------|------------------|--------------|----------------|----------|-----------|----------|------------------|--------------|----------------|----------|----------|
| Cruise Number:                                                                 | 2024-069                       | 1       |              | 426       | 1314     | 6.5              | 1389         |                | 1        |           |          |                  |              |                |          |          |
| Event:                                                                         | 147                            | 2       |              | 427       | 3034     | 6.7              | 1.669        |                | 2        |           |          |                  |              |                |          |          |
| Station:                                                                       | Q37                            | 3       |              | 428       | 912      | 6.8              | 1.837        |                | 3        |           |          |                  |              |                |          |          |
| Event Date (Local):                                                            | 25-06-24                       | 4       |              | 429       | 3074     | 7.0              | 2.167        |                | 4        |           |          |                  |              |                |          |          |
| Analysis Date (Local):                                                         | 27 Jun 24                      | 5       |              | 430A      | 1429     | 7.3              | 2.455        |                | 5        | 430B      | 1487     | 7.4              | 2.458        | 00             |          |          |
| Analyst:                                                                       | Tamara                         | 6       |              | 431       | 3133     | 7.6              | 2.680        | 7.6            | 6        |           |          |                  |              |                |          |          |
| Station Date (Local):                                                          | 26 Jun 24                      | 7       |              | 432       | 178      | 8.0              | 3.019        |                | 7        |           |          |                  |              |                |          |          |
| KIO <sub>3</sub> N:                                                            | 0.0118309                      | 8       |              | 433       | 981      | 8.5              | 3.881        |                | 8        |           |          |                  |              |                |          |          |
| Standard Titer:                                                                | 0.4972679                      | 9       |              | 434       | 1491     | 9.1              | 4.471        |                | 9        |           |          |                  |              |                |          |          |
| Blank Titer:                                                                   | 0.0005154                      | 10      |              | 435A      | 921      | 9.9              | 5.194        |                | 10       | 435B      | 3116     | 10.0             | 5.196        | 00             |          |          |
| THIO N:                                                                        | 0.238274                       | 11      |              | 436       | 3126     | 10.0             | 6.044        | 11.0           | 11       |           |          |                  |              |                |          |          |
| Sample Flask Water Seal?                                                       | Yes                            | 12      |              | 437       | 185      | 11.6             | 6.350        |                | 12       |           |          |                  |              |                |          |          |
|                                                                                | No                             | 13      |              | 438       | 3148     | 11.7             | 6.400        |                | 13       |           |          |                  |              |                |          |          |
| Reagent Change?                                                                | MnCl <sub>2</sub>              | 14      |              | 426       | 427      | 428              | 429          | 430A           | 430B     | 431       | 432      | 433              | 434          | 435A           | 435B     | 436      |
| (Please circle reagent that was changed prior to sampling and standardization) | NaI/NaOH                       | 15      |              | OXY       | OXY      | OXY              | OXY          | OXY            | OXY      | OXY       | OXY      | OXY              | OXY          | OXY            | OXY      | OXY      |
| NOTE NEW BATCH IN LOG BOOK                                                     | H <sub>2</sub> SO <sub>4</sub> | 16      |              | Q37       | Q37      | Q37              | Q37          | Q37            | Q37      | Q37       | Q37      | Q37              | Q37          | Q37            | Q37      | Q37      |
|                                                                                | KIO <sub>3</sub>               | 17      |              | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069       | 2024-069 | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069       | 2024-069 | 2024-069 |
|                                                                                | THIO                           | 18      |              | b-5 m     | 350 m    | 300 m            | 250 m        | 200 m          | 200 m    | 150 m     | 100 m    | 75 m             | 50 m         | 25 m           | 10 m     |          |
| Notes:                                                                         |                                | 19      |              | bot 1     | bot 2    | bot 3            | bot 4        | bot 5          | bot 5    | bot 6     | bot 7    | bot 8            | bot 9        | bot 10         | bot 11   |          |
|                                                                                |                                | 20      |              | 437       | 438      |                  |              |                |          |           |          |                  |              |                |          |          |
|                                                                                |                                | 21      |              | OXY       | OXY      |                  |              |                |          |           |          |                  |              |                |          |          |
|                                                                                |                                | 22      |              | Q37       | Q37      |                  |              |                |          |           |          |                  |              |                |          |          |
|                                                                                |                                | 23      |              | 2024-069  | 2024-069 |                  |              |                |          |           |          |                  |              |                |          |          |
|                                                                                |                                | 24      |              | 5 m       | 0 m      |                  |              |                |          |           |          |                  |              |                |          |          |

Bottle integrity: First test the top vent (V) by opening bot 12 : bot 13 the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                     | Nisk ID | Nisk Int V S | Sample ID | Flask 1  | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments |          | Nisk ID  | Sample ID | Flask 2  | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |          |
|--------------------------------------------------------------------------------|-------------------------------------|---------|--------------|-----------|----------|------------------|--------------|----------------|----------|----------|-----------|----------|------------------|--------------|----------------|----------|
| Cruise Number:                                                                 | 2024-069                            | 1       |              |           |          |                  |              |                |          | 1        |           |          |                  |              |                |          |
| Event:                                                                         | 160                                 | 2       |              |           |          |                  |              |                |          | 2        |           |          |                  |              |                |          |
| Station:                                                                       | CH02                                | 3       |              | 454       | 1316     | 7.9              | 2.509        |                |          | 3        |           |          |                  |              |                |          |
| Event Date (Local):                                                            | 26-06-24                            | 4       |              | 455       | 974      | 8.0              | 2.727        |                |          | 4        |           |          |                  |              |                |          |
| Analysis Date (Local):                                                         | 27 Jun 24                           | 5       |              | 456       | 2015     | 8.1              | 2.758        |                |          | 5        |           |          |                  |              |                |          |
| Analyst:                                                                       | Tamara                              | 6       |              | 457       | 3072     | 8.1              | 2.802        |                |          | 6        |           |          |                  |              |                |          |
| Stdization Date (Local):                                                       | 26 Jun 24                           | 7       |              | 458       | 994      | 8.3              | 2.954        |                |          | 7        |           |          |                  |              |                |          |
| KIO <sub>3</sub> N:                                                            | 0.0118309                           | 8       |              | 459A      | 970      | 8.7              | 3.433        |                |          | 8        | 459B      | 140      | 8.8              | 3.436        |                | 0.0      |
| Standard Titer:                                                                | 0.4972679                           | 9       |              |           |          |                  |              |                |          | 9        |           |          |                  |              |                |          |
| Blank Titer:                                                                   | 0.0005154                           | 10      |              | 461       | 131      | 9.5              | 4.456        |                |          | 10       |           |          |                  |              |                |          |
| THIO N:                                                                        | 0.238274                            | 11      |              | 462       | 1330     | 10.6             | 5.438        |                |          | 11       |           |          |                  |              |                |          |
| Sample Flask Water Seal?                                                       | (Yes) No                            | 12      |              | 463       | 105      | 12.3             | 7.124        |                |          | 12       |           |          |                  |              |                |          |
| Reagent Change?                                                                | MnCl <sub>2</sub>                   | 13      |              | 464       | 908      | 14.6             | 8.275        |                |          | 13       |           |          |                  |              |                |          |
| (Please circle reagent that was changed prior to sampling and standardization) | NaI/NaOH                            | 14      |              | 465       | 932      | 14.3             | 8.323        |                |          | 14       |           |          |                  |              |                |          |
| NOTE NEW BATCH IN LOG BOOK                                                     | H <sub>2</sub> SO <sub>4</sub> None | 15      | 454          | OXY       | 455      | OXY              | 456          | OXY            | 457      | OXY      | 458       | OXY      | 459A             | OXY          | 459B           | OXY      |
|                                                                                | KIO <sub>3</sub>                    | 16      | OXY          | CH02      | CH02     | CH02             | CH02         | CH02           | CH02     | CH02     | CH02      | CH02     | CH02             | CH02         | CH02           | CH02     |
|                                                                                | THIO                                | 17      | 2024-069     | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069       | 2024-069 | 2024-069 | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069       | 2024-069 |
| Notes:                                                                         |                                     | 18      | b-5 m        | 250 m     | 150 m    | 100 m            | 75 m         | 75 m           | 75 m     | 75 m     | 50 m      | 25 m     | 10 m             | 5 m          | 0 m            |          |
|                                                                                |                                     | 19      | bot 3        | bot 4     | bot 5    | bot 6            | bot 7        | bot 8          | bot 8    | bot 8    | bot 10    | bot 11   | bot 12           | bot 13       | bot 14         |          |
| Moose.xlsx                                                                     |                                     | 20      |              |           |          |                  |              |                |          |          |           |          |                  |              |                |          |
|                                                                                |                                     | 21      |              |           |          |                  |              |                |          |          |           |          |                  |              |                |          |
|                                                                                |                                     | 22      |              |           |          |                  |              |                |          |          |           |          |                  |              |                |          |
|                                                                                |                                     | 23      |              |           |          |                  |              |                |          |          |           |          |                  |              |                |          |
|                                                                                |                                     | 24      |              |           |          |                  |              |                |          |          |           |          |                  |              |                |          |

Bottle integrity: First test the top vent (V) by opening the lower spigot (S) then test the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                                                     | Nisk ID | Nisk Int V S | Sample ID | Flask 1  | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments | Nisk ID  | Sample ID | Flask 2  | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |          |          |          |
|--------------------------------------------------------------------------------|---------------------------------------------------------------------|---------|--------------|-----------|----------|------------------|--------------|----------------|----------|-----------|----------|------------------|--------------|----------------|----------|----------|----------|
| Cruise Number:                                                                 | 2024-069                                                            | 1       |              |           |          |                  |              |                | 1        |           |          |                  |              |                |          |          |          |
| Event:                                                                         | 163 <del>114</del>                                                  | 2       |              |           |          |                  |              |                | 2        |           |          |                  |              |                |          |          |          |
| Station:                                                                       | PI4                                                                 | 3       |              | 470A      | 130      | 7.9              | 2.537        |                | 3        | 470B      | 923      | 7.9              | 2.534        | 0.003          |          |          |          |
| Event Date (Local):                                                            | 27-06-24                                                            | 4       |              | 471A      | 3032     | 7.9              | 2.578        |                | 4        | 471B      | 913      | 8.0              | 2.578        | 0.000          |          |          |          |
| Analysis Date (Local):                                                         | 27 Jun 24                                                           | 5       |              | 472A      | 126      | 8.0              | 2.651        |                | 5        | 472B      | 1402     | 8.1              | 2.651        | 0.000          |          |          |          |
| Analyst:                                                                       | Lawler                                                              | 6       |              | 473A      | 3096     | 8.1              | 2.731        |                | 6        | 473B      | 3109     | 8.1              | 2.735        | 0.004          |          |          |          |
| Stdization Date (Local):                                                       | 26 Jun 24                                                           | 7       |              | 474A      | 151      | 8.1              | 2.767        |                | 7        | 474B      | 154      | 8.3              | 2.758        | 0.009          |          |          |          |
| KIO <sub>3</sub> N:                                                            | 0.0118309                                                           | 8       |              | 475A      | 129      | 8.2              | 2.867        |                | 8        | 475B      | 575      | 8.3              | 2.864        | 0.003          |          |          |          |
| Standard Titer:                                                                | 0.4972679                                                           | 9       |              | 476A      | 171      | 8.4              | 3.099        |                | 9        | 476B      | 903      | 8.5              | 3.097        | 0.002          |          |          |          |
| Blank Titer:                                                                   | 0.0005154                                                           | 10      |              | 477A      | 20       | 8.6              | 3.402        |                | 10       | 477B      | 1192     | 8.8              | 3.403        | 0.001          |          |          |          |
| THIO N:                                                                        | 0.238274                                                            | 11      |              | 478A      | 114      | 9.1              | 4.069        |                | 11       | 478B      | 959      | 9.3              | 4.057        | 0.012          |          |          |          |
| Sample Flask Water Seal?                                                       | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 12      |              |           |          |                  |              |                | 12       |           |          |                  |              |                |          |          |          |
| Reagent Change?                                                                | MnCl <sub>2</sub>                                                   | 13      |              | 480       | 109      | 10.4             | 5.208        |                | 13       |           |          |                  |              |                |          |          |          |
| (Please circle reagent that was changed prior to sampling and standardization) | NaI/NaOH                                                            | 14      |              | 481       | 3033     | 11.1             | 5.580        |                | 14       |           |          |                  |              |                |          |          |          |
| NOTE NEW BATCH IN LOG BOOK                                                     | H <sub>2</sub> SO <sub>4</sub>                                      | 15      |              | 482       | 152      | 13.3             | 7.144        |                | 15       |           |          |                  |              |                |          |          |          |
|                                                                                | KIO <sub>3</sub>                                                    | 16      |              | 483       | 3080     | 13.7             | 7.247        |                | 16       |           |          |                  |              |                |          |          |          |
|                                                                                | THIO                                                                | 17      |              | 470A      | 470B     | 471A             | 471B         | 472A           | 472B     | 473A      | 473B     | 474A             | 474B         | 475A           | 475B     | 476A     | 476B     |
|                                                                                |                                                                     | 18      |              | OXY       | OXY      | OXY              | OXY          | OXY            | OXY      | OXY       | OXY      | OXY              | OXY          | OXY            | OXY      | OXY      | OXY      |
|                                                                                |                                                                     | 19      |              | PI4       | PI4      | PI4              | PI4          | PI4            | PI4      | PI4       | PI4      | PI4              | PI4          | PI4            | PI4      | PI4      | PI4      |
|                                                                                |                                                                     | 20      |              | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069       | 2024-069 | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069       | 2024-069 | 2024-069 | 2024-069 |
|                                                                                |                                                                     | 21      |              | b-5 m     | b-5 m    | 400 m            | 400 m        | 300 m          | 300 m    | 250 m     | 250 m    | 200 m            | 200 m        | 150 m          | 150 m    | 100 m    | 100 m    |
|                                                                                |                                                                     | 22      |              | bot 3     | bot 3    | bot 4            | bot 4        | bot 5          | bot 5    | bot 6     | bot 6    | bot 7            | bot 7        | bot 8          | bot 8    | bot 9    | bot 9    |
|                                                                                |                                                                     | 23      |              | 476B      | 477A     | 477B             | 478A         | 478B           | 480      | 481       | 482      | 483              |              |                |          |          |          |
|                                                                                |                                                                     | 24      |              | OXY       | OXY      | OXY              | OXY          | OXY            | OXY      | OXY       | OXY      | OXY              |              |                |          |          |          |
|                                                                                |                                                                     |         |              | PI4       | PI4      | PI4              | PI4          | PI4            | PI4      | PI4       | PI4      | PI4              |              |                |          |          |          |
|                                                                                |                                                                     |         |              | 2024-069  | 2024-069 | 2024-069         | 2024-069     | 2024-069       | 2024-069 | 2024-069  | 2024-069 | 2024-069         |              |                |          |          |          |
|                                                                                |                                                                     |         |              | 100 m     | 75 m     | 75 m             | 50 m         | 50 m           | 25 m     | 10 m      | 5 m      | 0 m              |              |                |          |          |          |
|                                                                                |                                                                     |         |              |           |          |                  |              |                |          |           |          |                  |              |                |          |          |          |

Bottle integrity: First test the top vent (V) by c

explain this in the comments column.

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                                               |  | Nisk ID | Nisk Int V S | Sample ID | Flask 1  | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments                             | Nisk ID | Sample ID | Flask 2 | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |
|--------------------------------------------------------------------------------|---------------------------------------------------------------|--|---------|--------------|-----------|----------|------------------|--------------|--------------------------------------------|---------|-----------|---------|------------------|--------------|----------------|
| Cruise Number:                                                                 | 2024-069                                                      |  | 1       |              |           |          |                  |              |                                            | 1       |           |         |                  |              |                |
| Event:                                                                         | 176                                                           |  | 2       |              |           |          |                  |              |                                            | 2       |           |         |                  |              |                |
| Station:                                                                       | OB2                                                           |  | 3       | 425          | 510A      | 1316     | 8.4              | 3210         |                                            | 3       | 510B      | 974     | 8.5              | 3215         |                |
| Event Date (Local):                                                            | 27-06-24                                                      |  | 4       |              |           |          |                  |              |                                            | 4       |           |         |                  |              |                |
| Analysis Date (Local):                                                         | 28 June 24                                                    |  | 5       |              |           |          |                  |              |                                            | 5       |           |         |                  |              |                |
| Analyst:                                                                       | Tavaraz                                                       |  | 6       |              |           |          |                  |              |                                            | 6       |           |         |                  |              |                |
| Standardization Date (Local):                                                  | 26 June 24                                                    |  | 7       |              |           |          |                  |              |                                            | 7       |           |         |                  |              |                |
| KIO <sub>3</sub> N:                                                            | 0.0118309                                                     |  | 8       |              |           |          |                  |              |                                            | 8       |           |         |                  |              |                |
| Standard Titer:                                                                | 0.4972679                                                     |  | 9       |              |           |          |                  |              |                                            | 9       |           |         |                  |              |                |
| Blank Titer:                                                                   | 0.0005154                                                     |  | 10      |              | 517       | 2015     | 9.0              | 2950         |                                            | 10      |           |         |                  |              |                |
| THIO N:                                                                        | 0.238274                                                      |  | 11      |              |           |          |                  |              |                                            | 11      |           |         |                  |              |                |
| Sample Flask Water Seal?                                                       | <input checked="" type="radio"/> Yes <input type="radio"/> No |  | 12      |              |           |          |                  |              |                                            | 12      |           |         |                  |              |                |
| Reagent Change?                                                                | MnCl <sub>2</sub>                                             |  | 13      |              |           |          |                  |              |                                            | 13      |           |         |                  |              |                |
| (Please circle reagent that was changed prior to sampling and standardization) | NaI/NaOH                                                      |  | 14      |              |           |          |                  |              |                                            | 14      |           |         |                  |              |                |
| NOTE NEW BATCH IN LOG BOOK                                                     | H <sub>2</sub> SO <sub>4</sub>                                |  | 15      |              | 522       | 3072     | 12.7             | 7.013        | must be silty - attenuated titration curve | 15      |           |         |                  |              |                |
|                                                                                | KIO <sub>3</sub>                                              |  | 16      | 510A         |           | 510B     |                  | 517          |                                            | 16      |           |         |                  |              |                |
|                                                                                | THIO                                                          |  | 17      | OXY          | OXY       | OXY      |                  | OXY          |                                            | 17      |           |         |                  |              |                |
|                                                                                |                                                               |  | 18      | OB2          | OB2       | OB2      |                  | OB2          |                                            | 18      |           |         |                  |              |                |
|                                                                                |                                                               |  | 19      | 2024-069     | 2024-069  | 2024-069 | 2024-069         | 2024-069     |                                            | 19      |           |         |                  |              |                |
|                                                                                |                                                               |  | 20      | b-5 m        | b-5 m     | b-5 m    | 50 m             | 0 m          |                                            | 20      |           |         |                  |              |                |
|                                                                                |                                                               |  | 21      | bot 3        | bot 3     | bot 3    | bot 10           | bot 15       |                                            | 21      |           |         |                  |              |                |
|                                                                                |                                                               |  | 22      |              |           |          |                  |              |                                            | 22      |           |         |                  |              |                |
|                                                                                |                                                               |  | 23      |              |           |          |                  |              |                                            | 23      |           |         |                  |              |                |
|                                                                                |                                                               |  | 24      |              |           |          |                  |              |                                            | 24      |           |         |                  |              |                |

Bottle integrity: First test the top vent (V) by opening the lower spigot (S) then test the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                                               | Nisk ID | Nisk Int V S | Sample ID | Flask 1  | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments | Nisk ID | Sample ID | Flask 2 | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |
|--------------------------------------------------------------------------------|---------------------------------------------------------------|---------|--------------|-----------|----------|------------------|--------------|----------------|---------|-----------|---------|------------------|--------------|----------------|
| Cruise Number:                                                                 | 2024-069                                                      | 1       |              |           |          |                  |              |                | 1       |           |         |                  |              |                |
| Event:                                                                         | 180                                                           | 2       |              |           |          |                  |              |                | 2       |           |         |                  |              |                |
| Station:                                                                       | OB5                                                           | 3       | 538          | 527       | 970      | 8.5              | 3.263        |                | 3       |           |         |                  |              |                |
| Event Date (Local):                                                            | 27-06-24                                                      | 4       |              |           |          |                  |              |                | 4       |           |         |                  |              |                |
| Analysis Date (Local):                                                         | 28 Jun 24                                                     | 5       |              |           |          |                  |              |                | 5       |           |         |                  |              |                |
| Analyst:                                                                       | Tanner                                                        | 6       |              |           |          |                  |              |                | 6       |           |         |                  |              |                |
| Stdization Date (Local):                                                       | 26 Jun 24                                                     | 7       |              |           |          |                  |              |                | 7       |           |         |                  |              |                |
| KIO <sub>3</sub> N:                                                            | 0.0118309                                                     | 8       |              |           |          |                  |              |                | 8       |           |         |                  |              |                |
| Standard Titer:                                                                | 0.4972679                                                     | 9       |              |           |          |                  |              |                | 9       |           |         |                  |              |                |
| Blank Titer:                                                                   | 0.0005154                                                     | 10      |              |           |          |                  |              |                | 10      |           |         |                  |              |                |
| THIO N:                                                                        | 0.238274                                                      | 11      |              |           |          |                  |              |                | 11      |           |         |                  |              |                |
| Sample Flask Water Seal?                                                       | <input checked="" type="radio"/> Yes <input type="radio"/> No | 12      |              | 536A      | 140      | 8.8              | 3.812        |                | 12      | 536B      | 131     | 8.8              | 2.815        | ☺              |
| Reagent Change?                                                                | MnCl <sub>2</sub>                                             | 13      |              |           |          |                  |              |                | 13      |           |         |                  |              |                |
| (Please circle reagent that was changed prior to sampling and standardization) | NaI/NaOH                                                      | 14      |              |           |          |                  |              |                | 14      |           |         |                  |              |                |
| NOTE NEW BATCH IN LOG BOOK                                                     | H <sub>2</sub> SO <sub>4</sub>                                | 15      |              |           |          |                  |              |                | 15      |           |         |                  |              |                |
|                                                                                | KIO <sub>3</sub>                                              | 16      |              |           |          |                  |              |                | 16      |           |         |                  |              |                |
|                                                                                | THIO                                                          | 17      |              | 541       | 1330     | 15.2             | 7.636        |                | 17      |           |         |                  |              |                |
| Notes:                                                                         |                                                               | 18      | 527          | 536A      | 536B     | 541              |              |                | 18      |           |         |                  |              |                |
|                                                                                |                                                               | 19      | OXY          | OXY       | OXY      | OXY              |              |                | 19      |           |         |                  |              |                |
|                                                                                |                                                               | 20      | OB5          | OB5       | OB5      | OB5              |              |                | 20      |           |         |                  |              |                |
|                                                                                |                                                               | 21      | 2024-069     | 2024-069  | 2024-069 | 2024-069         |              |                | 21      |           |         |                  |              |                |
| Moose.xlsx                                                                     |                                                               | 22      | b-5 m        | 50 m      | 50 m     | 50 m             | 0 m          |                | 22      |           |         |                  |              |                |
|                                                                                |                                                               | 23      | bot 3        | bot 12    | bot 12   | bot 12           | bot 17       |                | 23      |           |         |                  |              |                |
|                                                                                |                                                               | 24      |              |           |          |                  |              |                | 24      |           |         |                  |              |                |

Bottle integrity: First test the top vent (V) by opening the lower spigot (S) then test the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.

Dissolved Oxygen Analysis Log Sheet

Institute of Ocean Sciences  
Water Properties Group



Last Updated: December 2019

| Cruise and Analysis Information                                                |                                |  | Nisk ID | Nisk Int V S | Sample ID | Flask 1  | Draw Temp 1 (°C) | OXY-1 (mL/L) | OXY-1 Comments   | Nisk ID | Sample ID | Flask 2 | Draw Temp 2 (°C) | OXY-2 (mL/L) | OXY-2 Comments |
|--------------------------------------------------------------------------------|--------------------------------|--|---------|--------------|-----------|----------|------------------|--------------|------------------|---------|-----------|---------|------------------|--------------|----------------|
| Cruise Number:                                                                 | 2024-069                       |  | 1       |              |           |          |                  |              |                  | 1       |           |         |                  |              |                |
| Event:                                                                         | 185                            |  | 2       |              |           |          |                  |              |                  | 2       |           |         |                  |              |                |
| Station:                                                                       | HA3                            |  | 3       | 288          | 546       | 908      | 8.3              | 2.092        | not water sealed | 3       |           |         |                  |              |                |
| Event Date (Local):                                                            | 28-06-24                       |  | 4       |              |           |          |                  |              |                  | 4       |           |         |                  |              |                |
| Analysis Date (Local):                                                         | 28 Jun 24                      |  | 5       |              |           |          |                  |              |                  | 5       |           |         |                  |              |                |
| Analyst:                                                                       | Tamarac                        |  | 6       |              |           |          |                  |              |                  | 6       |           |         |                  |              |                |
| Stratization Date (Local):                                                     | 26 Jun 24                      |  | 7       |              |           |          |                  |              |                  | 7       |           |         |                  |              |                |
| KIO <sub>3</sub> N:                                                            | 0.018309                       |  | 8       |              |           |          |                  |              |                  | 8       |           |         |                  |              |                |
| Standard Titer:                                                                | 0.4972679                      |  | 9       |              | 552A      | 932      | 8.7              | 3820         | not water sealed | 9       | 552B      | 173     | 8.8              | 3.88         | ☺              |
| Blank Titer:                                                                   | 0.0005154                      |  | 10      |              |           |          |                  |              |                  | 10      |           |         |                  |              |                |
| THIO N:                                                                        |                                |  | 11      |              |           |          |                  |              |                  | 11      |           |         |                  |              |                |
| Sample Flask Water Seal?                                                       | <div>Yes</div> No              |  | 12      |              |           |          |                  |              |                  | 12      |           |         |                  |              |                |
| Reagent Change?                                                                | MnCl <sub>2</sub>              |  | 13      |              |           |          |                  |              |                  | 13      |           |         |                  |              |                |
| (Please circle reagent that was changed prior to sampling and standardization) | NaI/NaOH                       |  | 14      |              | 557       | 1485     | 14.4             | 7.926        |                  | 14      |           |         |                  |              |                |
| NOTE NEW BATCH IN LOG BOOK                                                     | H <sub>2</sub> SO <sub>4</sub> |  | 15      | 546          |           | 552A     |                  | 552B         | 557              | 15      |           |         |                  |              |                |
|                                                                                | KIO <sub>3</sub>               |  | 16      | OXY          |           | OXY      |                  | OXY          | OXY              | 16      |           |         |                  |              |                |
|                                                                                | THIO                           |  | 17      | HA3          |           | HA3      |                  | HA3          | HA3              | 17      |           |         |                  |              |                |
|                                                                                |                                |  | 18      | 2024-069     |           | 2024-069 |                  | 2024-069     | 2024-069         | 18      |           |         |                  |              |                |
|                                                                                |                                |  | 19      | B-5 m        |           | 50 m     |                  | 50 m         | 0 m              | 19      |           |         |                  |              |                |
|                                                                                |                                |  | 20      | bot 3        |           | bot 9    |                  | bot 9        | bot 14           | 20      |           |         |                  |              |                |
| Notes:                                                                         |                                |  | 21      |              |           |          |                  |              |                  | 21      |           |         |                  |              |                |
| Moose.xlsx                                                                     |                                |  | 22      |              |           |          |                  |              |                  | 22      |           |         |                  |              |                |
|                                                                                |                                |  | 23      |              |           |          |                  |              |                  | 23      |           |         |                  |              |                |
|                                                                                |                                |  | 24      |              |           |          |                  |              |                  | 24      |           |         |                  |              |                |

Bottle integrity: First test the top vent (V) by opening the lower spigot (S) then test the spigot by opening the vent. Mark 'x' in the appropriate column if either fails the integrity check and explain this in the comments column.