

2016-09 08 Jun 16 run just before this batch
 * put 2 sets of stds/bks together *

Chlorophyll Data Sheet

20ml:

Cruise: 2016-47

Page: 1 of 1

497B, 497A

Dates of Cruise:

Time and date acetone added: 3:30 pm 07 June 16

Analyst: Tamara

Time and date out of freezer: 2:00 pm 08 June 16

Time analysis started: 3:03 pm 08 June 16

samples in Apr 16
 90% acetone

Sample #	Station	Vol filt	Vol acet		Rb		Ra	Comments
Stand-	by			1-	0.000			90% acetone 08 Jun 16
STD			LOW	2-	11.862			
STD			HIGH	4-	64.495			
Blank				6-	0.000	8- acid	0.000	
495A	41	330	10	1-	121.662	2-	71.571	added 20ml 5% very silty sample on filter
497B	41		20	3-	31.372	4-	18.461	
494A	41		10	5-	27.948	6-	19.745	
188B	LC08		10	7-	38.670	8-	23.637	
189B	LC08		10	1-	41.760	2-	24.362	25.796
143A	LC11		10	3-	13.970	4-	8.068	
124	LC12		10	5-	11.196	6-	6.287	
114B	LB15		10	7-	13.218	8-	7.398	
120	LC12		10	1-	11.265	2-	6.438	
93B	LB12		10	3-	14.951	4-	9.253	
94A	LB13		10	5-	14.292	6-	8.717	
175B	LC09		10	7-	51.853	8-	32.063	
195A	LC06		10	1-	45.308	2-	27.391	
116B	LB16		10	3-	10.434	4-	5.893	
188A	LC08		10	5-	37.617	6-	23.008	
92B	LB12		10	7-	12.639	8-	7.883	
176A	LC09		10	1-	58.616	2-	35.138	
91B	LB12		10	3-	15.257	4-	9.337	
178A	LC09		10	5-	49.850	6-	30.082	
142A	LC11		10	7-	14.343	8-	8.309	
497A	41		20	1-	26.965	2-	16.238	same comment as 1142B
110B	LB14		10	3-	8.973	4-	5.326	
112B	LB14		10	5-	10.375	6-	6.135	
187A	LC08		10	7-	39.599	8-	23.859	
Stand-by				1-	- 0.001			
Std	Low			2-	11.936			
Std	High			4-	64.344			
Blank	by			6-	0.000	8- acid	0.000	

495 Q	497 B	494 a	188 B	189 B	143 A	124 138	114 B
CHL	CHL	CHL	CHL	CHL	CHL	CHL	CHL
41	41	41	LC08	LC08	LC11	LC12	LB15
10m	0 m	20	10 m	5 m	10m	15%	250 m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 9	Bot 11	Bot 8	Bot 10	Bot 11	Bot 18	Bot 21	Bot 1

123	93 B	94	175 B	195 A	116 B	188 A	92 B
CHL	CHL	CHL A	CHL	CHL A	CHL	CHL	CHL
LC12	LB12	LB13	LC09	LC06	LB16	LC08	LB12
100%	5 m	5 m	20 m	10 m	5 m	10 m	10 m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 17	Bot 15	Bot 1	Bot 14	Bot 6	Bot 2	Bot 10	Bot 14

176 A	91 B	178 A	142 A	497 a	110 B	112 B	187 A
CHL	CHL	CHL	CHL	CHL	CHL	CHL	CHL
LC09	LB12	LC09	LC11	41	LB14	LB14	LC08
10 m	20 m	5 m	20m	0 m	20 m	5 m	20 m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 15	Bot 13	Bot 17	Bot 17	Bot 11	Bot 16	Bot 18	Bot 9

Chlorophyll Data Sheet

Cruise: 2015-47

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Dates of Cruise:

Time and date acetone added: 11:50 a.m. 08 June 16 Analyst:

Time and date out of freezer: 9:54 a.m. 09 June 16

Time analysis started: 11:25 a.m. 09 June 16

495b lost w/ 1ml acetone
189a lost w/ 2ml acetone

Tamara 20ml: 77A, 78A

Sample #	Station	Vol filt	Vol acet		Rb		Ra	Comments
Stand-	by			1-	0.004			
STD			LOW	2-	12.062			
STD			HIGH	4-	65.321			
Blank				6-	0.004	8- + add	0.002	
142B	LC11	330	10	1-	14.101	2-	8.083	no DF
175A	LC09		10	3-	53.286	4-	32.892	no DF
176B	LC09		10	5-	57.022	6-	34.133	no DF
194A	LC06		10	7-	38.052	8-	24.071	no DF
194B	LC06		10	1-	38.776	2-	24.418	no DF
495B	41	(9?)	10	3-	120.086	4-	70.223	no DF
195B	LC06		10	5-	47.251	6-	28.191	no DF
143B	LC11		10	7-	13.327	8-	7.757	no DF
144B	LC11		10	1-	13.852	2-	7.967	no DF
125	LC12		10	3-	26.068	4-	15.259	no DF 1%
178B	LC09		10	5-	49.438	6-	30.096	no DF 5m
189A	LC08	(8?)	10	7-	40.632	8-	24.714	no DF
122	LC12		10	1-	10.839	2-	6.043	no DF 55%
123	LC12		10	3-	11.974	4-	6.635	no DF 30%
116A	LB16		10	5-	10.835	6-	6.131	no DF
187B	LC08		10	7-	40.208	8-	24.436	no DF
91A	LB12		10	1-	16.301	2-	9.911	no DF
94B	LB13		10	3-	15.322	4-	9.385	no DF
110A	LB14		10	5-	9.176	6-	5.389	no DF
112A	LB14		10	7-	11.635	8-	6.847	no DF
114A	LB15		10	1-	12.923	2-	7.349	no DF
93A	LB12		10	3-	14.101	4-	8.596	no DF
77A	LB11		20	5-	127.359	6-	70.363	DF=2 (10 ml of 20 ml added to add 10 ml acetone)
78A	LB11		20	7-	126.200	8-	71.231	
Stand-by				1-				
Std	Low			2-				
Std	High			4-				
Blank	by			6-		8-		

142B	175 A	176 B	194 A	194 B	495 b	195 B	143B
CHL	CHL	CHL	CHL	CHL	CHL	CHL	CHL
LC11	LC09	LC09	LC06	LC06	41	LC06	LC11
20m	20 m	10 m	20 m	20 m	10m	10 m	10m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 17	Bot 14	Bot 15	Bot 5	Bot 5	Bot 9	Bot 6	Bot 18

144B	125 100	178 B	189 A	127 136	123 127	116 A	187 B
CHL	CHL	CHL	CHL	CHL	CHL	CHL	CHL
LC11	LC12	LC09	LC08	LC12	LC12	LB16	LC08
5m	17.25m	5.10m	5 m	55%	30%	5 m	20 m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 19	Bot 22	Bot 17	Bot 11	Bot 19	Bot 23	Bot 2	Bot 9

91 A	94 B	110 A	112 A	114 A	93 A	77 A	78 A
CHL	CHL	CHL	CHL	CHL	CHL	CHL	CHL
LB12	LB13	LB14	LB14	LB15	LB12	LB11	LB11
20 m	5 m	20 m	5 m	250 m	5 m	10 m	5 m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 13	Bot 1	Bot 16	Bot 18	Bot 1	Bot 15	Bot 10	Bot 11

Chlorophyll Data Sheet

Cruise: 2015-47

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20ml: 77B 53A 67A 66B
41B 43A 41A 40A 33A

Dates of Cruise:

Time and date acetone added: 2:15pm 08 June 16

Analyst: Tamarac

Time and date out of freezer: 12:32 09 June 16

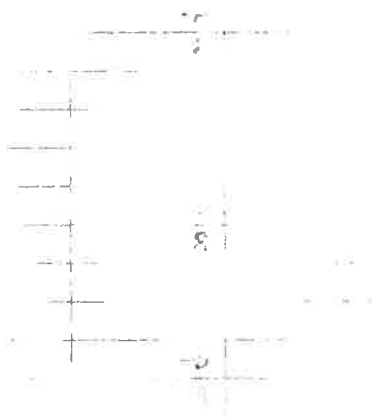
Time analysis started: 01:40 09 June 16

blank = 0.000 08 June 16
1st used acetone prepared

AB, 25B lost ~1ml acetone

Sample #	Station	Vol filt	Vol acet		Rb		Ra	Comments
Stand-	by			1-	0.000			
STD			LOW	2-	12.035			
STD			HIGH	4-	64.810			
Blank				6-	0.001	8-	0.002	
77B	LB11	330	20	1-	239.893	2-	131.768	no DF
76B	LB11		10	3-	31.915	4-	20.225	no DF
53A	LB08		20	5-	184.848	6-	101.057	no DF
67A	LB10		20	7-	217.985	8-	119.631	no DF
64A	LB09		10	1-	54.903	2-	34.865	no DF
66B	LB09		20	3-	133.729	4-	73.929	no DF
41B	LB06		20	5-	290.982	6-	155.867	no DF
65B	LB09		10	7-	250.127	8-	139.091	no DF
52A	LB08		10	1-	117.032	2-	63.988	1ml 1° + 2ml 90% acetone DF=3
51A	LB08		10	3-	98.892	4-	54.895	no DF
43A	LB07		20	5-	180.308	6-	97.610	1ml 1° + 1ml acetone DF=2 *
41A	LB06		20	7-	286.654	8-	155.307	no DF
40A	LB06		20	1-	193.725	2-	104.412	DF=2 same as *
33A	LB05		20	3-	260.330	4-	141.412	DF=2 same as *
32A	LB04		10	5-	118.943	6-	66.230	no DF
31A	LB04		10	7-	172.782	8-	95.774	DF=2 same as *
25B	LB03		10	1-	181.930	2-	101.124	no DF
24A	LB02		10	3-	202.114	4-	112.287	no DF
24B	LB02		10	5-	211.068	6-	118.063	no DF
23A	LB02		10	7-	185.884	8-	104.727	no DF
16B	LB01		10	1-	113.615	2-	65.670	no DF
18A	LB01		10	3-	187.955	4-	105.133	no DF
30A	LB04		10	5-	97.482	6-	56.861	no DF
17B	LB01		10	7-	175.574	8-	99.774	no DF
Stand-by				1-				
Std	Low			2-				
Std	High			4-				
Blank	by			6-		8-		

77 B	76 B	53 A	67	64 A	66 B	41 B	65 B
CHL	CHL	CHL	CHL A	CHL	CHL	CHL	CHL
LB11	LB11	LB08	LB10	LB09	LB09	LB06	LB09
10 m	20 m	5m	10m	20m	5m	5 m	10m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 10	Bot 9	Bot 9	Bot 1	Bot 7	Bot 9	Bot 8	Bot 8
52 A	51 A	43 A	41 A	40 A	33 A	32 A	31 A
CHL	CHL	CHL	CHL	CHL	CHL A	CHL	CHL
LB08	LB08	LB07	LB06	LB06	LB05	LB04	LB04
10m	20m	5m	5 m	10 m	5 m	5 m	10 m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 8	Bot 7	Bot 1	Bot 8	Bot 7	Bot 1	Bot 7	Bot 6
25 B	24 A	24 B	23 A	16 B	18 A	30 A	17 B
CHL	CHL	CHL	CHL	CHL	CHL	CHL	CHL
LB03	LB02	LB02	LB02	LB01	LB01	LB04	LB01
5 m	5 m	5 m	10 m	20 m	5 m	20 m	10 m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 1	Bot 5	Bot 5	Bot 4	Bot 2	Bot 4	Bot 5	Bot 3



Chlorophyll Data Sheet

Cruise: 2016-47

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Dates of Cruise:

Time and date acetone added: 16:20 08 June 2016

Analyst: Tamar

Time and date out of freezer: 3:05 pm 09 June 2016

Time analysis started: 4:16 pm 09 June 2016

20 ml: 67B 78B 53B 52B
48B 40B 33B

lost ~ 1 ml acetone: 67B 18B

Sample #	Station	Vol filt	Vol acet		Rb		Ra	Comments
Stand-	by			1-	-0.001			
STD			LOW	2-	11.891			
STD			HIGH	4-	64.972			
Blank				6-	0.003	8-	0.002	
144A	LC11	330	10	1-	13.495	2-	7.795	no DF
92A	LB12		10	3-	13.267	4-	8.173	no DF
67B	LB10		20	5-	211.575	6-	117.764	no DF
196A	LC06		10	7-	40957	8-	24.841	no DF
65A	LB09		10	1-	256.679	2-	142.220	no DF
66A	LB09		10	3-	256.637	4-	142.732	no DF
76A	LB11		10	5-	35.346	6-	22.236	no DF
78B	LB11		20	7-	259.993	8-	142.218	no DF
64B	LB09		10	1-	54.430	2-	34.260	no DF
53B	LB08		20	3-	177.471	4-	97.197	no DF
52B	LB08		20	5-	173.491	6-	95.012	no DF
51B	LB08		10	7-	96.795	8-	53.984	no DF
8B	JF2		10	1-	55.993	2-	32.005	no DF
10A	JF2		10	3-	44.076	4-	25.110	no DF
43B	LB07		20	5-	186.893	6-	100.090	10 ml L. soln + 10 ml acetone DF=2 *
7A	JF2		10	7-	30.267	8-	17.783	no DF
39B	LB06		10	1-	140.271	2-	77.256	DF=2 same as *
39A	LB06		10	3-	141.525	4-	77.539	same as 39B
40B	LB06		20	5-	191.149	6-	103.295	DF=2 same as *
33B	LB05		20	7-	263.635	8-	140.583	DF=2 same as *
32B	LB04		10	1-	116.030	2-	65.013	no DF
31B	LB04		10	3-	172.482	4-	93.826	DF=2 same as *
18B	LB01		10	5-	196.739	6-	109.614	no DF
20B	LB04		10	7-	96.159	8-	55.689	no DF
Stand-by				1-	0.002			
Std	Low			2-	11.904			
Std	High			4-	64.821			
Blank	by			6-	0.002	8-	0.001	

144A
CHL
LC11
5m
2016-47
Bot 19

92 A
CHL
LB12
10 m
2016-47
Bot 14

67 B
CHL
LB10
10m
2016-47
Bot 1

196 A
CHL
LC06
5 m
2016-47
Bot 7

65 A
CHL
LB09
10m
2016-47
Bot 8

66 A
CHL
LB09
5m
2016-47
Bot 9

76A
CHL
LB11
20 m
2016-47
Bot 9

78 B
CHL
LB11
5 m
2016-47
Bot 11

64 B
CHL
LB09
20m
2016-47
Bot 7

53 B
CHL
LB08
5m
2016-47
Bot 9

52 B
CHL
LB08
10m
2016-47
Bot 8

51 B
CHL
LB08
20m
2016-47
Bot 7

CHL Bb
JF2
10m
2016-47
Bot 8

CHL 10a
JF2
0
2016-47
Bot 10

43 B
CHL
LB07
5m
2016-47
Bot 1

CHL 7a
JF2
20m
2016-47
Bot 7

39 B
CHL
LB06
20 m
2016-47
Bot 6

39 A
CHL
LB06
20 m
2016-47
Bot 6

40 B
CHL
LB06
10 m
2016-47
Bot 7

33 B
CHL
LB05
5 m
2016-47
Bot 1

32 B
CHL
LB04
5 m
2016-47
Bot 7

31 B
CHL
LB04
10 m
2016-47
Bot 6

18 B
CHL
LB01
5 m
2016-47
Bot 4

30 B
CHL
LB04
20 m
2016-47
Bot 5

Chlorophyll Data Sheet

Cruise: 2016-47

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20ml: 277A 319A
279B 300A
300B

Dates of Cruise:

Time and date acetone added: 11:22 a.m. 09 June 16 Analyst: Tamarz

Time and date out of freezer: 10:36 a.m. 10 June 16

Time analysis started: 11:32 a.m. 10 June 16

Sample #	Station	Vol filt	Vol acet		Rb		Ra	Comments
Stand-	by			1-	0.003			
STD			LOW	2-	12.122			
STD			HIGH	4-	65.829			
Blank				6-	0.003	8- acid	0.002	
22B	LB02	330	10	1-	102.050	2-	58.155	no DF piece of kumquat in sa-
22A	LB02		10	3-	99.840	4-	56.799	no DF
25A	LB03		10	5-	195.917	6-	107.967	no DF
7B	JF2		10	7-	41.162	8-	23.609	no DF
8A	JF2		10	1-	61.687	2-	34.823	no DF
10B	JF2		10	3-	47.723	4-	26.837	no DF
16A	LB01		10	5-	121.770	6-	69.008	no DF
23B	LB02		10	7-	221.645	8-	122.369	no DF
17A	LB01		10	1-	206.709	2-	113.560	no DF
406B	CS02		10	3-	33.644	4-	20.322	no DF
359B	LPB7		10	5-	40.415	6-	23.377	no DF
337A	LPB5		10	7-	53.156	8-	31.850	no DF
358A	LPB7		10	1-	30.256	2-	19.410	no DF
304	AT1		10	3-	58.187	4-	33.033	100% no DF
300A	LG01		20	5-	119.272	6-	66.844	no DF
287B	LG04		10	7-	23.644	8-	14.678	no DF
279B	LG06		20	1-	95.701	2-	52.913	no DF
305	AT1		10	3-	113.377	4-	63.008	55% no DF
286A	LG04		10	5-	38.070	6-	23.862	no DF
300B	LG01		20	7-	112.483	8-	61.892	no DF
277A	LG06		20	1-	174.733	2-	94.092	no DF
294B	LG02		10	3-	73.715	4-	44.456	no DF
293A	LG02		10	5-	77.325	6-	50.197	no DF
319A	LPB3		20	7-	206.838	8-	113.770	no DF
Stand- by				1-				
Std	Low			2-				
Std	High			4-				
Blank	by			6-		8-		

22 B	22 A	25 A	CHL 7b	CHL 8a	CHL 10b	16 A	23 B
CHL	CHL	CHL	JF2	JF2	JF2	CHL	CHL
LB02	LB02	LB03	20m	10m	0	LB01	LB02
20 m	20 m	5 m	2016-47	2016-47	2016-47	20 m	10 m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 3	Bot 3	Bot 1	Bot 7	Bot 8	Bot 10	Bot 2	Bot 4

17 A	406b	359 B	337 A	358 A	304	300 A	287 B
CHL	CHL	CHL	CHL	CHL	CHL	CHL	CHL
LB01	CS02	LPB7	LPB5	LPB7	AT1	LG01	LG04
10 m	5	10m	20m	20m	100%	10m	10m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 3	Bot 20	Bot 20	Bot 17	Bot 19	Bot 17	Bot 4	Bot 8

279 B	305	286 A	300b	277 A	294 B	293 A	319 A
CHL	CHL	CHL	CHL	CHL	CHL	CHL	CHL
LG06	AT1	LG04	LG01	LG06	LG02	LG02	LPB3
5m	55%	20m	10m	20m	10m	20m	10m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 17	Bot 19	Bot 7	Bot 4	Bot 15	Bot 6	Bot 5	Bot 9

Chlorophyll Data Sheet

Cruise: 2016-47

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20ml: 200B 205B 214B
212A 221B 212B

Dates of Cruise:

Time and date acetone added: 1230 pm 09 June 16 Analyst: Tamara

Time and date out of freezer: 1235 pm 10 June 16

Time analysis started: 140 pm 10 June 16

Sample #	Station	Vol filt	Vol acet		Rb		Ra	Comments
Stand-	by			1-	0.000			
STD			LOW	2-	11.984			
STD			HIGH	4-	64.948			
Blank				6-	0.000	8- +acid	0.000	
254B	L008	320	10	1-7	254.629	2-8	142.110	no DF
288A	LG04		10	3-	21.328	4-	13.099	no DF
230B	L004		10	5-	106.858	6-	68.210	no DF
234	LD6.5		10	7-	70.871	8-	40.685	100% no DF
229B	L004		10	1-	69.785	2-	47.248	no DF
226A	L002		10	3-	276.312	4-	150.353	no DF
220B	LC01		20	5-	162.345	6-	88.369	DF=2.1ml 1° +10ml 90% acetone*
256A	L008		10	7-	63.335	8-	38.276	no DF
205B	LC04		20	1-	212.787	2-	120.035	no DF
214B	LC02		20	3-	251.965	4-	135.594	no DF
212A	LC02		20	5-	230.268	6-	124.713	no DF
196B	LC06		10	7-	40.694	8-	24.677	no DF
231A	L004		10	1-	77.223	2-	49.458	no DF
219B	LC01		10	3-	143.486	4-	90.483	no DF
221B	LC01		20	5-	261.010	6-	139.945	no DF
202B	LC02		20	7-	226.250	8-	121.570	no DF
211A	LC02		10	1-	183.275	2-	108.455	no DF
204B	LC04		10	3-	199.866	4-	117.077	no DF
278B	LG06		10	5-	282.452	6-	153.653	no DF
238	LD6.5		10	7-	72.529	8-	41.667	15% no DF
299A	LG01		10	1-	204.153	2-	119.139	no DF
339A	LP05		10	3-	94.200	4-	52.268	no DF
294A	LG02		10	5-	74.760	6-	45.438	no DF
293B	LG02		10	7-	68.519	8-	44.891	no DF
Stand-by				1-				
Std	Low			2-				
Std	High			4-				
Blank	by			6-		8-		

254 ^B	288 ^A	230 ^B	234 ^B 248	229 ^B	226 ^A	220 ^B	256 ^A
CHL	CHL	CHL	CHL	CHL	CHL	CHL	CHL
LD08	LG04	LD04	LD6.5	LD04	LD02	LC01	LD08
20m	5m	10 m	100%	20 m	5 m	10 m	5m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 15	Bot 9	Bot 4	Bot 17	Bot 3	Bot 5	Bot 6	Bot 17

205 ^B	214 ^B	212 ^A	196 ^B	231 ^A	219 ^B	221 ^B	212 ^B
CHL	CHL	CHL	CHL	CHL	CHL	CHL	CHL
LC04	LC02	LC02	LC06	LD04	LC01	LC01	LC02
10 m	5 m	10 m	5 m	5 m	20 m	5 m	10 m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 9	Bot 8	Bot 6	Bot 7	Bot 5	Bot 5	Bot 7	Bot 6

211 ^A	204 ^B	278 ^B	238 ^B 252	299 ^A	339 ^A	294 ^A	293 ^B
CHL	CHL	CHL	CHL	CHL	CHL	CHL	CHL
LC02	LC04	LG06	LD6.5	LG01	LPB5	LG02	LG02
20 m	20 m	10m	15%	20m	5m	10m	20m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 5	Bot 8	Bot 16	Bot 21	Bot 3	Bot 19	Bot 6	Bot 5

Chlorophyll Data Sheet

Cruise: 2016-47

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20 ml: 486B 481A

Dates of Cruise:

Time and date acetone added: 3:05pm 09 June 16

Analyst: Tanare

Time and date out of freezer: 2:20pm 10 June 16

Time analysis started: 3:25pm 10 June 16

lost ~1 ml acetone: 463B, 446B

Sample #	Station	Vol filt	Vol acet		Rb		Ra	Comments
Stand-	by			1-	0.002			
STD			LOW	2-	12.008			
STD			HIGH	4-	65.237			
Blank				6-	0.002	8- taud	0.002	
486B	38	330	20	1-	220.870	2-	120.239	no DF
484B	38		10	3-	23.468	4-	16.806	no DF
484A	38		10	5-	24.082	6-	17.650	no DF
481A	GEO1		20	7-	152.565	8-	87.179	no DF
476A	28		10	1-	26.624	2-	19.135	no DF
471A	28		10	3-	57.680	4-	35.876	no DF
472A	28		10	5-	85.311	6-	47.361	no DF
480A	GEO1		10	7-	30.591	8-	22.227	no DF
467A	24		10	1-	33.128	2-	23.524	no DF
480B	GEO1		10	3-	27.753	4-	19.879	no DF
469B	24		10	5-	70.355	6-	39.638	no DF
464B	22		10	7-	108.720	8-	63.027	no DF
463B	22		10	1-	38.300	2-	26.496	no DF
463A	22		10	3-	39.364	4-	27.038	no DF
455B	CPE1		10	5-	49.151	6-	27.055	no DF
454B	CPE1		10	7-	95.090	8-	58.184	no DF
453B	CPE1		10	1-	25.112	2-	17.735	no DF
450B	CPE2		10	3-	56.428	4-	37.713	no DF
452A	CPE2		10	5-	33.781	6-	20.422	no DF
451A	CPE2		10	7-	74.511	8-	43.486	no DF
449B	11		10	1-	57.365	2-	31.700	no DF
447B	11		10	3-	98.981	4-	55.541	no DF
446B	11		10	5-	40.992	6-	26.149	no DF
438B	14		10	7-	100.683	8-	54.490	no DF
Stand-by				1-	0.000			
Std	Low			2-	12.057			
Std	High			4-	65.101			
Blank	by			6-	0.006	8-	0.004	

486 t	484 t	484 a	481 a	470 a	472 a	480 a
CHL	CHL	CHL	CHL	CHL	CHL	CHL
38	38	38	GEO1	28	28	GEO1
0 m	20 m	20 m	10m	20 m	0 m	20m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 3	Bot 1	Bot 1	Bot 9	Bot 1	Bot 3	Bot 8

467 A	480 b	469 β	464 β	463 β	463 A	455 B	454 B
CHL	CHL	CHL	CHL	CHL	CHL	CHL	CHL
24	GEO1	24	22	22	22	CPF1	CPF1
20 m	20m	0 m	10m	20m	20m	0 m	10 m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 1	Bot 8	Bot 3	Bot 9	Bot 8	Bot 8	Bot 3	Bot 2

453 B	450 B	452	451 A	449 B	447 B	446 B	438 B
CHL	CHL	CHL A	CHL	CHL	CHL	CHL	CHL
CPF1	CPF2	CPF2	CPF2	11	11	11	14
20 m	20 m	0 m	10 m	0 m	10m	20	0 m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 1	Bot 1	Bot 3	Bot 2	Bot 11	Bot 9	Bot 8	Bot 3

Chlorophyll Data Sheet

Cruise: 2016-47

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9600
calibrated
to ~ 305

Dates of Cruise:

Time and date acetone added: June 13/16 10:45AM

Analyst: MEL

Time and date out of freezer: June 14/16 9:15AM

Time analysis started: 9:30

Sample #	Station	Vol filt	Vol acet		Rb		Ra	Comments
Stand-	by			1-	0.009			
STD			LOW	2-	17.416			
STD			HIGH	4-	68.023			
Blank				6-	0.014	8- 0.009		
320 A	LBP3	10	1-	134.896	2-	74.836		
337 B	LBP5	10	3-	46.432	4-	27.196		
255 B	LD08	10	5-	85.124	6-	51.778		
221 A	LC01	20	7-	272.027	8-	144.031		
254 A	LD08	20	1-	144.775	2-	80.131		
279 A	LG06	10	3-	188.856	4-	102.147		
288 B	LG04	10	5-	20.613	6-	12.454		
406 A	CS02	10	7-	34.255	8-	20.344		
358 B	LBP7	10	1-	26.311	2-	16.838		
360 A	LBP7	10	3-	46.517	4-	26.453		
237	LD6.5	10	5-	76.286	6-	43.277		
219 A	LC01	10	7-	150.117	8-	93.133		
286 B	LG04	10	1-	38.398	2-	24.072		
256 B	LD08	10	3-	55.591	4-	33.438		
230 A	LD04	10	5-	106.259	6-	65.439		
405 A	CS02	10	7-	32.513	8-	19.802		
277 B	LG06	20	1-	177.022	2-	95.415		
278 A	LG06	20	3-	144.157	4-	79.341		
236	LD6.5	10	5-	74.031	6-	42.696		
204 A	LC04	20	7-	110.013	8-	63.174		
231 B	LD04	10	1-	75.444	2-	48.757		
224 B	LD02	10	2-	210	4-	114.626	oops forgot to push 3	
225 B	LD02	10	5-	93.008	6-	51.450		
301 A	LG01	20	7-	117.143	8-	64.759		
Stand-by				1-				
Std	Low			2-				
Std	High			4-				
Blank	by			6-		8-		

320 A CHL LPB3 5m 2016-47 Bot 10	337 B CHL LPB5 20m 2016-47 Bot 17	255 B CHL LD08 10m 2016-47 Bot 16	221 A CHL LC01 5 m 2016-47 Bot 7	254 A CHL LD08 20m 2016-47 Bot 15	279 A CHL LG06 5m 2016-47 Bot 17	288 B CHL LG04 5m 2016-47 Bot 9	406A CHL CS02 5 2016-47 Bot 20	358 B CHL LPB7 20m 2016-47 Bot 19
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360 A CHL LPB7 5m 2016-47 Bot 21	237 204 CHL LD6.5 30% 2016-47 Bot 20	219 A CHL LC01 20 m 2016-47 Bot 5	286 B CHL LG04 20m 2016-47 Bot 7	256 B CHL LD08 5m 2016-47 Bot 17	230 A CHL LD04 10 m 2016-47 Bot 4	405 A CHL CS02 10 2016-47 Bot 19	277 B CHL LG06 20m 2016-47 Bot 15	278 A CHL LG06 10m 2016-47 Bot 16
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236 250 CHL LD6.5 55% 2016-47 Bot 19	204 A CHL LC04 20 m 2016-47 Bot 8	231 B CHL LD04 5 m 2016-47 Bot 5	224 B CHL LD02 20 m 2016-47 Bot 3	225 B CHL LD02 10 m 2016-47 Bot 4	301 A CHL LG01 5m 2016-47 Bot 5
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Chlorophyll Data Sheet

Cruise: 2016-47

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Dates of Cruise:

Time and date acetone added: June 13/16 12:00

Analyst: MEL

Time and date out of freezer: June 14/16 10:30

Time analysis started: 11:10

Sample #	Station	Vol filt	Vol acet		Rb		Ra	Comments
Stand-	by			1-	0.004			
STD			LOW	2-	12.146			
STD			HIGH	4-	66.163			
Blank				6-	0.016	8- 0.012		
386B	CS00		10	1-	8.723	2-	5.276	
319B	LBP3		20	3-	129.862	4-	104.377	
206B	LL04		20	5-	159.829	6-	89.592	
307	ATI		10	7-	180.441	8-	99.972	
224A	LD02		20	1-	98.992	2-	48.455	
211B	LL02		10	3-	179.315	4-	106.216	
TEST			10	5-	10.015	6-	6.350	Frozen 24 hrs with samples
TEST			10	7-	10.028	8-	6.493	" " " "
318A	LBP3		20	1-	170.420	2-	29.783	
339B	LBP5		10	3-	83.509	4-	46.551	
318B	LBP3		20	5-	236.070	6-	125.776	
359A	LBP7		10	7-	41.283	8-	23.981	
255A	LD08		10	1-	75.566	2-	46.746	
338A	LBP5		10	3-	147.797	4-	83.585	
225A	LD02		10	5-	29.8	6-	162.047	oops forgot 5
214A	LL02		20	7-	205.324	8-	109.866	
287A	LL04		10	1-	24.575	2-	14.853	
308	ATI		20	3-	126.637	4-	68.944	
229A	LD04		10	5-	68.447	6-	46.814	
385B	CS00		10	7-	8.712	8-	5.251	
384B	CS00		10	1-	19.960	2-	12.265	
404A	CS02		10	3-	40.405	4-	26.039	
338B	LBP5		10	5-	133.943	6-	76.414	
385A	CS00		10	7-	7.789	8-	4.701	
TEST				8-	8.941	8-	5.466	Soak n. 1/2 hr
TEST				8-	9.917	8-	6.123	" " "
Stand-by				1-				
Std	Low			2-				
Std	High			4-				
Blank	by			6-		8-		

386 B
CHL
CS00
2016-47
Bot 20

319 B
CHL
LPB3
10m
2016-47
Bot 9

206 B
CHL
LC04
5 m
2016-47
Bot 10

307
322
CHL
AT1
15%
2016-47
Bot 21

224 A
CHL
LD02
20 m
2016-47
Bot 3

211 B
CHL
LC02
20 m
2016-47
Bot 5

318 A
CHL
LPB3
20m
2016-47
Bot 8

339 B
CHL
LPB5
5m
2016-47
Bot 19

318 B
CHL
LPB3
20m
2016-47
Bot 8

359 A
CHL
LPB7
10m
2016-47
Bot 20

255 A
CHL
LD08
10m
2016-47
Bot 16

338 A
CHL
LPB5
10m
2016-47
Bot 18

225 A
CHL
LD02
10 m
2016-47
Bot 4

214 A
CHL
LC02
5 m
2016-47
Bot 8

287 A
CHL
LG04
10m
2016-47
Bot 8

307
323
CHL
AT1
18
2016-47
Bot 22

229 A
CHL
LD04
20 m
2016-47
Bot 3

385 B
CHL
CS00
2016-47
Bot 19

384 B
CHL
CS00
2016-47
Bot 18

404 A
CHL
CS02
20
2016-47
Bot 18

338 B
CHL
LPB5
10m
2016-47
Bot 18

385 A
CHL
CS00
2016-47
Bot 19

Chlorophyll Data Sheet

Cruise: 2016-47

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Dates of Cruise:

Time and date acetone added: June 13/16 2:15

Analyst: WTEL

Time and date out of freezer: June 14/16 12:45

Time analysis started: 1:10

Sample #	Station	Vol filt	Vol acet		Rb		Ra	Comments
Stand-	by			1-	0.002			
STD			LOW	2-	12.065			
STD			HIGH	4-	65.751			
Blank				6-	0.005	8-	0.004	
Loop 153			10	1-	79.513	2-	44.978	
454A	CPF1		10	3-	92.074	4-	56.516	
435A	Q151		10	5-	85.026	6-	47.625	
360B	13P7		10	7-	46.008	8-	25.975	
404B	CS02		10	1-	41.129	2-	25.814	
386A	CS00		10	3-	9.269	4-	5.551	
299B	LG01		10	5-	200.508	6-	117.553	
220A	LC01		20	7-	318.369	8-	172.284	
Loop 150			10	1-	31.948	2-	18.716	
486A	38		20	3-	217.458	4-	118.819	
436B	14		10	5-	231.039	6-	127.972	
384A	CS00		10	7-	20.497	8-	12.591	
320B	13P3		10	1-	133.715	2-	72.482	
301B	LG01		20	3-	107.734	4-	60.293	
234	LD6.5		10	5-	56.168	6-	31.940	
206A	LC01		20	7-	171.053	8-	96.569	
Loop 136			10	1-	36.200	2-	20.729	
436A	14		10	3-	220.736	4-	123.466	
468A	24		10	5-	110.713	6-	65.837	
295B	LG02		10	7-	71.654	8-	42.815	
306	AT1		10	1-	158.459	2-	187.123	
295A	LG02		10	3-	76.273	4-	44.692	
226B	LD02		20	5-	156.285	6-	84.849	
205A	LC04		20	7-	218.972	8-	123.259	
Stand-by				1-	0.003			
Std	Low			2-	12.146			
Std	High			4-	65.862			
Blank	by			6-	0.006	8- 0.004		

2016-47

CHL A

Loop 153

454 A

CHL

CPF1

10 m

2016-47

Bot 2

435 A

CHL

QCS1

5 m

2016-47

Bot 5

360 B

CHL

LPB7

5m

2016-47

Bot 21

404 A

CHL

CS02

20

2016-47

Bot 18

386 A

CHL

CS00

2016-47

Bot 20

299 B

CHL

LG01

20m

2016-47

Bot 3

220 A

CHL

LC01

10 m

2016-47

Bot 6

2016-47

CHL B

Loop 150

486 A

CHL

38

0 m

2016-47

Bot 3

436 B

CHL

14

20 m

2016-47

Bot 1

384 A

CHL

CS00

2016-47

Bot 18

320 B

CHL

LPB3

5m

2016-47

Bot 10

301 B

CHL

LG01

5m

2016-47

Bot 5

239 253

CHL

LD6.5

18

2016-47

Bot 22

206 A

CHL

LC04

5 m

2016-47

Bot 10

2016-47

Loop 136

CHL B

436 A

CHL

14

20 m

2016-47

Bot 1

468 A

CHL

24

10 m

2016-47

Bot 2

295 B

CHL

LG02

5m

2016-47

Bot 7

321 306

CHL

AT1

308

2016-47

Bot 20

295 A

CHL

LG02

5m

2016-47

Bot 7

226 B

CHL

LD02

5 m

2016-47

Bot 5

205 A

CHL

LC04

10 m

2016-47

Bot 9

470B beached at ml acetone
494b

Chlorophyll Data Sheet

Cruise: 2016 47

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Dates of Cruise:

Time and date acetone added: 22 June 2016 1123 am Analyst: TF

Time and date out of freezer: 23 June 2016 0927 am 20ml: 483A

Time analysis started: 23 June 2016 1056 am

June 2016 prep 90% acetone

Sample #	Station	Vol filt	Vol acet		Rb		Ra	Comments
Stand-	by			1-	0.002			
STD			LOW	2-	12.251			
STD			HIGH	4-	66.135			
Blank				6-	0.002	8-	0.001	
485A	38	330	10	1-	56.299	2-	35.128	no DF
470B	28		10	3-	30.366	4-	21.238	no DF
471B	28		10	5-	59.301	6-	36.472	no DF
485B	38		10	7-	56.607	8-	35.412	no DF
467B	24		10	1-	34.732	2-	24.608	no DF
494B	41		10	3-	27.921	4-	19.408	no DF
472B	28		10	5-	79.088	6-	44.360	no DF
483A	GEO1		20	7-	70.200	8-	38.963	no DF
LOOP 135			10	1-	53.632	2-	30.461	no DF
LOOP 141			10	3-	18.163	4-	10.632	no DF
437B	14		10	5-	142.671	6-	79.765	no DF
LOOP 175			10	7-	68.669	8-	40.096	no DF
LOOP 174			10	1-	175.482	2-	97.607	no DF
LOOP 170			10	3-	83.264	4-	46.227	no DF
466B	22		10	5-	65.255	6-	35.948	no DF
453A	CPE1		10	7-	26.725	8-	19.069	no DF
458A-483A	14		10	1-	104.060	2-	did not read	no DF
434A	QCSI		10	3-	107.366	4-	59.036	no DF
433A	QCSI		10	5-	185.298	6-	103.575	no DF
435B	QCSI		10	7-	82.563	8-	45.711	no DF
LOOP 135			10	1-	54.806	2-	31.725	no DF
LOOP	140B		10	3-	15.932	4-	9.366	no DF
428A	CS09		10	5-	57.994	6-	31.679	no DF
LOOP 150			10	7-	32.205	8-	18.955	no DF
Stand- by				1-				
Std	Low			2-				
Std	High			4-				
Blank	by			6-		8-		

485 a	470 b	485 b	467 b	494 b	472 b	483 a
CHL	CHL	CHL	CHL	CHL	CHL	CHL
38	28	38	24	41	28	GEO1
10 m	20 m	10 m	20 m	20	0 m	0 m
2016-47	2016-47	2016-47	2016-47	2016-47	2016-47	2016-47
Bot 2	Bot 1	Bot 2	Bot 1	Bot 8	Bot 3	Bot 11

2016-47	2016-47	437	2016-47	2016-47	2016-47	466 b	453 a
Loop 135	Loop 141	CHL B	Loop	CH1 B	CH1 A	CHL	CHL
CH1 A	CH1 A	14	175	CH1 B	CH1 A	22	CPF1
		10 m	CHL A	Loop 174	Loop 176	0 m	20 m
		2016-47				2016-47	2016-47
		Bot 2				Bot 11	Bot 1

438	438 a	433 a	435 b	2016-47	2016-47	428 a	2016-47
CHL A	CHL	CHL	CHL	Loop 135	CH1 B	CHL	CH1 A
14	QCS1	QCS1	QCS1	CH1 B	CH1 B	CS09	CH1 A
0 m	10 m	20 m	5 m	CH1 B	CH1 B	10	Loop 150
2016-47	2016-47	2016-47	2016-47	CH1 B	CH1 B	2016-47	Loop 150
Bot 3	Bot 5	Bot 4	Bot 6	CH1 B	CH1 B	Bot 10	Loop 150

Chlorophyll Data Sheet

Cruise: 2016-47

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last v0.5ml acetone: 451B

Dates of Cruise:

Time and date acetone added: 22 June 2016 118pm

Analyst: TF

Time and date out of freezer: 23 June 2016 1125am

Time analysis started: 23 June 2016 1250pm

Sample #	Station	Vol filt	Vol acet		Rb		Ra	Comments
Stand-	by			1-	0.000			
STD			LOW	2-	12.111			
STD			HIGH	4-	65.435			
Blank				6-	0.002	8-	-0.002	
451B	CPF2	330	10	1-	77.436	2-	44.631	no DF 10 reading
468B	24		10	3-	122.910	4-	72.780	no DF
469A	24		10	5-	68.713	6-	38.073	no DF
455A	CPF1		10	7-	47.291	8-	26.117	no DF
464A	22		10	1-	99.843	2-	58.041	no DF
481B	GEO1		10	3-	141.128	4-	80.511	DF added 10ml to oil 571 10ml
483B	GEO1		10	5-	135.855	6-	75.338	no DF
466A	22		10	7-	65.131	8-	36.220	no DF
LOOP	175B		10	1-	70.655	2-	40.860	no DF
450A	CPF2		10	3-	56.563	4-	37.593	no DF
449A	11		10	5-	57.121	6-	31.366	no DF
447A	11		10	7-	97.087	8-	53.364	no DF
446A	11		10	1-	39.376	2-	24.861	no DF
452B	CPF2		10	3-	33.286	4-	19.656	no DF
437A	14		10	5-	142.004	6-	79.634	no DF
LOOP 174			10	7-	177.371	8-	99.724	no DF
LOOP 170	B		10	1-	81.112	2-	45.306	no DF
LOOP 118	B		10	3-	16.406	4-	9.834	no DF
410B	CS04		10	5-	70.360	6-	44.240	no DF
427B	CS09		10	7-	198.998	8-	109.938	no DF
410A	CS04		10	1-	66.464	2-	41.043	no DF
418B	CS06		10	3-	55.658	4-	30.438	no DF
411B	CS04		10	5-	95.299	6-	55.075	no DF
418A	CS06		10	7-	57.398	8-	31.476	no DF
Stand- by				1-				
Std	Low			2-				
Std	High			4-				
Blank	by			6-		8-		

451 ^B CHL CPF2 10 m 2016-47 Bot 2	468 ^B CHL 24 10 m 2016-47 Bot 2	469 ^A CHL 24 0 m 2016-47 Bot 3	455 ^A CHL CPF1 0 m 2016-47 Bot 3	464 ^A CHL 22 10m 2016-47 Bot 9	481 ^b CHL GEO1 10m 2016-47 Bot 9	483 ^b CHL GEO1 0 m 2016-47 Bot 11	466 ^A CHL 22 0m 2016-47 Bot 11
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2016-47 LOOP 175 CHL ^B	450 ^A CHL CPF2 20 m 2016-47 Bot 1	449 ^A CHL 11 0 m 2016-47 Bot 11	447 ^A CHL 11 10m 2016-47 Bot 9	446 ^A CHL 11 20 2016-47 Bot 8	452 ^B CHL CPF2 0 m 2016-47 Bot 3	437 ^A CHL 14 10 m 2016-47 Bot 2	2016-47 CHL ^A LOOP 174
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2016-47 CL10 Loop 170	LOOP 118 ^B CHL 2016-47	410 ^B CHL CS04 20 m 2016-47 Bot 5	427 ^B CHL CS09 20 2016-47 Bot 9	410 ^A CHL CS04 20 m 2016-47 Bot 5	418 ^B CHL CS06 5 2016-47 Bot 6	411 ^B CHL CS04 10 m 2016-47 Bot 6	418 ^A CHL CS06 5 2016-47 Bot 6
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Chlorophyll Data Sheet

Cruise: 2016
2015-47

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Dates of Cruise:

Time and date acetone added: 22 June 2016 4:06pm Analyst: TF

Time and date out of freezer: 23 June 2016 2:35pm

Time analysis started: 23 June 2016 3:51pm

Sample #	Station	Vol filt	Vol acet		Rb		Ra	Comments
Stand-	by			1-	0.000			
STD			LOW	2-	12.030			
STD			HIGH	4-	65.109			
Blank				6-	0.003	8-	-0.000	
428B	C509	330	10	1-	61.022	2-	33.323	no DF
434B	QCS1		10	3-	110.880	4-	60.954	no DF
433B	QCS1		10	5-	173.881	6-	97.813	no DF
LOOP 153	B		10	7-	81.131	8-	46.440	no DF
LOOP 136	A		10	1-	36.854	2-	21.285	no DF
LOOP 140	A		10	3-	16.981	4-	10.061	no DF
429B	C509		10	5-	57.212	6-	31.246	no DF
429A	C509		10	7-	59.098	8-	32.593	no DF
416B	C506		10	1-	85.370	2-	52.044	no DF
LOOP 118A			10	3-	15.662	4-	9.494	no DF
412A	C504		10	5-	85.197	6-	47.267	no DF
427A	C509		10	7-	202.785	8-	112.282	no DF
411A	C504		10	1-	99.317	2-	58.031	no DF
417A	C506		10	3-	79.016	4-	43.781	no DF
417B	C506		10	5-	84.033	6-	46.048	no DF
LOOP 141	B		10	7-	19.486	8-	11.553	no DF
412B	C504		10	1-	91.250	2-	50.009	no DF
416A	C506		10	3-	85.924	4-	52.597	no DF
405B	C502		10	5-	31.700	6-	19.349	no DF
				7-		8-		
				1-		2-		
				3-		4-		
				5-		6-		
				7-		8-		
Stand- by				1-	0.000			
Std	Low			2-	12.060			
Std	High			4-	65.116			
Blank	by			6-	-0.000	8-	-0.001	

428 B
CHL
CS09
10
2016-47
Bot 10

434 B
CHL
QCS1
10 m
2016-47
Bot 5

436 B
CHL
QCS1
20 m
2016-47
Bot 4

2016-47
CHL
Loop 53

2016-47
Loop 136
CHL

Loop
140 A
CHL
2016-47

429 B
CHL
CS09
5
2016-47
Bot 11

429 A
CHL
CS09
5
2016-47
Bot 11

416 B
CHL
CS06
20
2016-47
Bot 4

Loop
118 A
CHL
2016-47

412 f
CHL
CS04
5 m
2016-47
Bot 7

427 A
CHL
CS09
20
2016-47
Bot 9

411 f
CHL
CS04
10 m
2016-47
Bot 6

417 A
CHL
CS06
10
2016-47
Bot 5

417 B
CHL
CS06
10
2016-47
Bot 5

2016-47
Loop 141
CHL B

412 b
CHL
CS04
5 m
2016-47
Bot 7

416 A
CHL
CS06
20
2016-47
Bot 4

405R
CHL
CS02
10
2016-47
Bot 19