

2009-20

INSTITUTE OCEAN SCIENCES-OSAP

Autosal Analysis Sheet

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Standby before calibration:					Date: 23 Sept 09			
after calibration:			Salinometer		Analyst: K. Young			
Vial Infor.:	K ₁₅ = 0.99978		Model #	8400B	Bath temp.:	24	1AP Standard run 22 Sept 09 by Glenn - 2009-21 samples	
	Batch # P150		Serial #	69086	Sample temp.:	22?		
	Batch Date: 22 May 08		Zero:	0.0001	Room temp.:	22.0		
			Autosal Conductivity Reading					
Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
deepwater	CB-315	var	1.99730	1.99732				
47	CABOS		1.99491	1.99493				
48	CABOS		1.99437	1.99436				
49	CABOS		1.99396	1.99397				
50	CABOS		1.99361	1.99363				
51	CABOS		1.99319	1.99322	1.99318			temp sample 17°C
52	CABOS		1.99257	1.99257				(after reading)
53	CABOS		1.99176	1.99179	1.99178			
54	CABOS		1.99102	1.99101				temp sample = 17.5°C
55	CABOS		1.99103	1.99102				
56	CABOS		1.98803	1.98802				
57	CABOS		1.98585	1.98586				
58	CABOS		1.98226	1.98225	1.98225			
59	CABOS		1.97282	1.97282				
60	CABOS		1.95132	1.95130	1.95129			
61	CABOS		1.93550	1.93548				
62	CABOS		1.91976	1.91979	1.91977			
63	CABOS		1.90553	1.90550	1.90552			
64	CABOS		1.89401	1.89401				leaky plug
65	CABOS		1.88238	1.88238				
66	CABOS		1.87391	1.87391				
67	CABOS		1.84200	1.84202	1.84201			
68	CABOS		1.77713	1.77714				
69	CABOS		1.65145	1.65145				
70	CABOS		1.60323	1.60324				

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INSTITUTE OF OCEAN SCIENCES-OSAP

Autosal Analysis Sheet

Job: 2

before calibration: 24 6092

Date: 23 Sept 09

after calibration: calibration not run

Analyst: Glenn Cooper

Vial Info: K₁₅ = 0.99978

Model # 8400B

Bath temp.: 24

Was going to recalibrate Autosal with new TAPRO std however they were stored on the floor so too cold to provide reliable measure. Used Deepwater CB-316 standard to measure reproducibility. Value based on TAPRO std run on 22 Sept 09 for June 6092 final sample.

Batch # P150

Serial # 69086

Sample temp.: ~22.0

Batch Date: 22 May 03

Zero: 0.00001

Room temp.: 22.0

Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
Deepwater Std	CB-316		1.99730	1.99724	1.99730		34.9464 OK	Used as internal first standard for calibration
71	CB-316		1.99781	1.99780				
72	CB-316		1.99779	1.99781				
73	CB-316		1.99610	1.99608				
74	CB-316		1.99500	1.99502				
75	CB-316		1.99436	1.99434				
76	CB-316		1.99364	1.99363				
77	CB-316		1.99273	1.99273				
78	CB-316		1.99176	1.99178				
79	CB-316		1.99113	1.99114				
80	CB-316		1.99072	1.99073				
81	CB-316		1.99012	1.99010				
82	CB-316		1.98563	1.98566				
83	CB-316		1.98127	1.98128				
84	CB-316		1.97188	1.97188				
85	CB-316		1.95274	1.95274				
86	CB-316		1.92921	1.92917				
87	CB-316		1.90862	1.90863				Sample Temp 19.2°C
88	CB-316		1.89594	1.89392				
89	CB-316		1.89702	1.89205				
90	CB-316		1.86666	1.86668				
91	CB-316		1.78907	1.78910				
93	CB-316		1.64020	1.64018				bottle only 2/3's full
94	CB-316		1.56122	forgot to record	1.56122			(end of cruise) took 3rd reading
Deepwater Std	CB-316		1.99731	1.99733				
119	CB-22		1.99799	1.99801				
120	CB-22		1.99806	1.99802				

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Autosal Analysis Sheet

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before calibration: 24.6092

Date: 23 Sept 2009

after calibration: calibration not run

Analyst: Glenn Cooper

Vial Info:

K₁₅ =Basal upon
calibration
done Sept 21/09

Model #

8400 B

Bath temp.: 24

Batch #

Serial #

69086

Sample temp.: ~20°C

Batch Date:

Zero:

0 00001

Room temp.: 22.5

Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
121	CB22		1.99786	1.99782				
122	CB22		1.99738	1.99733				
123	CB22		1.99604	1.996001			Same sal bottle.	Meant to take a 3rd read so redid measurement.
123	CB22		1.99603	1.99605				
124	CB22		1.99446	1.99445				
125	CB22		1.99360	1.99359				
126	CB22		1.99328	1.99331				
127	CB22		1.99273	1.99271				
128	CB22		1.99243	1.99245				
129	CB22		1.99161	1.99159				
130	CB22		1.99033	1.99036				19.7°C Sample temp.
131	CB22		1.98644	1.98645				
132	CB22		1.98246	1.98245				
133	CB22		1.95200	1.95200				
134	CB22		1.93610	1.93612				
135	CB22		1.91772	1.91771				
136	CB22		1.90479	1.90480				
137	CB22		1.88294	1.88293				
138	CB22		1.86888	1.86885				
139	CB22		1.78103	1.78102				
140	CB22		1.72233	1.72229				
141	CB22		1.59239	1.59233	1.59231			
142	CB22		1.51080	1.51080				last sample in case
Deepwater Std CB-316			1.99780	1.99733	1.99734			Took 3 measures for std
139	CB9-07		1.99795	1.99795				Didn't notice that there were two samples!!
140	CB9-07		1.99794	1.99792				19.6°C Sample temp.
140	CB9-07		1.99788	1.99793				

★ 2009-21 Samples

1.99956

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EARTH SCIENCES-OSAP

Autosal Analysis Sheet

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before calibration: 24.6092

Date: 24 Sept 09

after calibration:

Analyst: Kelly Young

Vial Info: K₁₅ = 0.99978

Model # 8400B

Bath temp.: 24

Batch # P150

Serial # 69086

Sample temp.: 18.5-19

Batch Date: 22 May 08

Zero: 0.0001

Room temp.: 22.0

Autosal Calibration Data

Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
150	- disc card -		1.99978	1.99988	replaced	long tube for	short	trouble w/ bung - would not
			- std evaporated → M.D. says do			deepwater std	instead.	sat open 5 min seal
deepwater	CB-31b	var	1.99725	1.99726	1.99727			
1	AG-M		1.86113	1.86112				
2	AG-M		1.84598	1.84601	1.84604			
3	AG-M		1.83259	1.83262	1.83261			
4	AG-M		1.83256	1.83257				
5	AG-M		1.83257	1.83255				
6	AG-M		1.83253	1.83251	1.83251			
7	AG-M		1.83248	1.83251				
8	AG-M		1.83245	1.83244				
9	AG-M		1.83252	1.83254				
10	AG-M		1.83249	1.83252				
11	AG-M		1.83251	1.83249				
12	AG-M		1.83244	1.83244				
13	AG-M		1.83252	1.83253				
14	AG-M		1.83257	1.83254				
15	AG-M		1.83251	1.83254	1.83251			
16	AG-M		1.83257	1.83259				
17	AG-M		1.83249	1.83250				
18	AG-M		1.83259	1.83260				
19	AG-M		1.82673	1.82671				
20	AG-M		1.80792	1.80791				
21	AG-M		1.78347	1.78345	1.78347			plug bubbling before opening
22	Ab m		1.64013	1.64015				
deepwater	CB31b	VAR	1.99721	1.99722	1.99724			
24	SA405		1.99428	1.99430				

before calibration:

after calibration:

24+6092

Date: 2009-09-24

Analyst: MD

Vial 11for

 $K_{15} =$

Model #

Bath temp.: 24

Batch #

Serial #

69086

Sample temp.: 20.5

Batch Date:

Zero:

0+0000

Room temp.: 22

[illegible]

Autosal Analysis Sheet

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Standby	before calibration:		Salinometer		Date: SEPT 24/09		Analyst: H.M.	
	after calibration: 24+ 6092							
Vial Infor.:	K ₁₅ =		Model # 8400A		Bath temp.: 24			
	Batch #		Serial # 69096		Sample temp.: 22.5			
	Batch Date:		Zero: 0.0001		Room temp.: 22.5			
Autosal Conductivity Reading								
Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
95	CB23-A		1.99783	1.99787				
96			1.99785	1.99794	1.99797			
97			1.99738	1.99738				
98			1.99615	1.99615				
99			1.99447	1.99447				
100			1.99362	1.99363				
101			1.99212	1.99214				
102			1.99126	1.99126				
103			1.98879	1.98879				
104			1.98731	1.98730				
105			1.98145	1.98148				
106			1.97122	1.97120				
107			1.95350	1.95353				
108			1.93016	1.93016				
109			1.91245	1.91245				
110			1.89888	1.89888				
111			1.88397	1.88401				
112			1.86878	1.86881				
113			1.80499	1.80503				
114			1.74839	1.74839				
115			1.71334	1.71333				
116			1.60833	1.60833				NO CB23A-117
118			1.59575	1.59574				
CN #1			1.99970	1.99970				
			1.99982	1.99984				

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Autosal Analysis Sheet

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before calibration: 24.6092

Date: 25 Sept 09

after calibration:

Analyst: Kelly Young

Vial Info:

K₁₅ =

Model # 8400B

Bath temp.: 24

Batch #

Serial # 69086

Sample temp.:

Batch Date:

Zero:

Room temp.: 22.5

P150 std run by H.G. with
CB-23a (prev case)

Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
143	CB-27		1.99735	1.99735				temp after reading = 19.5
144	CB-27		1.99789	1.99789				leaky plug (slow drip)
145	CB-27		1.99798	1.99794	1.99797			
146	CB-27		1.99778	1.99778				
147	CB-27		1.99725	1.99724				
148	CB-27		1.99593	1.99594				plug not on fully - but sealed
149	CB-27		1.99433	1.99435				
150	CB-27		1.99349	1.99349				
151	CB-27		1.99265	1.99267				
152	CB-27		1.99221	1.99219				
153	CB-27		1.99138	1.99141				
154	CB-27		1.98870	1.98867				
155	CB-27		1.98627	1.98627				
156	CB-27		1.98082	1.98086	1.98085			
157	CB-27		1.97111	1.97112				
158	CB-27		1.95721	1.95723				plug not on fully - but sealed
159	CB-27		1.93830	1.93832				
160	CB-27		1.91683	1.91683				
161	CB-27		1.90847	1.90844	1.90844			
162	CB-27		1.88031	1.88034				
163	CB-27		1.87311	1.87312				leaky plug (slow drip)
164	CB-27		1.79341	1.79339				
165	CB-27		1.68978	1.68977				
166	CB-27		1.58600	1.58601				leaky plug (slow drip)
			1.49822	1.49824				leaky plug (fast drip)

Samples from counter beside Salinom:

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Autosal Analysis sheet

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before calibration: 24.6092

Date: Sept 25 / 2009

after calibration:

Analyst: Glenn Cooper

Vial Info:

K₁₅ =

Model #

8400 B

Bath temp.: 24

Batch #

Serial #

69086

Sample temp.:

Batch Date:

Zero:

0.00002

Room temp.: 22°C

Autosal Model # 8400 B

Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
Deepwater Sta CB-31b			1.99731	1.99733	1.99730			Too far from mooring for good measure
191	Sta-A		1.99770	1.99793				
192	Sta-A		1.99789	1.99791				
193	Sta-A		1.99772	1.99776				
194	Sta-A		1.99716	1.99717				
195	Sta-A		1.99584	1.99585				
196	Sta-A		1.99397	1.99398				
197	Sta-A		1.99330	1.99331				Plug not well sealed, cut through
198	Sta-A		1.99230	1.99231				
199	Sta-A		1.99149	1.99151				
200	Sta-A		1.99145	1.99145				
201	Sta-A		1.99029	1.99028				
202	Sta-A		1.98579	1.98580				
203	Sta-A		1.98061	1.98062				
204	Sta-A		1.95896	1.95899				
205	Sta-A		1.95106	1.95110				
206	Sta-A		1.92834	1.92837				
207	Sta-A		1.92981	1.92983				
208	Sta-A		1.91508	1.91507				
209	Sta-A		1.86798	1.86799				
210	Sta-A		1.86603	1.86605				
211	Sta-A		1.80859	1.80857				
212	Sta-A		1.72268	1.72271				
213	Sta-A		1.60669	1.60668				
214	Sta-A		1.48129	1.48127				End of case
215	CB-29		1.99785	1.99792	1.99800			Ver
Deepwater Sta CB-31b			1.99729	1.99730				Repeating standard

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Autosal Analysis Sheet

before calibration: 24+6091

after calibration: 24+6091

Date: Sept 25/09

Analyst: Glenn Cooper

Vial Info:

K₁₅ =

Batch #

Batch Date:

Model #

8400B

Bath temp.: 24

Serial #

69086

Sample temp.: 22

Zero:

Room temp.: 23.5

Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
216	CB-29		1.99793	1.99794				Plug not fully inserted
217	CB-29		1.99796	1.99738				
218	CB-29		1.99603	1.99600				
219	CB-29		1.99420	1.99420				
220	CB-29		1.99342	1.99343				
221	CB-29		1.99258	1.99259				
222	CB-29		1.99216	1.99215				
223	CB-29		1.99128	1.99125				
224	CB-29		1.99133	1.99132				
225	CB-29		1.99023	1.99023				
226	CB-29		1.98652	1.98655				Sample 22.1°C
227	CB-29		1.98180	1.98179				
228	CB-29		1.97274	1.97274				
229	CB-29		1.95748	1.95748				
230	CB-29		1.93548	1.93548				
231	CB-29		1.92060	1.92060	1.92064			erratic temp 3rd measure
232	CB-29		1.90477	1.90476				
233	CB-29		1.88300	1.88303				
234	CB-29		1.88203	1.88205				
235	CB-29		1.81110	1.81106				
236	CB-29		1.70847	1.70848				
237	CB-29		1.54258	1.54256				
238	CB-29		1.52424	1.52423				
deepwater std	CB-316		1.99734	1.99740	1.99742			Last 2
deepwater std	CB-316		1.99729	1.99734	1.99733			Numbers a bit high so ran another bottle

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Autosal Analysis sheet

Page: 12

before calibration: 24.6092

Date: 20 Sept 2009

after calibration: 24.6092

Analyst: Kelly / Hugh / Glenn

Vial Info: K₁₅ = 0.99978

Model # 8400B

Bath temp.: 24°C

Batch # P150.

Serial # 6986

Sample temp.:

Batch Date: 22/11/08

Zero: +0.00002

Room temp.: 21.5°C

29978 ± 0.0001

Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
Calibration Std				0.99978				0.9997848 is accepted
Repeatability Std CB-316			1.99720	1.99718	1.99718			
2	AG-A1		1.83262	1.83262				
6	AG-M		1.83249	1.83251				
22	AG-A1-001		1.63985	1.63982				
24	CABOS-002		1.99425	1.99427				
34	CABOS-002		1.90658	1.90654				
45	CABOS-002		1.62486	1.62484				
45	CABOS-002		1.62482	1.62485				Person 7 Error in Suppression reading disagree
48	CABOS-003		1.99429	1.99427				
55	CABOS-003		1.99692	1.99088				
62	CABOS-003		1.90552	1.90554				
83	CB-316-004		1.98120	1.98123				
93	CB-316-004		1.64046?	1.63996	1.63996			
72	CB-316-004		1.99766	1.99773	1.99773			
96	CB-23a-005		1.99783	1.99785				
104	CB-23a-005		1.98730	1.98729				
112	CB-23a-005		1.86866	1.86870				
129	CB-22-006		1.99165	1.99163				
220	CB-29-010		1.99348	1.99348				
211	Sta-009		1.80931	1.80925	1.80924			
200	Sta-009		1.99133	1.99140	1.99142			
195	Sta-009		1.99580	1.99579				
159	CB-27-007		1.91570	1.91571				
144	CB-27-007		1.99792	1.99795				
141	CB-22-006		1.59130	1.59086	1.59084			
120	CB-22-006		1.99786	1.99790				End of core

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Autosal Analysis Sheet

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before calibration: 24.6092

Date: 28 Sept 2009

after calibration: 24.6092

Analyst: Glenn Cooper

Vial Infor: K₁₅ = 0.99978

Model # 8400B

Bath temp.: 24°C

Batch # P150

Serial # 69086

Sample temp.:

Batch Date: 22 May 08

Zero: 1.00002

Room temp.: 22°C

Autosal Analysis Sheet

Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
deepwater sld CB-31b			1.99740	1.99737				
239	CB-28aa-011		1.87560	1.87560				
240	"		1.87547	1.87549				
241	"		1.87128	1.87128				
242	"		1.85488	1.85488				
243	"		1.98480	1.98484				
244	AK-1-012		1.95510	1.95513				
245	"		1.93961	1.93962				
246	"		1.91437	1.91436				
247	"		1.91578	1.91575				
248	"		1.89432	1.89434				
249	"		1.87402	1.87403				
250	"		1.83007	1.83009				
251	"		1.80791	1.80790				
252	"		1.73000	1.73000				
253	"		1.49480	1.49477				
254	AK-3-013		1.99362	1.99366				
255	"		1.99345	1.99351	1.99350			
256	"		1.99218	1.99219				
257	"		1.99166	1.99163				
258	"		1.99036	1.99038				
259	"		1.98742	1.98746				
260	"		1.98502	1.98502				End of case.
deepwater sld CB-31b			1.99720	1.99723	1.99724			
261	AK-3-013		1.98010	1.98009				
262	"		1.97165	1.97166				
263	"		1.95186	1.95185				

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Autosal Analysis sheet

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before calibration: 24.6072

after calibration: 24.6072

Date: 28 Sept 2009

Analyst: Glenn Cooper

Vial Info: K₁₅ = 099978

Batch # P150

Batch Date: 21 Aug 08

Model # 8400B

Bath temp.: 24°C

Serial # 69062

Sample temp.: 22.5°C

Zero: +0.00002

Room temp.: 22°C

Autosal Analysis

Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
264	AK-3-013		1.89326	1.89328				
265	"		1.90647	1.90646				strange # ↑ should have ↓
266	"		1.89354	1.89355				
267	"		1.88129	1.88127				
268	"		1.87363	1.87359				
269	"		1.82242	1.82247				
270	"		1.79829	1.79829				
271	"		1.70224	1.70222				Plug not fully inserted
272	"		1.49309	1.49307				
273	CB-286-014		1.99582	1.99588	1.99595			Erratic readings
274	"		1.99766	1.99763				
275	"		1.99420	1.99424				
276	"		1.99328	1.99317				
277	"		1.99178	1.99178				
278	"		1.99107	1.99107				
279	"		1.99104	1.99103				
280	"		1.98824	1.98823				
281	"		1.98576	1.98577				
282	"		1.98112	1.98114				
283	"		1.96987	1.96986				
284	"		1.95469	1.95469				End of case but due to the limited amount of deepwater standard and not in the standard until this station was completely analyzed
285	"		1.93086	1.93089				
286	"		1.90828	1.90827				
287	"		1.89909	1.89908				
289 (B)	"		1.86732	1.86733				Analyzed out of order but correct
288	"		1.88110	1.88109				Sample temp 22.6°C
290	"		1.83034	1.83036				

Autosomal Analysis Sheet

after calibration: 24 6092

Date: 28 Sept 2009

Analyst: Glenn Cooper

Batch # P150

Batch Date: 22 May 08

Model # 8400B

Bath temp.: 24

Serial # 69068

Sample temp.:

Zero: $+0.00002$

Room temp.: 22°C

[illegible]

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Autosal Analysis Sheet

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before calibration: 24.6092

Date: 29 Sept 09

after calibration: 24.6056 → 24.6074

Analyst: Glenn Cooper

Vial Info: K₁₅ = 0.99978

24.6074

Model # 9400B

Bath temp.: 24

Batch # P150

Serial # 69086

Sample temp.:

Batch Date: 26 Aug 08

0.999774

Zero: 0.00000

Room temp.: 22.5°C

Ran TAPSO std twice to calibrate but failed. So tried std standardize loads from 146 to 655. → 905

Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
P150 TAPSO std			1.99853	1.99855	1.99857			
Deep water std CR 316			1.99713	1.99713				1 st deep water standard
Deep water std CR-22			1.99855	1.99854				2 nd deep water standard
321	BL-2-016		1.94363	1.94367				
322	"		1.87914	1.87915				
323	"		1.87800	1.87899				
324	"		1.86313	1.86315				
325	"		1.72994	1.729294				
326	"		1.75062	1.75063				
327	"		1.71365	1.71365				
328			1.64420	1.64421				
297	BL6-015		1.99723	1.99727				
298	"		1.99669	1.99670				
299	"		1.99594	1.99592				
300	"		1.99470	1.99470				
301	"		1.99404	1.99401				
302	"		1.99333	1.99333				
303	"		1.99249	1.99249				
304	"		1.99175	1.99176				
305	"		1.99149	1.99150				
306	"		1.99084	1.99086				
307	"		1.98766	1.98765				
308	"		1.98527	1.98530				
309	"		1.98031	1.98031				
310	"		1.97124	1.97127				Relayed into Sal so needed longer to air the usual.
311	"		1.95182	1.95184				
312	"		1.92833	1.92835				

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Autosal Analysis Sheet

Page: 17

before calibration: 246074

Date: 29 Sept 09

after calibration: 246074

Analyst: Glenn Cooper

Vial Info: K₁₅ = 0.9978

Model # 8400B

Bath temp.: 24

Batch # P150

Serial # 69086

Sample temp.:

Batch Date: 22 May 02

Zero: 0.00000

Room temp.: 22.5

Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
313	BL-6-015		1.90781	1.90782				
314	"		1.89789	1.89789				
315	"		1.88086	1.88093	1.88090			
316	"		1.87145	1.87145				
317	"		1.82700	1.82700				
318	"		1.76890	1.76887				
319	"		1.66906	1.66907				
320	"		1.52509	1.52506				
Reequation Std	CB-31b		1.99707	1.99707				Last bottle of this standard
Reequation Std	CB-22		1.99751	1.99752				Dinner break / Sampling break
Reequation Std	CB-22		1.99751	1.99753				
329	BL-4-017		1.99304	1.99308				
330	"		1.99285	1.99288				
331	"		1.99188	1.99191				
332	"		1.99149	1.99153				
333	"		1.99108	1.99106	1.99112			Took extra 2nd reading.
334	"		1.98912	1.98910				
335	"		1.98682	1.98680				
336	"		1.98552	1.98554				
337	"		1.97966	1.97966				
338	"		1.97029	1.97037				
339	"		1.95253	1.95252				
340	"		1.92581	1.92581				
341	"		1.90834	1.90835				
342	"		1.90090	1.90093				
343	"		1.88420	1.88421				
344	"		1.87723	1.87722				

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Autosal Analysis Sheet

Page: 18

before calibration: 2416074

Date: 29 Sept 09

after calibration: 2416074

Analyst: Glenn Cowan

Vial Info: K₁₅ = 0.99978

Model # 84613

Bath temp.: 24

Batch # P150

Serial # 69086

Sample temp.:

Batch Date: 22 May 08

Zero: 0.0000

Room temp.: 22.5

Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
345	BL4-017		1.79934	1.79934				
346	BL4-017		1.79640	1.79639				
347	"		1.69952	1.69952				
348	"		1.59485	1.59485				
Deepwater std CB-22			1.99740	1.99740				Seems low can another - disregard
Deepwater std CB-22			1.99753	1.99755				This is close to previous readings
349	BL-8:018		1.99775	1.99773				
350	"		1.99753	1.99756				
351	"		1.99707	1.99711				
352	"		1.99570	1.99572				
353	"		1.99383	1.99383				
354	"		1.99315	1.99319				
355	"		1.99232	1.99233				
356	"		1.99149	1.99161				Troubles with bung don't trust values
357	"		1.99084	1.99083				
358	"		1.99016	1.99015				
359	"		1.98760	1.98759				
360			1.98529	1.98530				
361			1.98005	1.98004				
362			1.96904	1.96904				Temp 22.4°C
363			1.95693	1.95695				
364			1.93644	1.93646				
365			1.90855	1.90858				
366			1.89799	1.89700				
367			1.88108	1.88111				
368			1.86427	1.86426				
369			1.78446	1.78445				
370			1.72869	1.72870				
371			1.65865	1.65864				
372			1.53810	1.53811				
Deepwater std CB-22			1.99748	1.99750	1.99751			End of can

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Autosal Analysis Sheet

Page: 19

before calibration: 2416074

Date: 30 Sept 09

after calibration: 2416074

Analyst: Glenn Cooper

Vial Info: K₁₅ = 0.99978

Pot. Value = 3

Model # 8400B

Bath temp.:

Batch # P150

0.999776

Serial # 69086

Sample temp.:

Batch Date: 22 May 2008

Accepted

Zero: 0.00001

Room temp.:

Performed calibration with 4ABSO std.

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Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
P150 measured after cal.			1.99956	1.99958			34.9919	Actual salinity on sta = 34.991
Reproducible Std	CB-22		1.99950	1.999751				
390	CB-2; 020		1.99976	1.99976				
391	CB-2; 020		1.99970	1.99971				
392	CB-2; 020		1.99956	1.99959				
393	"		1.99690	1.99692				
394	"		1.99546	1.99580				
395	"		1.99369	1.99366				
396	"		1.99250	1.99253				Bubble in tube had to perform extra flush.
397	"		1.99099	1.99102				
398	"		1.99020	1.99020				
399	"		1.98732	1.98734				
400	"		1.98600	1.98601				
401	"		1.98126	1.98125				
402	"		1.97072	1.97072				
403	"		1.95437	1.95436				
404	"		1.93055	1.93055				
405	"		1.90567	1.90565				
406	"		1.89654	1.89658				
407	"		1.87953	1.87952				
408	"		1.86373	1.86373	1.86373			
409	"		1.82774	1.82775				
410	"		1.77639	1.77643				
411	"		1.62293	1.62292				
412	"		1.58284	1.58288				
413	"		1.42340	1.42339				End of cage.
Reproducible Std	CB-22		1.99950	1.99953				

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Autosal Analysis sheet

Page: 20

before calibration: 2416074

Date: 30 Sept 09

after calibration: 2416074

Analyst: Glenn Cooper

Vial Infor.: K₁₅ = 0.99978

Model # 8400B

Bath temp.:

Batch # P150

Serial # 69086

Sample temp.:

Batch Date: 22 May 08

Zero: 1.00001

Room temp.:

Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
419	CB-3; 021		1.99374	1.99377				Bottle #6 Draw #1
419	"		1.99376	1.99377				" Draw #2
	"		1.99377	1.99382	1.99385			" #3
	"		1.99378	1.99380				" #4
	"		1.99377	1.99377				" #5
	"		1.99378	1.99382				" #6
	"		1.99372	1.99372			Little leak space	" #7
	"		1.99369	1.99368			Almost no leak space	" #8
428	"		1.92909	1.92973			Usual amount of leakage	Bottle #15 Draw #1
	"		1.92950	1.92949				" 2
	"		1.92945	1.92945				" 3
	"		1.92920	1.92921				" 4
	"		1.92830	1.92833				" 5
	"		1.92833	1.92833				" 6
	"		1.92831	1.92831				" 7
	"		1.92820	1.92819				" 8
434	CB-3; 021		1.78503	1.78502				Bottle 21 Draw #1
	"		1.78493	1.78495				" #2
	"		1.78487	1.78487				" #3
	"		1.78480	1.78480				" #4
	"		1.78315	1.78318			Water at neck no leak space	" #5
	"		1.78318	1.78320				" #6
	"		1.78314	1.78316				" #7
	"		1.78323	1.78328				" #8
Deepwater Std			1.99750	1.99752				

Autosomal Analysis Sheet

Date: 1 Oct 09

Analyst: K. Young

 $K_{15} =$

Model # 8405B

Bath temp.: 24

Batch #

Serial # 69086

Sample temp.:

Batch Date:

Zero: 0.0000!

Room temp.: 23.0

Duplicates

[illegible]

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Autosal Analysis Sheet

Page: 23

before calibration: 24 6074

Date: 1 Oct 09

after calibration:

Analyst: K. Young

Vial Infor:

K₁₅ =

Model # 8400B

Bath temp.: 24

Batch #

Serial # 69086

Sample temp.: 21.5

Batch Date:

Zero: 0.00001

Room temp.: 23.0

calibration run Sept 30 20147
by G. Cooper.

Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
deepwater std CB-22			1.99750	1.99750	1.99751			
445	CB-4; 023		1.99777	1.99778				
446			1.99774	1.99779	1.99782			
447			1.99775	1.99775				
448			1.99772	1.99774				
449			1.99773	1.99776				slowly leaky plug
450			1.99775	1.99786	1.99785			
451			1.99773	1.99774				leaky plug
452			1.99771	1.99769				
453			1.99753	1.99753				
454			1.99748	1.99746				
455			1.99765	1.99766				
456			1.99736	1.99735				
457			1.99756	1.99759				
458			1.99692	1.99693				
459			1.99695	1.99694				
460			1.99645	1.99643				
461			1.99533	1.99533				
462			1.99439	1.99438				
463			1.99133	1.99134				
464			1.99043	1.99047	1.99047			
465			1.98810	1.98811				
466			1.90410	1.90409				
467			1.89288	1.89290				leaky plug
			1.56551	1.56550				

$$A.W \text{ ST}(\text{CNA}) = 1.99750 \quad 1.99760 \quad 1.99760$$

Standby before calibration: 24 +6074		Date: Oct 3/2009						
after calibration: 24 +6074		Analyst: Glenn Cooper						
Vial Infor.: K ₁₅ = 0.99978	Model # 9400B	Bath temp.: 24°C	Standard not run, Values based on K ₁₅ & IAPSO standard run on Oct 3/09					
Batch # P15D	Serial # 69086	Sample temp.: 22.5°C						
Batch Date: May 22/2008	Zero: 0.00000	Room temp.: 22.5°C						
Autosal Conductivity Reading			Salinity ppt					
Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
Depositor s/s CB-22			1.99753	1.99750				
540	CB-8-027		1.99770	1.99769				
541	"		1.99774	1.99776				
542	"		1.99754	1.99757				
543	"		1.99689	1.99685				
544	"		1.99531	1.99533				
545	"		1.99343	1.99342				
546	"		1.99267	1.99269				
547	"		1.99165	1.99162				
548	"		1.99153	1.99154				
549	"		1.98757	1.98752				
550	"		1.98615	1.98616				
551	"		1.98089	1.98090				
552	"		1.97243	1.97243				
553	"		1.95814	1.95815				
554	"		1.92580	1.92583				
555	"		1.90538	1.90535				
556	"		1.89253	1.89259	1.89268			
557	"		1.87898	1.87899				
558	"		1.86600	1.86600				
559	"		1.85118	1.85125	1.85137			
560	"		1.75280	1.75288	1.75285			
561	"		1.59587	1.59587				
562	"		1.53972	1.53970				
563	"		1.52377	1.52379				End
Depositor s/s CB-22			1.99743	1.99744				
Depositor s/s #3			1.99776	1.99780				

Depositor s/s #3

1.99784

1.99784

Standby before calibration: 2416074

Date: 30 Oct 2009

after calibration: 2416074

Salinometer

Analyst: Glenn Cooper

Vial Infor.: K₁₅ = 0.99978

Model # 8400B

Bath temp.:

Batch # PJD

Serial # 69086

Sample temp.:

Batch Date: May 22/09

Zero: 0.00000

Room temp.:

Autosal Conductivity Reading

Salinity ppt

Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
564	CB-9; 023		1.98766	1.98766				
565	"		1.98512	1.98516				
566	"		1.98022	1.98024				
567	"		1.97022	1.97031				
568	"		1.96304	1.96312	1.96312			
569	"		1.94944	1.94944				
570	"		1.92628	1.92631				
571	"		1.90509	1.905109				
572	"		1.89439	1.89444				
573	"		1.87797	1.87796				
575	"		1.84209	1.84215	1.84217			Dark mixed up in case
576	"		1.86390	1.86393				
576	"		1.82798	1.82799				
578	"		1.79056	1.79055				No 577 in case
579	"		1.72476	1.72475				
580	"		1.71221	1.71221				
581	"		1.69302	1.69304				
582	"		1.64682	1.64683				
583	"		1.64651	1.64652				
584	"		1.59588	1.59581				
585	"		1.54034	1.54032				
586	"		1.53675	1.53675				
Deepwater St	CB-22		1.99744	1.99748				
Deepwater St	23		1.99779	1.99779				
587	CB-9; 029		1.99774	1.99777				
588	"		1.99773	1.99773				
589	"		1.99773	1.99777				

zet

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LSSL

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[illegible]

[illegible]

Autosal Analysis

set

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Standby before calibration: 24.6074 - 75		Date: 3 Oct 09	
after calibration:		Analyst: Kelly Young	
Vial Infor.: K ₁₅ = 0.99978	Model # 8400B	Bath temp.: 24	IAPSO std run at start: cast 024 (CB-5)
Batch # P150	Serial # 69086	Sample temp.:	
Batch Date: 22 May 08	Zero: 0.0002	Room temp.: 22.0	

Autosal Conductivity Reading						Salinity ppt		
Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
Calibrate	P150		1.99997					
P150 - reading after cal			1.99958	1.99958	1.99968			
Deepwater std			1.99733	1.99733				
469	024; CB-5		1.99773	1.99773				
470			1.99773	1.99773				
471			1.99751	1.99754				
472			1.99687	1.99689				
473			1.99530	1.99537	1.99541			
474			1.99353	1.99359	1.99358			
475			1.99280	1.99280				
476			1.99155	1.99154				
477			1.99010	1.99010				
478			1.98735	1.98736				
479			1.98535	1.98540	1.98545	1.98550		
480			1.98005	1.98001				
481			1.97230	1.97233				
482			1.95407	1.95409				
483			1.92591	1.92593				
484			1.90522	1.90521				not very much headspace
485			1.89809	1.89810				"
486			1.88416	1.88416				"
487			1.86657	1.86655				" , leaky plug
488			1.84075	1.84077				
489			1.79076	1.79077				Filled to neck - little headspace
490			1.74950	1.74946				"
491			1.55580	1.55580				"
492			1.55561	1.55562				"

Autosomal Analysis

et 2009-20 LSSL

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[illegible]

Autosal Analysis

set

2009-20 LSSL

pg 1/2 cast 030

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Standby before calibration: 24.6074		Date: 4 Oct 09						
after calibration:		Analyst: Kelly Young						
Vial Infor.: K ₁₅ = 0.99978	Model # 8400B	Bath temp.: 24	cell rinsed w/ isoprop. due to bubbles forming during last run Rinsed MQ, old std water					
Batch # P150	Serial # 69086	Sample temp.: 21.1						
Batch Date: 22 May 08	Zero: 0.00001-2	Room temp.: 22.5						
Autosal Conductivity Reading						Salinity ppt		
Sample #	Station Id	Depth m	#1	#2	#3	Average	Computed	Remarks
P150			1.99976	1.99984	NOT ACCEPTED			after rinse bubble formed on 4 th electrode (on rt) - couldn't dislodge + bad std reading.
- rinsed	w/ dilute isopropyl, then			MQ, then	old deepwater std			
Deepwater std CB-22			1.99743	1.99743	1.99746			Check before running std
P150			1.99953	1.99955				Accepted 2 nd reading
P150 read after calibration			1.99956	1.99968				
Deepwater std CB-22			1.99749	1.99751				
611	030-CB-10		1.99770	1.99770				
612			1.99760	1.99758				
613			1.99713	1.99712				
614			1.99559	1.99568	1.99567			
615			1.99357	1.993558				sm bubble in 4 th electrode is back
Deepwater std #3			1.99776	1.99778				rinsed cell isopropyl, then MQ, old std then run std
616	030-CB-10		1.99289	1.99289				
617			1.99226	1.99225				
618			1.99184	1.99185				
619			1.99031	1.99034				sm bubble again 4 th elect. - can't dislodge w/ rinses
620			1.98621	1.98620				
621			1.98036	1.98035				
622			1.97042	1.97043				
623			1.95349	1.95349				
624			1.92534	1.92531				
625			1.90589	1.90587				
626			1.89375	1.89374				
627		1880	1.87979	1.87981				leaky plug - 1 st reading after 1 st rinse
628			1.86490	1.86491				

cont. next sheet

- going thru patchy ice - vibrating salinometer