

Ammonium analysis

Start time of Reaction
End time of reaction03 Sept 17
4 Sept6:50 pm
03:09 am

Cruise

2017-09
03 Sept 17

Date

Standards

Conc.

Raw Fluor

Raw Fluor

See method for collection of LNSW

Working Log #1 A

 μL^{25}
 S0
 200 S1
 400 S2
 600 S3
 800 S4
 1000 S5

ϕ	17.0	16.5
0.5	145.1	151.8
1.0	270.3	263.6
1.5	388.5	384.7
2.0	500.4	559.8
2.5	670.0	612.1

 S_4 Sens factor = 26
 empty = 2.2 fsw
 2.5

Sample	Station	Raw Fluor	Sample	Station	Raw Fluor	Sample	Station	Raw Fluor
235 A	LD08	18.7	216 B	LD06	190.9	31 B	LD04	268.9
235 B		21.1	218 B		61.0	31 A		270.8
234 A		70.3	217 B		264.2	40 B	LB06	328.9
234 B		18.2	216 A		186.1	25 A	LB02	213.8
233 A		43.7	176 A	LC01	197.3	25 B		193.1
233 B		43.1	195 A		196.3	42 B	LB06	137.2
255 A	LD11	15.9	194 A		101.3	23 A	LB02	185.0
255 B		13.9	196 B		200.3	16 B		198.0
254 B		14.3	195 B		152.5	42 A	LB06	69.3
254 A		15.7	194 B		99.5	22 A	LB02	242.3
253 B		13.3	186 B	LC02	123.0	22 B		247.4
253 A		11.2	187 B		28.8	40 A	LB06	298.2
200 A	LD01	579.1	189 A		36.5	16 B	LB01	179.9
200 B		589.7	186 A		129.0	16 A		182.5
199 A		635.0	187 A		34.0	41 A	LB06	172.1
199 B		648.3	189 B		26.9	17 B	LB01	182.8
198 A		301.5	179 B	LC04	97.0	17 A		183.6
198 B		296.5	178 A		122.6	41 B	LB06	136.4
205 A	LD02	312.0	180 B		48.9	19 B	LB01	177.9
205 B		317.0	179 A		101.7	19 A		200.7
203 A		208.4	180 A		50.9			
203 B		216.0	178 B		123.1			
204 A		423.2	167 B	LC05	147.8			
204 B		453.3	168 B		97.5			
208 B	LD04	335.2	167 B		25.3			
208 A		273.0	167 A		152.2			
210 A		132.5	168 A		79.5			
209 A		159.8	169 A		26.7			
209 B		165.5	33 B	LB04	323.1			
210 B		152.0	32 B		333.0			
218 A	LD06	55.6	32 A		346.4			
217 A		173.8	33 A		323.6			

 23 B
 NH4
 LB02
 10 m
 2017-09
 Bot 4

Pg 1/2

[illegible][illegible][illegible]

218	217	216	196	195	194	196	195	194	186	187
NH4	NH4	NH4	NH4	NH4	NH4	NH4	NH4	NH4	NH4	NH4
LD06	LD06	LD06	LC01	LC01	LC01	LC01	LC01	LC01	LC02	LC02
5 m	10 m	20 m	5 m	10 m	20 m	5 m	10 m	20 m	20 m	10 m
2017-09	2017-09	2017-09	2017-09	2017-09	2017-09	2017-09	2017-09	2017-09	2017-09	2017-09
Bot 8	Bot 7	Bot 6	Bot 7	Bot 6	Bot 5	Bot 7	Bot 6	Bot 5	Bot 5	Bot 6

189	186	187	189	179	178	180	179	180	178	167
NH4	NH4	NH4	NH4	NH4	NH4	NH4	NH4	NH4	NH4	NH4
LC02	LC02	LC02	LC02	LC04	LC04	LC04	LC04	LC04	LC04	LC06
5 m	20 m	10 m	5 m	10 m	20 m	5 m	10 m	5 m	20 m	20 m
2017-09	2017-09	2017-09	2017-09	2017-09	2017-09	2017-09	2017-09	2017-09	2017-09	2017-09
Bot 8	Bot 5	Bot 6	Bot 8	Bot 9	Bot 8	Bot 10	Bot 9	Bot 10	Bot 8	Bot 8

163	163	167	168	169	33	32	32	33	31	31
NH4	NH4	NH4	NH4	NH4	NH4	NH4	NH4	NH4	NH4	NH4
LC06	LC06	LC06	LC06	LC06	LB04	LB04	LB04	LB04	LB04	LB04
10 m	5 m	20 m	10 m	5 m	5 m	10 m	10 m	5 m	20 m	20 m
2017-09	2017-09	2017-09	2017-09	2017-09	2017-09	2017-09	2017-09	2017-09	2017-09	2017-09
Bot 6	Bot 7	Bot 5	Bot 7	Bot 7	Bot 7	Bot 6	Bot 6	Bot 7	Bot 5	Bot 5

[illegible]

Ammonium analysis

Start time of Reaction
End time of reaction3 Sept
4 Sept

Cruise

Date

2017-09
4 Sept 2017

Standards

Conc.

Raw Fluor

Raw Fluor

See method for collection of LNSW

S0			
S1			
S2			
S3			
S4			
S5			

$$y = 250.63x + 18.357$$

$$x = \frac{\text{raw Fluor} - 18.357}{250.63}$$

Sample	Station	Raw Fluor	Sample	Station	Raw Fluor	Sample	Station	Raw Fluor
89 A	L812	527.7	147 A	LC09	6.3			
90 A		121.3	147 B		6.8			
91 B		7.9	146 A		10.6			
89 B		529.6	146 B		12.1			
90 B		125.2	130 B	LC11	6.6			
91 A		12.6	132 A		9.7			
76 B	LC11	35.7	132 B		8.2			
75 B		16.1	130 A		6.2			
74 A		138.9	131 A		7.9			
76 A		18.1	131 B		6.5			
75 A		21.2	162 B	LC08	19.5			
74 B		137.8	160 B		46.0			
64 A	LC09	36.9	159 B		105.0			
63 B		35.4	162 A		10.8			
62 A		123.0	160 A		42.3			
64 B		38.0	159 A		104.6			
63 A		35.0			end 04:40			
62 B		122.6						
53 A	LC08	139.0						
53 B		133.4						
55 B		129.4						
52 A		86.7						
52 B		290.0						
55 A		125.9						
110 B	LC14	7.9						
109 B		5.2						
108 A		5.4						
110 A		10.0						
109 A		6.3						
108 B		8.0						
149 A	LC09	12.6						
149 B		13.2						

pg 2/12

89 A 90 A 91 B 89 B 90 B
NH4 NH4 NH4 NH4 NH4
LB12 LB12 LB12 LB12 LB12
20 m 10 m 5 m 20 m 10 m
2017-09 2017-09 2017-09 2017-09 2017-09
Bot 13 Bot 14 Bot 15 Bot 13 Bot 14

91 A 76 B 75 B 74 A
NH4 NH4 NH4 NH4
LB12 LB11 LB11 LB11
5 m 5 m 10 m 20 m
2017-09 2017-09 2017-09 2017-09
Bot 15 Bot 11 Bot 10 Bot 9

76 75 74 64 63 62 64 63 62 53 A
NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4
LB11 LB11 LB11 LB09 LB09 LB09 LB09 LB09 LB09
5 m 10 m 20 m 5 m 10 m 20 m 5 m 10 m 10 m
2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09
Bot 11 Bot 10 Bot 9 Bot 9 Bot 8 Bot 7 Bot 9 Bot 8 Bot 7 Bot 8

53 B 55 F 52 A 52 F 55 A 110 109 B 109 110 109 A
NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4
LB08 LB08 LB08 LB08 LB08 LB14 LB14 LB14 LB14 LB14
10m 5m 20m 5m 5m 5 m 10m 20m 5 m 10m
2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09
Bot 8 Bot 10 Bot 7 Bot 7 Bot 10 Bot 18 Bot 17 Bot 1 Bot 18 Bot 17

108 B 149 A 149 B 147 A 147 B 146 A 146 B 130 132 A
NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4
LB14 LC09 LC09 LC09 LC09 LC09 LC09 LC11 LC11
20m 5 m 5 m 10 m 10 m 20 m 20 m 20 m 5 m
2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09
Bot 16 Bot 17 Bot 15 Bot 15 Bot 14 Bot 14 Bot 14 Bot 17 Bot 19

132 A 130 A 131 A 131 B 162 160 B 159 B 162 160 A
NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4
LC11 LC11 LC11 LC11 LC08 LC08 LC08 LC08 LC08
5 m 20 m 10 m 10 m 5 m 10 m 20 m 5 m 10 m
2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09
Bot 19 Bot 17 Bot 18 Bot 13 Bot 11 Bot 10 Bot 10 Bot 13 Bot 11

159 A
NH4
LC08
20 m
2017-09
Bot 10

Start time of Reaction

3:30 pm

--

2017-09

8/9 Sept 17

started reading @ 11:30pm
page 115.

IOS standards + working reagent B.

Conc.	Raw Fluor	Raw Fluor
-------	-----------	-----------

05

0	50	6	11.3	13.8
200	51	0.5	137.5	144.9
400	52	1.0	252.5	238.7
600	53	1.5	389.4	414.0
800	54	2.0	492.3	540.3
1000	55	2.5	620.1	708.1

sensitivity factor $\leq 54 = 29$
 ≤ 44 500.3 fsu
 empty = ~~378~~ fsu
 4.7

[illegible]

20

RTD A

6
5
4

میں نے

20. 2739

20

15

10

25

207709

1772

4-7000

23

2. 2. 2. 2. 2.

20

did not
read, of scale

308

2. Common toothed

219
288 B NH4 A
NH4 LG06 20 m
LG04 5 m
2017-09 Bot 15
277 A NH4 A
NH4 LG06 10 m
2017-09 Bot 16
279 B NH4 A
NH4 LG06 5 m
2017-09 Bot 18
279 A NH4 A
NH4 LG06 5 m
2017-09 Bot 18
277 B NH4 A
NH4 LG06 10 m
2017-09 Bot 16
276 B NH4 A
NH4 LG06 20 m
2017-09 Bot 15

299 B NH4 A
NH4 LG01 20 m
2017-09 Bot 3
296 A NH4 A
NH4 LG02 5 m
2017-09 Bot 8
294 A NH4 A
NH4 LG02 10 m
2017-09 Bot 6
294 B NH4 A
NH4 LG02 10 m
2017-09 Bot 6
293 A NH4 A
NH4 LG02 20 m
2017-09 Bot 5
293 B NH4 A
NH4 LG02 20 m
2017-09 Bot 5
287 B NH4 A
NH4 LG04 10 m
2017-09 Bot 8

287 A NH4 A
NH4 LG04 10 m
2017-09 Bot 8
286 B NH4 A
NH4 LG04 20 m
2017-09 Bot 7
286 A NH4 A
NH4 LG04 20 m
2017-09 Bot 7

Ammonium analysis

Start time of Reaction
End time of reaction

3:30pm
04:40 am

Cruise
Date

2017-09
9 Sept 2017

WRC B

Standards

Standards	Conc.	Raw Fluor	Raw Fluor
S0	0	13.8	16.3
S1	0.5	144.9	152.3
S2	1.0	260.9	285.5
S3	1.5	397.3	421.3
S4	2.0	499.7	526.9
S5	2.5	602.7	685.9

See method for collection of LNSW

S4
sens factor = 29
4.5 fsw station

Sample	Station	Raw Fluor	Sample	Station	Raw Fluor	Sample	Station	Raw Fluor
429 A	CS09	94.4	380 B	LB85	66.7	440 A	NL1	15.7
427 B		365.2	350 A		63.2	440 A		16.2
429 B		91.1	349 B		534.8	431 A	S53	185.2
428 A		287.8	348 B		928.1	431 B		188.4
427 A		373.7	348 A		934.3			
428 B		285.3	349 A		537.6			
415 A	CS66	162.6	359 A	LB83	over			
418 B		50.8	B		"			
416 A		51.3	358 A		961.8			
415 B		182.2	361 A		293.8			
418 A		25.6	361 B		387.1			
416 B		57.2	358 B		985.1			
410 A	CS04	93.7	380 A	CS00	17.2			
409 A		107.1	379 B		10.9			
408 B		445.9	379 A		10.2			
410 B		85.5	382 B		8.8			
409 B		134.8	282 A		10.3			
408 A		285.8	380 B		13.8			
401 B	CS02	141.7	441 A	NL1	15.6			
402 B		45.3	441 B		15.4			
400 B		294.7	442 A		14.2			
401 A		139.3	442 B		15.4			
402 A		53.3	436 A	S51	18.2			
400 A		295.2	436 B		20.1			
329 A	LB87	12.9	435 A		21.6			
328 B		45.0	435 B		19.6			
328 A		48.9	434 A		52.4			
331 B		33.3	434 B		83.6			
331 A		44.8	432 A	S53	50.7			
329 B		14.2	432 B		54.7			
			433 A		36.7			
			433 B		30.5			

S4 calibration

$$y = 250.08x + 21.355$$

S5 calibration

$$y = 18274x + 15.795$$

no (p) 300
301
7
susp. cont
52B
287A
408B

429 A 427 A 429 B 428 A 427 A 428 B 415 A 418 B 416 A
NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4
CS09 CS09 CS09 CS09 CS09 CS09 CS09 CS09 CS09
5 m 20 m 5 m 10 m 20 m 10 m 20 m 20 m 10 m
2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09
Bot 11 Bot 9 Bot 12 Bot 10 Bot 9 Bot 10 Bot 4 Bot 7 Bot 5

415 B 418 A 416 B 410 A 409 A 408 B 410 B 409 B 408 A 401 B
NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4
CS06 CS06 CS06 CS04 CS04 CS04 CS04 CS04 CS04 CS02
5 m 5 m 10 m 5 m 10 m 20 m 5 m 10 m 20 m 10 m
2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09
Bot 4 Bot 7 Bot 5 Bot 7 Bot 6 Bot 5 Bot 7 Bot 6 Bot 5 Bot 19

402 B 400 B 401 B 402 A 400 A 329 A 328 B 328 A 301 R 331 A 329 B
NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4
CS02 CS02 CS02 CS02 CS02 LBP7 LBP7 LBP7 LBP7 LBP7 LBP7
5 m 20 m 10 m 5 m 20 m 10 m 20 m 20 m 5 m 5 m 10 m
2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09
Bot 20 Bot 18 Bot 19 Bot 20 Bot 16 Bot 19 Bot 18 Bot 12 Bot 21 Bot 21 Bot 19

350 B 350 B 349 B 348 B 349 B 349 B 358 A 361 A 361 B 358 B
NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4
LBP5 LBP5 LBP5 LBP5 LBP5 LBP5 LBP5 LBP5 LBP5 LBP5 LBP5
5 m 5 m 10 m 20 m 20 m 10 m 10 m 10 m 5 m 5 m 20 m
2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09
Bot 19 Bot 19 Bot 11 Bot 17 Bot 17 Bot 18 Bot 8 Bot 1 Bot 11 Bot 8 Bot 19

382 A 382 A 382 A 382 A 382 A 382 A 441 B 441 A 442 B 442 A 436 A
NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4
CS00 CS00 CS00 CS00 CS00 CS00 NL1 NL1 NL1 NL1 NL1
10 m 20 m 20 m 5 m 5 m 10 m 10 m 10 m 5 m 5 m 5 m
2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09
Bot 19 Bot 18 Bot 21 Bot 21 Bot 19 Bot 5 Bot 5 Bot 6 Bot 6 Bot 3 Bot 3

431 A 431 B 434 A 434 A 432 A 432 B 440 B 433 A 433 B 440 A
NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4 NH4
SS3 SS3 SS3 SS3 SS3 NL1 NL1 NL1 NL1 NL1 NL1
20 m 20 m 20 m 20 m 10 m 10 m 20 m 5 m 20 m 20 m
2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09 2017-09
Bot 4 Bot 4 Bot 1 Bot 1 Bot 2 Bot 2 Bot 4 Bot 3 Bot 4 Bot 4

Start time of Reaction

15:30 85 gpt
06:41

2017-09
9 Sept 2017

Uvic Samples

2017-09
9 Sept 2017

Conc.

Raw Fluor

Raw Fluor

See method for collection of LNSW

S0	0	11.0	10.3
S1	0.5	143.6	142.7
S2	1.0	269.4	272.1
S3	1.5	383.0	382.9
S4	2.0	499.0	504.9
S5	2.5	616.1	617.4

54 cal, sens factor = 28
 $y = 240.92x + 19.717$

Sample	Station	Raw Fluor	Sample	Station	Raw Fluor
B1		14.9			
B2		11.7			
B3		13.6			
B4		13.3			
B5		11.8			
B6		11.1			
B7		12.6			
B8		11.5			
B9		11.9			
B10		11.1			