

# **An ecosystem-based approach in the eastern Arctic: KEBABB/S (Knowledge and Ecosystem-Based Approach in Baffin Bay/Barrow Strait) 2024 expedition report**

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AN ECOSYSTEM-BASED APPROACH IN THE EASTERN ARCTIC: KEBABB/S  
(KNOWLEDGE AND ECOSYSTEM-BASED APPROACH IN BAFFIN  
BAY/BARROW STRAIT) 2024 EXPEDITION REPORT

by

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## TABLE OF CONTENTS

List of Tables.....	iv
List of Figures.....	vi
Abstract.....	vii
Résumé.....	viii
1. Rationale and overview of KEBABB and KEBABS programs.....	1
2. Program highlights 2024.....	2
3. Program participants.....	3
4. Sampling overview.....	4
4.1. Seawater.....	9
4.2. Zooplankton.....	16
4.3. Sediments .....	17
4.4. Mooring deployment.....	17
4.5. Mooring recovery.....	18
5. Logistical overview and recommendations.....	18
6. Acknowledgements.....	19
7. References.....	20
Appendix A. The CCGS <i>Amundsen</i> ship log for leg 2b of 2024 expedition.....	22
Appendix B. The CCGS <i>Amundsen</i> ship log for leg 5a of 2024 expedition.....	36

## List of Tables

**Table 1.** Sampling operations conducted by the KEBABB/S teams during legs 2b and 5a of the 2024 CCGS *Amundsen* expedition for each sampling day; X indicates the type of sampling at a given station. Sampled variables include water biogeochemistry (water biogeochem) at full (F), basic (B) and mooring (M) stations, carbon chemistry (carbon chem), zooplankton and sediment biogeochemistry.....7

**Table 2.** Sampling schedule for seawater biochemistry during legs 2b and 5a of the 2024 CCGS *Amundsen* expedition at TCA Full stations; 1x: single sample collected, 2x: duplicate samples collected; SCM – subsurface chlorophyll maximum; DIC/TA – dissolved inorganic carbon/total alkalinity; S – salinity; POC/PN – particulate organic carbon/particulate nitrogen; FA – fatty acids; FRRF – Fast Repetition Rate Fluorometry; AP – particulate absorption; HPLC – phytoplankton pigment composition determined by High Performance Liquid Chromatography.....12

**Table 3.** Sampling schedule for seawater biochemistry during legs 2b and 5a of the 2024 CCGS *Amundsen* expedition at TCA Basic stations; 1x: single sample collected, 2x: duplicate samples collected; SCM – subsurface chlorophyll maximum; DIC/TA – dissolved inorganic carbon/total alkalinity; S – salinity; POC/PN – particulate organic carbon/particulate nitrogen; FA – fatty acids; FRRF – Fast Repetition Rate Fluorometry; AP – particulate absorption; HPLC – phytoplankton pigment composition determined by High Performance Liquid Chromatography.....13

**Table 4.** Sampling schedule for seawater biochemistry during legs 2b and 5a of the 2024 CCGS *Amundsen* expedition at KEBABB Full stations; 1x: single sample collected, 2x: duplicate samples collected; SCM – subsurface chlorophyll maximum; DIC/TA – dissolved inorganic carbon/total alkalinity; S – salinity; POC/PN – particulate organic carbon/particulate nitrogen; FA – fatty acids; FRRF – Fast Repetition Rate Fluorometry; AP – particulate absorption; HPLC – phytoplankton pigment composition determined by High Performance Liquid Chromatography.....14

**Table 5.** Sampling schedule for seawater biochemistry during legs 2b and 5a of the 2024 CCGS *Amundsen* expedition at KEBABB Basic stations; 1x: single sample collected, 2x:

duplicate samples collected; SCM – subsurface chlorophyll maximum; DIC/TA – dissolved inorganic carbon/total alkalinity; S – salinity; POC/PN – particulate organic carbon/particulate nitrogen; FA – fatty acids; FRRF – Fast Repetition Rate Fluorometry; AP – particulate absorption; HPLC – phytoplankton pigment composition determined by High Performance Liquid Chromatography.....15

**Table 6.** Zooplankton stratified sampling strategy at 2024 KEBABB stations .....16

**Table 7.** Thickness of layers sectioned from push cores according to their depth in the core. Bot – Bottom.....17

**Table 8.** Configuration of mooring C4-24 at a bottom depth of 1535 m deployed during the 2024 CCGS *Amundsen* expedition.....18

## List of Figures

- Figure 1.** General sampling location of KEBABB and KEBABS programs in relation to existing marine measures.....2
- Figure 2.** Stations sampled by the DFO KEBABB/S teams during legs 2b and 5a of the 2024 CCGS *Amundsen* expedition, and locations of moorings ‘C4-23’, ‘C4-24’ and ‘Bylot-23’ (recovered and redeployed during another leg); color of symbols indicates station type (full, basic, mooring); OECEM - Other Effective Area-Based Conservation Measures.....6

## Abstract

Pučko, M., Kitching, E., Lee, M., Reimer, J., Ciastek, S., Nakashuk, C., Iqualla, D., Glowa, S., Mandryk, R., Burgers, T., Charette, J., Hedges, K., Kuzyk, Z., Capelle, D., and Matthes, L.C. 2026. An ecosystem-based approach in the eastern Arctic: KEBABB/S (Knowledge and Ecosystem-Based Approach in Baffin Bay/Barrow Strait) 2024 expedition report. *Can. Manusc. Rep. Fish. Aquat. Sci.* 3331: viii + 56 p. <https://doi.org/10.60825/yt6w-xx02>

The eastern Canadian Arctic is an area of socio-economic, ecological and cultural importance to Canadians. It hosts commercial fisheries for Greenland Halibut and Northern and Striped Shrimp in Baffin Bay and Davis Strait. It also comprises several conservation areas such as the Davis Strait, Disko Fan and Hatton Basin conservation areas, and the Tallurutiup Imanga National Marine Conservation Area (TINMCA), targeted to preserve ecological biodiversity and cultural heritage. Yet, sampling efforts in the region have generally lacked consistency, coastal-offshore connection and integration of the ocean-ecosystem components. The KEBABB (Knowledge and Ecosystem-Based Approach in Baffin Bay) program is a ship-based science program established in 2019 to fulfill ecosystem knowledge gaps, linking marine fishery resources to integrated assessments of the marine ecosystem of western Baffin Bay. The KEBABS (Knowledge and Ecosystem-Based Approach in Barrow Strait) program was established in 2021 to provide ecosystem data in support of DFO's long-term mooring initiative in the region of Barrow Strait and establish baseline knowledge within the newly established TINMCA. The two programs are interconnected logistically and scientifically, reflecting essential linkages between their respective ecosystems. This report presents an overview of the sampling and logistics of the 2024 KEBABB/S field expedition, which took place onboard the CCGS *Amundsen* between July 28<sup>th</sup> and August 8<sup>th</sup>, and October 3<sup>rd</sup> and October 20<sup>th</sup> 2024.

## Résumé

Pučko, M., Kitching, E., Lee, M., Reimer, J., Ciastek, S., Nakashuk, C., Iqualla, D., Glowa, S., Mandryk, R., Burgers, T., Charette, J., Hedges, K., Kuzyk, Z., Capelle, D., and Matthes, L.C. 2026. An ecosystem-based approach in the eastern Arctic: KEBABB/S (Knowledge and Ecosystem-Based Approach in Baffin Bay/Barrow Strait) 2024 expedition report. *Can. Manuscr. Rep. Fish. Aquat. Sci.* 3331: viii + 56 p. <https://doi.org/10.60825/yt6w-xx02>

L'est de l'Arctique canadien est une région d'importance socioéconomique, écologique et culturelle pour le Canada. Les pêches commerciales du flétan du Groënland, de la crevette nordique et de la crevette rayée sont d'ailleurs pratiquées dans la baie de Baffin. On y trouve également plusieurs aires de conservation, comme le détroit de Davis et de Disko Fan et l'aire marine nationale de conservation de Tallurutiup Imanga (TINMCA), qui visent à préserver la biodiversité écologique et le patrimoine culturel. Pourtant, les efforts d'échantillonnage dans la région ont surtout été opportunistes et présentent des lacunes en matière d'uniformité, de connexion entre la côte et le large et d'intégration des composantes de l'écosystème océanique. KEBABB (Approche basée sur les connaissances et les écosystèmes dans la baie de Baffin) est un programme mené à partir de navires de recherche océanographique établi en 2019 visant à combler les lacunes dans les connaissances sur les écosystèmes, et qui relie les ressources halieutiques marines aux évaluations intégrées des composantes de l'écosystème marin de l'ouest de la baie de Baffin. KEBABS (Approche basée sur les connaissances et les écosystèmes dans le détroit de Barrow) a été établie en 2021 dans le but de fournir des données écosystémiques en soutien à l'initiative de mouillage de longue durée du MPO dans la région et d'établir des connaissances de base dans le cadre de la nouvelle TINMCA. Les deux programmes sont interconnectés sur le plan logistique et scientifique, ce qui reflète les liens essentiels entre leurs écosystèmes respectifs. Le rapport présente un aperçu de l'échantillonnage et de la logistique de l'expédition sur le terrain KEBABB/S 2024.

## 1. Rationale and overview of KEBABB and KEBABS programs

Stock assessment surveys are conducted by Fisheries and Oceans Canada (DFO) in the eastern Canadian Arctic for major commercial fisheries - Greenland Halibut (*Reinhardtius hippoglossoides*) and Northern and Striped Shrimp (*Pandalus borealis* and *P. montagui*, respectively). However, an ecosystem-based approach to fisheries management requires additional collection of oceanographic and ecosystem data in the region to contribute to the interpretation of changes in the abundance, dynamics, and distributions of major stocks. The Knowledge and Ecosystem-Based Approach in Baffin Bay (KEBABB) program was developed by DFO in 2019 in collaboration with university partners. The program provides fundamental physical, chemical and biological data for the development and application of the ecosystem-based approach to fisheries management, as well as for an overall understanding of the productive capacity of the marine ecosystem of Baffin Bay, and its response to climate and ocean changes. The overall objective of KEBABB is to characterize variability and trends in physical, chemical, and biological oceanographic conditions and food webs supporting fisheries in the connected ecosystems of western Baffin Bay and Lancaster Sound. The KEBABB also provides essential ecosystem-based data for the management of the Disko Fan Conservation Area, which contains significant coral concentrations, provides winter food sources as well as overwintering habitat for narwhal, and is closed to commercial fishing (Figure 1).

The five main components of the KEBABB sampling program include: 1) physical and chemical oceanographic conditions; 2) spatial distribution and diversity of primary producers and microbial communities; 3) spatial and vertical distribution, abundance and composition of zooplankton communities; 4) benthic communities and sediment biogeochemistry; and 5) ecosystem health and interactions, including biomarkers. These components are described in more detail in Pućko et al. (2019).

In 2021, DFO expanded its ecosystem-based approach to Barrow Strait, a key productive area within the Tallurutiup Imanga National Marine Conservation Area (TINMCA). The KEBABS (Knowledge and Ecosystem-Based Approach in Barrow Strait) program complements DFO's long-term moorings for ocean currents and sea ice conditions led by Dr. C. Richards (DFO Maritimes Region) by adding the ecosystem component to evaluate changes in the productive capacity of this ecosystem (Michel et al. 2006). Ecosystem research derived from the KEBABS program supports ecosystem-based management of TINMCA (Figure 1) and exploration of

fisheries potential as part of the Inuit Impact Benefit Agreement required to create the NMCA. The main objective for the KEBABS program in 2024 was to provide biogeochemical and oceanographic measurements along the historic sampling line established by DFO to inform and complement oceanographic moorings for ocean and sea ice conditions.



**Figure 1.** General sampling location of KEBABB and KEBABS programs in relation to existing marine measures.

## 2. Program highlights 2024

The KEBABB/S programs continue to contribute crucial ecosystem data of the marine environments in Baffin Bay and Barrow Strait to strengthen conservation efforts and sustainable resource use in these regions. In 2024, the KEBABB/S expedition was carried out during two legs – 2b (28 July – 8 August) and 5a (3 October – 20 October) – providing an added benefit of seasonal variability assessment of this region. During leg 2b of the 2024 CCGS *Amundsen* expedition, the

8-member DFO team sampled 21 stations, including 13 KEBABB stations (transects B, C, and D), 4 additional sediment biogeochemistry stations, and 4 TCA (Transforming Climate Action, led by Dalhousie University) program stations located within the fjord environments of the Auyuittuq National Park near the community of Qikiqtarjuaq. During leg 5a of the 2024 CCGS *Amundsen* expedition, the 6-member DFO team sampled 35 stations, including 10 KEBABB stations (transect A and station C4-23), 9 stations in the TINMCA (KEBABS program), and 14 TCA program stations located within the deep Baffin Basin. The DFO sampling teams on both legs included one Nunavut resident, and worked in close collaboration with other academic programs onboard leveraging DFO's sampling efforts to include additional transects and sampling parameters.

During the 2023 KEBABB/S programs two long-term observational platforms, namely 'C4-23' and 'Bylot-23', were deployed as part of a larger DFO-led mooring program with additional moorings deployed as part of the ArcticCORE (Conservation, Observation, Research and Engagement) program to better understand seasonal changes in oceanography of these regions and the connectivity of the Canadian High Arctic cryosphere-ocean system with downstream ecosystems (Figure 2). The 'Bylot-23' mooring was successfully recovered in 2024 during leg 3. The 'C4-23' mooring recovery was initially planned for leg 2b; however, the site was not accessible due to sea ice presence in the region. Recovery of this mooring was re-scheduled for leg 5a but was unsuccessful, and will be attempted again in 2025. To continue oceanographic data collection for a second year, a new bottom-tethered moorings was re-deployed in the TINMCA near Bylot Island at the Bylot-23 station with the new label 'Bylot-24' during leg 3. Another re-deployment of a bottom-tethered mooring was also carried out in the Disko Fan Conservation Area during leg 2b at a new site 'C4-24' which was the closest location to station C4 accessible at that time due to ice conditions.

### **3. Program participants**

**Program Leads:** Lisa Matthes, Research Scientist, Fisheries and Oceans Canada

Monika Pućko, Biologist, Fisheries and Oceans Canada

#### **Principal Investigators:**

Kevin Hedges, Research Scientist, Fisheries and Oceans Canada

Zou Zou Kuzyk, Professor, University of Manitoba

David Capelle, Research Scientist, Fisheries and Oceans Canada  
Maxime Geoffroy, Professor, Memorial University of Newfoundland  
Clark Richards, Research Scientist, Fisheries and Oceans Canada

**Collaborators:**

Jean-Éric Tremblay, Professor, Laval University

**Field participants:**

**Leg 2b**

Monika Pućko, Biologist, Fisheries and Oceans Canada; Program Lead and Field Lead  
Elizabeth Kitching, Biologist, Fisheries and Oceans Canada  
Megan Lee, Biologist, Fisheries and Oceans Canada  
Sarah Glowa, Biologist, Fisheries and Oceans Canada  
Tonya Burgers, Physical Scientist, Fisheries and Oceans Canada  
Rachel Mandryk, Technician, Fisheries and Oceans Canada  
Charlie Nakashuk, Technician, Environment and Climate Change Canada  
Stephen Ciastek, Technician, University of Manitoba

**Leg 5a**

Monika Pućko, Biologist, Fisheries and Oceans Canada; Program Lead and Field Lead  
Elizabeth Kitching, Biologist, Fisheries and Oceans Canada  
Megan Lee, Biologist, Fisheries and Oceans Canada  
David Capelle, Research Scientist, Fisheries and Oceans Canada  
Rachel Mandryk, Technician, Fisheries and Oceans Canada  
Damien Iqualla, Biologist, Fisheries and Oceans Canada

**4. Sampling overview**

The KEBABB program consists of 5 transects (A, B, C, D, and E) located east of the community of Qikiqtarjuaq. Transect A consists of 9 stations which extend across Davis Strait to the coast of Greenland. Transects B-E are each composed of 5 stations and extend from the coast of Baffin Island into Baffin Bay. The KEBABB sites are designed to cover a coastal – offshore gradient superimposed on a latitudinal gradient, and were sampled on 10 – 24 August, 2023 (Pućko

et al. 2025); 24 September – 3 October, 2022; 13 – 18 August, 2021 (Pućko et al. 2022); and 22 – 31 August, 2019 (Charette et al. 2020). In 2024, transects B, C and D were sampled between 28 July and 8 August, and transect A between 8 and 20 October. This bi-annual sampling in 2024 will provide insights into intra-annual variability in ecosystem processes in this region. Each KEBABB transect includes full and basic stations, while the KEBABS transect, S, also contains several CTD (Conductivity, Temperature, Depth) stations to provide additional oceanographic information at higher spatial resolution to complement historical mooring data in the region. Sampling at full stations typically lasts 6-8 hours and consists of a CTD-Rosette deployment including water sampling for physical and biogeochemical parameters, the deployment of various nets to investigate the zooplankton community, and a collection of box cores to study sediments and infauna. Time spent at a basic station is 1-2 hours and is restricted to a CTD-Rosette deployment. The CTD stations are usually <1 hour long and include the deployment of the ship's CTD system with no water collection.

The KEBABB program sampling plan consists of 17 full and 12 basic stations; however, unfavorable weather conditions as well as the presence of ice in the region prevented sampling at some stations on transects C-B as well as all stations on transect E (Table 1). The KEBABS program contained 4 basic stations, and 7 CTD stations distributed along transect S and was sampled during leg 5a. Other stations planned for legs 2b and 5a were also sampled by the KEBABB/S teams in support of other university programs, and were located in the fiords of the Auyuittuq National Park near Qikiqtarjuaq and in the deep Baffin Basin. A complete list of sampling operations conducted by the KEBABB/S teams during legs 2b and 5a is provided in Table 1.

The *Amundsen* chief scientists were A. Desmarais for leg 2b, and Dr. J.-É. Tremblay for leg 5a; they coordinated overall scientific operations. Dr. Monika Pućko acted as the DFO field lead for both legs. The CTD-Rosette system was operated by the Amundsen Science staff led by P. Guillot. The KEBABB/S field participants worked in the following sampling teams:

#### Leg 2b

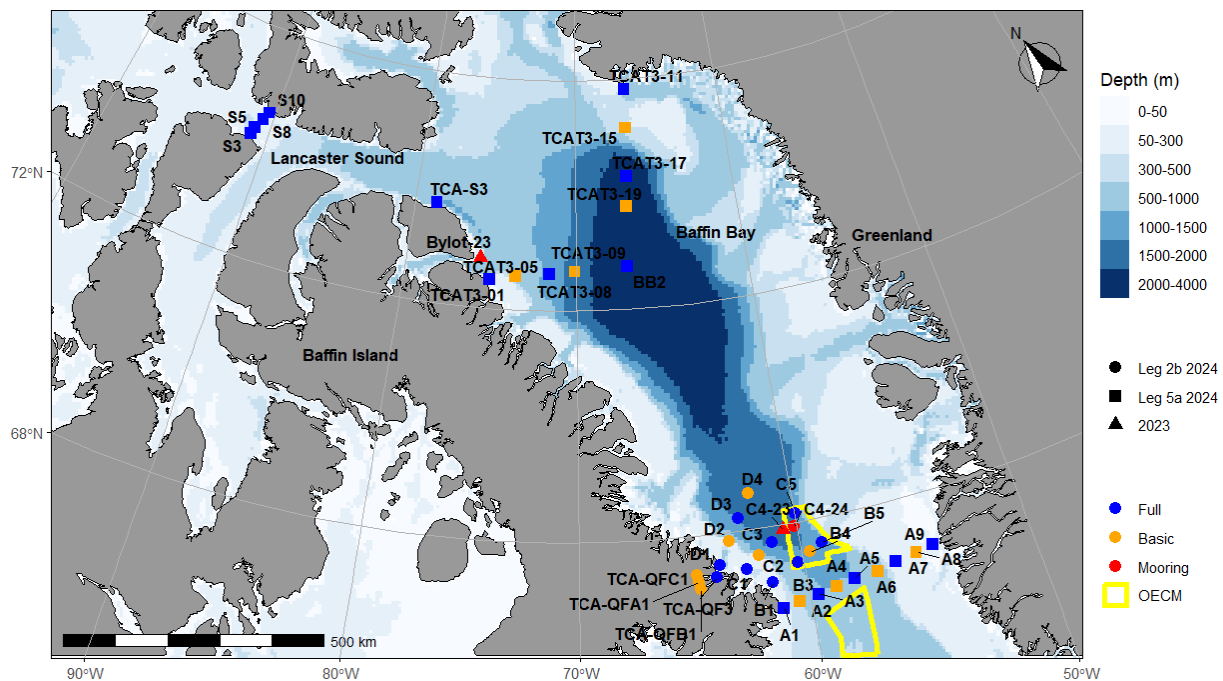
- Water biogeochemistry: M. Pućko, E. Kitching, S. Glowa
- Water carbon chemistry: T. Burgers, R. Mandryk
- Zooplankton: C. Nakashuk and M. Lee working in close collaboration with M. Geoffroy's team led by Laure Vilgrain

- Sediments: S. Ciastek

Leg 5a

- Water biogeochemistry: M. Pućko, E. Kitching, D. Iqualla
- Water carbon chemistry: D. Capelle, R. Mandryk
- Zooplankton: M. Lee working in close collaboration with M. Geoffroy’s team led by Eugenie Jacobsen.

Additionally, the CCGS *Amundsen* crew provided support for deck operations, instrument deployments, and coordination with the bridge.



**Figure 2.** Stations sampled by the DFO KEBABB/S teams during legs 2b and 5a of the 2024 CCGS *Amundsen* expedition, and locations of moorings ‘C4-23’, ‘C4-24’ and ‘Bylot-23’ (recovered and redeployed during another leg); color of symbols indicates station type (full, basic, mooring); OECM - Other Effective Area-Based Conservation Measures.

**Table 1.** Sampling operations conducted by the KEBABB/S teams during legs 2b and 5a of the 2024 CCGS *Amundsen* expedition for each sampling day; X indicates the type of sampling at a given station. Sampled variables include water biogeochemistry (water biogeochem) at full (F), basic (B) and mooring (M) stations, carbon chemistry (carbon chem), zooplankton and sediment biogeochemistry.

Leg	Station name	Station ID	Latitude (°N)	Longitude (°E)	Rosette Cast	Date	Water biogeochem	Carbon chem	Zooplankton stratified taxonomy	Zooplankton fatty acids	Sediment biogeochemistry
2b	TCA-QFC1	#1	67.3534	-64.7550	26	2024/07/30	B	X		X	
2b	TCA-QFA1	#2	67.2210	-64.7221	30	2024/07/31	B	X	X*	X	
2b	TCA-QF3	#3	67.2711	-63.8798	31	2024/07/31	F	X	X*	X	X
2b	TCA-QFB1	#4	67.0960	-64.6578	34	2024/08/01	B	X		X	
2b	D1	#5	67.4730	-63.6910	36	2024/08/01	F	X	X	X	X
2b	D1.5		67.6405	-63.4916		2024/08/01					X
2b	D2	#6	67.8568	-63.1520	38	2024/08/01	B	X			
2b	D2.5		Cancelled due to sea ice conditions								
2b	D3	#7	68.2406	-62.6124	40	2024/08/02	F	X	X	X	X
2b	D4	#8	68.6234	-61.9850	41	2024/08/02	B	X <sup>1</sup>			
2b	D5		Cancelled due to sea ice conditions								
2b	C4-24	#9	67.9393	-60.1521	42	2024/08/03	M	X <sup>1</sup>	X	X	
2b	C4-24		Mooring deployment								
2b	C5	#10	68.1541	-59.9792	43	2024/08/03	F	X <sup>1</sup>	X	X	
2b	C3	#11	67.7348	-61.2538	44	2024/08/04	F	X	X		
2b	C2.5		67.6467	-61.6040		2024/08/04					X
2b	C2	#12	67.5498	-61.9212	46	2024/08/04	B	X			
2b	C1	#13	67.3472	-62.5178	47	2024/08/05	F	X	X	X	
2b	B1-C1		67.1998	-61.9824		2024/08/05					X
2b	B1	#14	67.0600	-61.5085	48	2024/08/05	F	X		X	
2b	B2		Cancelled due to sea ice conditions								
2b	B2.5		67.25654	-60.57405		2024/08/05					X
2b	B3	#15	67.32200	-60.27043	49	2024/08/05	F	X	X		
2b	B4	#16	67.46821	-59.6665	50	2024/08/05	B	X <sup>1</sup>		X	
2b	B5	#17	67.58190	-59.0215	51	2024/08/06	F	X <sup>1</sup>	X	X	

5a	S11		74.57035	-90.38912	1	2024/10/04				CTD cast		
5a	S10	#56	74.54337	-90.40981	2	2024/10/04	F	X				
5a	S9		74.46656	-90.54265	3	2024/10/04				CTD cast		
5a	S8	#57	74.39850	-90.65614	4	2024/10/04	F	X	X		X	
5a	S7		74.33855	-90.76554	5	2024/10/05				CTD cast		
5a	S6		74.27400	-90.86683	6	2024/10/05				CTD cast		
5a	S5	#58	74.22211	-90.98640	7	2024/10/05	F	X			Nets cancelled due to wind	
5a	S4		74.14352	-91.02915	8	2024/10/05				CTD cast		
5a	S3	#59	74.09602	-91.08776	11	2024/10/05	F	X				
5a	S2		74.06590	-91.12875	12	2024/10/05				CTD cast		
5a	S1		74.04808	-91.15824	13	2024/10/05				CTD cast		
5a	TCA-S3	#60	73.73630	-78.65988	16	2024/10/06	F	X	X*		X	
5a	TCAT3-01	#61	72.49742	-75.01444	18	2024/10/07	F	X	X*		X	
5a	TCAT3-03	#62	72.54141	-74.32548	21	2024/10/07		X				
5a	TCAT3-05	#63	72.57856	-73.51874	22	2024/10/07	B	X			X	
5a	TCAT3-07	#64	72.60513	-72.47707	25	2024/10/08		X				
5a	TCAT3-08	#65	72.63936	-71.57547	26	2024/10/08	F	X	X*		X	
5a	TCAT3-09	#66	72.68537	-70.09238	30	2024/10/09	B	X			X	
5a	BB2	#67	72.74758	-67.00626	35&37	2024/10/09	F	X	X*		X	
5a	TCAT3-19	#68	73.79080	-66.83231	43	2024/10/10	B	X			X	
5a	TCAT3-17	#69	74.31410	-66.72346	47&49	2024/10/11	F	X	X*		X	
5a	TCAT3-16	#70	74.83559	-66.63280	52	2024/10/12		X				
5a	TCAT3-15	#71	75.15747	-66.55173	53	2024/10/12	B	X			X	
5a	TCAT3-13	#72	75.49423	-66.48889	56	2024/10/12		X				
5a	TCAT3-11	#73	75.83363	-66.49614	57&59	2024/10/12	F	X	X*		X	
5a	C4-23	#74	67.92616	-60.64820	60	2024/10/15	F	X	X		X	
5a	C4-23									Mooring recovery attempt: UNSUCCESSFUL, Details in mooring recovery report by Amundsen Science		
5a	A9	#75	67.09555	-54.27420	62	2024/10/16	F	X	X		X	
5a	A8	#76	67.04383	-55.07890	65	2024/10/16	B	X				
5a	A7	#77	66.98303	-56.06270	67	2024/10/16	F	X	X		X	
5a	A6	#78	66.89658	-56.92343	68	2024/10/16	B	X				
5a	A5	#79	66.87078	-57.93704	70	2024/10/16	F	X	X		X	
5a	A4	#80	66.80388	-58.76462	72	2024/10/17	B	X				
5a	A3	#81	66.73004	-59.61148	74	2024/10/17	F	X	X		X	
5a	A2	#82	66.66851	-60.45402	77	2024/10/18	B	X				
5a	A1	#83	66.59774	-61.19340	78	2024/10/18	F	X	X			

\* sample with TCA program; <sup>1</sup> only DIC/TA collected

#### 4.1. Seawater biogeochemistry

Detailed sampling schedules and lists of variables sampled at TCA full and basic stations and KEBABB full and basic stations are summarized in Tables 2-5. Seawater was collected from the Sea-Bird SBE 911plus CTD Profiler – 24 x 12-L Niskin bottle Rosette system equipped with additional sensors (dissolved oxygen, colored dissolved organic matter (CDOM) fluorescence, chlorophyll *a* fluorescence, transmissometer, photosynthetically available radiation (PAR, 400 – 700 nm), nitrate) at a maximum of 18 depths. Continuous surface PAR was measured with radiometers located on the bridge of the ship. Measurements taken from the collected seawater included chlorophyll *a* concentration (Chl *a*, total and >5  $\mu\text{m}$ ), bacteria and protist abundance (flow cytometry and epifluorescence microscopy - DAPI), phytoplankton taxonomic composition, particulate organic carbon and nitrogen (POC/PN) concentration and stable isotopes (SI) of  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$ , phytoplankton fatty acid (FA) composition, phytoplankton pigment composition determined by High Performance Liquid Chromatography (HPLC), particulate absorption (AP), salinity, oxygen isotopes ( $\delta^{18}\text{O}$ ), dissolved inorganic carbon concentration and total alkalinity (DIC and TA), genomics, and Fast Repetition Rate Fluorometry (FRRF). Nutrient samples were collected and analyzed onboard by KEBABB partners. Fluorometric chl *a* concentration was collected and analyzed onboard by the water biogeochemistry team. All other water samples were preserved and stored for later analyses at the Freshwater Institute (DFO, Winnipeg), or at other laboratories. Field sampling procedures are summarized below.

*Size-fractionated chlorophyll a concentration:* Seawater samples of 250 mL (pre-filtered through a 350- $\mu\text{m}$  mesh filter during collection from the Rosette) were filtered on 25 mm 0.7- $\mu\text{m}$  GF/F filters or 25 mm 5- $\mu\text{m}$  Nucleopore membrane filters for total and >5  $\mu\text{m}$  Chl- *a*, respectively. Filters were then extracted in 90% acetone at 4°C in the dark for 18-24 hours. The Chl *a* concentrations were measured onboard the ship using a Turner Design fluorometer (model 10-AU) immediately after extraction, following Parsons et al. (1984). The fluorometer was calibrated using pure Chl *a* extract (*Anacystis nidulans*, Sigma) prior to and after the expedition.

Phytoplankton pigment composition determined by High Performance Liquid Chromatography (HPLC): Two (2) L of seawater (pre-filtered through a 350- $\mu\text{m}$  mesh filter during collection from the Rosette) was filtered on 25 mm 0.7- $\mu\text{m}$  GF/F filters. After filtration, the filters were immediately placed in sterile cryovials and frozen at  $-80^{\circ}\text{C}$  until further analysis following Ras et al. (2008).

Bacteria and protist abundance by flow cytometry: Approximately 4 mL of seawater (pre-filtered through a 350- $\mu\text{m}$  mesh filter during collection from the Rosette) was sampled into 5-mL cryovials pre-spiked with glutaraldehyde for a final concentration of  $\sim 0.1\%$ . Samples were kept at room temperature for 15 minutes, and then frozen at  $-80^{\circ}\text{C}$  until further analysis following Belzile et al. (2008).

Bacteria abundance by epifluorescence microscopy: To validate flow cytometry results, samples for bacterial abundance measurement by epifluorescence microscopy technique after staining with DAPI (4,6-diamidino-2-phenylindole) were collected at the surface and at the subsurface chlorophyll maximum (SCM). Ten (10) mL of seawater (pre-filtered through a 350- $\mu\text{m}$  mesh filter during collection from the Rosette) was sampled into a scintillation vial and subsequently spiked with borate-buffered formaldehyde solution for the final concentration of 1% by volume. Samples were capped, sealed with Parafilm, and stored at  $4^{\circ}\text{C}$  in the dark until further processing.

Phytoplankton taxonomic composition: 250-mL high-density polyethylene (HDPE) bottles were filled with 200 mL of seawater (pre-filtered through a 350- $\mu\text{m}$  mesh filter during collection from the Rosette). At each sampled depth, one sample was preserved with borate-buffered formaldehyde solution, and one sample with acidic Lugol's solution. Samples were capped, sealed with Parafilm, and stored at  $4^{\circ}\text{C}$  in the dark until further analysis of Lugol samples following the inverted microscope method (Lund et al., 1958).

Particulate organic carbon and nitrogen (POC/PN) concentration and stable isotopes (SI) of  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$ : Between 1 L and 2 L of seawater (pre-filtered through a 350- $\mu\text{m}$  mesh filter during collection from the Rosette) was filtered on pre-combusted ( $450^{\circ}\text{C}$ , 12 h) 21 mm 0.7- $\mu\text{m}$  GF/F filters. After filtration, the filters were immediately placed in acid-washed cryovials and frozen at  $-80^{\circ}\text{C}$  until further analysis following Barrios-Guzman et al. (2019).

Phytoplankton fatty acid (FA) composition: Two (2) L of seawater (pre-filtered through a 350- $\mu\text{m}$  mesh filter during collection from the Rosette) was filtered on pre-combusted (450°C, 12 h) 47 mm 0.7- $\mu\text{m}$  GF/F filters. After filtration, the filters were immediately placed in sterile cryovials and frozen at  $-80^{\circ}\text{C}$  until further analysis.

Particulate Absorption (AP): One (1) L of seawater (pre-filtered through a 350- $\mu\text{m}$  mesh filter during collection from the Rosette) was filtered on 25 mm 0.7- $\mu\text{m}$  GF/F filters. After filtration, the filters were immediately placed in tissue processing capsules and frozen at  $-80^{\circ}\text{C}$  until further analysis following Matsuoka et al. (2011).

Salinity: Approximately 125 mL of seawater was collected in 125-mL HDPE bottles. Samples were capped, sealed with electrical tape, and stored at  $4^{\circ}\text{C}$  until further processing.

$\delta^{18}\text{O}$  isotopes: Approximately 30 mL of seawater was collected in 30-mL HDPE bottles. Samples were capped, sealed with electrical tape, and stored at  $4^{\circ}\text{C}$  until further processing following Rosa et al. (2016).

Dissolved inorganic carbon concentration and total alkalinity (DIC, TA): Seawater was sampled directly from the Rosette spigot using Tygon tubing. Borosilicate glass reagent Corning bottles (250 mL) were filled with seawater allowing the bottle to overflow by three volumes. After a headspace of 1% volume was created, the samples were spiked with 100  $\mu\text{L}$  of saturated mercuric chloride and capped with tapered glass stoppers with Apiezon M grease. The stoppers were then secured with rubber bands and plastic clamps. The samples were stored in the dark at  $4^{\circ}\text{C}$  until further analysis following Dickson (2007).

Genomics: Approximately 4 to 6 L of seawater (pre-filtered through a 350  $\mu\text{m}$  mesh at the Rosette) was filtered through 47 mm 3- $\mu\text{m}$  polycarbonate filters followed by sterile Sterivex cartridges (0.22  $\mu\text{m}$  pore size). After filtration, polycarbonate filters and Sterivex cartridges were spiked with 1.8 ml of RNAlater tissue storage reagent, kept at room temperature for 30 minutes, and then frozen and stored at  $-80^{\circ}\text{C}$  until further analysis.

Fast Repetition Rate Fluorometry (FRRF): Photosynthetic parameters and gross primary production rates were estimated using a FastOcean FRR fluorometer and the Act2Run software (Chelsea Technologies). About 2 mL of seawater, collected directly from the Rosette at surface and SCM at each station, was exposed to irradiance ranging from 0 to 2000  $\mu\text{mol photons m}^{-2} \text{ s}^{-1}$  for 40 to 120 seconds, with three dark periods of 20 seconds, for a total exposition of 21 minutes 40 seconds.

**Table 2.** Sampling schedule for seawater biochemistry during legs 2b and 5a of the 2024 CCGS *Amundsen* expedition at TCA Full stations; 1x: single sample collected, 2x: duplicate samples collected; SCM – subsurface chlorophyll *a* maximum; DIC/TA – dissolved inorganic carbon/total alkalinity; S – salinity; POC/PN – particulate organic carbon/particulate nitrogen; FA – fatty acids; FRRF – Fast Repetition Rate Fluorometry; AP – particulate absorption; HPLC – phytoplankton pigment composition determined by High Performance Liquid Chromatography.

Depth (m)	DIC/TA	CH <sub>4</sub> /N <sub>2</sub> O	DOC	S	δ <sup>18</sup> O	Flow cytometry		DAPI	Chlorophyll <i>a</i>		Phyto taxonomy	DNA	Phyto FA	POC/PN	FRRF	AP	HPLC
						Bacteria	Protist		Total	>5µm							
5	1x	1x	1x	1x	1x	2x	2x	2x	2x	2x	2x*	1x	2x	2x	1x	1x	1x
10	1x	1x	1x	1x	1x				2x	2x							
20	1x	1x	1x	1x	1x	2x	2x		2x	2x							1x
30	1x	1x	1x	1x	1x				2x	2x							
SCM	1x	1x	1x	1x	1x	2x	2x	2x	2x	2x	2x*	1x	2x	2x	1x	1x	1x
40	1x		1x	1x	1x	2x	2x		2x	2x							1x
50	1x	1x	1x	1x	1x				2x	2x							
60	1x		1x	1x	1x	2x	2x		2x	2x							1x
80	1x	1x	1x	1x	1x	2x	2x		2x	2x							1x
100	1x	1x	1x	1x	1x	2x	2x		2x	2x							
150	1x	1x	1x	1x	1x												
200	1x			1x	1x							1x					
250	1x	1x		1x	1x												
300	1x			1x	1x												
500	1x	1x		1x	1x												
750	1x	1x		1x	1x												
1000	1x	1x	1x	1x	1x												
Bot.	1x	1x	1x	1x	1x							1x					

\* One sample preserved with formaldehyde solution, and one with acidic Lugol's solution

**Table 3.** Sampling schedule for seawater biochemistry during legs 2b and 5a of the 2024 CCGS *Amundsen* expedition at TCA Basic stations; 1x: single sample collected, 2x: duplicate samples collected; SCM – subsurface chlorophyll *a* maximum; DIC/TA – dissolved inorganic carbon/total alkalinity; S – salinity; POC/PN – particulate organic carbon/particulate nitrogen; FA – fatty acids; FRRF – Fast Repetition Rate Fluorometry; AP – particulate absorption; HPLC – phytoplankton pigment composition determined by High Performance Liquid Chromatography.

Depth (m)	DIC/TA	CH <sub>4</sub> /N <sub>2</sub> O	DOC	S	δ <sup>18</sup> O	Flow cytometry		DAPI	Chlorophyll <i>a</i>		Phyto taxonomy	Phyto FA	POC/PN	FRRF	HPLC
						Bacteria	Protist		Total	>5µm					
5	1x	1x	1x	1x	1x	2x	2x	2x	2x	2x	2x*	2x	2x	1x	1x
10	1x	1x	1x	1x	1x				2x	2x					
20	1x	1x	1x	1x	1x	2x	2x		2x	2x					1x
30	1x	1x	1x	1x	1x				2x	2x					
SCM	1x	1x	1x	1x	1x	2x	2x	2x	2x	2x	2x*	2x	2x	1x	1x
40	1x		1x	1x	1x	2x	2x		2x	2x					1x
50	1x	1x	1x	1x	1x				2x	2x					
60	1x		1x	1x	1x	2x	2x		2x	2x					1x
80	1x	1x	1x	1x	1x	2x	2x		2x	2x					1x
100	1x	1x	1x	1x	1x	2x	2x		2x	2x					
150	1x	1x	1x	1x	1x										
200	1x			1x	1x										
250	1x	1x		1x	1x										
300	1x			1x	1x										
500	1x	1x		1x	1x										
750	1x	1x		1x	1x										
1000	1x	1x	1x	1x	1x										
Bot.	1x	1x	1x	1x	1x										

\* One sample preserved with formaldehyde solution, and one with acidic Lugol's solution

**Table 4.** Sampling schedule for seawater biochemistry during legs 2b and 5a of the 2024 CCGS *Amundsen* expedition at KEBABB Full stations; 1x: single sample collected, 2x: duplicate samples collected; SCM – subsurface chlorophyll *a* maximum; DIC/TA – dissolved inorganic carbon/total alkalinity; S – salinity; POC/PN – particulate organic carbon/particulate nitrogen; FA – fatty acids; FRRF – Fast Repetition Rate Fluorometry; AP – particulate absorption; HPLC – phytoplankton pigment composition determined by High Performance Liquid Chromatography.

Depth (m)	DIC/TA	CH <sub>4</sub> /N <sub>2</sub> O	DOC	S	δ <sup>18</sup> O	Flow cytometry		DAPI	Chlorophyll <i>a</i>		Phyto taxonomy	DNA	Phyto FA	POC/PN	FRRF	AP	HPLC
						Bacteria	Protist		Total	>5µm							
5	1x	1x	1x	1x	1x	2x	2x	2x	2x	2x	2x*	1x	2x	2x	1x	1x	1x
10	1x	1x	1x	1x	1x				2x	2x							
20	1x	1x	1x	1x	1x	2x	2x		2x	2x							
30	1x	1x	1x	1x	1x				2x	2x							
SCM	1x	1x	1x	1x	1x	2x	2x	2x	2x	2x	2x*	1x	2x	2x	1x	1x	1x
40	1x		1x	1x	1x	2x	2x		2x	2x							
50	1x	1x	1x	1x	1x				2x	2x							
60	1x		1x	1x	1x	2x	2x		2x	2x							
80	1x	1x	1x	1x	1x	2x	2x		2x	2x							
100	1x	1x	1x	1x	1x	2x	2x		2x	2x							
150	1x	1x	1x	1x	1x												
200	1x			1x	1x							1x					
250	1x	1x		1x	1x												
300	1x			1x	1x												
500	1x	1x		1x	1x												
750	1x	1x		1x	1x												
1000	1x	1x	1x	1x	1x												
Bot.	1x	1x	1x	1x	1x							1x					

\* One sample preserved with formaldehyde solution, and one with acidic Lugol's solution

**Table 5.** Sampling schedule for seawater biochemistry during legs 2b and 5a of the 2024 CCGS *Amundsen* expedition at KEBABB Basic stations; 1x: single sample collected, 2x: duplicate samples collected; SCM – subsurface chlorophyll *a* maximum; DIC/TA – dissolved inorganic carbon/total alkalinity; S – salinity; POC/PN – particulate organic carbon/particulate nitrogen; FA – fatty acids; FRRF – Fast Repetition Rate Fluorometry; AP – particulate absorption; HPLC – phytoplankton pigment composition determined by High Performance Liquid Chromatography.

Depth (m)	DIC/TA	CH <sub>4</sub> /N <sub>2</sub> O	DOC	S	δ <sup>18</sup> O	Flow cytometry		DAPI	Chlorophyll <i>a</i>		Phyto taxonomy	Phyto FA	POC/PN	FRRF
						Bacteria	Protist		Total	>5µm				
5	1x	1x	1x	1x	1x	2x	2x	2x	2x	2x	2x*	2x	2x	1x
10	1x	1x	1x	1x	1x				2x	2x				
20	1x	1x	1x	1x	1x	2x	2x		2x	2x				
30	1x	1x	1x	1x	1x				2x	2x				
SCM	1x	1x	1x	1x	1x	2x	2x	2x	2x	2x	2x*	2x	2x	1x
40	1x		1x	1x	1x	2x	2x		2x	2x				
50	1x	1x	1x	1x	1x				2x	2x				
60	1x		1x	1x	1x	2x	2x		2x	2x				
80	1x	1x	1x	1x	1x	2x	2x		2x	2x				
100	1x	1x	1x	1x	1x	2x	2x		2x	2x				
150	1x	1x	1x	1x	1x									
200	1x			1x	1x									
250	1x	1x		1x	1x									
300	1x			1x	1x									
500	1x	1x		1x	1x									
750	1x	1x		1x	1x									
1000	1x	1x	1x	1x	1x									
Bot.	1x	1x	1x	1x	1x	2x	2x							

\* One sample preserved with formaldehyde solution, and one with acidic Lugol's solution

## 4.2. Zooplankton

Meso- and macrozooplankton for stratified taxonomic composition were sampled using a *Hydrobios* MultiNet closing net (type Maxi; 200  $\mu\text{m}$  mesh size, 0.5  $\text{m}^2$  collection area, 9 nets) according to the strategy shown in Table 6. Samples were preserved in HDPE jars in 4% v/v borate-buffered formaldehyde solution until further taxonomic analysis. Zooplankton for fatty acid biomarker and stable isotope analyses were collected using a Double Square Net (DSN) "Tucker" net (500, 750 and auxiliary 50  $\mu\text{m}$  mesh sizes, 1  $\text{m}^2$  collection area) to sample the upper 100 m of the water column in an oblique, V-shaped tow. The actual depth of the *Tucker* net during deployment was monitored using a Kongsberg Maritime HiPAP MiniS34 cNODE acoustic transponder system (S/N# 17570) attached to the cable just over the net. After collection, zooplankton were sorted and counted into abundant taxonomic groups down to the lowest taxonomic level possible (species or genus for most specimens and class for more difficult individuals): *Clione limacina*, *Limacina helicina*, *Calanus hyperboreus*, *Calanus finmarchicus/glacialis*, *Metridia* sp., *Themisto libellula*, *Themisto abyssorum*, *Parasagitta elegans*, *Eukrohnia hamata*, *Paraeuchaeta* sp., *Boreomysis nobilis*, *Aglantha* sp., *Thysanoessa* sp., Ostracoda, *Onisimus littoralis*, *Meganyctiphanes norvegica*, *Hyperia galba*, Ctenophora, Cephalopoda, Cnidaria, *Hyeroche medusarum*, *Apherusa glacialis*, *Sarsia princeps*, *Eusirus cuspidatus*, Mysidae, *Pseudosagitta maxima*, and Decapoda; using a dissecting stereomicroscope, and kept frozen at  $-80^\circ\text{C}$  in glass vials.

**Table 6.** Zooplankton stratified sampling strategy at 2024 KEBABB stations.

Strata/net #	Depth end (m)	Depth start (m)
9	2	20
8	20	40
7	40	60
6	60	100
5	100	150
4	150	250
3		
2	250 - bottom	
1	divided into 3 strata of equal depth	
Trigger depth	N/A	Bottom -30

### 4.3. Sediments

Sediments were sampled using a box core sampler. Push cores of 10 cm diameter were collected from the box core sampler and stored at 4°C. Within 12 h after collection, cores were sectioned and individually bagged (Table 7). Sectioned samples were kept at –20°C until further analysis. Analyses performed on these layers include sedimentation rate, radioisotope dating, porosity, total mercury concentration, Polycyclic Aromatic Hydrocarbons (PAHs), n-alkanes, polychlorinated Biphenyls (PCBs), total carbon, total inorganic carbon, and carbon and nitrogen (C and N) isotopes.

**Table 7.** Thickness of layers sectioned from push cores according to their depth in the core. Bot – Bottom.

Push core section (cm)	Layer thickness (cm)
0-10	1
10-20	2
20-Bot	5

### 4.4. Mooring Deployment

The long-term observation platform deployed at station C4-24 during the KEBABB 2024 program is a part of a larger DFO-led mooring program to investigate the connectivity and ecological linkages between the multiyear sea-ice dominated region of the Tuvaijuittuq Marine Protected Area and the downstream ecosystems of Sarvarjuaq, the Tallurutiup Imanga Marine Conservation Area and southern Baffin Bay. During leg 2b, mooring ‘C4-24’ was successfully deployed as close to station C4 as sea ice conditions allowed (Figure 2; 67.939 °N, -60.152 °E) on 3 August 2024. The deployment team consisted of Amundsen Science technicians with assistance from the crew and KEBABB team. Table 8 provides an overview of deployed sensors and deployment depths for the ‘C4-24’ mooring. Instruments were programmed prior to the start of the expedition. The recovery of the ‘C4-24’ mooring is planned for the 2025 CCGS *Amundsen* expedition.

**Table 8.** Configuration of mooring C4-24 at a bottom depth of 1535 m deployed during the 2024 CCGS *Amundsen* expedition.

Mooring	Instrument type	Deployment depth (m)
C4-24	Satellite beacon	500
	Conductivity, Temperature, Depth probe, Dissolved oxygen probe	500
	Carbon dioxide probe	500
	Acoustic doppler current profiler	500
	Acoustic zooplankton fish profiler	500
	Temperature-Pressure probe	600
	Temperature-Pressure probe	700
	Sediment trap	750
	Temperature-Pressure probe	750
	Temperature-Pressure probe	800
	Temperature-Pressure probe	900
	Fish tag receiver	1000
	Sediment trap	1500
	Turbidity sensor	1500
	Tandem acoustic releases	1525

#### 4.5. Mooring Recovery

During leg 3, the ‘Bylot-23’ mooring was successfully recovered near Bylot island (72° 52.845° N, -75° 38.938° E). The recovery of mooring ‘C4-23’ was initially planned for leg 2b, but due to ice conditions in the area, recovery was impossible and was thus delayed to leg 5a. The recovery day was scheduled for 15 October 2024. The weather was good, and there was no ice in the area. The mooring was successfully located at its position with the multibeam sonar. Recovery was attempted but was unsuccessful due to deck unit malfunctions; the deck unit was needed to activate the acoustic releases. Recovery will be attempted again during the 2025 CCGS *Amundsen* expedition with a new deck unit or a remotely operated vehicle, provided by Amundsen Science, if necessary.

#### 5. Logistical overview and recommendations

The 2024 KEBABB expedition was successful, with the vast majority of sampling objectives achieved. Planned scientific operations at some stations were cancelled due to adverse weather conditions and presence of sea ice in the region. The ‘C4-24’ mooring was

deployed successfully and communicated with the deck unit after deployment. The ‘Bylot-23’ mooring was recovered successfully on leg 3. The ‘C4-23’ mooring recovery attempt was unsuccessful but will be attempted again in 2025 which is still within the life span of the acoustic release batteries. Bringing multiple deck units in the future for the acoustic releases is recommended.

The KEBABB sampling team benefited from excellent laboratory work space on the CCGS *Amundsen*, and expertise and support for the mooring program provided by Amundsen Science. The time allocated to the set-up of laboratories after boarding the vessel was adequately planned and sufficient.

## **6. Acknowledgements**

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**Appendix A.** The CCGS *Amundsen* ship log for leg 2b of 2024 expedition; F- full, B – basic; N- nutrient; M – mooring; R- rosette; CTD – conductivity, temperature, depth profile; BC – box core; IKMT – Isaacs-Kidd Midwater Trawl.

<b>Date/time (UTC)</b>	<b>Station</b>	<b>Type</b>	<b>Depth (m)</b>	<b>Lat (° N)</b>	<b>Long (°E)</b>	<b>Activity</b>	<b>Event</b>
2024/07/30 04:40:33	SV_1	CTD	261.53	67.327	-64.522	CTD Rosette	Deployment
2024/07/30 04:45:06	SV_1	CTD	261.76	67.327	-64.521	CTD Rosette	Bottom
2024/07/30 04:51:01	SV_1	CTD	262.35	67.327	-64.520	CTD Rosette	Recovery
2024/07/30 09:29:02	TCA-QFC1	B	118.38	67.353	-64.755	CTD Rosette	Deployment
2024/07/30 09:32:22	TCA-QFC1	B	118.01	67.353	-64.755	CTD Rosette	Bottom
2024/07/30 09:50:10	TCA-QFC1	B	115.14	67.354	-64.756	CTD Rosette	Recovery
2024/07/30 10:01:41	TCA-QFC1	B	114.24	67.354	-64.757	Plankton Net	Deployment
2024/07/30 10:04:39	TCA-QFC1	B	113.76	67.354	-64.758	Plankton Net	Bottom
2024/07/30 10:07:17	TCA-QFC1	B	113.84	67.354	-64.758	Plankton Net	Recovery
2024/07/30 10:22:10	TCA-QFC1	B	119.92	67.350	-64.757	Tucker Net	Deployment
2024/07/30 10:29:56	TCA-QFC1	B	130.01	67.351	-64.747	Tucker Net	Bottom
2024/07/30 10:36:49	TCA-QFC1	B	128.62	67.354	-64.746	Tucker Net	Recovery
2024/07/30 11:06:50	TCA-QFC1	B	117.42	67.354	-64.756	Monster Net	Deployment
2024/07/30 11:10:50	TCA-QFC1	B	117.01	67.354	-64.756	Monster Net	Bottom
2024/07/30 11:14:57	TCA-QFC1	B	116.08	67.354	-64.757	Monster Net	Recovery
2024/07/30 12:13:44	TCA-QFC1	B	141.74	67.352	-64.732	Beam Trawl	Deployment
2024/07/30 12:24:17	TCA-QFC1	B	128.36	67.354	-64.747	Beam Trawl	Bottom
2024/07/30 12:37:35	TCA-QFC1	B	121.16	67.349	-64.754	Beam Trawl	Recovery
2024/07/30 13:12:40	TCA-5.2	BC	201.01	67.335	-64.651	Box Core	Deployment
2024/07/30 13:17:14	TCA-5.2	BC	200.38	67.335	-64.651	Box Core	Bottom

2024/07/30 13:22:03	TCA- 5.2	BC	200.72	67.335	-64.651	Box Core	Recovery
2024/07/30 13:34:34	TCA- 5.2	BC	200.64	67.335	-64.650	Box Core	Deployment
2024/07/30 13:38:49	TCA- 5.2	BC	200.38	67.335	-64.650	Box Core	Bottom
2024/07/30 13:43:09	TCA- 5.2	BC	200.64	67.335	-64.650	Box Core	Recovery
2024/07/30 14:38:08	TCA- 5.2	BC	200.76	67.335	-64.650	Gravity Core	Deployment
2024/07/30 14:43:11	TCA- 5.2	BC	200.63	67.335	-64.650	Gravity Core	Bottom
2024/07/30 14:49:48	TCA- 5.2	BC	200.77	67.335	-64.650	Gravity Core	Recovery
2024/07/30 15:25:11	TCA- 5.2	BC	201.96	67.335	-64.647	Gravity Core	Deployment
2024/07/30 15:33:29	TCA- 5.2	BC	201.79	67.335	-64.647	Gravity Core	Bottom
2024/07/30 15:38:49	TCA- 5.2	BC	201.79	67.335	-64.647	Gravity Core	Recovery
2024/07/30 16:51:50	TCA- 5.2	BC	200.89	67.335	-64.649	Gravity Core	Deployment
2024/07/30 16:57:30	TCA- 5.2	BC	200.66	67.335	-64.649	Gravity Core	Bottom
2024/07/30 17:03:18	TCA- 5.2	BC	200.81	67.335	-64.649	Gravity Core	Recovery
2024/07/30 18:34:20	TCA- QFC2	N	219.76	67.313	64.374	CTD Rosette	Deployment
2024/07/30 18:39:13	TCA- QFC2	N	215.78	67.312	-64.374	CTD Rosette	Bottom
2024/07/30 19:07:00	TCA- QFC2	N	227.83	67.312	-64.373	CTD Rosette	Recovery
2024/07/31 04:16:18	TCA- QFA2	N	320.98	67.239	-64.366	CTD Rosette	Deployment
2024/07/31 04:22:06	TCA- QFA2	N	320.92	67.239	-64.366	CTD Rosette	Bottom
2024/07/31 04:56:16	TCA- QFA2	N	324.45	67.238	-64.363	CTD Rosette	Recovery
2024/07/31 06:36:11	TCA- QFA1	B	192.98	67.221	-64.722	CTD Rosette	Deployment
2024/07/31 06:40:42	TCA- QFA1	B	193.37	67.221	-64.722	CTD Rosette	Bottom
2024/07/31 07:12:00	TCA- QFA1	B	196.78	67.222	-64.717	CTD Rosette	Recovery
2024/07/31 07:20:43	TCA- QFA1	B	192.96	67.221	-64.723	Plankton Net	Deployment

2024/07/31 07:22:56	TCA- QFA1	B	192.56	67.221	-64.723	Plankton Net	Bottom
2024/07/31 07:26:33	TCA- QFA1	B	192.41	67.221	-64.723	Plankton Net	Recovery
2024/07/31 07:50:22	TCA- QFA1	B	201.57	67.224	-64.712	Tucker Net	Deployment
2024/07/31 08:27:40	TCA- QFA1	B	203.07	67.222	-64.702	Tucker Net	Bottom
2024/07/31 08:36:34	TCA- QFA1	B	209.5	67.225	-64.696	Tucker Net	Recovery
2024/07/31 09:04:26	TCA- QFA1	B	191.64	67.221	-64.723	Hydrobios	Deployment
2024/07/31 09:09:37	TCA- QFA1	B	191.18	67.221	-64.723	Hydrobios	Bottom
2024/07/31 09:16:26	TCA- QFA1	B	191.22	67.221	-64.723	Hydrobios	Recovery
2024/07/31 09:40:45	TCA- QFA1	B	170.81	67.215	-64.731	Beam Trawl	Deployment
2024/07/31 09:51:55	TCA- QFA1	B	190.17	67.219	-64.718	Beam Trawl	Bottom
2024/07/31 10:04:33	TCA- QFA1	B	204.27	67.225	-64.707	Beam Trawl	Recovery
2024/07/31 10:57:11	TCA- 5.3	BC	192.15	67.221	-64.722	Box Core	Deployment
2024/07/31 11:02:19	TCA- 5.3	BC	192.26	67.221	-64.722	Box Core	Bottom
2024/07/31 11:07:31	TCA- 5.3	BC	193.03	67.221	-64.722	Box Core	Recovery
2024/07/31 11:22:54	TCA- 5.3	BC	193.25	67.221	-64.722	Box Core	Deployment
2024/07/31 11:27:45	TCA- 5.3	BC	192.97	67.221	-64.722	Box Core	Bottom
2024/07/31 11:33:29	TCA- 5.3	BC	193.38	67.221	-64.722	Box Core	Recovery
2024/07/31 12:59:28	TCA- 5.3	BC	223.71	67.230	-64.658	Box Core	Deployment
2024/07/31 13:05:34	TCA- 5.3	BC	222.94	67.230	-64.658	Box Core	Bottom
2024/07/31 13:11:19	TCA- 5.3	BC	223.43	67.230	-64.658	Box Core	Recovery
2024/07/31 13:23:57	TCA- 5.3	BC	223.38	67.230	-64.658	Box Core	Deployment
2024/07/31 13:30:33	TCA- 5.3	BC	223.35	67.230	-64.657	Box Core	Bottom
2024/07/31 13:36:31	TCA- 5.3	BC	223.60	67.230	-64.657	Box Core	Recovery

2024/07/31 14:23:05	TCA- 5.3	BC	223.90	67.230	-64.656	Gravity Core	Deployment
2024/07/31 14:31:35	TCA- 5.3	BC	224.26	67.230	-64.655	Gravity Core	Bottom
2024/07/31 14:38:24	TCA- 5.3	BC	224.27	67.230	-64.655	Gravity Core	Recovery
2024/07/31 15:32:12	TCA- 5.3	BC	223.74	67.230	-64.656	Gravity Core	Deployment
2024/07/31 15:36:53	TCA- 5.3	BC	224.16	67.230	-64.656	Gravity Core	Bottom
2024/07/31 15:42:37	TCA- 5.3	BC	224.29	67.230	-64.656	Gravity Core	Recovery
2024/07/31 18:18:25	TCA- QF3	F	522.81	67.271	-63.880	CTD Rosette	Deployment
2024/07/31 18:27:38	TCA- QF3	F	516.63	67.271	-63.880	CTD Rosette	Bottom
2024/07/31 19:08:28	TCA- QF3	F	476.88	67.270	-63.881	CTD Rosette	Recovery
2024/07/31 19:19:01	TCA- QF3	F	525.10	67.272	-63.880	Plankton Net	Deployment
2024/07/31 19:21:45	TCA- QF3	F	515.67	67.272	-63.880	Plankton Net	Bottom
2024/07/31 19:25:00	TCA- QF3	F	506.28	67.272	-63.878	Plankton Net	Recovery
2024/07/31 19:26:42	TCA- QF3	F	513.59	67.272	-63.878	Plankton Net	Deployment
2024/07/31 19:30:07	TCA- QF3	F	502.48	67.272	-63.878	Plankton Net	Bottom
2024/07/31 19:32:38	TCA- QF3	F	501.40	67.272	-63.878	Plankton Net	Recovery
2024/07/31 19:48:36	TCA- QF3	F	543.85	67.275	-63.897	Tucker Net	Deployment
2024/07/31 19:57:22	TCA- QF3	F	507.85	67.271	-63.894	Tucker Net	Bottom
2024/07/31 20:04:32	TCA- QF3	F	465.65	67.269	-63.885	Tucker Net	Recovery
2024/07/31 20:46:10	TCA- QF3	F	556.74	67.273	-63.878	Hydrobios	Deployment
2024/07/31 20:59:02	TCA- QF3	F	541.67	67.273	-63.877	Hydrobios	Bottom
2024/07/31 21:14:48	TCA- QF3	F	530.42	67.272	-63.876	Hydrobios	Recovery
2024/07/31 21:56:01	TCA- QF3	F	553.29	67.291	-63.951	IKMT	Deployment
2024/07/31 22:23:29	TCA- QF3	F	600.02	67.283	-63.916	IKMT	Bottom

2024/07/31 23:08:28	TCA- QF3	F	512.57	67.285	-63.846	IKMT	Recovery
2024/07/31 23:43:26	TCA- QF3	F	541.53	67.273	-63.880	CTD Rosette	Deployment
2024/07/31 23:46:16	TCA- QF3	F	535.66	67.272	-63.880	CTD Rosette	Bottom
2024/07/31 23:52:14	TCA- QF3	F	517.04	67.272	-63.879	CTD Rosette	Recovery
2024/08/01 00:21:46	TCA- QF3	F	601.02	67.283	-63.899	Box Core	Deployment
2024/08/01 00:31:43	TCA- QF3	F	600.96	67.283	-63.898	Box Core	Bottom
2024/08/01 00:42:15	TCA- QF3	F	601.25	67.283	-63.897	Box Core	Recovery
2024/08/01 02:39:59	TCA- QFB2	N	362.34	67.168	-64.293	CTD Rosette	Deployment
2024/08/01 02:46:36	TCA- QFB2	N	361.4	67.168	-64.292	CTD Rosette	Bottom
2024/08/01 03:17:34	TCA- QFB2	N	360.85	67.168	-64.291	CTD Rosette	Recovery
2024/08/01 07:32:51	TCA- QFB1	B	164.53	67.096	-64.658	CTD Rosette	Deployment
2024/08/01 07:35:44	TCA- QFB1	B	164.38	67.096	-64.658	CTD Rosette	Bottom
2024/08/01 07:57:58	TCA- QFB1	B	165.33	67.096	-64.657	CTD Rosette	Recovery
2024/08/01 08:08:29	TCA- QFB1	B	165.13	67.095	-64.657	Plankton Net	Deployment
2024/08/01 08:11:15	TCA- QFB1	B	165.02	67.095	-64.657	Plankton Net	Bottom
2024/08/01 08:11:34	TCA- QFB1	B	165.01	67.095	-64.657	Plankton Net	Recovery
2024/08/01 08:30:01	TCA- QFB1	B	165.20	67.095	-64.659	Monster Net	Deployment
2024/08/01 08:33:46	TCA- QFB1	B	164.88	67.095	-64.659	Monster Net	Bottom
2024/08/01 08:40:33	TCA- QFB1	B	164.16	67.094	-64.660	Monster Net	Recovery
2024/08/01 09:02:30	TCA- QFB1	B	160.27	67.102	-64.639	Tucker Net	Deployment
2024/08/01 09:10:40	TCA- QFB1	B	161.67	67.105	-64.634	Tucker Net	Bottom
2024/08/01 09:19:05	TCA- QFB1	B	192.58	67.110	-64.635	Tucker Net	Recovery
2024/08/01 09:47:55	TCA- 5.1	BC	164.90	67.096	-64.657	Box Core	Deployment

2024/08/01 09:50:53	TCA- 5.1	BC	164.46	67.096	-64.656	Box Core	Bottom
2024/08/01 09:55:03	TCA- 5.1	BC	164.85	67.096	-64.656	Box Core	Recovery
2024/08/01 10:08:12	TCA- 5.1	BC	164.74	67.096	-64.656	Box Core	Deployment
2024/08/01 10:12:28	TCA- 5.1	BC	164.62	67.096	-64.656	Box Core	Bottom
2024/08/01 10:16:34	TCA- 5.1	BC	164.71	67.096	-64.656	Box Core	Recovery
2024/08/01 11:10:26	TCA- 5.1	BC	164.32	67.096	-64.657	Gravity Core	Deployment
2024/08/01 11:14:16	TCA- 5.1	BC	164.31	67.096	-64.657	Gravity Core	Bottom
2024/08/01 11:18:46	TCA- 5.1	BC	164.64	67.096	-64.657	Gravity Core	Recovery
2024/08/01 12:53:31	TCA- 5.1	BC	164.78	67.096	-64.657	Gravity Core	Deployment
2024/08/01 12:57:24	TCA- 5.1	BC	165.41	67.096	-64.656	Gravity Core	Bottom
2024/08/01 13:02:13	TCA- 5.1	BC	165.72	67.096	-64.656	Gravity Core	Recovery
2024/08/01 13:28:32	TCA- 5.1	BC	156.42	67.097	-64.649	Beam Trawl	Deployment
2024/08/01 13:38:38	TCA- 5.1	BC	175.24	67.102	-64.643	Beam Trawl	Bottom
2024/08/01 13:50:39	TCA- 5.1	BC	182.75	67.108	-64.640	Beam Trawl	Recovery
2024/08/01 18:13:32	TCA- QF4	N	445.65	67.371	-63.771	CTD Rosette	Deployment
2024/08/01 18:21:35	TCA- QF4	N	443.96	67.371	-63.770	CTD Rosette	Bottom
2024/08/01 18:56:43	TCA- QF4	N	467.78	67.368	-63.772	CTD Rosette	Recovery
2024/08/01 20:23:14	D1	F	652.36	67.473	-63.691	CTD Rosette	Deployment
2024/08/01 20:35:44	D1	F	652.37	67.473	-63.691	CTD Rosette	Bottom
2024/08/01 21:08:22	D1	F	669.09	67.472	-63.695	CTD Rosette	Recovery
2024/08/01 21:19:06	D1	F	667.35	67.472	-63.697	Plankton Net	Deployment
2024/08/01 21:21:44	D1	F	667.42	67.472	-63.697	Plankton Net	Bottom
2024/08/01 21:23:31	D1	F	668.30	67.472	-63.697	Plankton Net	Recovery

2024/08/01 21:26:00	D1	F	668.70	67.472	-63.698	Plankton Net	Deployment
2024/08/01 21:28:40	D1	F	668.47	67.472	-63.698	Plankton Net	Bottom
2024/08/01 21:30:30	D1	F	668.08	67.472	-63.699	Plankton Net	Recovery
2024/08/01 21:48:59	D1	F	669.14	67.472	-63.700	Tucker Net	Deployment
2024/08/01 21:57:12	D1	F	667.01	67.468	-63.706	Tucker Net	Bottom
2024/08/01 22:04:16	D1	F	653.42	67.465	-63.701	Tucker Net	Recovery
2024/08/01 22:29:43	D1	F	669.39	67.473	-63.697	Hydrobios	Deployment
2024/08/01 22:47:45	D1	F	670.95	67.473	-63.699	Hydrobios	Bottom
2024/08/01 23:09:26	D1	F	647.99	67.473	-63.700	Hydrobios	Recovery
2024/08/01 23:31:14	D1	F	516.44	67.473	-63.717	IKMT	Deployment
2024/08/01 23:53:22	D1	F	649.67	67.462	-63.721	IKMT	Bottom
2024/08/02 00:29:57	D1	F	573.14	67.469	-63.677	IKMT	Recovery
2024/08/02 00:53:58	D1	F	669.42	67.473	-63.694	Box Core	Deployment
2024/08/02 01:06:26	D1	F	668.35	67.473	-63.694	Box Core	Bottom
2024/08/02 01:18:52	D1	F	672.61	67.473	-63.695	Box Core	Recovery
2024/08/02 02:55:23	D1.5	BC	574.39	67.641	-63.492	Box Core	Deployment
2024/08/02 03:05:29	D1.5	BC	573.99	67.640	-63.492	Box Core	Bottom
2024/08/02 03:16:19	D1.5	BC	574.42	67.641	-63.492	Box Core	Recovery
2024/08/02 04:01:41	TCA-D1B	F	524.89	67.676	-63.449	CTD Rosette	Deployment
2024/08/02 04:10:50	TCA-D1B	F	523.12	67.676	-63.449	CTD Rosette	Bottom
2024/08/02 04:52:49	TCA-D1B	F	520.78	67.677	-63.448	CTD Rosette	Recovery
2024/08/02 06:29:04	D2	B	264.86	67.857	-63.150	CTD Rosette	Deployment
2024/08/02 06:33:49	D2	B	263.83	67.857	-63.152	CTD Rosette	Bottom

2024/08/02 07:03:09	D2	B	276.10	67.856	-63.162	CTD Rosette	Recovery
2024/08/02 13:37:12	D3	F	1537.02	68.241	-62.594	Plankton Net	Deployment
2024/08/02 13:39:27	D3	F	1537.30	68.241	-62.594	Plankton Net	Bottom
2024/08/02 13:42:23	D3	F	1537.53	68.241	-62.593	Plankton Net	Recovery
2024/08/02 13:45:44	D3	F	1537.64	68.241	-62.593	Plankton Net	Deployment
2024/08/02 13:49:08	D3	F	1539.00	68.240	-62.593	Plankton Net	Bottom
2024/08/02 13:51:38	D3	F	1538.84	68.240	-62.593	Plankton Net	Recovery
2024/08/02 14:07:30	D3	F	1541.94	68.238	-62.592	Tucker Net	Deployment
2024/08/02 14:17:34	D3	F	1534.04	68.244	-62.594	Tucker Net	Bottom
2024/08/02 14:28:23	D3	F	1523.18	68.245	-62.608	Tucker Net	Recovery
2024/08/02 15:17:28	D3	F	1544.56	68.236	-62.597	CTD Rosette	Deployment
2024/08/02 15:19:55	D3	F	1545.18	68.235	-62.598	CTD Rosette	Bottom
2024/08/02 15:27:45	D3	F	1546.14	68.234	-62.599	CTD Rosette	Recovery
2024/08/02 16:26:04	D3	F	1533.50	68.244	-62.596	Hydrobios	Deployment
2024/08/02 16:54:30	D3	F	1529.31	68.242	-62.604	Hydrobios	Bottom
2024/08/02 17:22:18	D3	F	1524.51	68.241	-62.615	Hydrobios	Recovery
2024/08/02 18:01:23	D3	F	1529.15	68.241	-62.603	CTD Rosette	Deployment
2024/08/02 18:29:15	D3	F	1525.84	68.241	-62.612	CTD Rosette	Bottom
2024/08/02 19:29:51	D3	F	1518.31	68.249	-62.627	CTD Rosette	Recovery
2024/08/02 19:59:25	D3	F	1528.92	68.244	-62.597	Box Core	Deployment
2024/08/02 20:27:13	D3	F	1536.57	68.246	-62.596	Box Core	Bottom
2024/08/02 20:57:09	D3	F	1544.78	68.248	-62.591	Box Core	Recovery
2024/08/03 02:16:07	D4	B	1777.12	68.626	-61.979	CTD Rosette	Deployment

2024/08/03 02:48:25	D4	B	1778.61	68.623	-61.985	CTD Rosette	Bottom
2024/08/03 03:52:19	D4	B	1775.40	68.617	-62.001	CTD Rosette	Recovery
2024/08/03 17:33:14	C4-24	M	1535.91	67.944	-60.224	Mooring deployment	Deployment
2024/08/03 18:48:25	C4-24	M	1525.31	67.948	-60.201	Mooring deployment	Bottom
2024/08/03 19:44:08	C4-24	KR	1523.86	67.939	-60.161	CTD Rosette	Deployment
2024/08/03 20:10:42	C4-24	B	1525.37	67.939	-60.152	CTD Rosette	Bottom
2024/08/03 21:11:23	C4-24	B	1518.03	67.939	-60.129	CTD Rosette	Recovery
2024/08/03 21:31:06	C4-24	B	1510.3	67.935	-60.108	Hydrobios	Deployment
2024/08/03 22:10:30	C4-24	B	1506.85	67.936	-60.095	Hydrobios	Bottom
2024/08/03 22:59:15	C4-24	B	1504.06	67.937	-60.090	Hydrobios	Recovery
2024/08/03 23:24:05	C4-24	B	1487.43	67.933	-60.035	Tucker	Deployment
2024/08/03 23:33:48	C4-24	B	1486.96	67.939	-60.041	Tucker	Bottom
2024/08/03 23:41:57	C4-24	B	1490.56	67.941	-60.051	Tucker	Recovery
2024/08/04 02:36:52	C5	F	1346.79	68.151	-59.977	CTD Rosette	Deployment
2024/08/04 03:01:09	C5	F	1342.54	68.154	-59.979	CTD Rosette	Bottom
2024/08/04 03:56:35	C5	F	1349.14	68.160	-59.979	CTD Rosette	Recovery
2024/08/04 04:13:04	C5	F	1347.48	68.160	-59.972	Plankton Net	Deployment
2024/08/04 04:15:18	C5	F	1346.67	68.160	-59.972	Plankton Net	Bottom
2024/08/04 04:18:15	C5	F	1346.10	68.161	-59.971	Plankton Net	Recovery
2024/08/04 04:20:36	C5	F	1346.51	68.161	-59.970	Plankton Net	Deployment
2024/08/04 04:25:00	C5	F	1345.58	68.161	-59.968	Plankton Net	Bottom
2024/08/04 04:27:41	C5	F	1344.84	68.161	-59.967	Plankton Net	Recovery
2024/08/04 04:53:02	C5	F	1331.73	68.154	-59.905	Tucker	Deployment

2024/08/04 05:02:57	C5	F	1317.82	68.159	-59.901	Tucker	Bottom
2024/08/04 05:11:32	C5	F	1331.29	68.163	-59.909	Tucker	Recovery
2024/08/04 05:32:03	C5	F	1316.53	68.163	-59.898	Hydrobios	Deployment
2024/08/04 06:06:28	C5	F	1317.19	68.161	-59.890	Hydrobios	Bottom
2024/08/04 06:49:14	C5	F	1303.98	68.157	-59.870	Hydrobios	Recovery
2024/08/04 07:15:44	C5	F	1273.73	68.147	-59.843	IKMT	Deployment
2024/08/04 07:45:18	C5	F	1157.07	68.150	-59.797	IKMT	Bottom
2024/08/04 08:31:31	C5	F	976.09	68.168	-59.742	IKMT	Recovery
2024/08/04 16:48:06	C3	F	1539.35	67.739	-61.265	CTD Rosette	Deployment
2024/08/04 17:15:30	C3	F	1538.16	67.735	-61.254	CTD Rosette	Bottom
2024/08/04 18:13:05	C3	F	1524.43	67.722	-61.237	CTD Rosette	Recovery
2024/08/04 18:50:34	C3	F	1546.27	67.747	-61.272	Plankton Net	Deployment
2024/08/04 18:53:21	C3	F	1542.27	67.746	-61.272	Plankton Net	Bottom
2024/08/04 18:56:08	C3	F	1541.35	67.746	-61.272	Plankton Net	Recovery
2024/08/04 18:58:05	C3	F	1541.52	67.745	-61.271	Plankton Net	Deployment
2024/08/04 19:00:47	C3	F	1540.95	67.745	-61.271	Plankton Net	Bottom
2024/08/04 19:03:23	C3	F	1541.44	67.744	-61.271	Plankton Net	Recovery
2024/08/04 19:15:09	C3	F	1540.11	67.741	-61.269	Hydrobios	Deployment
2024/08/04 19:54:09	C3	F	1534.63	67.734	-61.268	Hydrobios	Bottom
2024/08/04 20:38:24	C3	F	1532.81	67.730	-61.266	Hydrobios	Recovery
2024/08/04 21:17:46	C3	F	1543.48	67.748	-61.267	CTD Rosette	Deployment
2024/08/04 21:25:25	C3	F	1543.36	67.748	-61.268	CTD Rosette	Bottom
2024/08/04 21:25:58	C3	F	1544.97	67.748	-61.268	CTD Rosette	Recovery

2024/08/04 23:08:37	C2.5	BC	1303.68	67.647	-61.605	Box Core	Deployment
2024/08/04 23:30:35	C2.5	BC	1303.20	67.647	-61.604	Box Core	Bottom
2024/08/04 23:50:56	C2.5	BC	1307.11	67.648	-61.604	Box Core	Recovery
2024/08/05 02:09:21	C2	B	443.47	67.551	-61.922	CTD Rosette	Deployment
2024/08/05 02:17:21	C2	B	431.00	67.550	-61.921	CTD Rosette	Bottom
2024/08/05 02:51:35	C2	B	399.63	67.547	-61.923	CTD Rosette	Recovery
2024/08/05 05:10:14	C1	F	137.41	67.348	-62.519	CTD Rosette	Deployment
2024/08/05 05:12:57	C1	F	136.72	67.347	-62.518	CTD Rosette	Bottom
2024/08/05 05:37:39	C1	F	145.13	67.343	-62.511	CTD Rosette	Recovery
2024/08/05 05:48:08	C1	F	137.58	67.348	-62.522	Plankton Net	Deployment
2024/08/05 05:50:00	C1	F	137.80	67.348	-62.522	Plankton Net	Bottom
2024/08/05 05:53:29	C1	F	138.22	67.347	-62.521	Plankton Net	Recovery
2024/08/05 06:09:29	C1	F	143.83	67.343	-62.509	Tucker	Deployment
2024/08/05 06:18:36	C1	F	159.63	67.341	-62.495	Tucker	Bottom
2024/08/05 06:26:14	C1	F	162.87	67.340	-62.483	Tucker	Recovery
2024/08/05 07:02:55	C1	F	191.42	67.352	-62.535	Hydrobios	Deployment
2024/08/05 07:05:57	C1	F	189.29	67.352	-62.534	Hydrobios	Bottom
2024/08/05 07:11:03	C1	F	185.21	67.351	-62.534	Hydrobios	Recovery
2024/08/05 07:35:53	C1	F	125.11	67.335	-62.483	Beam Trawl	Deployment
2024/08/05 07:43:03	C1	F	147.18	67.334	-62.470	Beam Trawl	Bottom
2024/08/05 08:06:26	C1	F	161.39	67.336	-62.427	Beam Trawl	Recovery
2024/08/05 09:43:24	B1-C1	BC	275.49	67.200	-61.983	Box Core	Deployment
2024/08/05 09:47:59	B1-C1	BC	274.03	67.200	-61.982	Box Core	Bottom

2024/08/05 09:53:48	B1-C1	BC	274.77	67.200	-61.982	Box Core	Recovery
2024/08/05 12:12:04	B1	F	115.65	67.060	-61.508	CTD Rosette	Deployment
2024/08/05 12:14:52	B1	F	115.10	67.060	-61.508	CTD Rosette	Bottom
2024/08/05 12:35:23	B1	F	115.11	67.061	-61.509	CTD Rosette	Recovery
2024/08/05 12:53:24	B1	F	112.71	67.059	-61.515	Plankton Net	Deployment
2024/08/05 12:57:33	B1	F	112.26	67.059	-61.515	Plankton Net	Bottom
2024/08/05 13:00:57	B1	F	112.77	67.059	-61.514	Plankton Net	Recovery
2024/08/05 13:03:35	B1	F	112.97	67.059	-61.514	Plankton Net	Deployment
2024/08/05 13:05:57	B1	F	113.51	67.059	-61.514	Plankton Net	Bottom
2024/08/05 13:08:42	B1	F	113.73	67.059	-61.514	Plankton Net	Recovery
2024/08/05 13:19:58	B1	F	116.99	67.061	-61.506	Tucker	Deployment
2024/08/05 13:33:13	B1	F	124.28	67.064	-61.485	Tucker	Bottom
2024/08/05 13:45:33	B1	F	130.55	67.063	-61.466	Tucker	Recovery
2024/08/05 14:25:25	B1	F	113.35	67.059	-61.514	Monster Net	Deployment
2024/08/05 14:28:05	B1	F	115.06	67.059	-61.513	Monster Net	Bottom
2024/08/05 14:32:43	B1	F	115.35	67.059	-61.513	Monster Net	Recovery
2024/08/05 14:53:53	B1	F	121.89	67.065	-61.511	Beam Trawl	Deployment
2024/08/05 15:01:17	B1	F	122.23	67.069	-61.510	Beam Trawl	Bottom
2024/08/05 15:23:57	B1	F	142.46	67.085	-61.502	Beam Trawl	Recovery
2024/08/05 18:29:59	B2.5	BC	889.54	67.257	-60.572	Box Core	Deployment
2024/08/05 18:47:49	B2.5	BC	885.25	67.257	-60.574	Box Core	Bottom
2024/08/05 19:04:10	B2.5	BC	882.75	67.255	-60.571	Box Core	Recovery
2024/08/05 20:27:26	B3	F	1066.82	67.324	-60.275	CTD Rosette	Deployment

2024/08/05 20:46:49	B3	F	1064.30	67.322	-60.270	CTD Rosette	Bottom
2024/08/05 21:35:47	B3	F	1054.75	67.316	-60.262	CTD Rosette	Recovery
2024/08/05 21:58:06	B3	F	1082.48	67.333	-60.288	Plankton Net	Deployment
2024/08/05 22:00:19	B3	F	1081.43	67.333	-60.288	Plankton Net	Bottom
2024/08/05 22:03:32	B3	F	1080.80	67.332	-60.289	Plankton Net	Recovery
2024/08/05 22:15:07	B3	F	1078.83	67.330	-60.290	Hydrobios	Deployment
2024/08/05 22:42:05	B3	F	1077.80	67.329	-60.295	Hydrobios	Bottom
2024/08/05 23:14:47	B3	F	1076.38	67.329	-60.300	Hydrobios	Recovery
2024/08/06 02:30:39	B4	B	1400.00	67.468	-59.651	CTD Rosette	Deployment
2024/08/06 02:56:46	B4	B	1400.39	67.468	-59.667	CTD Rosette	Bottom
2024/08/06 03:57:40	B4	B	1417.1	67.467	-59.692	CTD Rosette	Recovery
2024/08/06 04:23:48	B4	B	1427.55	67.464	-59.640	Tucker	Deployment
2024/08/06 04:34:13	B4	B	1424.22	67.461	-59.627	Tucker	Bottom
2024/08/06 04:44:37	B4	B	1417.91	67.460	-59.613	Tucker	Recovery
2024/08/06 06:47:53	B5	F	1190.32	67.584	-59.023	CTD Rosette	Deployment
2024/08/06 07:08:46	B5	F	1196.56	67.582	-59.021	CTD Rosette	Bottom
2024/08/06 08:00:45	B5	F	1200.1	67.573	-59.010	CTD Rosette	Recovery
2024/08/06 08:17:47	B5	F	1182	67.587	-59.014	Plankton Net	Deployment
2024/08/06 08:19:56	B5	F	1182.11	67.587	-59.014	Plankton Net	Bottom
2024/08/06 08:23:07	B5	F	1182.41	67.587	-59.014	Plankton Net	Recovery
2024/08/06 08:25:29	B5	F	1182.7	67.586	-59.014	Plankton Net	Deployment
2024/08/06 08:27:33	B5	F	1183.26	67.586	-59.014	Plankton Net	Bottom
2024/08/06 08:30:41	B5	F	1183.8	67.586	-59.013	Plankton Net	Recovery

2024/08/06 08:40:59	B5	F	1195.05	67.583	-59.012	Tucker	Deployment
2024/08/06 08:50:03	B5	F	1206.58	67.579	-59.003	Tucker	Bottom
2024/08/06 08:58:26	B5	F	1188.23	67.575	-58.991	Tucker	Recovery
2024/08/06 09:27:19	B5	F	1188.44	67.588	-59.023	Hydrobios	Deployment
2024/08/06 09:55:48	B5	F	1192.55	67.585	-59.017	Hydrobios	Bottom
2024/08/06 10:34:01	B5	F	1207.35	67.580	-59.011	Hydrobios	Recovery
2024/08/06 10:58:02	B5	F	1181.2	67.587	-59.004	IKMT	Deployment
2024/08/06 11:24:51	B5	F	1166.26	67.595	-58.974	IKMT	Bottom
2024/08/06 12:04:19	B5	F	1137.44	67.611	-58.955	IKMT	Recovery

**Appendix B.** The CCGS *Amundsen* ship log for leg 5a of 2024 expedition; F- full, B – basic; N- nutrient; M – mooring; R- rosette; CTD – conductivity, temperature, depth profile; BC – box core; IKMT – Isaacs-Kidd Midwater Trawl.

Date/time (UTC)	Station	Type	Depth (m)	Lat (°N)	Long (°E)	Activity	Event
2024/10/04 12:28:04	Keb-S11	CTD	109.31	74.570	-90.384	CTD only (no water)	Deployment
2024/10/04 12:37:22	Keb-S11	CTD	104	74.570	-90.389	CTD only (no water)	Bottom
2024/10/04 12:42:31	Keb-S11	CTD	105.78	74.571	-90.392	CTD only (no water)	Recovery
2024/10/04 13:18:14	Keb-S10	R	182.59	74.543	-90.408	Classic Rosette	Deployment
2024/10/04 13:27:48	Keb-S10	R	183	74.543	-90.410	Classic Rosette	Bottom
2024/10/04 13:59:00	Keb-S10	R	189.70	74.542	-90.413	Classic Rosette	Recovery
2024/10/04 14:57:01	Keb-S9	CTD	262.02	74.466	-90.536	CTD only (no water)	Deployment
2024/10/04 15:09:36	Keb-S9	CTD	263.5	74.467	-90.543	CTD only (no water)	Bottom
2024/10/04 15:18:37	Keb-S9	CTD	262.54	74.467	-90.544	CTD only (no water)	Recovery
2024/10/04 17:08:43	Keb-S8	F	193.56	74.401	-90.638	Hydrobios	Deployment
2024/10/04 17:14:12	Keb-S8	F	194.86	74.401	-90.639	Hydrobios	Bottom
2024/10/04 17:23:11	Keb-S8	F	N/A	74.402	-90.638	Hydrobios	Recovery
2024/10/04 18:00:57	Keb-S8	F	195.00	74.402	-90.641	Tucker	Deployment
2024/10/04 18:12:56	Keb-S8	F	195.22	74.403	-90.680	Tucker	Bottom
2024/10/04 19:29:50	Keb-S8	F	193.96	74.400	-90.641	Classic Rosette	Deployment
2024/10/04 19:39:50	Keb-S8	F	194.67	74.399	-90.656	Classic Rosette	Bottom
2024/10/04 20:06:11	Keb-S8	F	199.76	74.398	-90.684	Classic Rosette	Recovery
2024/10/04 21:23:48	Keb-S8	F	183.63	74.404	-90.774	Beam trawl	Recovery
2024/10/04 21:46:26	Keb-S8	F	171.96	74.410	-90.861	Box Core	Deployment
2024/10/04 21:53:08	Keb-S8	F	170.42	74.410	-90.866	Box Core	Bottom

2024/10/04 22:00:09	Keb-S8	F	165.99	74.410	-90.871	Box Core	Recovery
2024/10/04 23:42:50	Keb-S7	CTD	212.61	74.340	-90.742	CTD only (no water)	Deployment
2024/10/04 23:54:40	Keb-S7	CTD	205.59	74.339	-90.766	CTD only (no water)	Bottom
2024/10/05 00:01:27	Keb-S7	CTD	203.20	74.337	-90.769	CTD only (no water)	Recovery
2024/10/05 01:02:02	Keb-S6	R	235.22	74.277	-90.840	Rosette for Lena	Deployment
2024/10/05 01:16:07	Keb-S6	R	265.37	74.274	-90.867	Rosette for Lena	Bottom
2024/10/05 01:29:54	Keb-S6	R	288.72	74.271	-90.888	Rosette for Lena	Recovery
2024/10/05 03:01:00	Keb-S5	F	326.25	74.224	-90.965	Classic Rosette	Deployment
2024/10/05 03:14:30	Keb-S5	F	327.72	74.222	-90.986	Classic Rosette	Bottom
2024/10/05 03:54:06	Keb-S5	F	323.10	74.218	-91.041	Classic Rosette	Recovery
2024/10/05 04:38:18	Keb-S5	F	310.31	74.222	-90.929	Beam trawl	Deployment
2024/10/05 04:56:50	Keb-S5	F	328.16	74.224	-90.974	Beam trawl	Bottom
2024/10/05 05:17:10	Keb-S5	F	325.84	74.222	-91.024	Beam trawl	Recovery
2024/10/05 06:26:49	Keb-S4	R	215.36	74.144	-91.025	Rosette for Laurence	Deployment
2024/10/05 06:36:32	Keb-S4	R	217.36	74.144	-91.029	Rosette for Laurence	Bottom
2024/10/05 06:45:23	Keb-S4	R	216.20	74.143	-91.031	Rosette for Laurence	Recovery
2024/10/05 07:25:48	Keb/TC A-S3	B	151.85	74.098	-91.098	Classic Rosette 1*	Deployment
2024/10/05 07:36:09	Keb/TC A-S3	B	152.37	74.098	-91.102	Classic Rosette 1*	Bottom
2024/10/05 07:49:45	Keb/TC A-S3	B	150.40	74.098	-91.107	Classic Rosette 1*	Recovery
2024/10/05 09:07:14	Keb/TC A-S3	B	150.05	74.096	-91.092	Classic Rosette 2*	Deployment
2024/10/05 09:16:24	Keb/TC A-S3	B	149.05	74.095	-91.096	Classic Rosette 2*	Bottom
2024/10/05 09:42:49	Keb/TC A-S3	B	142.67	74.092	-91.108	Classic Rosette 2*	Recovery
2024/10/05 10:08:55	Keb/TC A-S3	B	147.90	74.095	-91.093	Monster	Deployment

2024/10/05 10:19:23	Keb/TC A-S3	B	148.30	74.095	-91.096	Monster	Bottom
2024/10/05 10:25:22	Keb/TC A-S3	B	147.57	74.095	-91.097	Monster	Recovery
2024/10/05 11:40:54	Keb/TC A-S3	B	150.71	74.097	-91.086	Classic Rosette 3*	Deployment
2024/10/05 11:49:39	Keb/TC A-S3	B	150.57	74.096	-91.088	Classic Rosette 3*	Bottom
2024/10/05 12:17:47	Keb/TC A-S3	B	147.30	74.095	-91.093	Classic Rosette 3*	Recovery
2024/10/05 13:54:10	Keb-S2	CTD	104.32	74.066	-91.127	CTD only (no water)	Deployment
2024/10/05 14:02:13	Keb-S2	CTD	103.48	74.066	-91.129	CTD only (no water)	Bottom
2024/10/05 14:06:42	Keb-S2	CTD	103.75	74.066	-91.128	CTD only (no water)	Recovery
2024/10/05 14:25:21	Keb-S1	CTD	49.00	74.048	-91.156	CTD only (no water)	Deployment
2024/10/05 14:31:43	Keb-S1	CTD	50.01	74.048	-91.158	CTD only (no water)	Bottom
2024/10/05 14:34:12	Keb-S1	CTD	49.18	74.048	-91.159	CTD only (no water)	Recovery
2024/10/06 07:14:15	TCA-S3	F	23.41	73.738	-78.672	Classic Rosette (Hefty)	Deployment
2024/10/06 07:22:13	TCA-S3	F	29.48	73.739	-78.663	Classic Rosette (Hefty)	Bottom
2024/10/06 07:26:36	TCA-S3	F	30.68	73.739	-78.660	Classic Rosette (Hefty)	Recovery
2024/10/06 07:58:00	TCA-S3	F	19.21	73.738	-78.676	TM Rosette 1	Deployment
2024/10/06 08:25:44	TCA-S3	F	866.51	73.738	-78.676	TM Rosette 1	Bottom
2024/10/06 08:59:26	TCA-S3	F	840.64	73.732	-78.675	TM Rosette 1	Recovery
2024/10/06 09:19:46	TCA-S3	F	863.68	73.738	-78.676	Classic Rosette (Nutsy)	Deployment
2024/10/06 09:40:50	TCA-S3	F	880.42	73.736	-78.660	Classic Rosette (Nutsy)	Bottom
2024/10/06 10:37:12	TCA-S3	F	871.22	73.733	-78.629	Classic Rosette (Nutsy)	Recovery

2024/10/06 11:00:43	TCA-S3	F	868.43	73.739	-78.675	Tucker	Deployment
2024/10/06 11:09:10	TCA-S3	F	869.75	73.737	-78.678	Tucker	Bottom
2024/10/06 11:16:52	TCA-S3	F	859.84	73.734	-78.665	Tucker	Recovery
2024/10/06 12:09:20	TCA-S3	F	862.58	73.738	-78.675	Hydrobios	Deployment
2024/10/06 12:32:11	TCA-S3	F	876.56	73.738	-78.656	Hydrobios	Bottom
2024/10/06 13:02:02	TCA-S3	F	870.18	73.734	-78.638	Hydrobios	Recovery
2024/10/06 13:32:08	TCA-S3	F	863.26	73.741	-78.684	Classic Rosette (Lengthy)	Deployment
2024/10/06 13:51:49	TCA-S3	F	877.54	73.741	-78.668	Classic Rosette (Lengthy)	Bottom
2024/10/06 14:41:43	TCA-S3	F	908.22	73.740	-78.634	Classic Rosette (Lengthy)	Recovery
2024/10/06 18:01:48	Wol1	BC	653.74	73.819	-81.118	Box Core	Deployment
2024/10/06 18:17:47	Wol1	BC	649.46	73.817	-81.114	Box Core	Bottom
2024/10/06 18:30:27	Wol1	BC	646.78	73.815	-81.108	Box Core	Recovery
2024/10/07 16:02:41	TCAT3- 01	F	76.84	72.503	-75.018	Classic Rosette 1	Deployment
2024/10/07 16:08:34	TCAT3- 01	F	74.42	72.503	-75.020	Classic Rosette 1	Bottom
2024/10/07 16:26:12	TCAT3- 01	F	86.72	72.500	-75.015	Classic Rosette 1	Recovery
2024/10/07 16:51:19	TCAT3- 01	F	89.89	72.498	-75.014	TM Rosette 1	Deployment
2024/10/07 17:00:23	TCAT3- 01	F	90.00	72.497	-75.014	TM Rosette 1	Bottom
2024/10/07 17:09:23	TCAT3- 01	F	88.26	72.496	-75.014	TM Rosette 1	Recovery
2024/10/07 17:32:27	TCAT3- 01	F	71.90	72.503	-75.027	Tucker	Deployment
2024/10/07 17:50:00	TCAT3- 01	F	41.84	72.504	-75.055	Tucker	Recovery
2024/10/07 18:15:30	TCAT3- 01	F	82.69	72.502	-75.019	Monster	Deployment

2024/10/07 18:19:34	TCAT3-01	F	84.28	72.501	-75.019	Monster	Bottom
2024/10/07 18:23:22	TCAT3-01	F	84.97	72.501	-75.019	Monster	Recovery
2024/10/07 18:40:08	TCAT3-01	F	80.09	72.501	-75.024	Classic Rosette 2	Deployment
2024/10/07 18:47:08	TCAT3-01	F	82.50	72.501	-75.025	Classic Rosette 2	Bottom
2024/10/07 19:03:10	TCAT3-01	F	74.95	72.500	-75.031	Classic Rosette 2	Recovery
2024/10/07 19:24:05	TCAT3-01	F	79.50	72.502	-75.022	Beam trawl	Deployment
2024/10/07 19:30:45	TCAT3-01	F	67.73	72.506	-75.019	Beam trawl	Bottom
2024/10/07 19:41:10	TCAT3-01	F	54.57	72.507	-75.039	Beam trawl	Recovery
2024/10/07 20:30:18	TCAT3-01	F	75.12	72.502	-75.024	Zodiac launch	Deployment
2024/10/07 20:57:17	TCAT3-01	F	74.71	72.502	-75.025	Box Core	Deployment
2024/10/07 21:00:42	TCAT3-01	F	73.50	72.503	-75.025	Box Core	Bottom
2024/10/07 21:04:16	TCAT3-01	F	72.13	72.503	-75.024	Box Core	Recovery
2024/10/07 23:11:40	TCAT3-03	N	16.55	72.541	-74.321	Classic Rosette (Nuts)	Deployment
2024/10/07 23:23:09	TCAT3-03	N	14.28	72.541	-74.325	Classic Rosette (Nuts)	Bottom
2024/10/07 23:51:53	TCAT3-03	N	207.75	72.543	-74.335	Classic Rosette (Nuts)	Recovery
2024/10/08 01:27:33	TCAT3-05	B	26.47	72.577	-73.516	Classic Rosette 1 (nuts)	Deployment
2024/10/08 01:44:26	TCAT3-05	B	714.68	72.579	-73.519	Classic Rosette 1 (nuts)	Bottom
2024/10/08 02:35:22	TCAT3-05	B	715.41	72.584	-73.543	Classic Rosette 1 (nuts)	Recovery
2024/10/08 03:09:54	TCAT3-05	B	705.87	72.576	-73.519	TM Rosette 1	Deployment
2024/10/08 03:33:30	TCAT3-05	B	701.68	72.575	-73.528	TM Rosette 1	Bottom

2024/10/08 03:57:03	TCAT3-05	B	698.27	72.577	-73.537	TM Rosette 1	Recovery
2024/10/08 04:48:33	TCAT3-05	B	709.45	72.575	-73.507	Tucker	Deployment
2024/10/08 04:56:26	TCAT3-05	B	717.61	72.578	-73.501	Tucker	Bottom
2024/10/08 05:04:34	TCAT3-05	B	724.36	72.583	-73.511	Tucker	Recovery
2024/10/08 05:43:38	TCAT3-05	B	708.63	72.577	-73.524	Monster	Deployment
2024/10/08 06:01:59	TCAT3-05	B	712.87	72.581	-73.536	Monster	Bottom
2024/10/08 06:25:50	TCAT3-05	B	714.07	72.584	-73.549	Monster	Recovery
2024/10/08 06:59:04	TCAT3-05	B	709.41	72.575	-73.510	Classic Rosette 2	Deployment
2024/10/08 07:16:48	TCAT3-05	B	718.89	72.579	-73.513	Classic Rosette 2	Bottom
2024/10/08 08:09:02	TCAT3-05	B	728.25	72.590	-73.540	Classic Rosette 2	Recovery
2024/10/08 10:07:08	TCAT3-07	N	868.71	72.610	-72.475	Classic Rosette (Nuts)	Deployment
2024/10/08 10:27:34	TCAT3-07	N	869.12	72.605	-72.477	Classic Rosette (Nuts)	Bottom
2024/10/08 11:18:55	TCAT3-07	N	869.06	72.589	-72.486	Classic Rosette (Nuts)	Recovery
2024/10/08 13:04:24	TCAT3-08	F	1130.5 1	72.639	-71.575	Classic Rosette 1 (nuts)	Deployment
2024/10/08 13:30:24	TCAT3-08	F	1130.7 3	72.639	-71.575	Classic Rosette 1 (nuts)	Bottom
2024/10/08 14:34:39	TCAT3-08	F	1130.4 3	72.640	-71.584	Classic Rosette 1 (nuts)	Recovery
2024/10/08 14:50:58	TCAT3-08	F	1131.3 6	72.639	-71.579	TM Rosette 1	Deployment
2024/10/08 15:21:10	TCAT3-08	F	1131.1 8	72.639	-71.580	TM Rosette 1	Bottom
2024/10/08 15:51:32	TCAT3-08	F	1131.0 4	72.639	-71.579	TM Rosette 1	Recovery
2024/10/08 16:26:16	TCAT3-08	F	1132.8 8	72.637	-71.568	Classic Rosette 2	Deployment

2024/10/08 16:59:23	TCAT3-08	F	1131.6 7	72.637	-71.564	Classic Rosette 2	Bottom
2024/10/08 18:02:34	TCAT3-08	F	1133.2 3	72.641	-71.562	Classic Rosette 2	Recovery
2024/10/08 18:34:36	TCAT3-08	F	1134.4 3	72.639	-71.547	IKMT	Deployment
2024/10/08 18:58:22	TCAT3-08	F	1136.5 9	72.649	-71.563	IKMT	Bottom
2024/10/08 19:51:58	TCAT3-08	F	1133.6 5	72.629	-71.576	IKMT	Recovery
2024/10/08 20:10:23	TCAT3-08	F	1130.8 7	72.640	-71.569	Tucker	Deployment
2024/10/08 20:22:21	TCAT3-08	F	1134.5 4	72.646	-71.566	Tucker	Bottom
2024/10/08 20:31:42	TCAT3-08	F	1132.6 4	72.648	-71.581	Tucker	Recovery
2024/10/08 21:03:19	TCAT3-08	F	1131.4 4	72.641	-71.578	Hydrobios	Deployment
2024/10/08 21:33:04	TCAT3-08	F	1130.5 4	72.643	-71.583	Hydrobios	Bottom
2024/10/08 22:09:10	TCAT3-08	F	1130.5 1	72.646	-71.585	Hydrobios	Recovery
2024/10/08 22:44:07	TCAT3-08	F	1130.9 9	72.639	-71.567	Monster (Zoe, 100 m)	Deployment
2024/10/08 22:49:21	TCAT3-08	F	1131.5 7	72.639	-71.570	Monster (Zoe, 100 m)	Bottom
2024/10/08 22:56:21	TCAT3-08	F	1132.2 3	72.639	-71.570	Monster (Zoe, 100 m)	Recovery
2024/10/08 23:19:44	TCAT3-08	F	1134.2 3	72.640	-71.557	Classic Rosette 3 (top)	Deployment
2024/10/08 23:44:48	TCAT3-08	F	1133.5 5	72.640	-71.556	Classic Rosette 3 (top)	Bottom
2024/10/09 00:37:41	TCAT3-08	F	1131.9 4	72.637	-71.549	Classic Rosette 3	Recovery
2024/10/09 01:04:21	TCAT3-08	F	1130.9 9	72.639	-71.571	Box Core	Deployment
2024/10/09 01:34:04	TCAT3-08	F	1131.3 9	72.637	-71.574	Box Core	Bottom
2024/10/09 02:00:35	TCAT3-08	F	1130.2 3	72.634	-71.583	Box Core	Recovery
2024/10/09 04:45:38	TCAT3-09	B	1731.3 5	72.690	-70.093	Classic Rosette 1 (nuts)	Deployment

2024/10/09 05:23:16	TCAT3-09	B	1732.6 9	72.685	-70.092	Classic Rosette 1 (nuts)	Bottom
2024/10/09 06:41:12	TCAT3-09	B	1732.6 2	72.680	-70.095	Classic Rosette 1 (nuts)	Recovery
2024/10/09 07:09:34	TCAT3-09	B	1731.7 0	72.690	-70.094	TM Rosette 1 (deep)	Deployment
2024/10/09 07:48:35	TCAT3-09	B	1729.6 2	72.688	-70.101	TM Rosette 1 (deep)	Bottom
2024/10/09 08:31:40	TCAT3-09	B	1728.1 5	72.689	-70.111	TM Rosette 1 (deep)	Recovery
2024/10/09 08:52:51	TCAT3-09	B	1729.2 4	72.692	-70.097	Tucker	Deployment
2024/10/09 09:01:10	TCAT3-09	B	1725.6 5	72.693	-70.111	Tucker	Bottom
2024/10/09 09:09:36	TCAT3-09	B	1724.6 2	72.690	-70.123	Tucker	Recovery
2024/10/09 09:36:07	TCAT3-09	B	1731.2 9	72.690	-70.096	Classic rosette 2	Deployment
2024/10/09 10:11:39	TCAT3-09	B	1728.9 2	72.688	-70.110	Classic rosette 2	Bottom
2024/10/09 11:16:24	TCAT3-09	B	1726.6 1	72.684	-70.121	Classic rosette 2	Recovery
2024/10/09 11:34:08	TCAT3-09	B	1728.5 2	72.688	-70.109	TM Rosette (shallow)	Deployment
2024/10/09 11:44:32	TCAT3-09	B	1729.2 4	72.688	-70.110	TM Rosette (shallow)	Bottom
2024/10/09 11:53:53	TCAT3-09	B	1727.7 3	72.688	-70.114	TM Rosette (shallow)	Recovery
2024/10/09 14:49:23	TCAT3-10	N	2173.8 8	72.723	-68.467	Classic Rosette 1 (nuts)	Deployment
2024/10/09 15:34:18	TCAT3-10	N	2170.9 6	72.724	-68.472	Classic Rosette 1 (nuts)	Bottom
2024/10/09 17:01:21	TCAT3-10	N	2169.0 5	72.724	-68.484	Classic Rosette 1 (nuts)	Recovery
2024/10/09 19:36:44	TCA-BB2	F	2344.6 1	72.753	-67.010	Tucker	Deployment
2024/10/09 19:44:31	TCA-BB2	F	2344.6 8	72.757	-67.016	Tucker	Bottom
2024/10/09 19:53:09	TCA-BB2	F	2344.7 7	72.754	-67.025	Tucker	Recovery

2024/10/09 20:37:00	TCA- BB2	F	2344.7 3	72.747	-67.003	Classic Rosette 1 (nuts)	Deployment
2024/10/09 21:24:12	TCA- BB2	F	2344.6 2	72.748	-67.006	Classic Rosette 1 (nuts)	Bottom
2024/10/09 22:55:42	TCA- BB2	F	2344.1 3	72.744	-67.022	Classic Rosette 1 (nuts)	Recovery
2024/10/09 23:15:16	TCA- BB2	F	N/A	72.747	-66.999	TM Rosette 1 (shallow)	Deployment
2024/10/09 23:34:01	TCA- BB2	F	2344.1 3	72.747	-67.006	TM Rosette 1 (shallow)	Bottom
2024/10/09 23:55:41	TCA- BB2	F	2343.9 3	72.748	-67.018	TM Rosette 1 (shallow)	Recovery
2024/10/10 00:23:01	TCA- BB2	F	2344.3 3	72.758	-67.006	IKMT	Deployment
2024/10/10 00:43:14	TCA- BB2	F	2344.0 6	72.754	-67.029	IKMT	Bottom
2024/10/10 01:31:06	TCA- BB2	F	2344.3 6	72.753	-67.044	IKMT	Recovery
2024/10/10 02:13:31	TCA- BB2	F	2343.4 8	72.748	-67.003	Classic rosette 2 (deep)	Deployment
2024/10/10 03:04:09	TCA- BB2	F	2344.2 0	72.746	-67.041	Classic rosette 2 (deep)	Bottom
2024/10/10 04:24:49	TCA- BB2	F	N/A	72.750	-67.093	Classic rosette 2 (deep)	Recovery
2024/10/10 05:18:58	TCA- BB2	F	2343.1 5	72.750	-67.004	Monster (Zoe, 100 m)	Deployment
2024/10/10 05:24:06	TCA- BB2	F	2343.0 0	72.750	-67.006	Monster (Zoe, 100 m)	Bottom
2024/10/10 05:29:55	TCA- BB2	F	2344.0 4	72.750	-67.006	Monster (Zoe, 100 m)	Recovery
2024/10/10 06:00:27	TCA- BB2	F	2344.2 6	72.748	-67.006	Hydrobios	Deployment
2024/10/10 06:55:28	TCA- BB2	F	2343.7 2	72.750	-67.003	Hydrobios	Bottom
2024/10/10 08:11:11	TCA- BB2	F	2343.5 7	72.755	-66.994	Hydrobios	Recovery
2024/10/10 08:43:27	TCA- BB2	F	2343.9 7	72.747	-66.990	Classic Rosette 3 (shallow)	Deployment

2024/10/10 08:51:27	TCA- BB2	F	2343.5 2	72.748	-66.988	Classic Rosette 3 (shallow)	Bottom
2024/10/10 09:17:15	TCA- BB2	F	2343.5 3	72.748	-66.987	Classic Rosette 3 (shallow)	Recovery
2024/10/10 09:35:23	TCA- BB2	F	2342.1 1	72.747	-66.997	TM Rosette 2 (deep)	Deployment
2024/10/10 10:19:36	TCA- BB2	F	2345.9 5	72.746	-67.007	TM Rosette 2 (deep)	Bottom
2024/10/10 11:12:16	TCA- BB2	F	2343.3 1	72.747	-66.999	TM Rosette 2 (deep)	Recovery
2024/10/10 11:32:41	TCA- BB2	F	2343.2 5	72.747	-66.995	Classic Rosette 4 (Krypton, deep)	Deployment
2024/10/10 12:19:02	TCA- BB2	F	2343.8 2	72.747	-67.002	Classic Rosette 4 (Krypton, deep)	Bottom
2024/10/10 13:20:28	TCA- BB2	F	2343.2 9	72.747	-67.015	Classic Rosette 4 (Krypton, deep)	Recovery
2024/10/10 13:41:43	TCA- BB2	F	2343.1 7	72.747	-67.005	Box Core	Deployment
2024/10/10 14:31:57	TCA- BB2	F	2343.2 2	72.747	-67.007	Box Core	Bottom
2024/10/10 15:07:15	TCA- BB2	F	2341.9 7	72.746	-67.009	Box Core	Recovery
2024/10/10 15:34:20	TCA- BB2	F	2342.9 7	72.747	-67.011	Classic Rosette (shallow- chlmax)	Deployment
2024/10/10 15:36:46	TCA- BB2	F	2343.5	72.747	-67.012	Classic Rosette (shallow- chlmax)	Bottom
2024/10/10 15:45:58	TCA- BB2	F	2343.3 9	72.748	-67.018	Classic Rosette (shallow- chlmax)	Recovery
2024/10/10 18:35:57	TCAT3- 20	N	2333.1 1	73.272	-66.911	Classic Rosette (nuts)	Deployment
2024/10/10 19:23:04	TCAT3- 20	N	2332.6 6	73.272	-66.927	Classic Rosette (nuts)	Bottom

2024/10/10 20:51:26	TCAT3- 20	N	2332.2 5	73.274	-66.927	Classic Rosette (nuts)	Recovery
2024/10/10 23:38:46	TCAT3- 19	B	2267.4 8	73.789	-66.834	Classic Rosette 1 (nuts)	Deployment
2024/10/11 00:25:55	TCAT3- 19	B	2284.8 3	73.791	-66.832	Classic Rosette 1 (nuts)	Bottom
2024/10/11 02:00:37	TCAT3- 19	B	2282.6 5	73.795	-66.820	Classic Rosette 1 (nuts)	Recovery
2024/10/11 02:32:53	TCAT3- 19	B	2284.3 4	73.788	-66.833	TM Rosette (deep)	Deployment
2024/10/11 03:22:45	TCAT3- 19	B	2283.7	73.789	-66.844	TM Rosette (deep)	Bottom
2024/10/11 04:15:06	TCAT3- 19	B	2282.4 1	73.788	-66.858	TM Rosette (deep)	Recovery
2024/10/11 05:07:01	TCAT3- 19	B	2284.6 6	73.788	-66.832	Tucker	Deployment
2024/10/11 05:16:00	TCAT3- 19	B	2282.2 5	73.794	-66.831	Tucker	Bottom
2024/10/11 05:25:00	TCAT3- 19	B	2280.6 8	73.797	-66.846	Tucker	Recovery
2024/10/11 06:12:30	TCAT3- 19	B	2285.5 1	73.784	-66.828	Classic Rosette #2	Deployment
2024/10/11 07:00:04	TCAT3- 19	B	N/A	73.784	-66.848	Classic Rosette #2	Bottom
2024/10/11 08:20:01	TCAT3- 19	B	2280.6 9	73.786	-66.888	Classic Rosette #2	Recovery
2024/10/11 08:47:06	TCAT3- 19	B	1784.8 9	73.784	-66.828	TM Rosette (shallow)	Deployment
2024/10/11 09:04:30	TCAT3- 19	B	N/A	73.784	-66.838	TM Rosette (shallow)	Bottom
2024/10/11 09:27:30	TCAT3- 19	B	2284.0 4	73.784	-66.844	TM Rosette (shallow)	Recovery
2024/10/11 12:15:18	TCAT3- 17	F	2184.8 7	74.313	-66.721	Classic Rosette 1 (nuts)	Deployment
2024/10/11 12:58:35	TCAT3- 17	F	2183.8 7	74.314	-66.723	Classic Rosette 1 (nuts)	Bottom
2024/10/11 14:26:10	TCAT3- 17	F	2183.5 7	74.315	-66.723	Classic Rosette 1 (nuts)	Recovery
2024/10/11 14:40:48	TCAT3- 17	F	2183.5 6	74.313	-66.723	TM Rosette (deep)	Deployment

2024/10/11 15:24:18	TCAT3- 17	F	2183.0 3	74.313	-66.723	TM Rosette (deep)	Bottom
2024/10/11 16:14:48	TCAT3- 17	F	2182.2 2	74.313	-66.727	TM Rosette (deep)	Recovery
2024/10/11 16:45:44	TCAT3- 17	F	2182.2 2	74.313	-66.733	Classic Rosette 2	Deployment
2024/10/11 17:30:13	TCAT3- 17	F	2181.6 4	74.312	-66.745	Classic Rosette 2	Bottom
2024/10/11 18:34:30	TCAT3- 17	F	2181.7 5	74.312	-66.758	Classic Rosette 2	Recovery
2024/10/11 18:48:57	TCAT3- 17	F	2180.9 4	74.316	-66.758	IKMT	Deployment
2024/10/11 19:10:40	TCAT3- 17	F	2179.8 5	74.317	-66.794	IKMT	Bottom
2024/10/11 20:08:02	TCAT3- 17	F	2184.8 2	74.299	-66.784	IKMT	Recovery
2024/10/11 20:32:39	TCAT3- 17	F	2183.0 9	74.311	-66.737	Hydrobios	Deployment
2024/10/11 21:27:23	TCAT3- 17	F	2183.7 8	74.311	-66.739	Hydrobios	Bottom
2024/10/11 22:31:34	TCAT3- 17	F	2184.5 1	74.311	-66.738	Hydrobios	Recovery
2024/10/11 22:59:36	TCAT3- 17	F	2182.2 3	74.313	-66.742	Classic Rosette 3 (shallow)	Deployment
2024/10/11 23:11:49	TCAT3- 17	F	2183.4 6	74.313	-66.742	Classic Rosette 3 (shallow)	Bottom
2024/10/11 23:36:40	TCAT3- 17	F	2183.4 0	74.313	-66.743	Classic Rosette 3 (shallow)	Recovery
2024/10/12 00:06:38	TCAT3- 17	F	2183.9 9	74.315	-66.742	TM Rosette (top)	Deployment
2024/10/12 00:22:29	TCAT3- 17	F	2184.5 0	74.314	-66.740	TM Rosette (top)	Bottom
2024/10/12 00:44:32	TCAT3- 17	F	2183.4 6	74.315	-66.740	TM Rosette (top)	Recovery
2024/10/12 01:03:31	TCAT3- 17	F	2185.9 4	74.322	-66.744	Tucker	Deployment
2024/10/12 01:18:23	TCAT3- 17	F	2183.0 1	74.319	-66.758	Tucker	Bottom
2024/10/12 01:22:46	TCAT3- 17	F	2183.8 9	74.319	-66.751	Tucker	Recovery
2024/10/12 01:41:14	TCAT3- 17	F	2185.1 7	74.320	-66.739	Monster (Zoe, 100 m)	Deployment

2024/10/12 01:47:09	TCAT3- 17	F	2185.4 1	74.320	-66.737	Monster (Zoe, 100 m)	Bottom
2024/10/12 01:54:13	TCAT3- 17	F	2185.7 3	74.320	-66.734	Monster (Zoe, 100 m)	Recovery
2024/10/12 02:15:34	TCAT3- 17	F	2186.4 5	74.322	-66.729	Box Core	Deployment
2024/10/12 03:08:01	TCAT3- 17	F	2187.2 0	74.322	-66.718	Box Core	Bottom
2024/10/12 03:58:10	TCAT3- 17	F	2188.1 8	74.324	-66.703	Box Core	Recovery
2024/10/12 07:13:39	TCAT3- 16	N	1382.4 3	74.835	-66.627	Nutrient rosette	Deployment
2024/10/12 07:43:38	TCAT3- 16	N	1381.5 9	74.836	-66.633	Nutrient rosette	Bottom
2024/10/12 08:46:07	TCAT3- 16	N	1384.1 2	74.836	-66.642	Nutrient rosette	Recovery
2024/10/12 10:42:41	TCAT3- 15	B	474.48	75.158	-66.552	Classic rosette	Deployment
2024/10/12 10:57:46	TCAT3- 15	B	473.44	75.157	-66.552	Classic rosette	Bottom
2024/10/12 11:32:07	TCAT3- 15	B	472.78	75.157	-66.554	Classic rosette	Recovery
2024/10/12 12:00:00	TCAT3- 15	B	474.04	75.160	-66.552	TM Rosette	Deployment
2024/10/12 12:15:52	TCAT3- 15	B	474.11	75.159	-66.555	TM Rosette	Bottom
2024/10/12 12:30:55	TCAT3- 15	B	474.10	75.158	-66.556	TM Rosette	Recovery
2024/10/12 12:49:02	TCAT3- 15	B	473.04	75.159	-66.551	Tucker	Deployment
2024/10/12 12:56:38	TCAT3- 15	B	473.42	75.156	-66.555	Tucker	Bottom
2024/10/12 13:03:15	TCAT3- 15	B	473.07	75.156	-66.540	Tucker	Recovery
2024/10/12 15:00:00	TCAT3- 13	N	348.89	75.494	-66.490	Classic Rosette (nuts)	Deployment
2024/10/12 15:15:00	TCAT3- 13	N	348.35	75.494	-66.489	Classic Rosette (nuts)	Bottom
2024/10/12 15:46:40	TCAT3- 13	N	344.66	75.494	-66.485	Classic Rosette (nuts)	Recovery
2024/10/12 17:52:06	TCAT3- 11	F	480.04	75.834	-66.489	Classic Rosette 1 (nuts)	Deployment
2024/10/12 18:13:06	TCAT3- 11	F	493.87	75.834	-66.496	Classic Rosette 1 (nuts)	Bottom

2024/10/12 18:50:09	TCAT3- 11	F	520.75	75.832	-66.499	Classic Rosette 1 (nuts)	Recovery
2024/10/12 19:18:43	TCAT3- 11	F	525.76	75.831	-66.516	Hydrobios	Deployment
2024/10/12 19:33:06	TCAT3- 11	F	524.47	75.830	-66.519	Hydrobios	Bottom
2024/10/12 19:51:19	TCAT3- 11	F	512.94	75.831	-66.521	Hydrobios	Recovery
2024/10/12 20:34:37	TCAT3- 11	F	481.64	75.834	-66.502	Tucker	Deployment
2024/10/12 20:46:26	TCAT3- 11	F	539.91	75.830	-66.495	Tucker	Bottom
2024/10/12 20:57:01	TCAT3- 11	F	491.72	75.833	-66.524	Tucker	Recovery
2024/10/12 21:11:57	TCAT3- 11	F	510.53	75.832	-66.510	TM Rosette 1	Deployment
2024/10/12 21:27:08	TCAT3- 11	F	515.57	75.832	-66.514	TM Rosette 1	Bottom
2024/10/12 21:56:20	TCAT3- 11	F	514.21	75.832	-66.515	TM Rosette 1	Recovery
2024/10/12 22:16:15	TCAT3- 11	F	515.76	75.831	-66.521	Classic Rosette 2 (deep)	Deployment
2024/10/12 22:31:35	TCAT3- 11	F	522.1	75.830	-66.525	Classic Rosette 2 (deep)	Bottom
2024/10/12 23:02:49	TCAT3- 11	F	525.95	75.830	-66.525	Classic Rosette 2 (deep)	Recovery
2024/10/12 23:26:24	TCAT3- 11	F	484.24	75.827	-66.572	IKMT	Deployment
2024/10/13 00:11:04	TCAT3- 11	F	577.49	75.797	-66.528	IKMT	Bottom
2024/10/13 00:32:36	TCAT3- 11	F	586.78	75.799	-66.512	IKMT	Recovery
2024/10/13 01:26:22	TCAT3- 11	F	599.69	75.823	-66.462	Classic Rosette 3 (shallow)	Deployment
2024/10/13 01:34:25	TCAT3- 11	F	599.41	75.822	-66.468	Classic Rosette 3 (shallow)	Bottom
2024/10/13 01:44:29	TCAT3- 11	F	598.44	75.822	-66.473	Classic Rosette 3 (shallow)	Recovery

2024/10/13 02:02:04	TCAT3-11	F	594.84	75.820	-66.486	Box Core	Deployment
2024/10/13 02:16:25	TCAT3-11	F	594.72	75.820	-66.485	Box Core	Bottom
2024/10/13 02:30:38	TCAT3-11	F	594.58	75.820	-66.486	Box Core	Recovery
2024/10/15 11:39:18	C4-23	M	1594.6 3	67.923	-60.653	Classic Rosette 1 (nut)	Deployment
2024/10/15 12:11:30	C4-23	M	1594.6 9	67.926	-60.648	Classic Rosette 1 (nut)	Bottom
2024/10/15 17:31:53	C4-23	M	1597.0 2	67.963	-60.616	Morning recovery attempt 1	Deployment
2024/10/15 17:35:59	C4-23	M	N/A	67.960	-60.617	Tucker	Deployment
2024/10/15 17:43:32	C4-23	M	1595.0 2	67.960	-60.608	Tucker	Bottom
2024/10/15 17:51:02	C4-23	M	1598.1 1	67.963	-60.608	Tucker	Recovery
2024/10/15 19:09:43	C4-23	M	1598.7 7	67.981	-60.640	Classic rosette 2 (tracers + else)	Deployment
2024/10/15 19:42:57	C4-23	M	1599.7 1	67.980	-60.640	Classic rosette 2 (tracers + else)	Bottom
2024/10/15 20:37:42	C4-23	M	1599.3 8	67.981	-60.643	Classic rosette 2 (tracers + else)	Recovery
2024/10/15 20:57:17	C4-23	M	1599.6 3	67.980	-60.645	Hydrobios	Deployment
2024/10/15 21:37:15	C4-23	M	1600.1 3	67.982	-60.654	Hydrobios	Bottom
2024/10/15 22:28:25	C4-23	M	1599.9 9	67.984	-60.657	Hydrobios	Recovery
2024/10/16 11:59:46	TCAT6-09 (A9)	F	83.87	67.095	-54.274	Classic Rosette 1 (nut)	Deployment
2024/10/16 12:06:43	TCAT6-09 (A9)	F	84.34	67.096	-54.274	Classic Rosette 1 (nut)	Bottom

2024/10/16 12:23:15	TCAT6-09 (A9)	F	84.43	67.096	-54.275	Classic Rosette 1 (nut)	Recovery
2024/10/16 12:38:47	TCAT6-09 (A9)	F	84.14	67.097	-54.276	TM Rosette	Deployment
2024/10/16 12:47:30	TCAT6-09 (A9)	F	83.95	67.096	-54.277	TM Rosette	Bottom
2024/10/16 12:56:31	TCAT6-09 (A9)	F	83.34	67.097	-54.279	TM Rosette	Recovery
2024/10/16 13:15:19	TCAT6-09 (A9)	F	77.19	67.093	-54.270	Monster	Deployment
2024/10/16 13:20:09	TCAT6-09 (A9)	F	77.16	67.093	-54.270	Monster	Bottom
2024/10/16 13:24:32	TCAT6-09 (A9)	F	77.21	67.093	-54.271	Monster	Recovery
2024/10/16 13:36:27	TCAT6-09 (A9)	F	80.11	67.091	-54.276	Tucker	Deployment
2024/10/16 13:40:01	TCAT6-09 (A9)	F	81.98	67.090	-54.280	Tucker	Deployment
2024/10/16 13:47:58	TCAT6-09 (A9)	F	77.63	67.087	-54.283	Tucker	Bottom
2024/10/16 13:58:48	TCAT6-09 (A9)	F	75.66	67.083	-54.270	Tucker	Bottom
2024/10/16 14:07:44	TCAT6-09 (A9)	F	77.15	67.081	-54.259	Tucker	Recovery
2024/10/16 14:20:00	TCAT6-09 (A9)	F	N/A	N/A	N/A	Zodiac launch	N/A
2024/10/16 14:34:15	TCAT6-09 (A9)	F	76.9	67.097	-54.270	Classic rosette 2	Deployment
2024/10/16 14:41:50	TCAT6-09 (A9)	F	76.87	67.096	-54.267	Classic rosette 2	Bottom
2024/10/16 14:58:48	TCAT6-09 (A9)	F	N/A	N/A	N/A	Classic rosette 2	Recovery
2024/10/16 15:31:19	TCAT6-09 (A9)	F	82.19	67.094	-54.280	Beam Trawl	Deployment
2024/10/16 15:36:00	TCAT6-09 (A9)	F	79.49	67.092	-54.286	Beam Trawl	Bottom
2024/10/16 15:52:11	TCAT6-09 (A9)	F	79.83	67.087	-54.261	Beam Trawl	Recovery
2024/10/16 16:11:28	TCAT6-09 (A9)	F	75.86	67.093	-54.271	Box Core	Deployment
2024/10/16 16:15:33	TCAT6-09 (A9)	F	76.30	67.093	-54.269	Box Core	Bottom
2024/10/16 16:18:16	TCAT6-09 (A9)	F	76.79	67.093	-54.268	Box Core	Recovery

2024/10/16 18:18:35	TCAT6-08 (A8)	R	66.41	67.044	-55.079	Classic rosette KEBBAB (nuts)	Deployment
2024/10/16 18:25:26	TCAT6-08 (A8)	R	65.99	67.044	-55.079	Classic rosette KEBBAB (nuts)	Bottom
2024/10/16 18:40:16	TCAT6-08 (A8)	R	66.16	67.043	-55.079	Classic rosette KEBBAB (nuts)	Recovery
2024/10/16 20:50:10	TCAT6-07 (A7)	F	127.48	66.983	-56.062	TM Rosette	Deployment
2024/10/16 20:58:47	TCAT6-07 (A7)	F	127.78	66.983	-56.062	TM Rosette	Bottom
2024/10/16 21:09:17	TCAT6-07 (A7)	F	127.72	66.983	-56.061	TM Rosette	Recovery
2024/10/16 21:22:04	TCAT6-07 (A7)	F	126.69	66.983	-56.064	Classic Rosette (all)	Deployment
2024/10/16 21:30:38	TCAT6-07 (A7)	F	126.92	66.983	-56.063	Classic Rosette (all)	Bottom
2024/10/16 22:00:33	TCAT6-07 (A7)	F	133.16	66.984	-56.060	Classic Rosette (all)	Recovery
2024/10/16 22:20:27	TCAT6-07 (A7)	F	133.13	66.984	-56.059	Hydrobios	Deployment
2024/10/16 22:25:38	TCAT6-07 (A7)	F	133.04	66.984	-56.059	Hydrobios	Bottom
2024/10/16 22:29:57	TCAT6-07 (A7)	F	133.08	66.985	-56.059	Hydrobios	Recovery
2024/10/16 22:46:37	TCAT6-07 (A7)	F	131.39	66.983	-56.067	Tucker	Deployment
2024/10/16 22:56:55	TCAT6-07 (A7)	F	132.96	66.984	-56.059	Tucker	Bottom
2024/10/16 23:05:32	TCAT6-07 (A7)	F	132.30	66.988	-56.063	Tucker	Recovery
2024/10/16 23:25:22	TCAT6-07 (A7)	F	133.10	66.983	-56.068	Monster (Zoe, 100 m)	Deployment
2024/10/16 23:28:42	TCAT6-07 (A7)	F	133.06	66.983	-56.069	Monster (Zoe, 100 m)	Bottom
2024/10/16 23:35:44	TCAT6-07 (A7)	F	132.64	66.983	-56.069	Monster (Zoe, 100 m)	Recovery
2024/10/17 01:47:04	TCAT6-06 (A6)	R	654.60	66.895	-56.920	Classic rosette KEBBAB (nuts)	Deployment

2024/10/17 02:04:36	TCAT6-06 (A6)	R	654.87	66.897	-56.923	Classic rosette KEBBAB (nuts)	Bottom
2024/10/17 02:55:15	TCAT6-06 (A6)	R	658.22	66.899	-56.926	Classic rosette KEBBAB (nuts)	Recovery
2024/10/17 05:12:06	TCAT6-05 (A5)	F	816.14	66.873	-57.947	TM Rosette	Deployment
2024/10/17 05:35:49	TCAT6-05 (A5)	F	815.12	66.872	-57.946	TM Rosette	Bottom
2024/10/17 06:04:30	TCAT6-05 (A5)	F	813.10	66.870	-57.943	TM Rosette	Recovery
2024/10/17 06:23:33	TCAT6-05 (A5)	F	816.46	66.872	-57.944	Classic rosette 1 (nuts)	Deployment
2024/10/17 06:42:06	TCAT6-05 (A5)	F	815.41	66.871	-57.937	Classic rosette 1 (nuts)	Bottom
2024/10/17 07:32:41	TCAT6-05 (A5)	F	808.29	66.866	-57.923	Classic rosette 1 (nuts)	Recovery
2024/10/17 08:00:01	TCAT6-05 (A5)	F	817.38	66.873	-57.949	IKMT	Deployment
2024/10/17 08:45:34	TCAT6-05 (A5)	F	809.48	66.873	-57.906	IKMT	Bottom
2024/10/17 09:08:26	TCAT6-05 (A5)	F	823.19	66.882	-57.918	IKMT	Recovery
2024/10/17 09:30:10	TCAT6-05 (A5)	F	816.60	66.874	-57.937	Tucker	Deployment
2024/10/17 09:40:00	TCAT6-05 (A5)	F	819.65	66.875	-57.949	Tucker	Bottom
2024/10/17 09:52:18	TCAT6-05 (A5)	F	815.82	66.871	-57.942	Tucker	Recovery
2024/10/17 10:04:07	TCAT6-05 (A5)	F	816.94	66.871	-57.950	Classic Rosette 2	Deployment
2024/10/17 10:15:47	TCAT6-05 (A5)	F	818.01	66.871	-57.952	Classic Rosette 2	Bottom
2024/10/17 10:35:51	TCAT6-05 (A5)	F	817.31	66.870	-57.952	Classic Rosette 2	Recovery
2024/10/17 10:49:37	TCAT6-05 (A5)	F	817.05	66.870	-57.951	Hydrobios	Deployment
2024/10/17 11:11:02	TCAT6-05 (A5)	F	817.75	66.871	-57.952	Hydrobios	Bottom

2024/10/17 11:37:37	TCAT6-05 (A5)	F	817.77	66.871	-57.953	Hydrobios	Recovery
2024/10/17 12:00:11	TCAT6-05 (A5)	F	819.38	66.871	-57.957	Box Core	Deployment
2024/10/17 12:15:09	TCAT6-05 (A5)	F	819.30	66.871	-57.960	Box Core	Bottom
2024/10/17 12:32:55	TCAT6-05 (A5)	F	821.73	66.872	-57.968	Box Core	Recovery
2024/10/17 14:21:10	TCAT6-04 (A4)	R	903.63	66.803	-58.763	Classic rosette KEBBAB (nuts)	Deployment
2024/10/17 14:43:06	TCAT6-04 (A4)	R	905.40	66.804	-58.765	Classic rosette KEBBAB (nuts)	Bottom
2024/10/17 15:30:13	TCAT6-04 (A4)	R	903.99	66.803	-58.764	Classic rosette KEBBAB (nuts)	Recovery
2024/10/17 17:23:22	TCAT6-03 (A3)	F	872.76	66.732	-59.599	TM Rosette (deep)	Deployment
2024/10/17 17:45:53	TCAT6-03 (A3)	F	870.99	66.730	-59.605	TM Rosette (deep)	Bottom
2024/10/17 18:13:54	TCAT6-03 (A3)	F	870.11	66.728	-59.606	TM Rosette (deep)	Recovery
2024/10/17 18:25:00	TCAT6-03 (A3)	F	869.04	66.731	-59.611	Classic rosette 1 (nuts)	Deployment
2024/10/17 18:45:53	TCAT6-03 (A3)	F	867.18	66.730	-59.611	Classic rosette 1 (nuts)	Bottom
2024/10/17 19:34:15	TCAT6-03 (A3)	F	865.65	66.729	-59.612	Classic rosette 1 (nuts)	Recovery
2024/10/17 19:48:21	TCAT6-03 (A3)	F	870.97	66.729	-59.607	IKMT	Deployment
2024/10/17 20:11:15	TCAT6-03 (A3)	F	854.94	66.722	-59.629	IKMT	Bottom
2024/10/17 21:03:55	TCAT6-03 (A3)	F	864.45	66.714	-59.603	IKMT	Recovery
2024/10/17 21:27:34	TCAT6-03 (A3)	F	868.50	66.724	-59.605	Tucker	Deployment
2024/10/17 21:35:36	TCAT6-03 (A3)	F	868.06	66.722	-59.605	Tucker	Bottom

2024/10/17 21:43:09	TCAT6-03 (A3)	F	864.32	66.722	-59.613	Tucker	Recovery
2024/10/17 22:12:51	TCAT6-03 (A3)	F	869.23	66.727	-59.608	Hydrobios	Deployment
2024/10/17 22:35:57	TCAT6-03 (A3)	F	867.74	66.727	-59.609	Hydrobios	Bottom
2024/10/17 23:04:32	TCAT6-03 (A3)	F	866.01	66.729	-59.611	Hydrobios	Recovery
2024/10/17 23:23:59	TCAT6-03 (A3)	F	865.99	66.729	-59.611	Classic Rosette #2 (shallow)	Deployment
2024/10/17 23:30:50	TCAT6-03 (A3)	F	865.91	66.729	-59.611	Classic Rosette #2 (shallow)	Bottom
2024/10/17 23:41:23	TCAT6-03 (A3)	F	865.92	66.729	-59.611	Classic Rosette #2 (shallow)	Recovery
2024/10/17 23:56:53	TCAT6-03 (A3)	F	866.33	66.729	-59.610	TM Rosette 2 (shallow)	Deployment
2024/10/18 00:08:52	TCAT6-03 (A3)	F	865.95	66.729	-59.610	TM Rosette 2 (shallow)	Bottom
2024/10/18 00:22:52	TCAT6-03 (A3)	F	865.56	66.729	-59.610	TM Rosette 2 (shallow)	Recovery
2024/10/18 00:42:29	TCAT6-03 (A3)	F	868.02	66.730	-59.612	Box Core	Deployment
2024/10/18 01:03:32	TCAT6-03 (A3)	F	868.17	66.730	-59.611	Box Core	Bottom
2024/10/18 01:24:04	TCAT6-03 (A3)	F	868.18	66.731	-59.611	Box Core	Recovery
2024/10/18 04:07:53	TCAT6-02 (A2)	R	522.12	66.671	-60.459	Classic rosette KEBBAB (nuts)	Deployment
2024/10/18 04:23:02	TCAT6-02 (A2)	R	522.17	66.669	-60.454	Classic rosette KEBBAB (nuts)	Bottom
2024/10/18 05:06:19	TCAT6-02 (A2)	R	519.03	66.660	-60.442	Classic rosette KEBBAB (nuts)	Recovery
2024/10/18 07:20:52	TCAT6-01 (A1)	F	103.31	66.602	-61.194	Classic rosette 1 (nuts)	Deployment

2024/10/18 07:29:12	TCAT6-01 (A1)	F	105.52	66.598	-61.193	Classic rosette 1 (nuts)	Bottom
2024/10/18 07:50:27	TCAT6-01 (A1)	F	114.63	66.588	-61.188	Classic rosette 1 (nuts)	Recovery
2024/10/18 09:16:21	TCAT6-01 (A1)	F	119.03	66.601	-61.182	Classic Rosette 2	Deployment
2024/10/18 09:24:26	TCAT6-01 (A1)	F	129.78	66.599	-61.175	Classic Rosette 2	Bottom
2024/10/18 09:47:42	TCAT6-01 (A1)	F	151.20	66.595	-61.161	Classic Rosette 2	Recovery
2024/10/18 10:53:34	TCAT6-01 (A1)	F	1010.2 2	66.606	-61.184	Hydrobios	Deployment
2024/10/18 11:01:47	TCAT6-01 (A1)	F	673.01	66.606	-61.178	Hydrobios	Bottom
2024/10/18 11:05:32	TCAT6-01 (A1)	F	125.18	66.607	-61.176	Hydrobios	Recovery