

Water Chemistry Sampling

Cruise: EOS 312 Jan 2024

202401

Station Name: 51Date: Jan 27/24Time Sampled: 14:53Cast #: 2 Event #: 20Sampler Names: Nicole Brana, Yun: syu

Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8	X	X	X	X	X	X	X	X
7	0 "	89C ✓ 90C ✓	C-30 ✓	A-36 ✓	✓	✓	✓	✓
6	5	91C ✓	C-31 ✓	A-37 ✓	✓	✓	✓	X
5	10	92D ✓	X	A-38 ✓	✓	✓	✓	X
4	25	93C ✓	X	A-39 ✓	✓	X	✓	✓
3	50	X	X	A-40 ✓	✓	✓	✓	X
2	45	94C ✓	X	A-41 ✓	✓	X	✓	X
1	100	95C ✓	X	A-42 ✓	✓	✓	✓	✓

NOTES:

Sulfide smelled from Niskins: no nowTime Mn spiked with acid: 15:30

Time NH4 spiked with working reagent:

NH4 Standards: Vial #: see Vial #: Cast Vial #: 1 Vial #: NH4 Standards: Conc: Conc: Conc: Conc:

Water Chemistry Sampling				Cruise: EOS 312 Jan 2024		202401			
Station Name: <u>S1</u>		Date: <u>27/01/2024</u>		Time Sampled: <u>13:58</u>					
Cast #: <u>1</u>		Event #: <u>19</u>		Sampler Names: <u>Nicole, Brana, Yusingue</u>					
Niskin Bottle	Target Depth (m)	Oxygen Bottle #s		DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8	X	X		X	X	X	X	X	X
7	105 ✓	80C ✓	081C ✓	C-27 ✓	A-25 ✓	✓		✓	✓
6	110 ✓	082C ✓	083C ✓	X	A-26 ✓	✓	✓	✓	✓
5	115 ✓	084C ✓	085C ✓	C-28 ✓	A-27 ✓	✓	✓	✓	✓
4	120	X		X	A-30 ✓	X	✓	X	✓
3	125	087E ✓		X	A-31 ✓	✓	✓	✓	✓
2	130	X		X	A-33 ✓	X	✓	X	✓
1	140	088C ✓		C-29 ✓	A-34 ✓	✓	✓	✓	✓

NOTES:

Sulfide smelled from Niskins: only 1

Time Mn spiked with acid: 15:30

Time NH4 spiked with working reagent: 15:50

NH4 Standards: Vial #: A-46 Vial #: A-47 Vial #: A-48 Vial #: A-49 Vial #: A-50

NH4 Standards: Conc: 0 μ M Conc: 2.087 μ M Conc: 5.179 μ M Conc: 10.233 μ M Conc: 15.164 μ M

0.200 mL 0.500 mL 1.000 mL 1.500 mL

Water Chemistry Sampling			Cruise: EOS 312 Jan 2024		202401			
Station Name: <u>S1.5</u>			Date: <u>26/01/24</u>		Time Sampled: <u>11:41</u>			
Cast #: <u>2</u> Event #: <u>4</u>			Sampler Names: <u>Reanna, Ryan, Nathan</u>					
Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8								
7	0	² 006C, 007C	C-03	A-09 ✓	✓	✓	✓	X
6	10	² 008D, 009E	C-05	A-11 ✓				X
5	20	² 010F, 011C	X	A-12 ✓				X
4	40	012C	C-06	A-13 ✓		X		X
3	60	013C	X	A-15 ✓				
2	80	014C	X	A-16 ✓				
1	105	015C	X	A-17 ✓				
NOTES: bubble on 10F maybe? Sulfide smelled from Niskins: Time Mn spiked with acid: _____ Time NH4 spiked with working reagent: _____ NH4 Standards: Vial #: <u>see</u> Vial #: <u>cast</u> Vial #: <u>1</u> Vial #: _____ Vial #: _____ NH4 Standards: Conc: _____ Conc: _____ Conc: _____ Conc: _____								

Water Chemistry Sampling

Cruise: EOS 312 Jan 2024

202401

Station Name: S1.5Date: 26/01/24Time Sampled: 11:11Cast #: 1 Event #: 3Sampler Names: Ryan, Reanna, Nathan

Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8					low	low	low	
7	110	0010	X	A-01	✓	✓	✓	✓
6	115	² 002C, 003C	C01	A-02	✓	✓	✓	✓
5	120	004C	X	A-03	✓	✓	✓	✓
4	125	005C	X	A-04	✓	✓	✓	✓
3	150	X	C02	A-05	X	✓	X	✓
2	175	X	X	A-07	✓	✓	✓	✓
1	195	X	X	A-08	X	X	X	✓

NOTES: Did not feel Niskins 1-2, maybe 3 trip

Sulfide smelled from Niskins: None!

Time Mn spiked with acid:

Time NH4 spiked with working reagent: 14:30

NH4 Standards: Vial #: A-20 Vial #: A-21 Vial #: A-22 Vial #: A-23 Vial #: A-24

NH4 Standards: Conc: 0 μ M Conc: 2.087 μ M Conc: 5.179 μ M Conc: 10.233 μ M Conc: 15.164 μ M

0 mL

0.2 mL

0.5 mL

1.0 mL

1.5 mL

Water Chemistry Sampling Cruise: EOS 312 Jan 2024 202401

Station Name: S2 Date: Jan 28 2024 Time Sampled: 09:52

Cast #: 2 Event #: 23 Sampler Names: Emily, Mar, Camilo

Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8	X	¹ X	X	X	X	X	X	X
7	0	² 103F, 104E ✓	C-37 ✓	A-59 ✓	✓	✓	✓	✓
6	10	105D ✓	X	A-60 ✓	✓	X	✓	X
5	20	106C ✓	X	A-61 ✓	✓	✓	✓	X
4	50	107F ✓	X	A-62 ✓	✓	X	✓	X
3	85	108C ✓	C-38 ✓	A-63 ✓	✓	✓	✓	X
2	100	109C ✓	X	A-64 ✓	✓	✓	✓	✓
1	105	² 110F, 111D ✓	X	A-65 ✓	✓	✓	✓	✓

NOTES:

Sulfide smelled from Niskins:

Time Mn spiked with acid: 10:25

Time NH4 spiked with working reagent: 12:10

NH4 Standards: Vial #: A-68 Vial #: A-69 Vial #: A-70 Vial #: A-71 Vial #: A-73

NH4 Standards: Conc: 0 μ M Conc: 2.087 μ M Conc: 5.179 μ M Conc: 10.233 μ M Conc: 15.164 μ M

0 mL 0.200 mL 0.500 mL 1.000 mL 1.500 mL

Water Chemistry Sampling				Cruise: EOS 312 Jan 2024		202401		
Station Name: <u>S2</u>		Date: <u>Jan 28th 2024</u>		Time Sampled: <u>08:52</u>				
Cast #: <u>1</u>		Event #: <u>22</u>		Sampler Names: <u>Emily, Mar, Camilo</u>				
Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8	X	X	X	X	X	X	X	X
7	110	² 97C-98E ✓	C-35 ✓	A-51 ✓	✓	✓	✓	✓
6	115	² 99C-100C ✓	X	A-52 ✓	✓	✓	✓	✓
5	120	101C ✓	C-32 ✓	A-54 ✓	✓	✓	✓	✓
4	125	X	X	A-55 ✓	✓	✓	✓	✓
3	150	X	X	A-56 ✓	X	✓	X	✓
2	180	X	X	A-57 ✓	X	✓	X	✓
1	205	102C ✓	C-36 ✓	A-58 ✓	✓	✓	✓	✓

NOTES:

Sulfide smelled from Niskins: #1, #2, #3

Time Mn spiked with acid: 10:25 Time NH4 spiked with working reagent: 12:10

NH4 Standards: Vial #: See Vial #: Cast Vial #: 2 Vial #: Vial #:

NH4 Standards: Conc: Conc: Conc: Conc: Conc:

Water Chemistry Sampling

Cruise: EOS 312 Jan 2024

202401

Station Name: 2.5Date: Jan. 27 2024Time Sampled: 12:39Cast #: 2 Event #: 16Sampler Names: Erik, Adam, Kascia, Natasha

Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8								
7	0	068E [✓] /069E [✓]	C-24 [✓]	A09 [✓]	✓	✓	✓	✗
6	5	070C [✓] /071C [✓]	✗	A11 [✓]	✓	✓	✓	✗
5	10	074C [✓] /075C [✓]	C-25 [✓]	A12 [✓]	✓	✓	✓	✗
4	20	076C [✓]	✗	A13 [✓]	✓	✓	✓	✗
3	60	077D [✓]	C-26	A15 [✓]	✓	✓	✓	✓
2	90	078C [✓]	✗	A16 [✓]	✓	✓	✓	✓
1	110	079C [✓]	✗	A17 [✓]	✓	✓	✓	✓

E7
12:48

NOTES:

-Recast N.1, pine sol fumes during sampling - Re-sampled A15
 problem for ammonia? b/c of pine sol fumes
 while sampling

Sulfide smelled from Niskins: —

Time Mn spiked with acid: 13:15

Time NH4 spiked with working reagent: 14:52

NH4 Standards: Vial #: A20 Vial #: A21 Vial #: A-22 Vial #: A23 Vial #: A29

NH4 Standards: Conc: 0 μ M Conc: 2.087 μ M Conc: 5.179 μ M Conc: 10.233 μ M Conc: 15.164 μ M
 0.000 mL 0.200 mL 0.500 mL 1.000 mL 1.500 mL

Water Chemistry Sampling

Cruise: EOS 312 Jan 2024

202401

Station Name: 2.5Date: Sat Jan 27th, 2024Time Sampled: 11:45Cast #: 1 Event #: 15Sampler Names: Adam, Erik, Kascia, Natasha

Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8								
7	115	062C✓	X	A01✓	✓	✓	✓	
6	120	064C✓	C22✓	A02✓	✓	✓	✓	
5	125	065E✓	X	A03✓	✓	✓	✓	
4	130	066C✓	X	A04✓	✓	✓	✓	
3	140	067C✓	X	A05✓	✓	✓	✓	
2	190	X	X	A07✓	X	X	X	
1	220	X	C23✓	A08✓	X	X	X	

NOTES:

Sulfide smelled from Niskins: #1 & #2 strong, faint #3

Time Mn spiked with acid: 3:15

Time NH4 spiked with working reagent:

NH4 Standards: Vial #:

Vial #:

Vial #:

Vial #:

Vial #:

NH4 Standards: Conc:

Conc:

Conc:

Conc:

Conc:

Water Chemistry Sampling

Cruise: EOS 312 Jan 2024

202401

Station Name: 83Date: Jan. 20, 2024Time Sampled: 14:13Cast #: 2 Event #: 7Sampler Names: Beth, Jenna, Michelle

Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8								
7	0 ²	21C, 22C ✓		A-36 ✓	✓		✓	
6	10	23C ✓		A-37 ✓	✓			
5	25	24C ✓		A-38 ✓	✓		✓	
4	50 ²	25C, 26C ✓		A-39 ✓	✓			
3	75	27C ✓		A-40 ✓	✓		✓	
2	100 ²	28C, 29C ✓		A-41 ✓	✓		✓	
1	110	30C ✓		A-42 ✓	✓		✓	

NOTES:

Sulfide smelled from Niskins:

Time Mn spiked with acid: 14:50Time NH4 spiked with working reagent: 15:30NH4 Standards: Vial #: see Vial #: cast Vial #: 1 Vial #: NH4 Standards: Conc: Conc: Conc: Conc: Conc:

Water Chemistry Sampling			Cruise: EOS 312 Jan 2024			202401		
Station Name: <u>S3</u>		Date: <u>Jan 26.24</u>		Time Sampled: <u>13:25</u>				
Cast #: <u>1</u>		Event #: <u>6</u>		Sampler Names: <u>Jenna, Michelle, Beth</u>				
Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8	115	16F, 17C	X	A-25				
7	115 ²	16F, 17C	X	A-25	✓	✓	✓	-
6	126	18C	✓	A-26	✓	✓	✓	✓
5	125	19C	✓	A-27	✓	✓	✓	✓
4	140	20C	✓	A-31	✓	✓	✓	✓
3	165	21C	X	A-30	✓	✓	✓	✓
2	196	22C	X	A-33	X	✓	✓	✓
1	215	23C	X	A-34	X	X	✓	✓

NOTES: Niskin 4 cracked at clays. Sampled in Cacy's arms

Sulfide smelled from Niskins: #1, #2

Time Mn spiked with acid: 14:50 Time NH4 spiked with working reagent: 15:30

NH4 Standards: Vial #: A-46 Vial #: A-47 Vial #: A-48 Vial #: A-49 Vial #: A-50

NH4 Standards: Conc: 0 μ M Conc: 2.087 μ M Conc: 5.179 μ M Conc: 10.233 μ M Conc: 15.164 μ M

0 mL 0.200 mL 0.500 mL 1.000 mL 1.500 mL

Water Chemistry Sampling

Cruise: EOS 312 Jan 2024

202401

Station Name: 53.5Date: Jan 28th 2023Time Sampled: 11:54Cast #: 2 Event #: 26Sampler Names: Swan, Calder, Byron

Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8								
7	0	^r 117c [✓] , 118c [✓]	c-40 [✓]	A-82 [✓]	✓	✓	✓	X
6	25	^r 119E [✓] , 120c [✓]	c-41 [✓]	A-83 [✓]	✓	✓	✓	X
5	45	121c [✓]	X	A-85 [✓]	✓	✓	✓	X
4	40	122c [✓]	C-42 [✓]	A-86 [✓]	✓	✓	✓	X
3	90	123c [✓]	X	A-87 [✓]	✓	X	✓	✓
2	105	124c [✓]	c-43 [✓]	A-89 [✓]	✓	✓	✓	✓
1	115	^r 125E [✓] , 126c [✓]	X	A-90	✓	✓	✓	✓

NOTES:

Sulfide smelled from Niskins:

Time Mn spiked with acid: 12:50Time NH4 spiked with working reagent: 12:30NH4 Standards: Vial #: A-43 Vial #: A-93 Vial #: A-94 Vial #: A-44 Vial #: A-98NH4 Standards: Conc: 0 μ M Conc: 2.087 μ M Conc: 5.179 μ M Conc: 10.233 μ M Conc: 15.164 μ M
0.0mL 0.200mL 0.500mL 1.000mL 1.500mL

Water Chemistry Sampling

Cruise: EOS 312 Jan 2024

202401

Station Name: S3.5Date: Jan 28th 2023Time Sampled: 11:02Cast #: 1 Event #: 25Sampler Names: Susan, Calder, Byron

Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8								
7	120	112c [✓] 113d [✓]	C39 [✓]	A-74 [✓]	✓	✓	X	✓
6	125	114c [✓]	X	A-75 [✓]	✓	✓	✓	✓
5	130	115c [✓]	X	A-76 [✓]	✓	✓	✓	✓
4	150	116e [✓]	X	A-77 [✓]	✓	✓	✓	✓
3	175	X	X	A-78 [✓]	✓	✓	✓	✓
2	195	X	X	A-80 [✓]	X	✓	✓	✓
1	215	X	X	A-81 [✓]	X	X	X	✓

NOTES:

Sulfide smelled from Niskins: #1, 2, 3Time Mn spiked with acid: 12:50Time NH4 spiked with working reagent: 14:30NH4 Standards: Vial #: See Vial #: Cast Vial #: 2 Vial #: Vial #:

NH4 Standards: Conc: Conc: Conc: Conc: Conc:

Water Chemistry Sampling

Cruise: EOS 312 Jan 2024

202401

Station Name: 54Date: Jun 27, 2024Time Sampled: 10:32Cast #: 2 Event #: 13

Sampler Names:

Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	25mL NO3	Spreader NO2	410mL PO4	Shoulder Mn
8								
7	0	053C✓ / 054D✓	C-16✓	A-82✓	X	✓		X
6	5	055C✓	C-17✓	A-83✓	X	✓		X
5	10	056C✓ / 057C✓	C-18✓	A-85✓	X	✓		X
4	30	058C✓	C-19✓	A-86✓	X	✓		X
3	50	059C✓	C-20✓	A-87✓	X	X	X	✓
2	70	060E✓	C-21✓	A-89✓		✓		✓
1	90	061C✓	C-21✓	A-90✓		X	X	✓

NOTES:

Sulfide smelled from Niskins: none

Time Mn spiked with acid:

Time NH4 spiked with working reagent:

NH4 Standards: Vial #:

Vial #:

Vial #:

Vial #:

Vial #:

NH4 Standards: Conc:

Conc:

Conc:

Conc:

Conc:

Water Chemistry Sampling			Cruise: EOS 312 Jan 2024			202401		
Station Name: <u>S4</u>		Date: <u>Jan 27, 2024</u>		Time Sampled: <u>09:10</u>				
Cast #: <u>1</u>		Event #: <u>12</u>		Sampler Names: <u>Kano, McKenna, Emma, Rowan</u>				
Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8	110	 	C-12	 	 	 	 	
7	110	46D ✓	C-12 ✓	A-74 ✓	✓	✓	✓	✓
6	115	047C ✓	/	A-75 ✓	✓	✓	✓	✓
5	120	049C ✓	C-13 ✓	A-76 ✓	✓	✓	✓	✓
4	125	050 E ✓	/	A-77 ✓	✓	✓	✓	✓
3	140	051 C ✓	C-14 ✓	A-78 ✓	✓	✓	✓	✓
2	165	052 C ✓	C-15 ✓	A-80 ✓	✓	✓	✓	✓
1	190	/	/	A-81 ✓	/	✓	✓	✓
NOTES: Niskin 7 almost ran out at water Sulfide smelled from Niskins: 1 & 2 Time Mn spiked with acid: 11:05 Time NH4 spiked with working reagent: 12:30 NH4 Standards: Vial #: A-43 Vial #: A-93 Vial #: A-94 Vial #: A-44 Vial #: A-98 NH4 Standards: Conc: 0 μM Conc: 2.087 μM Conc: 5.179 μM Conc: 10.233 μM Conc: 15.164 μM 0.000mL 0.200mL 0.500mL 1.000mL 1.500mL								

Water Chemistry Sampling			Cruise: EOS 312 Jan 2024		202401			
Station Name: <u>54.25</u>		Date: <u>26 Jan 2024</u>		Time Sampled: <u>16:21</u>				
Cast #: <u>2</u> Event #: <u>10</u>		Sampler Names: <u>Simon, Anastasia, Sarah</u>						
Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8								
7	0	² 37c ✓ 38c ✓	C-09 ✓	A-59 ✓	✓	✓	✓	✓
6	10	² 39c ✓ 40E ✓	C-10	A-60 ✓	✓	✓	✓	✓
5	20	41c ✓	C10 ✓	A-61 ✓	✓	✓	✓	✓
4	40	42c ✓	C-11	A-62 ✓	✓	✓	✓	✓
3	60	43 ✓	C-12	A-63 ✓	✓	✓	✓	✓
2	95	44c ✓	C11 ✓	A-64 ✓	✓	✓	✓	✓
1	105	45F ✓	C-13	A-65 ✓	✓	✓	✓	✓

NOTES:

Sulfide smelled from Niskins:

Time Mn spiked with acid: 17:00 Time NH4 spiked with working reagent: 17:00

NH4 Standards: Vial #: A-68 Vial #: A-69 Vial #: A-70 Vial #: A-71 Vial #: A-73

NH4 Standards: Conc: 0 μM Conc: 2.087 μM Conc: 5.179 μM Conc: 10.233 μM Conc: 15.164 μM

0mL 0.200mL 0.500mL 1.000mL 1.500mL

NOTE acid?

Water Chemistry Sampling			Cruise: EOS 312 Jan 2024			202401		
Station Name: <u>54.25</u>			Date: <u>26 Jan 2024</u>			Time Sampled: <u>15:35</u>		
Cast #: <u>1</u> Event #: <u>9</u>			Sampler Names: <u>Simin, Sarah, Anastasia</u>					
Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8								
7	115	² 31C [✓] - 32C [✓]	C-07 [✓]	A-51 [✓]	✓	✓	✓	✓
6	125	33C [✓]	X	A-52 [✓]	✓	✓	✓	✓
5	135	34D [✓]	C-08 [✓]	A-54 [✓]	✓	✓	✓	✓
4	140	35C [✓]	X	A-55 [✓]	✓	✓	✓	✓
3	150	X	X	A-56 [✓]	✓	✓	✓	✓
2	160	X	X	A-57 [✓]	X	X	X	✓
1	170	36C [✓]	X	A-58 [✓]	✓		✓	✓

too much acid?

NOTES:

Sulfide smelled from Niskins: #2, #1

Time Mn spiked with acid: 17:00

Time NH4 spiked with working reagent: 17:00

NH4 Standards: Vial #: see Vial #: Cast Vial #: 2 Vial #:

NH4 Standards: Conc: Conc: Conc: Conc:

Water Chemistry Sampling			Cruise: EOS 312 Jan 2024			202401		
Station Name: <u>54.5</u>		Date: <u>Jan 28 2024</u>		Time Sampled: <u>14:18</u>				
Cast #: <u>2</u> Event #: <u>30</u>		Sampler Names: <u>Brooklyn, Autumn, Llewelyn</u>						
Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8								
7	0	² 134D ✓ 136G	C-46 ✓	A09 ✓	✓	✓	✓	✗
6	10	136G ✓	C-47 ✓	A11 ✓	✓	✓	✓	✗
5	30	137G ✓	✗	A12 ✓	✓	✗	✗	✗
4	50	138G ✓	C-48 ✓	A13 ✓	✓	✓	✓	✗
3	75	139G ✓	✗	A15 ✓	✓	✗	✗	✓
2	90	140G ✓	✗	A16 ✓	✓	✓	✓	✓
1	100	135G ✓	✗	A17	✓	✓	✓	✓

NOTES:

Sulfide smelled from Niskins:

Time Mn spiked with acid: 14:50 Time NH4 spiked with working reagent: 15:15

NH4 Standards: Vial #: A-20 Vial #: A-21 Vial #: A-22 Vial #: A-23 Vial #: A-29

NH4 Standards: Conc: Conc: Conc: Conc: Conc:

0 mL 0.200 mL 0.500 mL 1.000 mL 1.500 mL

Water Chemistry Sampling

Cruise: EOS 312 Jan 2024

202401

Station Name: S4.5Date: Jan 28th 2024Time Sampled: 13:35Cast #: 1 Event #: 29Sampler Names: Brooklyn, Hewelyn, Autumn

Niskin Bottle	Target Depth (m)	Oxygen Bottle #s	DIC Bottle #	NH4 Vial #	NO3	NO2	PO4	Mn
8								
7	110	² 127E ✓ 128C ✓	X	A01 ✓	✓	✓	✓	✓
6	115	129C ✓	X	A02 ✓	✓	✓	✓	✓
5	120	² 130C ✓ 131C ✓	C44 ✓	A03 ✓	✓	✓	✓	✓
4	125	132D ✓	X	A04 ✓	✓	✓	✓	✓
3	130	X	X	A05 ✓	X	✓	✓	✓
2	135	X	X	A07 ✓	X	✓	✓	✓
1	145	133D ✓	C45 ✓	A08 ✓	✓	✓	✓	✓

NOTES:

Sulfide smelled from Niskins: #1? ^o deck crew says noneTime Mn spiked with acid: 14:50Time NH4 spiked with working reagent: 15:15

NH4 Standards: Vial #:

Vial #:

Vial #:

Vial #:

Vial #:

NH4 Standards: Conc:

Conc:

Conc:

Conc:

Conc: