

CCE-P1408 MOCNESS tows

Aug-2014
1 m2 frame, 202-µm [or 222?] mesh, URI Frame and sensors

new flowmeter calib (5 Aug 2014): 2.27 m/count

HAUL	CYCLE	TOW	DATE	Event No.	START TIME	END TIME	MAX DEPTH	DEPTH INTERVAL	Split	Fixative	Split	Fixative	COMMENTS
1	1	1	11 Aug 2014	92	13:45	14:48	171	30 m; then 15 m	50%	5% Formalin*	50%	95% Ethanol **	
2	1	2	11 Aug 2014	102	22:58	23:57	172	30 m; then 15 m	50%	5% Formalin*	50%	95% Ethanol **	
3	1	3	12 Aug 2014	123	16:33	18:13	427	100 m; then 50 m; then 25 m	50%	5% Formalin*	50%	95% Ethanol **	
4	1	4	12-13 Aug 2014	130	23:38	00:51	421	100 m; then 50 m; then 25 m	50%	5% Formalin*	50%	95% Ethanol **	
5	---	---	14 Aug 2014	168	14:50	16:55	252	230-160 m	100%	5% Formalin*	---	---	Strobe on/Strobe off comparison
6	---	---	14-15 Aug 2014	175	22:55	00:37	118	90-10 m	100%	5% Formalin*	---	---	Strobe on/Strobe off comparison
7	2	1	17 Aug 2014	221	15:41	17:02	418	100 m; then 50 m; then 25 m	50%	5% Formalin*	50%	95% Ethanol **	
8	2	2	18 Aug 2014	249	14:01	15:18	422	100 m; then 50 m; then 25 m	50%	5% Formalin*	50%	95% Ethanol **	
9	2	3	19-20 Aug 2014	280	22:56	00:29	408	100 m; then 50 m; then 25 m	50%	5% Formalin*	50%	95% Ethanol **	
10	2	4	20-21 Aug 2014	295	23:42	01:09	418	100 m; then 50 m; then 25 m	50%	5% Formalin*	50%	95% Ethanol **	
11	3	1	22 Aug 2014	327	13:25	14:40	413	100 m; then 50 m; then 25 m	50%	5% Formalin*	50%	95% Ethanol **	
12	3	2	22-23 Aug 2014	336	22:45	00:09	424	100 m; then 50 m; then 25 m	50%	5% Formalin*	50%	95% Ethanol **	
13	3	3	23 Aug 2014	357	13:22	14:43	418	100 m; then 50 m; then 25 m	50%	5% Formalin*	50%	95% Ethanol **	
14	3	4	23-24 Aug 2014	364	23:26	00:54	409	100 m; then 50 m; then 25 m	50%	5% Formalin*	50%	95% Ethanol **	
15	4	1	26 Aug 2014	423	14:11	15:47	418	100 m; then 50 m; then 25 m	50%	5% Formalin*	50%	95% Ethanol **	
16	4	2	27-28 Aug 2014	452	23:19	00:52	422	100 m; then 50 m; then 25 m	50%	5% Formalin*	50%	95% Ethanol **	
17	4	3	28 Aug 2014	471	13:26	16:18	433	400-300 m	100%	5% Formalin*	---	---	Strobe on/Strobe off comparison
18	4	4	29 Aug 2014	482	00:13	01:35	100	100-0 m	100%	5% Formalin*	---	---	Did not fix samples Nets 0,5 Strobe on/Strobe off comparison
19	5	1	30 Aug 2014	516	13:08	14:44	415	50 m; then 25 m	50%	5% Formalin*	50%	95% Ethanol **	no 400-300 m sample
20	5	2	31 Aug 2014	525	01:26	02:43	411	100 m; then 50 m; then 25 m	50%	5% Formalin*	50%	95% Ethanol **	
21	5	3	31 Aug 2014	544	13:28	16:23	427	400-300 m	100%	5% Formalin*	---	---	Strobe on/Strobe off comparison
22	5	4	31 Aug-1 Sep 2014	552	23:22	01:07	100	100-0 m	100%	5% Formalin*	---	---	Did not fix samples Nets 0,5 Strobe on/Strobe off comparison

*buffered w/ sodium tetraborate

**addition of 5 mM NH₄OH

	Manufacturer	Sensor	Haul_20 ->
Temp	Seabird	1164	0753
Conductivity	"	200	
Pressure	"	146	
O ₂	"	372	
Transmissometer	Wetlabs	399	
Fluorometer	"	231	

CYCLE AVERAGE
T,S,rho Flr,Trans.

		MOCNESS				Tow	Interval
		HAUL	Latitude	Longitude	Date-Time (GMT)	Duration (h)	betwn. Tows (d)
	1	start	34.6025	-120.8138	223.5727	1.05	
		stop	34.6355	-120.8559	223.6164		
	2	start	34.6692	-120.9483	223.9568	0.99	0.38
		stop	34.6953	-120.9986	223.9981		
	3	start	34.7674	-121.0954	224.6895	1.68	0.73
		stop	34.7834	-121.1662	224.7595		
	4	start	34.7617	-121.1675	224.9844	1.23	0.29
		stop	34.7854	-121.2129	225.0357		
circular tow 1.0 nm diam.	5	start	34.4258	-121.0361	226.6186	2.07	1.63
		stop	34.4377	-121.0285	226.7050		
circular tow start 1 nm diam. end 0.5 nm diam.	6	start	34.5196	-121.1738	226.9554	1.69	0.34
		stop	34.5185	-121.1652	227.0259		
	7	start	34.2196	-120.8340	229.6542	1.34	2.70
		stop	34.2413	-120.8686	229.7099		
	8	start	34.1174	-120.8838	230.5825	1.33	0.93
		stop	34.126	-120.9306	230.6381		
	9	start	34.0611	-120.9469	231.9550	1.58	1.37
		stop	34.0674	-121.0196	232.0207		
	10	start	34.0013	-120.8872	232.9874	1.46	1.03
		stop	34.0330	-120.9382	233.0482		
	11	start	34.3728	-121.3444	234.5587	1.27	1.57
		stop	34.4118	-121.3372	234.6115		
	12	start	34.3653	-121.2777	234.9481	1.37	0.39
		stop	34.3991	-121.3276	235.0050		
	13	start	34.3922	-121.1879	235.5573	1.35	0.61
		stop	34.4041	-121.2263	235.6136		
	14	start	34.3754	-121.1608	235.9758	1.49	0.42
		stop	34.4067	-121.2106	236.0377		
	15	start	33.5037	-122.5333	238.5914	1.59	2.62
		stop	33.5638	-122.5338	238.6576		
	16	start	33.5572	-122.4405	239.9729	1.52	1.38
		stop	33.6050	-122.4820	240.0364		
circular tow 0.5 nm diam. circular tow 0.5 nm diam.	17	start	33.5869	-122.4130	240.5591	2.88	0.59
		stop	33.5850	-122.4061	240.6791		
	18	start	33.6033	-122.3896	241.0094	1.35	0.45
		stop	33.6012	-122.3832	241.0659		
	19	start	32.8193	-123.8848	242.5470	1.60	1.54
		stop	32.8771	-123.9107	242.6136		
	20	start	32.8124	-123.8552	243.0595	1.29	0.51
		stop	32.8525	-123.8737	243.1133		
circular tow 0.5 nm diam.	21	start	32.8246	-123.8685	243.5613	2.92	0.50
		stop	32.8259	-123.8686	243.6828		
circular tow 0.5 nm diam.	22	start	32.8012	-123.8532	243.9744	1.74	0.41
		stop	32.8078	-123.8514	244.0469		

MOCNESS Data Sheet

Cruise CCE-P1408 Date 11 Aug 2014 Haul # 1 Cycle # 1 Tow # 1Wind Speed 6.7 (kts.) Direction 221 (°) Sea State 2-3 (ft.)File Name: Processed HAUL01 Raw _____Start Time 13:45 (PDT) End Time 14:48 (PDT)
223.572697 223.616424Lat 34° 36.144

Lat _____

Long 120° 48.806

Long _____

Event deploy # 92 Event rec. # 93Net Mesh 202 µmFrame Size 1 m²Bottom Depth 176 m. (m) Console Operator Ohman

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	13:45	56	595	1368	171	0		5% Form.		95% EtOH
1	14:12	52	215	461	150	120		5% Form.		95% EtOH
2	14:24	51	127	267	120	98		5% Form.		95% EtOH
3	14:30	51	39	79	98	90		5% Form.		95% EtOH
4	14:31	51	72	153	90	76		5% Form.		95% EtOH
5	14:34	45	112	267	76	59		5% Form.		95% EtOH
6	14:38	45	57	135	59	45		5% Form.		95% EtOH
7	14:41	45	51	118	45	29		5% Form.		95% EtOH
8	14:43	43	51	135	29	14		5% Form.		95% EtOH
9	14:46	44	28	70	14	0		5% Form.		95% EtOH
Closed	14:48									

Net response

✓

No

✓

✓

✓

✓

✓

✓

✓

✓

At Depth Data

wire out 351 (m)Time 14:14 (PDT)

Surface Data

Pressure 2.3 (m)Temp. 16.71 (°C)Salinity 33.46 (‰)O₂ 7.83 (ml/l)Fluoresc. 0.052 (V)Trans 0.3381 (m)Battery 21.1 (V)Notes: O₂ valves look too highMax 717man. advanced net indicators after Net 1;all others advanced correctly.1719.7733.874.030.0470.180120.9

Flow Counts Vol. (corr.)

Final

6071400.3

Initial

1232.65951367.7

Net 0

HAUL 01

Environmental Parameters

Net Operation

Net - Ship Position

Program Settings

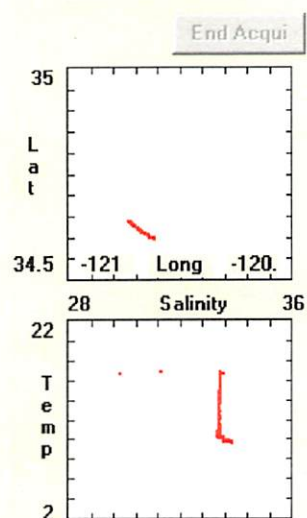
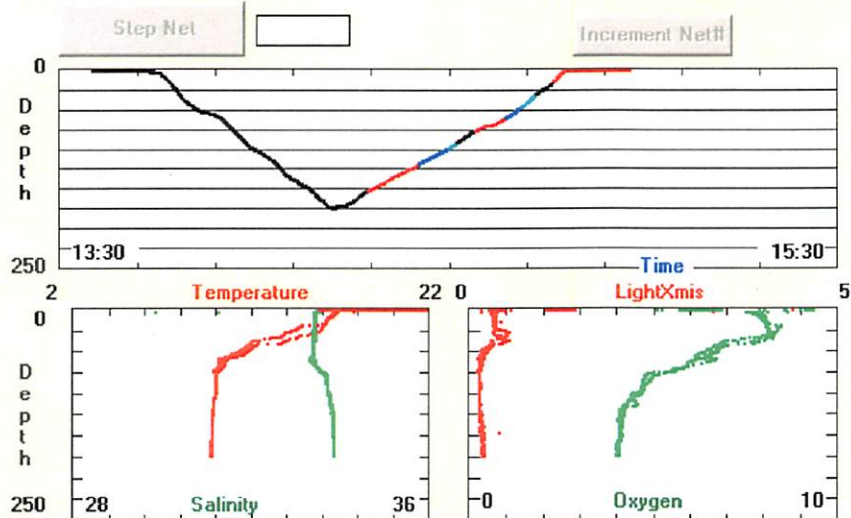
Time 14:57:49
Pressure 0.7 m
Temp 20.44 C
Salinity 50.0 o/oo
Density 36.13
Oxygen 6.02 ml/l
Fluoresc. 0.0458 V
LightXmis 1.0472 /m
Irradiance

Net_Num 9
OpenTime 11.5 min
Vol_Filtered 219.9 m3
Angle 64 deg
Flow_Counts 86
Hor_Vel 0.0 kts
Vert_Vel -0.2 m/min
Battery 20.6 V

Latitude 34N 38.465
Longitude 120W 51.91
Net_Dist 921.9 m
Total_Dist 7091.1 m

Pause Acqui
Reset
Baud Rate 2400
Sample Rate 4.0 sec
Printer Off

Processed File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL1.PRO
Raw File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL1.raw
Acquisition Ended. tries = 0



HAUL1.TAB

Tow: Haul01 CCE-LTER

Date: 11/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.0	173.4	077.4	09.7	22.8	13.1	09.7	22.8	13.1	00.32	50.00	37.13
1	118.0	150.5	134.4	09.8	09.9	09.8	09.8	09.9	09.8	33.82	33.86	33.85
2	097.7	117.4	107.7	09.9	10.0	09.9	09.9	10.0	09.9	33.77	33.83	33.79
3	089.7	096.8	093.4	10.0	10.0	10.0	10.0	10.0	10.0	33.74	33.75	33.74
4	075.9	089.7	082.7	10.0	10.1	10.0	10.0	10.0	10.0	33.71	33.74	33.73
5	058.8	075.4	068.1	09.9	10.4	10.2	09.9	10.3	10.2	33.45	33.70	33.53
6	045.6	058.9	052.5	10.2	11.6	10.9	10.2	11.6	10.9	33.38	33.45	33.43
7	029.9	044.7	037.4	11.6	13.8	12.4	11.6	13.8	12.4	33.38	33.42	33.40
8	014.4	029.1	022.4	13.8	16.3	14.6	13.8	16.3	14.6	33.40	33.45	33.42

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	-01.12	36.97	27.92	00.12	06.32	00.21	00.02	04.92	00.06	04.0	08.7	05.5
1	26.05	26.10	26.09	00.14	00.41	00.16	00.05	00.05	00.05	04.1	04.2	04.2
2	26.00	26.05	26.02	00.13	00.15	00.14	00.05	00.05	00.05	04.2	04.6	04.4
3	25.96	25.98	25.97	00.13	00.14	00.14	00.05	00.05	00.05	04.6	04.7	04.7
4	25.94	25.96	25.95	00.13	00.14	00.14	00.05	00.05	00.05	04.7	04.8	04.7
5	25.70	25.93	25.78	00.11	00.15	00.13	00.05	00.06	00.05	04.8	06.1	05.6
6	25.45	25.70	25.58	00.11	00.18	00.15	00.05	00.08	00.06	06.0	06.6	06.3
7	25.00	25.43	25.27	00.20	00.50	00.34	00.08	00.21	00.14	06.6	08.1	07.1
8	24.49	24.99	24.83	00.31	00.53	00.41	00.07	00.22	00.13	08.1	08.5	08.3

net#	irrmin	irrmax	irravg
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	64.0	40.2	00.0	02.0	01.0	-11.3	07.5	-03.5	00642	01504
1	49.0	53.0	50.9	01.9	02.2	02.0	02.5	06.2	04.2	00114	00389
2	49.0	53.0	50.9	01.9	02.0	02.0	02.5	06.4	04.4	00070	00228
3	49.0	52.0	50.2	01.9	02.0	02.0	04.1	06.4	05.5	00020	00067
4	50.0	52.0	50.7	01.9	02.0	02.0	04.5	06.4	05.4	00038	00125

							HAUL1.TAB					
5	44.0	51.0	47.5	01.6	02.0	01.8	01.0	07.4	03.5	00069	00218	
6	42.0	47.0	44.1	01.5	01.8	01.6	03.3	06.6	05.5	00037	00112	
7	42.0	45.0	43.1	01.5	01.8	01.6	05.4	08.5	07.0	00033	00096	
8	34.0	44.0	38.5	01.2	01.6	01.4	03.9	08.0	05.5	00039	00106	

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	223.564942	13:33:30	000.0	173.4	077.4	00642	01504
1	223.595694	14:17:48	118.0	150.5	134.4	00114	00389
2	223.600995	14:25:26	097.7	117.4	107.7	00070	00228
3	223.604294	14:30:11	089.7	096.8	093.4	00020	00067
4	223.605266	14:31:35	075.9	089.7	082.7	00038	00125
5	223.607083	14:34:11	058.8	075.4	068.1	00069	00218
6	223.610336	14:38:53	045.6	058.9	052.5	00037	00112
7	223.612095	14:41:25	029.9	044.7	037.4	00033	00096
8	223.613681	14:43:42	014.4	029.1	022.4	00039	00106
9	223.615532	14:46:21					

MOCNESS Data Sheet

Cruise CCE-P1408 Date 11 Aug 2014 Haul # 2 Cycle # 1 Tow # 2Wind Speed 8 (kts.) Direction 329 (°) Sea State 2-3 (ft.)File Name: Processed HAUL02 Raw _____Start Time 22:58 (PDT) End Time 23:57 (PDT)
223.956771 223.998125Lat 34° 40.17Lat 34.66921Long 120° 56.94Long 120.94826Event deploy # 102Event rec. # 103Bottom Depth 401 (m)Console Operator Ohman

Pre-deployment checks:

- ☒ Flow Meter
- ☐ Net Response
- ☒ Stepping Motor
- ☐ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

Net Mesh 202 µmFrame Size 1 m²

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	22:58	52	492	1,000	172	0		5% Form.		95% EtOH
1	23:23	51	276	587	149	120		5% Form.		95% EtOH
2	23:32	53	60	117	120	105		5% Form.		95% EtOH
3	23:34	51	156	330	105	91		5% Form.		95% EtOH
4	23:40	—	92	201	91	76		5% Form.		95% EtOH
5	23:43	49	89	194	76	61		5% Form.		95% EtOH
6	23:46	—	90	217	61	46		5% Form.		95% EtOH
7	23:50	40	58	146	46	29		5% Form.		95% EtOH
8	23:53	48	35	85	29	15		5% Form.		95% EtOH
9	23:55		34	93	15	0		5% Form.		95% EtOH
Closed	23:57									

At Depth Data

wire out 392 (m)Time 23:20 (PDT)

Notes:

~150-140 m - net dipped down; shear zone?

Surface Data

Pressure 2.8 (m)Temp. 16.92 (°C)Salinity 33.47 (‰)O₂ 7.82 (ml/l)Fluoresc. 0.0630 (V)Trans 0.3037 (fm)Battery 20.7 (v)172 Net kept just below surface on ascent9.5234.003.360.0470.139120.5

Flow counts Vol. (corr.)

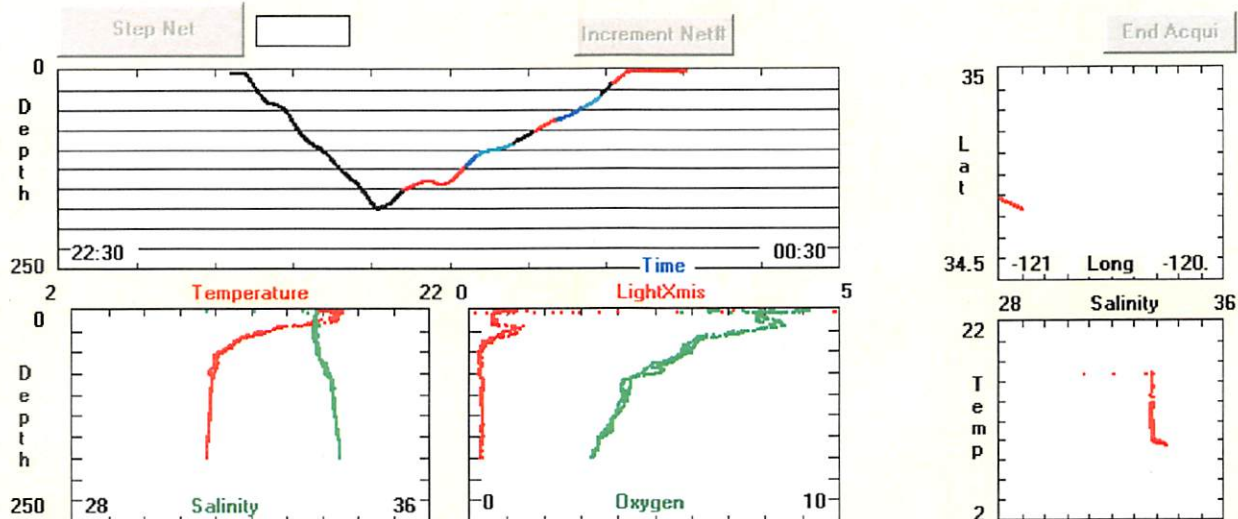
Final

5341115.2

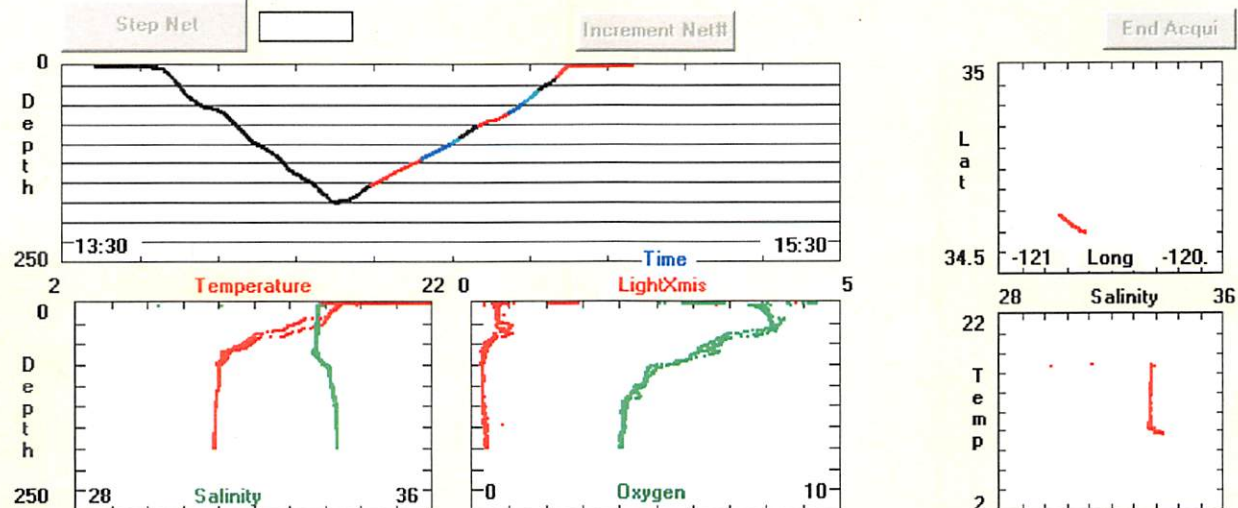
Initial

42115.5492999.7Net
Conf.

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	00:06:27	Net_Num	9	Latitude	34N 41.978	Pause Acqui	Reset
Pressure	0.9 m	OpenTime	11.1 min	Longitude	121W .3058	Baud Rate	2400
Temp	17.14 C	Vol_Filtered	168.2 m3	Net_Dist	924.9 m	Sample Rate	4.0 sec
Salinity	50.0 o/oo	Angle	64 deg	Total_Dist	6311.5 m	Printer	Off
Density	37.042	Flow_Counts	69	Processed File Name	C:\MOCNESS\MOCDATA\CCE-LTER\HAUL2.PRO		
Oxygen	6.49 ml/l	Hor_Vel	0.0 kts	Raw File Name	C:\MOCNESS\MOCDATA\CCE-LTER\HAUL2.raw		
Fluoresc.	0.0470 V	Vert_Vel	-0.6 m/min	Acquisition Ended. tries = 0			
LightXmis	0.5839 /m	Battery	20.3 V				
Irradiance							



Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	14:57:49	Net_Num	9	Latitude	34N 38.465	Pause Acqui	Reset
Pressure	0.7 m	OpenTime	11.5 min	Longitude	120W 51.91	Baud Rate	2400
Temp	20.44 C	Vol_Filtered	219.9 m3	Net_Dist	921.9 m	Sample Rate	4.0 sec
Salinity	50.0 o/oo	Angle	64 deg	Total_Dist	7091.1 m	Printer	Off
Density	36.13	Flow_Counts	86	Processed File Name	C:\MOCNESS\MOCDATA\CCE-LTER\HAUL1.PRO		
Oxygen	6.02 ml/l	Hor_Vel	0.0 kts	Raw File Name	C:\MOCNESS\MOCDATA\CCE-LTER\HAUL1.raw		
Fluoresc.	0.0458 V	Vert_Vel	-0.2 m/min	Acquisition Ended. tries = 0			
LightXmis	1.0472 /m	Battery	20.6 V				
Irradiance							



HAUL2.TAB

Tow: Haul02 CCE-LTER

Date: 11/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	001.3	174.0	092.4	09.5	16.9	10.9	09.5	16.9	10.9	04.46	34.01	33.06
1	119.9	149.1	138.8	09.6	09.7	09.6	09.6	09.7	09.6	33.87	33.95	33.92
2	105.2	118.9	111.6	09.7	09.7	09.7	09.7	09.7	09.7	33.84	33.87	33.86
3	090.8	104.4	097.8	09.7	09.8	09.7	09.7	09.8	09.7	33.82	33.85	33.84
4	075.6	090.0	082.9	09.8	09.9	09.8	09.8	09.9	09.8	33.74	33.82	33.81
5	060.8	075.0	067.0	09.7	10.1	09.9	09.6	10.1	09.9	33.62	33.73	33.66
6	046.0	060.7	054.3	10.1	10.6	10.1	10.1	10.6	10.1	33.46	33.63	33.55
7	029.3	046.0	038.6	10.6	12.2	11.1	10.6	12.2	11.1	33.39	33.50	33.46
8	014.9	028.3	021.6	12.4	15.2	13.5	12.4	15.2	13.5	33.39	33.44	33.41

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	02.27	26.26	25.27	00.11	07.99	00.29	00.04	00.26	00.06	03.3	08.9	04.9
1	26.13	26.20	26.17	00.15	00.19	00.15	00.05	00.05	00.05	03.6	04.0	03.8
2	26.10	26.13	26.11	00.14	00.16	00.15	00.05	00.05	00.05	04.0	04.2	04.2
3	26.06	26.10	26.09	00.14	00.18	00.15	00.05	00.05	00.05	04.2	04.3	04.3
4	26.01	26.06	26.05	00.13	00.16	00.15	00.05	00.05	00.05	04.3	04.7	04.4
5	25.86	26.00	25.92	00.11	00.15	00.13	00.05	00.05	00.05	04.8	05.2	05.0
6	25.67	25.87	25.80	00.11	00.15	00.13	00.05	00.05	00.05	05.1	06.0	05.6
7	25.31	25.67	25.57	00.13	00.38	00.19	00.05	00.13	00.07	05.9	06.9	06.2
8	24.72	25.27	25.06	00.34	00.58	00.47	00.09	00.20	00.16	07.1	08.5	07.8

net#	irrmin	irrmax	irravg
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	26.0	57.0	44.8	00.7	04.3	01.4	-15.0	09.3	-05.7	00398	01306
1	50.0	57.0	53.7	01.9	02.4	02.1	-04.3	09.5	03.1	00140	00483
2	51.0	54.0	52.1	02.2	02.3	02.2	06.6	09.1	07.9	00028	00095
3	51.0	54.0	52.7	01.9	02.3	02.1	00.6	06.2	02.7	00081	00279
4	49.0	52.0	50.6	01.9	02.0	02.0	03.5	06.2	04.4	00049	00165

5	48.0	51.0	49.6	01.8	02.0	01.9	02.1	06.4	04.4	00050	00162
6	43.0	51.0	45.7	01.5	01.9	01.7	01.0	06.2	03.7	00058	00178
7	37.0	44.0	40.2	01.4	01.5	01.4	03.5	08.7	05.4	00043	00118
8	37.0	41.0	38.9	01.4	01.5	01.4	07.6	09.1	08.3	00025	00067

HAUL2.TAB

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	223.955891	22:56:29	001.3	174.0	092.4	00398	01306
1	223.974433	23:23:10	119.9	149.1	138.8	00140	00483
2	223.980984	23:32:37	105.2	118.9	111.6	00028	00095
3	223.982326	23:34:33	090.8	104.4	097.8	00081	00279
4	223.986134	23:40:2	075.6	090.0	082.9	00049	00165
5	223.988461	23:43:22	060.8	075.0	067.0	00050	00162
6	223.990833	23:46:48	046.0	060.7	054.3	00058	00178
7	223.993565	23:50:44	029.3	046.0	038.6	00043	00118
8	223.995613	23:53:40	014.9	028.3	021.6	00025	00067
9	223.996817	23:55:24					

MOCNESS Data Sheet

Cruise CCE-P1408 Date 12 Aug 2014 Haul # 3 Cycle # 1 Tow # 3Wind Speed 8 (kts.) Direction 306 (°) Sea State 1-2 (ft.)File Name: Processed HAUL03 Raw _____

Pre-deployment checks:

☒ Flow Meter
☒ Net Response
☒ Stepping Motor
☒ Clean Optical Surface
☒ Transmissometer
☒ Fluorometer

Start Time 16:33 (PDT) End Time 18:13 (PDT)
224.689479 224.759456

Lat _____

34.7674

Lat _____

34.7834

Long _____

121.0954

Long _____

121.1662

Event deploy # 123Event rec. # 124Net Mesh 202 µmFrame Size 1 m²Bottom Depth 530 (m)Console Operator Ohman

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	16:33	42	671	1,689	427	0		5% Form.		95% EtOH
1	17:14	45	359	857	400	300		5% Form.		95% EtOH
2	17:29	48	136	305	300	250		5% Form.		95% EtOH
3	17:34	46	216	515	250	200		5% Form.		95% EtOH
4	17:42	46	180	419	200	150		5% Form.		95% EtOH
5	17:49	41	198	526	150	99		5% Form.		95% EtOH
6	17:58	40	57	146	99	73		5% Form.		95% EtOH
7	18:01	27	104	316	73	50		5% Form.		95% EtOH
8	18:07	28	73	223	50	25		5% Form.		95% EtOH
9	18:10	37	18	49	25	0		5% Form.		95% EtOH
Closed	18:13									

Net Response

At Depth Data

Notes:

wire out 850 (m) ~1330 - Cable parted on deck prior to initial launch; reterminated & started again.Time 17:08 (PDT)

Surface Data

Pressure 3 (m)

419

Temp. 16.77 (°C)

7.05

Salinity 33.46 (‰)

34.23

O₂ 8.11 (ml/l)

1.56

Fluoresc. 0.0386 (V)

0.0454

Trans 0.3179 (m)

0.1129

Battery 20.2 (v)

20.0

Flow counts Vol. (corr.)

Final

680

1715.6

Initial

-9

26.8

671

1688.8

HAUL #3

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

Time 18:44:56
Pressure 0.9 m
Temp 18.13 C
Salinity 0.75 o/oo
Density -0.852
Oxygen 4.73 ml/l
Fluoresc. 0.9860 V
LightXmis 0.0000 /m
Irradiance

Net Operation

Net_Num 9
OpenTime 32.4 min
Vol_Filtered 418.0 m3
Angle 63 deg
Flow_Counts 121
Hor_Vel 0.0 kts
Vert_Vel 0.2 m/min
Battery 19.8 V

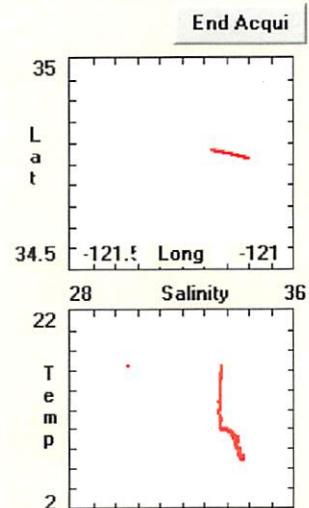
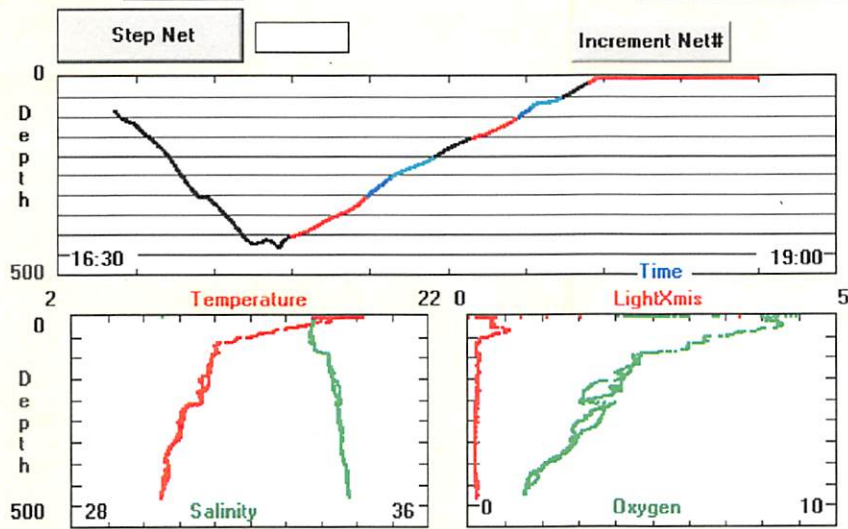
Net - Ship Position

Latitude 34N 47.258'
Longitude 121W 10.56
Net_Dist 1080.1 m
Total_Dist 9526.3 m

Program Settings

Pause Acqui
Reset
Baud Rate 2400
Sample Rate 4.0 sec
Printer Off

Processed File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL3.PRO
Raw File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL3.raw
Name ###MN-12 00 63 2124 02162 3497 283396 875234 198II:I
\$GPGGA,014627,3447.2580,N,12110.5623,W,2,8,1,5,26,



HAUL3.TAB

Tow: Haul03 CCE-LTER

Date: 12/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.6	429.9	147.1	07.0	19.9	13.0	07.0	19.9	12.9	28.55	50.00	40.03
1	300.2	400.4	356.2	07.2	07.7	07.4	07.1	07.7	07.3	34.06	34.23	34.16
2	251.0	298.6	274.2	07.7	08.1	07.9	07.7	08.0	07.9	34.06	34.09	34.08
3	200.2	249.6	225.1	08.0	09.3	08.3	08.0	09.3	08.3	33.94	34.06	34.01
4	151.4	199.3	172.8	09.1	09.7	09.4	09.1	09.7	09.4	33.87	34.02	33.91
5	099.2	150.5	128.6	09.7	09.9	09.8	09.7	09.9	09.8	33.77	33.87	33.83
6	074.1	098.5	086.3	09.9	10.3	10.0	09.9	10.2	10.0	33.48	33.77	33.65
7	049.7	072.6	060.8	10.0	11.3	10.5	10.0	11.3	10.5	33.36	33.49	33.42
8	012.3	048.5	030.3	11.3	15.8	13.7	11.3	15.8	13.7	33.35	33.44	33.39

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	20.61	37.01	30.12	-00.01	00.65	00.09	00.03	00.25	00.05	01.5	08.5	04.5
1	26.59	26.79	26.71	00.09	00.13	00.10	00.04	00.05	00.05	01.6	02.9	02.1
2	26.54	26.58	26.56	00.09	00.11	00.09	00.04	00.05	00.05	02.8	03.0	02.9
3	26.31	26.54	26.46	00.09	00.14	00.10	00.04	00.05	00.05	03.0	04.0	03.5
4	26.12	26.31	26.20	00.10	00.13	00.12	00.05	00.05	00.05	03.2	04.2	04.0
5	26.01	26.12	26.08	00.12	00.14	00.13	00.05	00.05	00.05	04.2	04.7	04.4
6	25.74	26.01	25.90	00.11	00.14	00.12	00.05	00.06	00.05	04.6	06.0	05.2
7	25.50	25.76	25.64	00.11	00.17	00.13	00.05	00.08	00.06	06.0	06.5	06.3
8	24.57	25.50	25.01	00.17	00.56	00.38	00.07	00.24	00.14	06.5	08.6	07.9

net#	irrmin	irrmax	irravg
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	64.0	45.7	00.0	01.9	00.7	-21.4	18.8	-06.0	01003	01953
1	43.0	48.0	45.3	01.6	02.0	01.8	03.3	12.6	06.8	00218	00686
2	44.0	49.0	46.8	01.9	02.2	02.0	08.3	11.4	10.1	00073	00238
3	44.0	50.0	47.9	01.8	02.2	01.9	03.5	09.1	06.1	00122	00399
4	45.0	49.0	46.6	01.8	01.9	01.8	04.1	09.9	07.0	00105	00334
5	37.0	48.0	42.9	01.5	01.9	01.6	02.5	09.7	05.8	00132	00398
6	37.0	40.0	39.0	01.4	01.6	01.5	05.4	12.2	09.1	00040	00113
7	26.0	44.0	35.0	01.1	01.6	01.3	-02.3	12.2	04.2	00088	00243
8	23.0	30.0	27.1	00.9	01.2	01.1	05.8	09.5	07.4	00075	00177

net#	Year/day/Time	hh:mm:ss	pmin	pmax	pavg	#obs	vol
------	---------------	----------	------	------	------	------	-----

HAUL3.TAB

	(NetOpenTime)						
0	224.671331	16:6:42	000.6	429.9	147.1	01003	01953
1	224.718704	17:14:55	300.2	400.4	356.2	00218	00686
2	224.728889	17:29:36	251.0	298.6	274.2	00073	00238
3	224.732326	17:34:33	200.2	249.6	225.1	00122	00399
4	224.738032	17:42:46	151.4	199.3	172.8	00105	00334
5	224.742963	17:49:52	099.2	150.5	128.6	00132	00398
6	224.749144	17:58:46	074.1	098.5	086.3	00040	00113
7	224.751042	18:1:29	049.7	072.6	060.8	00088	00243
8	224.755185	18:7:28	012.3	048.5	030.3	00075	00177
9	224.758715	18:12:33					

MOCNESS Data Sheet

Cruise CCE-P1408 Date 12-13 Aug 2014 Haul # 4 Cycle # 1 Tow # 4Wind Speed 10 (kts.) Direction 341 (°) Sea State 1-2 (ft.)File Name: Processed Haul04 Raw _____Start Time 22:38 (PDT) End Time 00:51 (PDT)
224.984363 225.035729

Lat _____

Lat _____

34.761734.7854

Long _____

Long _____

121.1675121.2129Event deploy # 130Event rec. # 131Net Mesh 202 µmFrame Size 1 m²Bottom Depth 536 m (m)Console Operator Ohman

Pre-deployment checks:	
<input checked="" type="checkbox"/>	Flow Meter
<input checked="" type="checkbox"/>	Net Response
<input checked="" type="checkbox"/>	Stepping Motor
<input checked="" type="checkbox"/>	Clean Optical Surface
<input checked="" type="checkbox"/>	Transmissometer
<input checked="" type="checkbox"/>	Fluorometer

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	22:38	28	269	815	421	0		5% Form.		95% EtOH ✓
1	00:04	36	131	358	398	298		5% Form.		95% EtOH ✓
2	00:11	42	86	218	298	251		5% Form.		95% EtOH ✓
3	00:15	45	134	326	251	203		5% Form.		95% EtOH ✓
4	00:20	46	207	495	203	151		5% Form.		95% EtOH ✓
5	00:29	42	205	514	151	101		5% Form.		95% EtOH ✓
6	00:38	46	81	209	101	75		5% Form.		95% EtOH ✓
7	00:42	42	76	204	75	50		5% Form.		95% EtOH ✓
8	00:45	~43	57	143	50	25		5% Form.		95% EtOH ✓
9	00:48	41	57	149	25	0		5% Form.		95% EtOH ✓
Closed	00:51									

At Depth Data

wire out 421 (m)Time 00:02 (PDT)

Notes:

Cod end Ø came up with mesh no longer fully silicone. Also sample Ø spilled during splitting ~50% was lost.

Surface Data

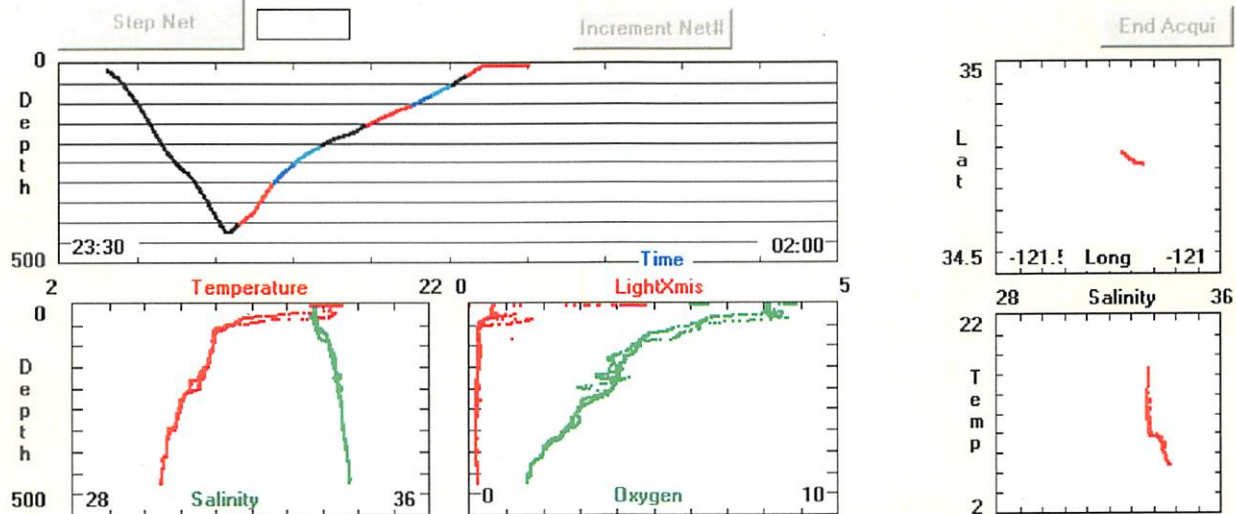
Pressure 2.7 (m)Temp. 16.91 (°C)Salinity 33.46 (‰)O₂ 8.00 (ml/l)Fluoresc. 0.0614 (V)Trans 0.3194 (f/m)Battery 19.9 (V)

4.19
6.98
30.23
1.58
0.0454
0.1096
19.8

Flow counts Vol. (corr.)
Final 286 861.6
Initial 17 46.8
269 814.8

HAUL #4

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	01:00:33	Net_Num	9	Latitude	34N 47.365	Pause Acqui	Reset
Pressure	0.4 m	OpenTime	11.8 min	Longitude	121W 13.13	Baud Rate	2400
Temp	17.1 C	Vol_Filtered	200.6 m3	Net_Dist	911.7 m	Sample Rate	4.0 sec
Salinity	50.0 o/oo	Angle	63 deg	Total_Dist	6113.7 m	Printer	Off
Density	37.054	Flow_Counts	88	Processed File Name	C:\MOCNESS\MOCDATA\CCE-LTER\HAUL4.PRO		
Oxygen	6.01 ml/l	Hor_Vel	0.0 kts	Raw File Name	C:\MOCNESS\MOCDATA\CCE-LTER\HAUL4.raw		
Fluoresc.	0.0470 V	Vert_Vel	0.2 m/min	Acquisition Ended. tries = 0			
LightXmis	2.1722 /m	Battery	19.8 V				
Irradiance							



HAUL4.TAB

Tow: Haul04 CCE-LTER

Date: 12/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.9	421.2	175.5	07.0	50.0	11.0	06.9	50.0	10.9	00.01	50.00	35.39
1	297.7	397.0	352.6	07.0	07.4	07.2	07.0	07.4	07.2	34.09	34.22	34.17
2	251.0	296.7	272.8	07.4	08.0	07.8	07.4	07.9	07.8	34.05	34.09	34.07
3	203.4	249.4	223.7	08.0	08.5	08.2	07.9	08.5	08.1	33.97	34.05	34.02
4	151.6	202.4	177.2	08.5	09.3	08.9	08.5	09.3	08.9	33.91	34.01	33.96
5	100.7	150.4	123.5	09.3	09.9	09.7	09.3	09.9	09.7	33.77	33.91	33.83
6	075.1	099.9	087.9	09.9	10.0	10.0	09.9	10.0	09.9	33.73	33.77	33.75
7	050.5	074.7	062.0	09.9	10.4	10.0	09.9	10.4	10.0	33.49	33.72	33.62
8	024.8	049.3	036.9	10.5	12.5	11.3	10.5	12.5	11.3	33.37	33.50	33.44

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	-01.29	37.13	26.99	00.09	03.41	00.19	00.04	00.29	00.06	01.6	08.6	04.4
1	26.64	26.80	26.74	00.09	00.11	00.10	00.04	00.05	00.05	01.6	02.6	02.0
2	26.54	26.64	26.58	00.09	00.11	00.09	00.04	00.05	00.05	02.6	03.0	02.8
3	26.39	26.54	26.49	00.09	00.15	00.10	00.04	00.05	00.05	03.0	03.8	03.3
4	26.22	26.39	26.32	00.09	00.13	00.11	00.04	00.05	00.05	03.5	04.1	03.8
5	26.01	26.22	26.09	00.11	00.14	00.12	00.05	00.05	00.05	04.0	04.6	04.3
6	25.96	26.01	25.99	00.12	00.57	00.14	00.05	00.05	00.05	04.6	04.8	04.7
7	25.70	25.96	25.88	00.11	00.14	00.12	00.05	00.05	00.05	04.8	06.0	05.3
8	25.23	25.69	25.51	00.13	00.37	00.20	00.06	00.14	00.08	06.0	07.4	06.4

net#	irrmin	irrmax	irravg
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	63.0	30.0	00.0	01.5	00.6	-24.7	13.9	-12.0	00500	00964
1	29.0	41.0	33.8	01.2	01.8	01.4	09.7	20.4	15.2	00097	00244
2	35.0	42.0	38.8	01.5	01.8	01.6	10.3	16.1	12.7	00056	00161
3	40.0	47.0	44.1	01.6	01.9	01.8	05.0	12.4	08.9	00080	00249
4	42.0	48.0	45.0	01.6	01.9	01.7	02.5	09.3	06.0	00129	00402
5	41.0	46.0	43.8	01.5	01.9	01.7	02.5	07.8	05.7	00133	00407
6	40.0	43.0	41.5	01.5	01.6	01.6	05.2	08.2	06.6	00056	00163
7	36.0	43.0	39.3	01.4	01.6	01.5	04.9	08.2	06.6	00056	00158
8	36.0	46.0	38.1	01.4	01.6	01.5	07.0	10.3	09.0	00041	00114

HAUL4.TAB

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	224.979954	23:31:7	000.9	421.2	175.5	00500	00964
1	225.003391	0:4:53	297.7	397.0	352.6	00097	00244
2	225.007951	0:11:26	251.0	296.7	272.8	00056	00161
3	225.010590	0:15:14	203.4	249.4	223.7	00080	00249
4	225.014352	0:20:40	151.6	202.4	177.2	00129	00402
5	225.020394	0:29:21	100.7	150.4	123.5	00133	00407
6	225.026620	0:38:20	075.1	099.9	087.9	00056	00163
7	225.029271	0:42:8	050.5	074.7	062.0	00056	00158
8	225.031921	0:45:58	024.8	049.3	036.9	00041	00114
9	225.033877	0:48:47					

Sampled stratum: 230-160 m.

1806 m diameter circle.

MOCNESS Data Sheet

Strobe ON / Strobe OFF

2 strobes on during descent, 1 on upon ascent
1 nm diameter circle

Cruise CCE-P1408

Date 14 Aug 2014

Haul # 5

Cycle #

Tow #

Wind Speed 10 (kts.)

Direction 297 (°)

Sea State 1-2 (ft.)

File Name: Processed

HAUL05

Raw

Start Time 14:50 (PDT)

226.618611

End

Time 16:55 (PDT)

226.704977

Lat

34.4258

Lat

34.4377

Long

121.0361

Long

121.0285

Event deploy #

168

Event rec. #

169

Frame Size 1 m²

Bottom Depth

1338 (m)

Console Operator

Ohman

Pre-deployment checks:

- ☒ Flow Meter
- ☒ Net Response
- ☒ Stepping Motor
- ☒ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

LED strobe
Net Mesh 202 µm

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	14:50	50	440	1,105	252 ← 0	100%	5% Form.		95% EtOH	
1	15:21	44	235	580	230 → 161		5% Form.		95% EtOH	
2	15:36	31	110	318	229 ← 161		5% Form.		95% EtOH	
3	15:39	44	168	437	229 → 162		5% Form.		95% EtOH	
4	15:46	32	85	243	231 ← 162		5% Form.		95% EtOH	
5	15:52 - 16:12 - 36		504	1,475	231 → 0 → 240		5% Form.		95% EtOH	
6	16:26	42	118	297	227 → 160		5% Form.		95% EtOH	
7	16:32	33	92	260	230 ← 160		5% Form.		95% EtOH	
8	16:38	44	119	310	230 → 158		5% Form.		95% EtOH	
9	16:44	45	280	699	158 → 0	✓	5% Form.		95% EtOH	
Closed	16:55									

Net conf.

Strobe ON

Strobe OFF

At Depth Data

wire out 492 (m)

Time 15:16 (PDT)

Notes:

E160 line 15:15, Mooring time 15:11

340 m

STROBE ON:

Nets: 0, 1, 2, 3, 5 (then off @ surf)

Surface Data

Pressure 2.3 (m)

Temp. 18.71 (°C)

Salinity 33.44 (‰)

O₂ 7.30 (ml/l)

Fluoresc. 0.0470 (V)

Trans 0.2009 (m)

Battery 20.0 (V)

252 m

7.5°

34.04 200 kHz layers rather patchy; seem to be ~230-160 m.

3.37

0.0456

0.0869

19.9

STROBE OFF:

Nets: 5, 6, 7, 8, 9

230-160 in @ 15 m min⁻¹

out @ " " "

Net 5: in at 30 m min⁻¹; removed dummy plug.

Sent back down to 240 m.

→ Upon partial recovery, upper lower of LED's on, lower row of LED's off.

Last net (net #9) in at 25 m min⁻¹

Flow counts Vol. (corr.)

452

1141.2

12

36.1

occasional patches seen at 200 kHz

HAUL #05
STROBE ON / STROBE OFF

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

Time 17:03:34
Pressure 0.0 m
Temp 19.56 C
Salinity 50.0 o/oo
Density 36.382
Oxygen 5.48 ml/l
Fluoresc. 0.0460 V
LightXmis 0.3745 /m
Irradiance

Net Operation

Net_Num 9
OpenTime 19.3 min
Vol_Filtered 510.2 m3
Angle 63 deg
Flow_Counts 285
Hor_Vel 0.0 kts
Vert_Vel 0.7 m/min
Battery 19.7 V

Net - Ship Position

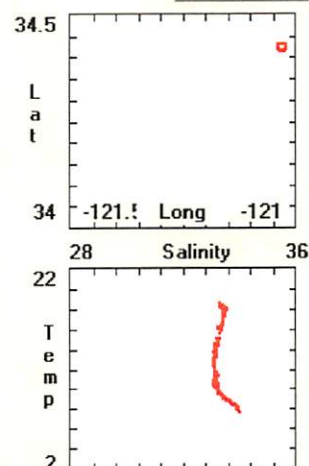
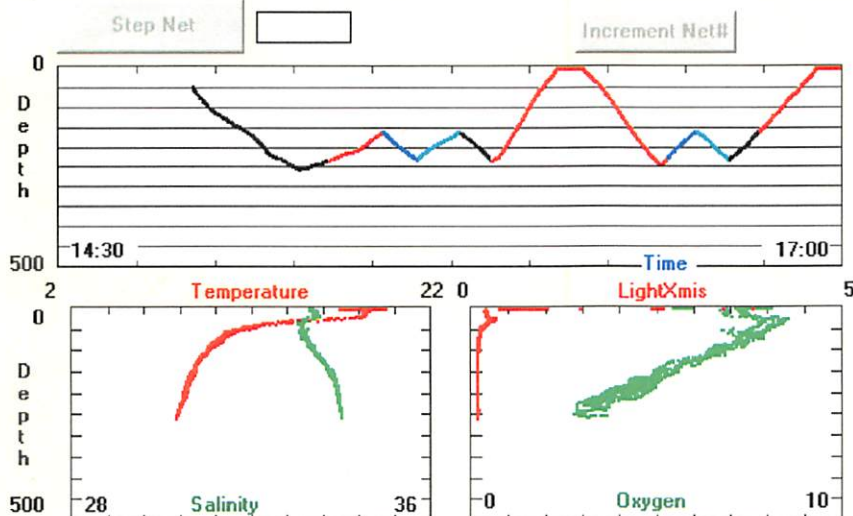
Latitude 34N 26.189
Longitude 121W 1.323
Net_Dist 1278.1 m
Total_Dist 7526.1 m

Program Settings

Pause Acqui
Reset
Baud Rate 2400
Sample Rate 4.0 sec
Printer Off

Processed File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL05.PRO
Raw File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL05.raw

Acquisition Ended. tries = 0



HAUL05.TAB

Tow: Haul05 CCE-LTER

Date: 13/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.3	254.6	115.3	07.8	22.3	12.8	07.8	22.3	12.8	07.60	50.00	37.84
1	160.6	229.7	200.5	08.1	08.7	08.3	08.0	08.7	08.3	33.83	34.00	33.95
2	161.0	229.4	197.5	08.1	08.7	08.4	08.0	08.7	08.3	33.84	34.00	33.94
3	160.2	226.2	190.4	08.1	08.6	08.4	08.1	08.6	08.4	33.85	34.01	33.93
4	162.7	231.1	194.8	08.0	08.6	08.4	08.0	08.6	08.4	33.86	34.01	33.94
5	-000.4	240.6	106.1	08.0	18.7	11.5	08.0	18.7	11.5	00.03	50.00	35.29
6	159.6	224.9	190.3	08.1	08.6	08.4	08.1	08.6	08.3	33.87	34.00	33.94
7	159.6	229.6	193.9	08.1	08.6	08.3	08.0	08.6	08.3	33.87	34.00	33.95
8	159.4	229.9	197.4	08.1	08.5	08.3	08.0	08.5	08.2	33.89	34.01	33.95

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	04.27	36.77	28.44	00.02	29.11	00.19	00.04	00.15	00.05	02.8	08.5	05.1
1	26.26	26.48	26.40	00.09	00.09	00.09	00.04	00.05	00.05	03.0	04.6	03.7
2	26.26	26.48	26.39	00.09	00.09	00.09	00.04	00.05	00.05	03.1	04.6	03.8
3	26.28	26.48	26.38	00.09	00.09	00.09	00.04	00.05	00.05	03.2	04.9	04.0
4	26.28	26.49	26.39	00.09	00.10	00.09	00.04	00.05	00.05	03.3	04.6	04.0
5	-01.21	37.04	26.83	00.08	03.92	00.62	00.03	00.14	00.05	03.3	08.4	05.8
6	26.30	26.48	26.39	00.09	00.10	00.09	00.04	00.05	00.05	03.7	05.1	04.5
7	26.30	26.49	26.40	00.09	00.09	00.09	00.04	00.05	00.05	03.7	05.1	04.5
8	26.33	26.49	26.41	00.09	00.09	00.09	00.04	00.05	00.05	03.7	05.0	04.5

net#	irrmin	irrmax	irragv
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	63.0	37.5	00.0	01.8	00.8	-31.5	09.5	-05.6	00620	01283
1	41.0	47.0	43.7	01.5	01.9	01.7	01.3	11.6	06.9	00151	00460
2	31.0	46.0	40.3	00.9	01.6	01.1	-14.0	04.1	-09.6	00104	00326
3	33.0	45.0	40.3	01.2	01.6	01.5	01.5	14.0	08.6	00117	00333
4	31.0	45.0	38.5	00.8	01.4	01.0	-16.3	-00.2	-11.3	00090	00269
5	00.0	51.0	31.3	00.0	02.2	01.1	-20.4	25.4	00.0	00503	01203
6	34.0	42.0	37.6	01.4	01.6	01.5	07.6	17.1	12.6	00082	00221
7	33.0	44.0	36.3	00.9	01.5	01.1	-15.2	06.0	-10.9	00092	00296
8	32.0	40.0	35.7	01.1	01.8	01.5	-07.0	16.9	11.6	00085	00235

HAUL05.TAB

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	226.610891	14:39:41	000.3	254.6	115.3	00620	01283
1	226.640208	15:21:53	160.6	229.7	200.5	00151	00460
2	226.647269	15:32:4	161.0	229.4	197.5	00104	00326
3	226.652153	15:39:5	160.2	226.2	190.4	00117	00333
4	226.657639	15:47:0	162.7	231.1	194.8	00090	00269
5	226.661863	15:53:4	-000.4	240.6	106.1	00503	01203
6	226.685278	16:26:48	159.6	224.9	190.3	00082	00221
7	226.689132	16:32:21	159.6	229.6	193.9	00092	00296
8	226.693461	16:38:34	159.4	229.9	197.4	00085	00235
9	226.697454	16:44:20					

Sampled stratum: 90-10 m.

MOCNESS Data Sheet

Strobe ON/Strobe OFF
1 stroke bank on on descent/ascent,
(other not operating)

Cruise CCE-P1408 Date 14-15 Aug 2014 Haul # 6 Cycle # — Tow # —

Wind Speed 11 (kts.) Direction 323 (°) Sea State 1-2 (ft.)

File Name: Processed HAUL 06 Raw —

Start Time 22:55 (PDT) End Time 00:37 (PDT)
226.955417 227.025938

Lat 34.5196 Lat 34.5185

Long 121.1738 Long 121.1652

Event deploy # 175 Event rec. # 176

Bottom Depth 1,045 (m) Console Operator Ohman

Pre-deployment checks:

- ☒ Flow Meter
- ☒ Net Response
- ☒ Stepping Motor
- ☒ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

Strobe ON
Net Mesh 202 μ mFrame Size 1 m²

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	22:55	26	233	714	118	0	None	5% Form.		95% EtOH
1	23:11	51	116	267	88 → 11	100%	5% Form.			95% EtOH
2	23:18	49	190	438	90 ← 11		5% Form.			95% EtOH
3	23:20	57	250	603	90 → 10		5% Form.			95% EtOH
4	23:42	41	88	224	87 ← 10	None	5% Form.			95% EtOH
5	23:50	29	245	721	87 → 0 → 91	100%	5% Form.			95% EtOH
6	00:13	49	126	316	91 → 11		5% Form.			95% EtOH
7	00:20	42	61	159	89 ← 11		5% Form.			95% EtOH
8	00:28	55	101	252	89 → 10		5% Form.			95% EtOH
9	00:36	42	—	—	10 → 0	None	5% Form.			95% EtOH
Closed	00:37									

Net vs pass

Strobe ON

Strobe OFF

At Depth Data

wire out 145 (m)

Time 23:07 (PDT)

Surface Data

Pressure 2.1 (m)

Temp. 18.68 (°C)

Salinity 33.56 (‰)

O₂ 7.29 (ml/l)

Fluoresc. 0.0592 (V)

Trans 0.1644 (m)

Battery 19.9 (V)

Notes:

Bridge started @ 1 nm diameter (not 0.5 nm); ~ 1/2 way through
tightened up to 0.5 nm diam. to minimize wave under ship.
up @ 15 m/min

Max Z Net 2: winch stopped on descent ~ 15 s; comming from bridge

118 " " " "

9.16 " " " "

33.56 At least 10 pyrosomes on Moccross frame and yoke when Net #5

6.33 recovered at surface. - Corina has picture.

0.0456

0.092

19.8

Many pyrosomes.

Extremely large catch of
pyrosomes, salps in all nets!
Split to 25% to fit in 1 gallon jars.

STROBE ON: Nets 1, 2, 3, 4, 5 (then off @ surface)

STROBE OFF: Nets 5, 6, 7, 8, 9

Covr.

1. NAME _____
 2. DATE _____
 3. TIME _____
 4. LOCATION _____
 5. REASON _____
 6. WITNESSES _____
 7. SIGNATURE _____
 8. INITIALS _____
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 213. REASON _____
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 215. SIGNATURE _____
 216. INITIALS _____
 217. REMARKS _____
 218. DATE _____
 219. TIME _____
 220. LOCATION _____

• 2006-07 season:

1000000

WATER SURFACE TEMPERATURE						
DATE	TIME	LOCATION	WIND	TEMP	SEA	REMARKS
1965-01-10	0800	010-020	010	10	1	0
1965-01-10	0900	020-030	020	11	1	0
1965-01-10	1000	030-040	030	12	1	0
1965-01-10	1100	040-050	040	13	1	0
1965-01-10	1200	050-060	050	14	1	0
1965-01-10	1300	060-070	060	15	1	0
1965-01-10	1400	070-080	070	16	1	0
1965-01-10	1500	080-090	080	17	1	0
1965-01-10	1600	090-100	090	18	1	0
1965-01-10	1700	100-110	100	19	1	0
1965-01-10	1800	110-120	110	20	1	0
1965-01-10	1900	120-130	120	21	1	0
1965-01-10	2000	130-140	130	22	1	0
1965-01-10	2100	140-150	140	23	1	0
1965-01-10	2200	150-160	150	24	1	0
1965-01-11	0000	160-170	160	25	1	0
1965-01-11	0100	170-180	170	26	1	0
1965-01-11	0200	180-190	180	27	1	0
1965-01-11	0300	190-200	190	28	1	0
1965-01-11	0400	200-210	200	29	1	0
1965-01-11	0500	210-220	210	30	1	0
1965-01-11	0600	220-230	220	31	1	0
1965-01-11	0700	230-240	230	32	1	0
1965-01-11	0800	240-250	240	33	1	0
1965-01-11	0900	250-260	250	34	1	0
1965-01-11	1000	260-270	260	35	1	0
1965-01-11	1100	270-280	270	36	1	0
1965-01-11	1200	280-290	280	37	1	0
1965-01-11	1300	290-300	290	38	1	0
1965-01-11	1400	300-310	300	39	1	0
1965-01-11	1500	310-320	310	40	1	0
1965-01-11	1600	320-330	320	41	1	0
1965-01-11	1700	330-340	330	42	1	0
1965-01-11	1800	340-350	340	43	1	0
1965-01-11	1900	350-360	350	44	1	0
1965-01-11	2000	360-370	360	45	1	0
1965-01-11	2100	370-380	370	46	1	0
1965-01-11	2200	380-390	380	47	1	0
1965-01-11	2300	390-400	390	48	1	0
1965-01-12	0000	400-410	400	49	1	0
1965-01-12	0100	410-420	410	50	1	0
1965-01-12	0200	420-430	420	51	1	0
1965-01-12	0300	430-440	430	52	1	0
1965-01-12	0400	440-450	440	53	1	0
1965-01-12	0500	450-460	450	54	1	0
1965-01-12	0600	460-470	460	55	1	0
1965-01-12	0700	470-480	470	56	1	0
1965-01-12	0800	480-490	480	57	1	0
1965-01-12	0900	490-500	490	58	1	0
1965-01-12	1000	500-510	500	59	1	0
1965-01-12	1100	510-520	510	60	1	0
1965-01-12	1200	520-530	520	61	1	0
1965-01-12	1300	530-540	530	62	1	0
1965-01-12	1400	540-550	540	63	1	0
1965-01-12	1500	550-560	550	64	1	0
1965-01-12	1600	560-570	560	65	1	0
1965-01-12	1700	570-580	570	66	1	0
1965-01-12	1800	580-590	580	67	1	0
1965-01-12	1900	590-600	590	68	1	0
1965-01-12	2000	600-610	600	69	1	0
1965-01-12	2100	610-620	610	70	1	0
1965-01-12	2200	620-630	620	71	1	0
1965-01-12	2300	630-640	630	72	1	0
1965-01-13	0000	640-650	640	73	1	0
1965-01-13	0100	650-660	650	74	1	0
1965-01-13	0200	660-670	660	75	1	0
1965-01-13	0300	670-680	670	76	1	0
1965-01-13	0400	680-690	680	77	1	0
1965-01-13	0500	690-700	690	78	1	0
1965-01-13	0600	700-710	700	79	1	0
1965-01-13	0700	710-720	710	80	1	0
1965-01-13	0800	720-730	720	81	1	0
1965-01-13	0900	730-740	730	82	1	0
1965-01-13	1000	740-750	740	83	1	0
1965-01-13	1100	750-760	750	84	1	0
1965-01-13	1200	760-770	760	85	1	0
1965-01-13	1300	770-780	770	86	1	0
1965-01-13	1400	780-790	780	87	1	0
1965-01-13	1500	790-800	790	88	1	0
1965-01-13	1600	800-810	800	89	1	0
1965-01-13	1700	810-820	810	90	1	0
1965-01-13	1800	820-830	820	91	1	0
1965-01-13	1900	830-840	830	92	1	0
1965-01-13	2000	840-850	840	93	1	0
1965-01-13	2100	850-860	850	94	1	0
1965-01-13	2200	860-870	860	95	1	0
1965-01-13	2300	870-880	870	96	1	0
1965-01-14	0000	880-890	880	97	1	0
1965-01-14	0100	890-900	890	98	1	0
1965-01-14	0200	900-910	900	99	1	0
1965-01-14	0300	910-920	910	100	1	0
1965-01-14	0400	920-930	920	101	1	0
1965-01-14	0500	930-940	930	102	1	0
1965-01-14	0600	940-950	940	103	1	0
1965-01-14	0700	950-960	950	104	1	0
1965-01-14	0800	960-970	960	105	1	0
1965-01-14	0900	970-980	970	106	1	0
1965-01-14	1000	980-990	980	107	1	0
1965-01-14	1100	990-1000	990	108	1	0
1965-01-14	1200	1000-1010	1000	109	1	0
1965-01-14	1300	1010-1020	1010	110	1	0
1965-01-14	1400	1020-1030	1020	111	1	0
1965-01-14	1500	1030-1040	1030	112	1	0
1965-01-14	1600	1040-1050	1040	113	1	0
1965-01-14	1700	1050-1060	1050	114	1	0
1965-01-14	1800	1060-1070	1060	115	1	0
1965-01-14	1900	1070-1080	1070	116	1	0
1965-01-14	2000	1080-1090	1080	117	1	0
1965-01-14	2100	1090-1100	1090	118	1	0
1965-01-14	2200	1100-1110	1100	119	1	0
1965-01-14	2300	1110-1120	1110	120	1	0
1965-01-15	0000	1120-1130	1120	121	1	0
1965-01-15	0100	1130-1140	1130	122	1	0
1965-01-15	0200	1140-1150	1140	123	1	0
1965-01-15	0300	1150-1160	1150	124	1	0
1965-01-15	0400	1160-1170	1160	125	1	0
1965-01-15	0500	1170-1180	1170	126	1	0
1965-01-15	0600	1180-1190	1180	127	1	0
1965-01-15	0700	1190-1200	1190	128	1	0
1965-01-15	0800	1200-1210	1200	129	1	0
1965-01-15	0900	1210-1220	1210	130	1	0
1965-01-15	1000	1220-1230	1220	131	1	0
1965-01-15	1100	1230-1240	1230	132	1	0
1965-01-15	1200	1240-1250	1240	133	1	0
1965-01-15	1300	1250-1260	1250	134	1	0
1965-01-15	1400	1260-1270	1260	135	1	0
1965-01-15	1500	1270-1280	1270	136	1	0
1965-01-15	1600	1280-1290	1280	137	1	0
1965-01-15	1700	1290-1300	1290	138	1	0
1965-01-15	1800	1300-1310	1300	139	1	0
1965-01-15	1900	1310-1320	1310	140	1	0
1965-01-15	2000	1320-1330	1320	141	1	0
1965-01-15	2100	1330-1340	1330	142	1	0
1965-01-15	2200	1340-1350	1340	143	1	0
1965-01-15	2300	1350-1360	1350	144	1	0
1965-01-16	0000	1360-1370	1360	145	1	0
1965-01-16	0100	1370-1380	1370	146	1	0
1965-01-16	0200	1380-1390	1380	147	1	0
1965-01-16	0300	1390-1400	1390	148	1	0
1965-01-16	0400	1400-1410	1400	149	1	0
1965-01-16	0500	1410-1420	1410	150	1	0
1965-01-16	0600	1420-1430	1420	151	1	0
1965-01-16	0700	1430-1440	1430	152	1	0
1965-01-16	0800	1440-1450	1440	153	1	0
1965-01-16	0900	1450-1460	1450	154	1	0
1965-01-16	1000	1460-1470	1460	155	1	0
1965-01-16	1100	1470-1480	1470	156	1	0
1965-01-16	1200	1480-1490	1480	157	1	0
1965-01-16	1300	1490-1500	1490	158	1	0
1965-01-16	1400	1500-1510	1500	159	1	0
1965-01-16	1500	1510-1520	1510	160	1	0
1965-01-16	1600	1520-1530	1520	161	1	0
1965-01-16	1700	1530-1540	1530	162	1	0
1965-01-16	1800	1540-1550	1540	163	1	0
1965-01-16	1900	1550-1560	1550	164	1	0
1965-01-16	2000	1560-1570	1560	165	1	0
1965-01-16	2100	1570-1580	1570	166	1	0
1965-01-16	2200	1580-1590	1580	167	1	0
1965-01-16	2300	1590-1600	1590	168	1	0
1965-01-17	0000	1600-1610	1600	169	1	0
1965-01-17	0100	1610-1620	1610	170	1	0
1965-01-17	0200	1620-1630	1620	171	1	0
1965-01-17	0300	1630-1640	1630	172	1	0
1965-01-17	0400	1640-1650	1640	173	1	0
1965-01-17	0500	1650-1660	1650	174	1	0
1965-01-17	0600	1660-1670	1660	175	1	0
1965-01-17	0700	1670-1680	1670	176	1	0
1965-01-17	0800	1680-1690	1680	177	1	0
1965-01-17	0900	1690-1700	1690	178	1	0
1965-01-17	1000	1700-1710	1700	179	1	0
1965-01-17	1100	1710-1720	1710	180	1	0
1965-01-17	1200	1720-1730	1720	181	1	0
1965-01-17	1300	1730-1740	1730	182	1	0
1965-01-17	1400	1740-1750	1740	183	1	0
1965-01-17	1500	1750-1760	1750	184	1	0
1965-01-17	1600	1760-1770	1760	185	1	0
1965-01-17	1700	1770-1780	1770	186	1	0
1965-01-17	1800	1780-1790	1780	187	1	0
1965-01-17	1900	1790-1800	1790	188	1	

2003-2004

1. *Journal of the American Medical Association*, 1997; 277: 1033-1037.

	<u>Flow rate</u>	<u>Vol. (corr.)</u>
Final	249	755.9
Initial	<u>16</u>	<u>41.7</u>
	233	714.2

pyro-salped!

Large biomass of pyrosomes, salps in all nets.
Did not fix nets 0, 5, 9.

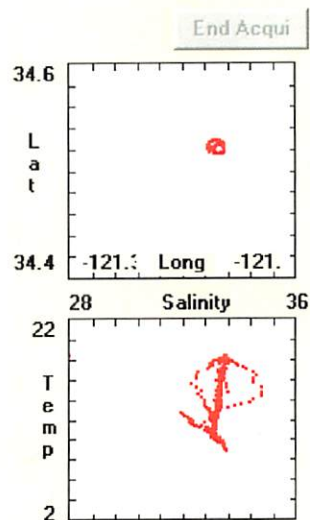
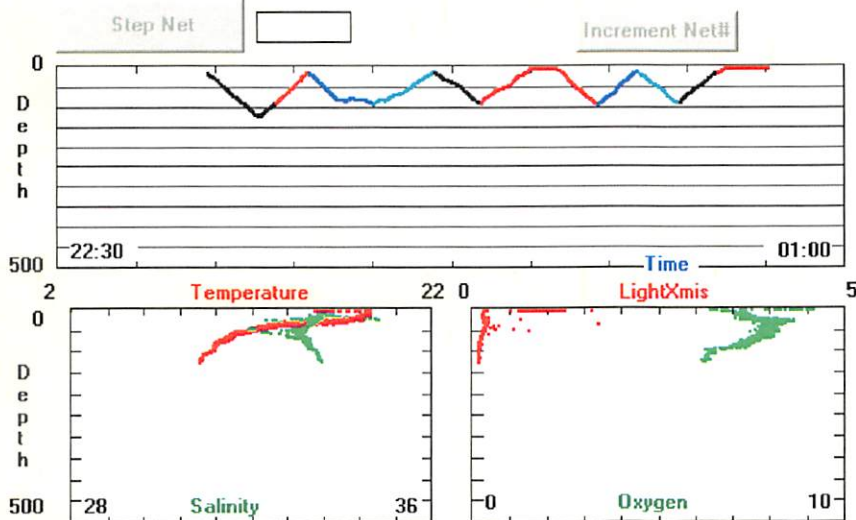
HAUL #06

STROBE ON / STROBE OFF

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	00:45:43	Net_Num	9	Latitude	34N 31.144	Pause Acqui	Reset
Pressure	0.7 m	OpenTime	9.7 min	Longitude	121W 10.29	Baud Rate	2400
Temp	16.43 C	Vol_Filtered	0.0 m3	Net_Dist	666.9 m	Sample Rate	4.0 sec
Salinity	50.0 o/oo	Angle	62 deg	Total_Dist	6858.4 m	Printer	Off
Density	37.228	Flow_Counts	0	Processed File Name	C:\MOCNESS\MOCDATA\CCE-LTER\HAUL06.PRO		
Oxygen	6.42 ml/l	Hor_Vel	0.0 kts	Raw File Name	C:\MOCNESS\MOCDATA\CCE-LTER\HAUL06.raw		
Fluoresc.	0.0458 V	Vert_Vel	-0.2 m/min	Acquisition Ended. tries = 0			
LightXmis	0.6549 /m	Battery	19.7 V				
Irradiance							



HAUL06.TAB

Tow: Haul06 CCE-LTER

Date: 13/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.9	120.3	034.9	09.1	18.7	14.4	09.1	18.7	14.4	02.25	50.00	40.66
1	009.2	086.4	047.0	10.0	18.3	12.6	10.0	18.3	12.6	33.12	34.83	33.45
2	013.0	090.4	065.7	10.0	18.3	11.2	10.0	18.3	11.2	32.34	33.53	33.19
3	009.4	088.0	053.0	10.0	18.3	12.3	10.0	18.3	12.3	33.09	33.62	33.29
4	012.3	088.2	048.9	10.0	18.3	12.6	09.9	18.3	12.6	33.10	33.54	33.24
5	-000.2	092.2	034.9	09.9	18.7	14.0	09.9	18.7	14.0	00.07	50.00	34.66
6	009.6	089.9	049.1	09.9	18.6	13.3	09.9	18.6	13.3	33.11	33.56	33.30
7	012.8	089.0	051.7	10.0	18.3	12.8	09.9	18.3	12.8	33.12	33.54	33.29
8	010.8	088.4	047.0	10.0	18.3	13.3	09.9	18.3	13.3	31.98	33.45	32.98

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	00.29	37.37	30.41	00.09	04.12	00.17	00.04	00.10	00.05	04.1	08.4	06.5
1	24.11	25.91	25.23	00.10	00.22	00.14	00.05	00.10	00.07	07.1	08.7	07.8
2	23.66	25.70	25.31	00.10	00.31	00.12	00.05	00.11	00.06	06.8	08.2	07.5
3	24.07	25.66	25.17	00.10	00.22	00.13	00.05	00.10	00.07	07.0	08.5	07.8
4	24.05	25.62	25.08	00.10	00.29	00.15	00.05	00.10	00.08	07.4	08.4	07.9
5	-00.95	37.44	25.89	-00.03	10.87	00.35	00.04	00.11	00.06	06.7	09.2	07.6
6	24.01	25.66	24.96	00.10	00.20	00.14	00.05	00.10	00.07	07.1	08.3	07.7
7	24.08	25.62	25.07	00.10	00.64	00.15	00.05	00.10	00.07	07.2	08.3	07.7
8	23.84	25.62	24.73	00.10	00.77	00.16	00.05	00.10	00.07	07.1	08.2	07.8

net#	irrmin	irrmax	irravg
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	64.0	40.8	00.0	01.6	00.6	-15.0	14.3	-03.1	00443	00684
1	30.0	52.0	35.7	01.1	01.6	01.3	-00.4	15.7	12.6	00095	00218
2	28.0	53.0	42.2	00.5	01.6	01.1	-16.5	09.9	-06.4	00184	00489
3	42.0	57.0	46.4	00.4	02.0	01.6	-02.3	12.4	06.8	00174	00463
4	40.0	56.0	47.1	00.0	00.9	00.7	-14.7	-02.3	-08.9	00129	00237
5	00.0	52.0	34.5	00.0	01.4	00.8	-17.4	18.8	-00.1	00335	00557
6	27.0	49.0	35.7	01.1	01.6	01.2	-03.3	20.7	10.8	00110	00242
7	34.0	46.0	40.0	00.0	01.2	00.6	-16.7	-02.1	-09.7	00119	00178
8	36.0	50.0	43.4	00.0	01.8	01.0	-03.1	18.4	10.5	00107	00180

HAUL06.TAB

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	226.945706	22:41:49	000.9	120.3	034.9	00443	00684
1	226.966435	23:11:40	009.2	086.4	047.0	00095	00218
2	226.970903	23:18:5	013.0	090.4	065.7	00184	00489
3	226.979491	23:30:28	009.4	088.0	053.0	00174	00463
4	226.987627	23:42:11	012.3	088.2	048.9	00129	00237
5	226.993669	23:50:52	-000.2	092.2	034.9	00335	00557
6	227.009306	0:13:23	009.6	089.9	049.1	00110	00242
7	227.014468	0:20:49	012.8	089.0	051.7	00119	00178
8	227.020035	0:28:50	010.8	088.4	047.0	00107	00180
9	227.025058	0:36:4					

No Strobe

MOCNESS Data Sheet

Cruise CCE-P1408 Date 17 Aug 2014 Haul # 7 Cycle # 2 Tow # 1Wind Speed 17 (kts.) Direction 314 (°) Sea State 2-3 (ft.)File Name: Processed HAULO7 Raw _____Start Time 15:41 (PDT) End Time 17:02 (PDT)Lat 34.2196Lat 34.2413Long 120.8340Long 120.8686Event deploy # 221Event rec. # 222Frame Size 1 m²Bottom Depth 794 (m)Console Operator Ohman

Pre-deployment checks:

- ☒ Flow Meter
- ☒ Net Response
- ☒ Stepping Motor
- ☒ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

initially
No response
at deck checkNo strobe
Net Mesh 202 µm

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	15:41	27°	233	508	418	0		5% Form.		95% EtOH
1	16:09	38°	212	568	400	301		5% Form.		95% EtOH
2	16:20	40°	163	429	301	250		5% Form.		95% EtOH
3	16:28	40°	127	326	250	200		5% Form.		95% EtOH
4	16:34	38°	137	373	200	149		5% Form.		95% EtOH
5	16:41	41°	95	240	149	100		5% Form.		95% EtOH
6	16:45	42°	82	202	100	76		5% Form.		95% EtOH
7	16:49	36°	106	292	76	51		5% Form.		95% EtOH
8	16:55	43°	67	177	51	25		5% Form.		95% EtOH
9	16:59	38°	70	188	25	0		5% Form.		95% EtOH
Closed	17:02									

Net response

At Depth Data

wire out 625 (m)Time 16:07 (PDT)

Surface Data

418 Pressure 5.1 (m)7.05 Temp. 17.16 (°C)34.22 Salinity 33.10 (‰)1.69 O₂ 7.74 (ml/l)0.0442 Fluoresc. 0.0632 (V)0.0065 Trans 0.3192 (m)19.6 V. Battery 19.9 (V)

Notes:

14:27 - Winch not responding when at 85m depth on way out.

14:59 - Appears to be problem w/ electric brake on winch; need to put Chinese finger on to take off load + repair winch.

Slowing ship and net sunk to 123 m. (110 mwo [!])

15:31 - Preparing to recover to empty cod end.

15:41 - Recovered Mornes, emptied Net 0, & sent back down.

* Not accurate; need to subtract initial volume from 0-123m - 0m.
(4182 - 3359) = 823 m³

N.B. When Mornes brought to surface at ~15:40 found gap of ~4-5 cm, between Net 9 bar and Net 8 bar. Net 9 likely contaminated w/ deep organisms on descent + ascent.

Winch failed (2nd time) after Mornes alongside; had to use sling & Alaska crane to recover.4182
- 3359

823

corr.

No Stroke

HAUL 07

Winch failed when Mocness hanging alongside ship, Had to use Alaska crane to recover on deck,

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

Time 17:21:42
Pressure 1.0 m
Temp 17.12 C
Salinity 50.0 o/oo
Density 37.047
Oxygen 5.64 ml/l
Fluoresc. 0.0446 V
LightXmis 1.8100 /m
Irradiance

Net Operation

Net_Num 9
OpenTime 23.1 min
Vol_Filtered 830.2 m3
Angle 7 deg
Flow_Counts 260
Hor_Vel 0.0 kts
Vert_Vel 0.0 m/min
Battery 19.6 V

Net - Ship Position

Latitude 34N 14.586'
Longitude 120W 52.41
Net_Dist 690.6 m
Total_Dist 8029.7 m

Program Settings

Pause Acqui
Reset
Baud Rate 2400
Sample Rate 4.0 sec
Printer Off

Processed File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL7.PRO

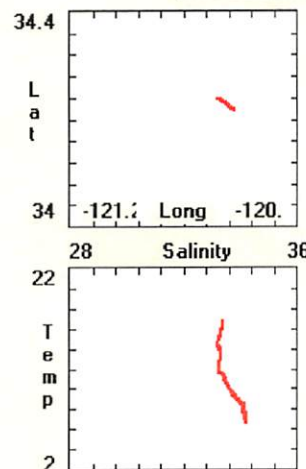
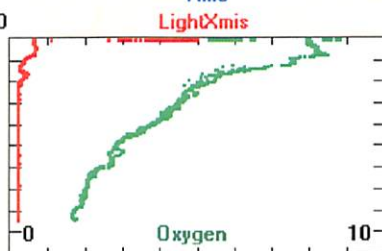
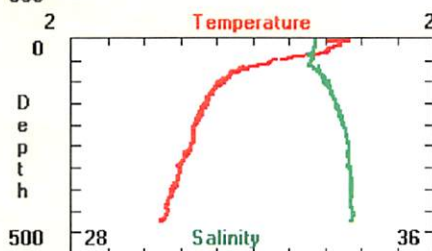
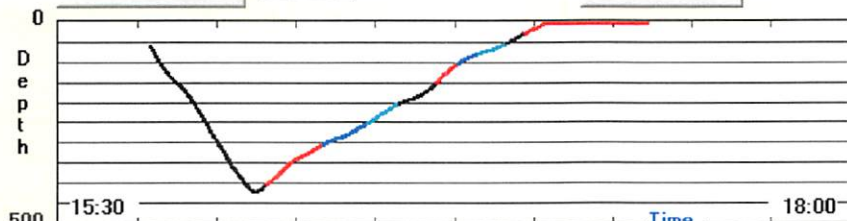
Raw File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL7.raw

Acquisition Ended. tries = 0

Step Net

Increment Net!!

End Acqui



HAUL 07A

Which brake failed on descent; kept Mocners at ~80 m. for ~ 1/2 hr; towing. Then slowed ship, net descended, recovered ± vertically. When Mocners alongside, discarded cod end contents of Net 0, replaced cod end, and sent down again.

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

Time 15:46:08
 Pressure 36.0 m
 Temp 13.95 C
 Salinity 33.43 o/oo
 Density 24.985
 Oxygen 7.03 ml/l
 Fluoresc. 0.1258 V
 LightXmis 0.2471 /m
 Irradiance

Net Operation

Net_Num 0
 OpenTime 109.7 min
 Vol_Filtered 3505.6 m3
 Angle 26 deg
 Flow_Counts 1168
 Hor_Vel 0.3 kts
 Vert_Vel -18.2 m/min
 Battery 19.6 V

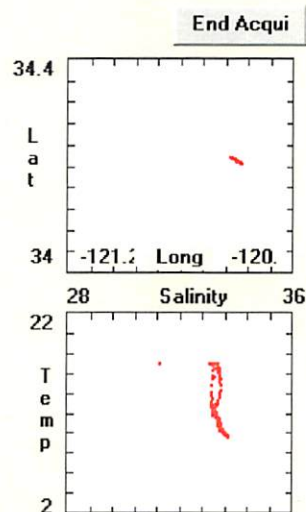
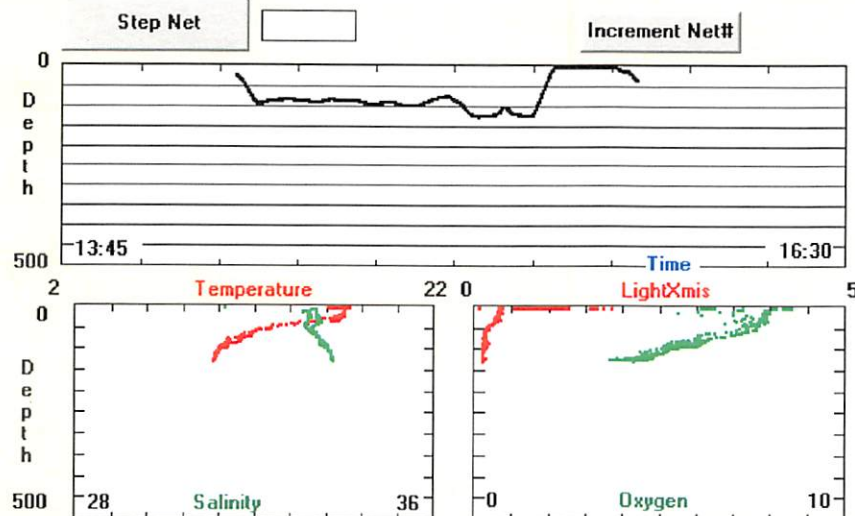
Net - Ship Position

Latitude 34N 13.238'
 Longitude 120W 50.14
 Net_Dist 3728.4 m
 Total_Dist 3728.4 m

Program Settings

Pause Acqui
 Baud Rate 2400
 Sample Rate 4.0 sec
 Printer Off

Processed File Name C:\MOCNESS\MOCDATA\ACCE-LTER\HAUL7.PRO
 Raw File Name C:\MOCNESS\MOCDATA\ACCE-LTER\HAUL7.raw
 ##MN-03 00 26 1168 02500 3292 308513 311712 19611-1
 \$GPGGA,224551,3413.2380,N,12050.1492,W,2,10,1.3,31



Tow: Haul07 CCE-LTER

Date: 17/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.2	420.1	090.1	06.9	19.5	12.6	06.9	19.5	12.6	00.01	50.00	37.56
1	300.7	399.2	344.5	07.2	08.0	07.6	07.1	08.0	07.6	34.17	34.23	34.19
2	250.3	300.2	277.9	07.9	08.6	08.2	07.9	08.6	08.2	34.12	34.16	34.14
3	200.3	249.7	224.7	08.6	08.8	08.7	08.5	08.7	08.7	34.02	34.14	34.09
4	149.4	199.5	179.6	08.7	09.4	09.0	08.7	09.4	08.9	33.87	34.02	33.97
5	100.1	147.1	121.5	09.4	10.4	09.8	09.4	10.4	09.7	33.61	33.85	33.74
6	076.0	099.0	086.6	10.4	10.9	10.6	10.4	10.9	10.6	33.49	33.60	33.55
7	051.0	075.4	064.1	10.9	12.9	11.8	10.9	12.9	11.8	33.26	33.49	33.37
8	025.3	050.6	038.5	12.9	16.1	14.3	12.9	16.1	14.3	33.23	33.36	33.31

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	-01.60	37.26	28.37	00.07	23.89	00.24	00.04	00.27	00.05	01.7	09.5	05.6
1	26.63	26.77	26.70	00.10	00.13	00.11	00.04	00.05	00.05	01.7	02.3	02.0
2	26.51	26.62	26.57	00.10	00.14	00.11	00.04	00.05	00.05	02.4	02.8	02.7
3	26.40	26.52	26.46	00.10	00.11	00.11	00.04	00.05	00.05	02.8	03.8	03.2
4	26.18	26.40	26.32	00.10	00.12	00.10	00.04	00.05	00.05	03.8	04.4	04.1
5	25.81	26.16	26.01	00.10	00.15	00.12	00.04	00.06	00.05	04.6	05.3	04.9
6	25.62	25.79	25.71	00.14	00.25	00.19	00.05	00.09	00.07	05.4	05.9	05.6
7	25.08	25.61	25.37	00.13	00.22	00.15	00.05	00.09	00.07	05.9	07.6	06.8
8	24.45	25.09	24.81	00.18	00.35	00.26	00.08	00.15	00.11	07.5	08.5	08.0

net#	irrmin	irrmax	irravg
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	64.0	27.6	00.0	07.2	00.7	-28.9	30.8	-03.1	01966	04183
1	29.0	43.0	36.6	01.2	01.6	01.4	05.4	14.3	09.4	00159	00434
2	35.0	42.0	38.5	01.2	01.5	01.4	02.5	10.1	06.1	00123	00346
3	37.0	41.0	39.0	01.4	01.6	01.5	05.6	09.7	08.2	00091	00256
4	34.0	42.0	37.6	01.4	01.6	01.4	03.1	14.6	07.1	00103	00288
5	36.0	42.0	38.8	01.5	01.8	01.6	07.6	14.9	11.7	00063	00179
6	40.0	44.0	41.8	01.5	01.6	01.6	04.1	08.7	06.7	00055	00162
7	36.0	43.0	39.3	01.4	01.6	01.4	02.5	06.8	04.6	00080	00233
8	34.0	37.0	35.3	01.2	01.5	01.4	03.5	09.5	07.1	00052	00144

HAUL7.TAB

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	229.580822	13:56:22	000.2	420.1	090.1	01966	04183
1	229.673310	16:9:34	300.7	399.2	344.5	00159	00434
2	229.680741	16:20:16	250.3	300.2	277.9	00123	00346
3	229.686505	16:28:33	200.3	249.7	224.7	00091	00256
4	229.690787	16:34:43	149.4	199.5	179.6	00103	00288
5	229.695613	16:41:41	100.1	147.1	121.5	00063	00179
6	229.698588	16:45:58	076.0	099.0	086.6	00055	00162
7	229.701192	16:49:43	051.0	075.4	064.1	00080	00233
8	229.704954	16:55:7	025.3	050.6	038.5	00052	00144
9	229.707419	16:58:41					

No Strobe

MOCNESS Data Sheet

Cruise CCE-P1408 Date 18 Aug 2014 Haul # 08 Cycle # 2 Tow # 2Wind Speed 19 (kts.) Direction 322 (°) Sea State 2-3 (ft.)File Name: Processed HAUL08 Raw _____Start Time 14:01 (PDT) End Time 15:18 (PDT)

230.582523

230.638056

Lat

Lat

34.1174

34.1260

Long

Long

120.8838

120.9306

Event deploy # 249Event rec. # 250Frame Size 1 m²Bottom Depth 980 (m)Console Operator Ben Whitmore

Pre-deployment checks:

- ☒ Flow Meter
- ☒ Net Response
- ☒ Stepping Motor
- ☒ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

Net Mesh 202 µm

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	14:01	29°	197	575	422	0		5% Form.		95% EtOH
1	14:25	34°	154	429	399.3	297.2		5% Form.		95% EtOH
2	14:33	38°	76	201	297.2	250.7		5% Form.		95% EtOH
3	14:37	42°	156	398	250	200		5% Form.		95% EtOH
4	14:44	46°	178	457	200	151		5% Form.		95% EtOH
5	14:53	41°	207	535	151	101		5% Form.		95% EtOH
6	15:03	45°	77	195	101	76		5% Form.		95% EtOH
7	15:06	43°	109	284	76	49		5% Form.		95% EtOH
8	15:12	47°	56	132	49	25		5% Form.		95% EtOH
9	15:14	39	95	258	25	0		5% Form.		95% EtOH
Closed	15:18									

net response

At Depth Data

wire out 597 (m)Time 14:22 (PDT)

Surface Data

Pressure 3.4 (m)Temp. 17.14 (°C)Salinity 33.12 (‰)O₂ 7.85 (ml/l)Fluoresc. 0.0634 (V)Trans 0.3074 (m)Battery 19.9 (V)

Notes:

N.B. Adjusted height of Net #9 upper bar to close gap w/ Net #9 lower bar, prior to deployment.

422 m

6.98 °C

34.15 ‰

2.02 ml/l

0.0459 V

0.1297 /m

19.8 V

Previous MOCNESS tows on this cruise probably had a contaminated Net 09 (w/ deeper specimens on way down up)

MD8

Electrician & Chief Engineer repaired winch brake prior to tow!

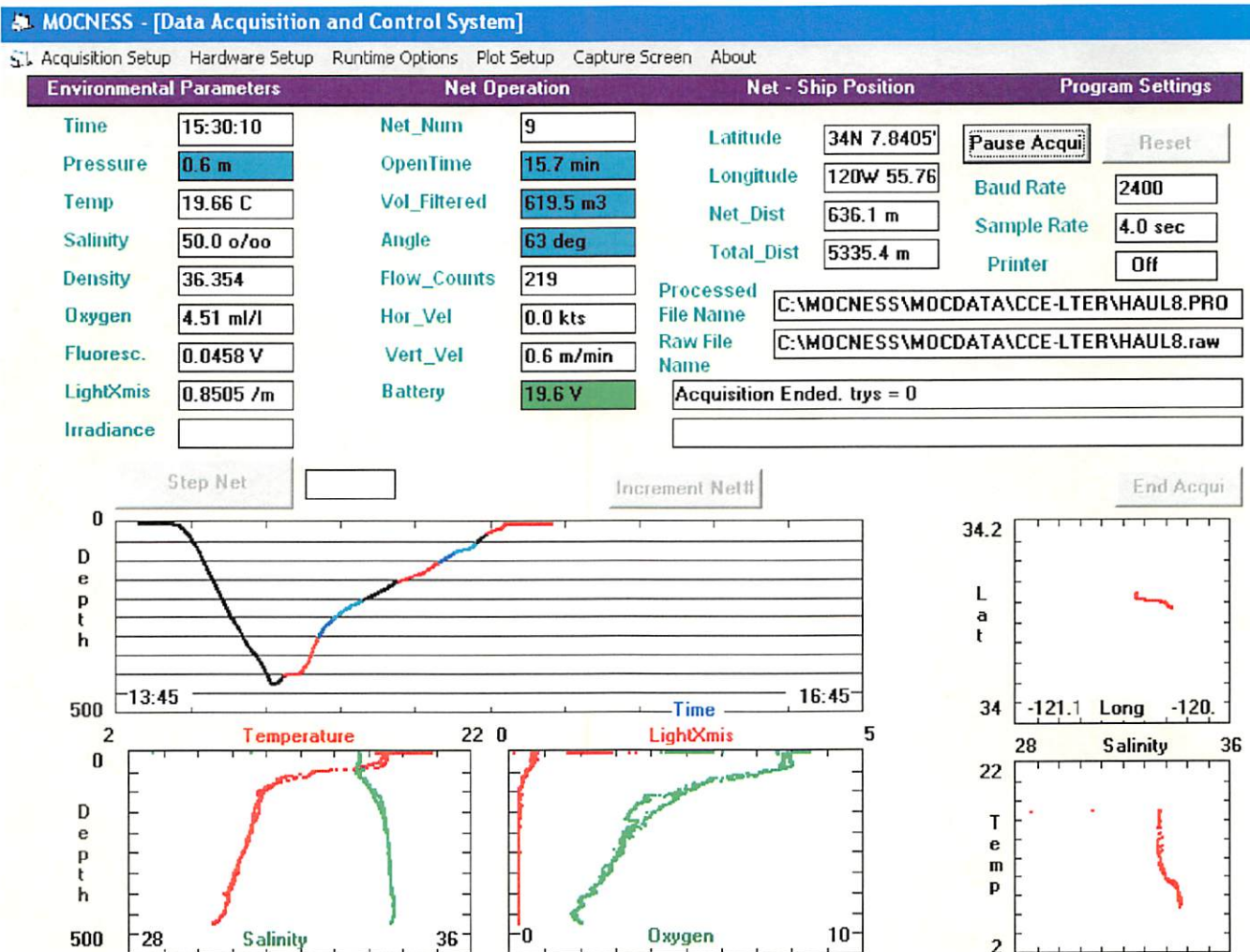
Flow counts Vol. (corr.)

Final 408 1239.5
 Initial 211 664.4
 197 575.1

No Stroke.

HAUL 08

Slightly lowered Net #09 upper bar prior to tow,
to close gap & minimize contamination from deeper strata.



Tow: Haul08 CCE-LTER

Date: 18/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.6	422.9	167.4	06.9	19.8	12.0	06.9	19.8	12.0	00.07	50.00	37.70
1	298.2	398.9	370.8	07.5	08.3	07.8	07.5	08.3	07.7	34.13	34.22	34.20
2	250.2	295.5	269.7	08.4	08.6	08.5	08.3	08.6	08.4	34.09	34.15	34.12
3	200.4	248.6	222.5	08.6	09.1	08.9	08.6	09.0	08.9	34.06	34.10	34.08
4	151.0	199.7	176.7	09.1	09.6	09.3	09.0	09.6	09.3	33.99	34.06	34.03
5	101.0	150.8	129.1	09.5	09.8	09.6	09.5	09.8	09.6	33.79	33.99	33.94
6	076.8	100.2	088.6	09.5	10.4	09.9	09.5	10.4	09.9	33.59	33.79	33.69
7	048.9	075.8	065.9	10.4	12.7	10.8	10.4	12.7	10.8	33.33	33.59	33.50
8	025.5	048.4	037.6	12.8	16.4	14.6	12.8	16.4	14.6	33.32	33.39	33.35

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	-01.26	36.99	28.56	00.13	05.31	00.35	00.04	00.14	00.05	01.7	08.4	04.3
1	26.56	26.73	26.68	00.13	00.14	00.13	00.04	00.05	00.05	01.8	02.7	02.1
2	26.47	26.55	26.51	00.13	00.13	00.13	00.04	00.05	00.05	02.6	03.2	02.9
3	26.38	26.47	26.41	00.13	00.16	00.13	00.04	00.05	00.05	03.1	03.4	03.2
4	26.24	26.38	26.31	00.13	00.15	00.14	00.04	00.05	00.05	03.3	03.6	03.4
5	26.09	26.24	26.19	00.13	00.18	00.14	00.05	00.05	00.05	03.4	04.7	03.7
6	25.78	26.09	25.95	00.13	00.18	00.15	00.05	00.06	00.05	04.7	05.4	05.1
7	25.17	25.78	25.64	00.17	00.24	00.20	00.06	00.09	00.07	05.5	07.2	05.9
8	24.43	25.16	24.79	00.22	00.34	00.27	00.09	00.13	00.10	07.2	08.0	07.7

net#	irrmin	irrmax	irravg
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	63.0	23.9	00.0	04.6	00.8	-25.1	13.0	-11.3	00533	01506
1	26.0	35.0	30.4	01.1	01.9	01.3	-03.0	30.8	12.1	00122	00322
2	34.0	39.0	36.4	01.5	01.8	01.6	09.9	20.5	14.4	00051	00139
3	37.0	44.0	39.9	01.4	01.6	01.5	03.1	11.4	06.8	00110	00323
4	38.0	43.0	40.6	01.4	01.6	01.5	02.9	08.5	05.9	00125	00372
5	38.0	43.0	40.0	01.4	01.6	01.5	01.6	08.5	05.0	00148	00443
6	39.0	43.0	40.9	01.5	01.8	01.6	05.6	08.2	07.0	00051	00156
7	34.0	43.0	37.9	01.2	01.8	01.5	01.0	13.4	04.8	00080	00240
8	37.0	44.0	39.6	01.5	01.9	01.6	07.8	12.1	09.9	00035	00107

HAUL8.TAB

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	230.576250	13:49:47	000.6	422.9	167.4	00533	01506
1	230.601157	14:25:40	298.2	398.9	370.8	00122	00322
2	230.606875	14:33:53	250.2	295.5	269.7	00051	00139
3	230.609294	14:37:22	200.4	248.6	222.5	00110	00323
4	230.614444	14:44:48	151.0	199.7	176.7	00125	00372
5	230.620301	14:53:14	101.0	150.8	129.1	00148	00443
6	230.627222	15:3:11	076.8	100.2	088.6	00051	00156
7	230.629641	15:6:41	048.9	075.8	065.9	00080	00240
8	230.633403	15:12:6	025.5	048.4	037.6	00035	00107
9	230.635081	15:14:30					

MOCNESS Data Sheet

HAUL 09

Aborted - Winch malfunction. No deployment.

Cruise CCE-P1408 Date 18-19 Aug 2014 Haul # 22 Cycle # 2 Tow # 3Wind Speed 18-20 (kts.) Direction 324 (°) Sea State 3-4 (ft.)File Name: Processed HAUL09 Raw _____

Start Time _____ (PDT) End Time _____ (PDT)

Lat _____ Lat _____

Long _____ Long _____

Event deploy # _____ Event rec. # _____

Bottom Depth _____ (m) Console Operator _____

Pre-deployment checks:

- ☒ Flow Meter
- ☒ Net Response
- ☒ Stepping Motor
- ☒ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

Net Mesh 202 μ mFrame Size 1 m²

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0								5% Form.		95% EtOH
1								5% Form.		95% EtOH
2								5% Form.		95% EtOH
3								5% Form.		95% EtOH
4								5% Form.		95% EtOH
5								5% Form.		95% EtOH
6								5% Form.		95% EtOH
7								5% Form.		95% EtOH
8								5% Form.		95% EtOH
9								5% Form.		95% EtOH
Closed										

At Depth Data

wire out _____ (m)

Time _____ (PDT)

Surface Data

Pressure _____ (m)

Temp. _____ (°C)

Salinity _____ (‰)

O₂ _____ (ml/l)

Fluoresc. _____ (V)

Trans _____ (1/m)

Battery _____ (v)

18 Aug., ~ 2315 - Notes: Winch problem just as beginning to deploy. Sounds like brake is not releasing.

Prior to this tow did a winch test, lowering
Mocness to 100m. No nets tripped. Washed out
net & prepared for night deployment.
Files "Testwinch"

HAUL 09

MOCNESS Data Sheet

Cruise CCE-P1408 Date 19-20 Aug 2014 Haul # 9 Cycle # 2 Tow # 3

Wind Speed 6-7 (kts.) Direction 312 (°) Sea State 2-3 (ft.)

File Name: Processed HAUL 09 Raw _____

Start Time 22:56 (PDT) End Time 00:29 (PDT)
231.955046 232.020694

Lat _____

Lat _____

Long 34.0611

Long 34.0674

Event deploy # 120.9469
280

Event rec. # 121.0196
281

Bottom Depth 1719 (m)

Console Operator Carmina Ramirez

Pre-deployment checks:

- ☒ Flow Meter
- ☒ Net Response
- ☒ Stepping Motor
- ☒ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

Net Mesh 202 µm

Frame Size 1 m²

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	22:56	34°	408	1,144	408	0		5% Form.		95% EtOH
1	23:30	46	248	585	398	300		5% Form.		95% EtOH
2	23:40	51	166	381	300	250		5% Form.		95% EtOH
3	23:46	50	126	275	250	200		5% Form.		95% EtOH
4	23:50	48	345	828	200	150		5% Form.		95% EtOH
5	00:03	44	171	414	150	101		5% Form.		95% EtOH
6	00:09	45	140	333	101	75		5% Form.		95% EtOH
7	00:15	47	124	311	75	51		5% Form.		95% EtOH
8	00:20	53	99	225	51	25		5% Form.		95% EtOH
9	00:24	45	111	272	25	0		5% Form.		95% EtOH
Closed	00:29									

Net response

At Depth Data

wire out 776 (m)

Time 23:29 (PDT)

Notes:

Surface Data

Pressure 2.1 (m)

Temp. 17.3 (°C)

Salinity 33.43 (‰)

O₂ 7.65 (ml/l)

Fluoresc. 0.0642 (V)

Trans 0.2685 (m)

Battery 19.7 (V)

404	390
7.0	7.3
34.14	34.17
2.01	
0.0456	
0.0926	
19.5	

Flow counts Vol. (corr.)
Final 415 1165.8
Initial 7 21.6
408 1144.2

HAUL 09

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

Time 00:40:30
 Pressure 0.6 m
 Temp 18.05 C
 Salinity 50.0 o/oo
 Density 36.798
 Oxygen 6.13 ml/l
 Fluoresc. 0.0458 V
 LightXmis 0.6402 /m
 Irradiance

Net Operation

Net_Num 9
 OpenTime 15.8 min
 Vol_Filtered 259.0 m3
 Angle 63 deg
 Flow_Counts 123
 Hor_Vel 0.0 kts
 Vert_Vel 0.4 m/min
 Battery 19.4 V

Net - Ship Position

Latitude 34N 4.0849
 Longitude 121W 1.461
 Net_Dist 819.1 m
 Total_Dist 7894.3 m

Program Settings

Pause Acqui Reset
 Baud Rate 2400
 Sample Rate 4.0 sec
 Printer Off

Processed File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL10.PRO

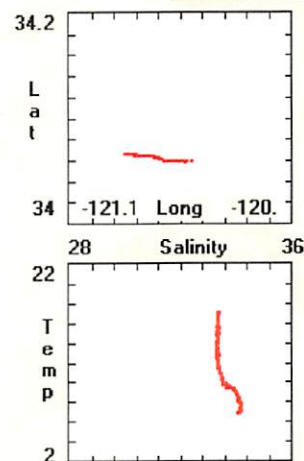
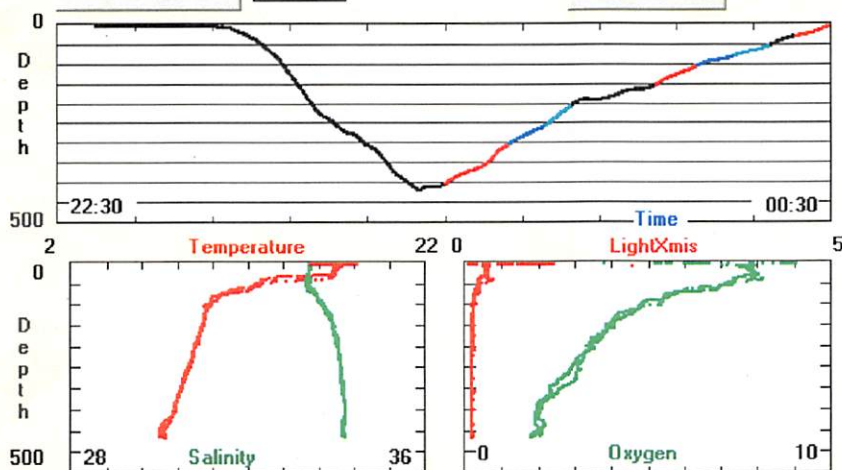
Raw File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL10.raw

Acquisition Ended. trys = 0

Step Net

Increment Net#

End Acqui



Tow: Haul10 CCE-LTER

Date: 19/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.7	414.8	143.0	07.0	17.4	12.5	07.0	17.4	12.5	00.05	50.00	39.45
1	300.6	398.4	354.7	07.1	08.3	07.7	07.1	08.2	07.7	34.15	34.21	34.19
2	250.7	299.3	274.3	08.3	08.5	08.4	08.2	08.5	08.4	34.12	34.18	34.15
3	201.0	250.0	225.2	08.6	09.0	08.8	08.5	08.9	08.8	34.05	34.12	34.10
4	150.2	199.2	175.8	09.0	09.4	09.2	08.9	09.4	09.2	33.97	34.06	34.02
5	101.7	149.0	123.7	09.5	09.8	09.6	09.4	09.8	09.6	33.73	33.97	33.87
6	075.6	100.7	087.3	09.8	10.0	10.0	09.8	10.0	10.0	33.58	33.73	33.66
7	049.8	074.8	062.7	10.0	12.7	11.6	10.0	12.7	11.6	33.34	33.59	33.43
8	024.5	048.8	035.4	12.7	16.1	13.5	12.7	16.1	13.5	33.32	33.39	33.34

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	-01.20	37.09	29.82	00.07	40.20	00.19	00.04	00.16	00.05	01.8	08.2	04.6
1	26.59	26.73	26.68	00.09	00.13	00.10	00.04	00.05	00.05	01.9	02.4	02.0
2	26.51	26.59	26.55	00.09	00.10	00.09	00.04	00.05	00.05	02.3	02.9	02.6
3	26.38	26.51	26.44	00.09	00.13	00.10	00.04	00.05	00.05	02.9	03.5	03.2
4	26.24	26.39	26.32	00.09	00.13	00.10	00.04	00.05	00.05	03.5	03.9	03.6
5	26.00	26.24	26.14	00.09	00.12	00.10	00.04	00.05	00.05	03.9	04.8	04.3
6	25.85	25.99	25.91	00.10	00.15	00.11	00.05	00.05	00.05	04.8	05.6	05.2
7	25.16	25.84	25.43	00.10	00.21	00.18	00.05	00.09	00.07	05.6	07.3	06.5
8	24.50	25.16	25.00	00.18	00.31	00.22	00.08	00.12	00.09	07.3	08.0	07.6

net#	irrmin	irrmax	irragv
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	64.0	37.2	00.0	01.5	00.5	-25.3	11.2	-07.4	00811	01345
1	38.0	47.0	43.4	01.5	02.3	01.8	04.3	19.6	10.1	00147	00460
2	45.0	49.0	47.1	01.9	02.2	02.0	06.4	11.2	08.3	00089	00299
3	47.0	49.0	48.3	02.0	02.3	02.2	08.3	14.4	12.4	00059	00207
4	44.0	52.0	48.7	01.6	02.3	02.0	-02.1	12.0	04.0	00191	00659
5	44.0	46.0	45.1	01.8	02.0	01.9	04.9	11.5	07.6	00096	00324
6	43.0	48.0	45.0	01.6	01.9	01.7	01.6	07.8	04.5	00087	00279
7	41.0	46.0	43.3	01.5	01.9	01.7	02.1	07.0	04.7	00081	00255
8	41.0	47.0	44.7	01.6	01.9	01.8	04.3	08.8	06.6	00058	00190

HAUL09.TAB

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	231.941528	22:35:47	000.7	414.8	143.0	00811	01345
1	231.979259	23:30:7	300.6	398.4	354.7	00147	00460
2	231.986134	23:40:2	250.7	299.3	274.3	00089	00299
3	231.990312	23:46:2	201.0	250.0	225.2	00059	00207
4	231.993102	23:50:3	150.2	199.2	175.8	00191	00659
5	232.002060	0:2:58	101.7	149.0	123.7	00096	00324
6	232.006574	0:9:27	075.6	100.7	087.3	00087	00279
7	232.010660	0:15:20	049.8	074.8	062.7	00081	00255
8	232.014468	0:20:49	024.5	048.8	035.4	00058	00190
9	232.017211	0:24:47					

HAUL 10

MOCNESS Data Sheet

Cruise CCE-P1408 Date 20-21 Aug 2014 Haul # 10 Cycle # 2 Tow # 4Wind Speed 11 (kts.) Direction 332 (°) Sea State 1-2 (ft.)File Name: Processed HAUL10 Raw _____Start Time 23:12 (PDT) End Time 01:09 (PDT)
232.987419 233.048229

Lat _____

Lat _____

34.001334.0330

Long _____

Long _____

120.8872120.9382Event deploy # 295Event rec. # 296Net Mesh 202 µmFrame Size 1 m²Bottom Depth 1,287 (m)Console Operator Carmina Ramirez

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	23:12	48	406	1,049	418	0		5% Form.		95% EtOH
1	00:15	49	249	563	386	301		5% Form.		95% EtOH
2	00:24	48	214	488	301	250		5% Form.		95% EtOH
3	00:32	45	186	448	250	200		5% Form.		95% EtOH
4	00:39	45	193	471	200	150		5% Form.		95% EtOH
5	00:47	48	146	353	150	100		5% Form.		95% EtOH
6	00:52	44	136	339	100	75		5% Form.		95% EtOH
7	00:58	43	82	202	75	50		5% Form.		95% EtOH
8	01:02	43	93	248	50	23		5% Form.		95% EtOH
9	01:07	49	55	125	23	0		5% Form.		95% EtOH
Closed	01:09									

Net response

At Depth Data

wire out 796 (m)Time 00:12 (PDT)

Notes:

Surface Data

Pressure 2.6 (m)Temp. 18.01 (°C)Salinity 33.48 (‰)O₂ 7.63 (ml/l)Fluoresc. 0.0564 (V)Trans 0.2559 (m)Battery 10.7v (v)

Flow counts Vol. (corr.)

Final 4221090.9Initial 1641.74061049.2

HAUL 10

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

 Time 01:20:58
 Pressure 0.8 m
 Temp 18.08 C
 Salinity 50.0 o/oo
 Density 36.79
 Oxygen 5.83 ml/l
 Fluoresc. 0.0458 V
 LightXmis 1.3182 /m
 Irradiance

Net Operation

 Net_Num 9
 OpenTime 13.6 min
 Vol_Filtered 225.1 m3
 Angle 63 deg
 Flow_Counts 102
 Hor_Vel 0.0 kts
 Vert_Vel 0.4 m/min
 Battery 19.3 V

Net - Ship Position

 Latitude 34N 2.2085'
 Longitude 120W 56.42
 Net_Dist 626.5 m
 Total_Dist 6990.4 m

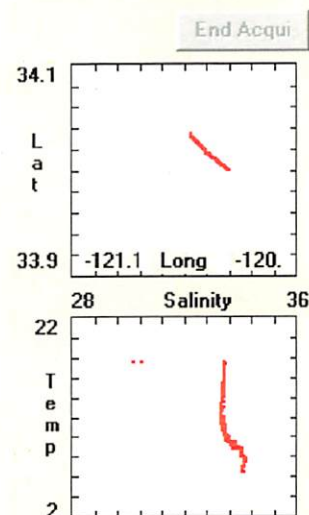
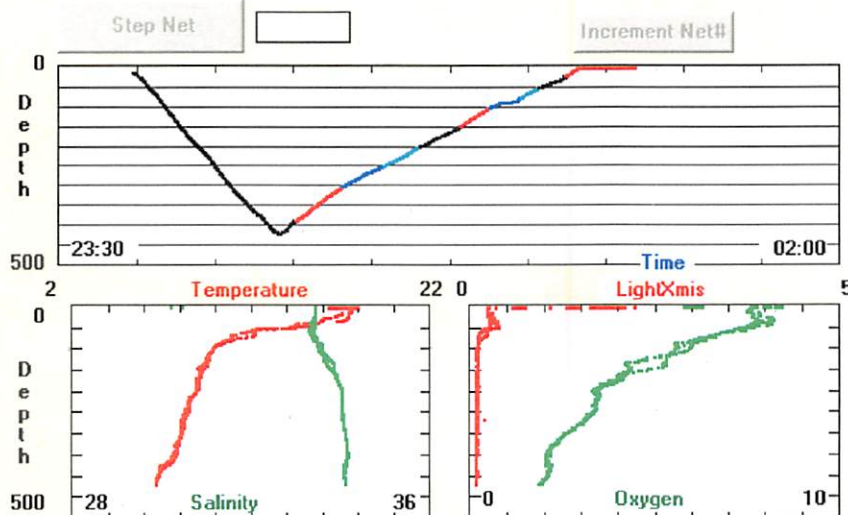
Program Settings

 Pause Acqui Resel
 Baud Rate 2400
 Sample Rate 4.0 sec
 Printer Off

Processed

 File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL10.PRO
 Raw File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL10.raw

Acquisition Ended. tries = 0



HAUL10.TAB

Tow: Haul10 CCE-LTER

Date: 20/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.8	418.7	143.6	06.8	18.7	12.8	06.7	18.7	12.8	00.03	50.00	39.63
1	300.7	386.1	343.4	07.0	08.1	07.7	06.9	08.1	07.7	34.12	34.20	34.17
2	249.8	299.8	273.5	08.1	08.3	08.2	08.1	08.3	08.2	34.07	34.15	34.10
3	200.7	248.8	225.6	08.3	08.9	08.6	08.3	08.9	08.5	34.06	34.08	34.07
4	149.3	199.8	175.7	08.9	09.3	09.1	08.9	09.3	09.0	33.89	34.08	33.99
5	100.8	148.1	123.1	09.4	09.9	09.6	09.4	09.9	09.6	33.62	33.89	33.77
6	075.3	100.1	088.0	09.9	11.1	10.2	09.9	11.1	10.2	33.47	33.62	33.58
7	050.5	074.0	061.4	10.9	12.4	11.5	10.9	12.3	11.5	33.32	33.46	33.37
8	023.1	050.0	038.4	12.4	17.5	14.8	12.4	17.5	14.8	33.32	33.47	33.40

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	-01.39	36.87	29.88	00.09	01.47	00.16	00.04	00.51	00.05	01.9	08.3	04.6
1	26.59	26.73	26.66	00.09	00.11	00.09	00.04	00.05	00.05	02.1	02.5	02.2
2	26.51	26.59	26.55	00.09	00.20	00.09	00.04	00.05	00.05	02.5	03.3	03.0
3	26.41	26.50	26.46	00.09	00.10	00.09	00.04	00.05	00.05	03.3	03.5	03.4
4	26.20	26.41	26.32	00.09	00.11	00.10	00.04	00.05	00.05	03.3	04.3	03.9
5	25.90	26.19	26.06	00.10	00.12	00.10	00.05	00.05	00.05	04.2	05.6	04.9
6	25.57	25.90	25.81	00.10	00.13	00.11	00.05	00.06	00.05	05.6	06.2	05.7
7	25.22	25.57	25.41	00.12	00.20	00.15	00.05	00.08	00.06	06.2	07.3	06.9
8	24.23	25.21	24.77	00.20	00.39	00.28	00.06	00.13	00.10	07.3	08.2	07.7

net#	irrmin	irrmax	irragv
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	64.0	37.9	00.0	01.9	00.6	-20.4	17.0	-07.5	00780	01326
1	43.0	50.0	46.3	01.8	02.2	02.0	07.3	12.4	09.6	00135	00447
2	46.0	51.0	48.2	01.9	02.2	02.0	04.5	08.7	06.6	00116	00392
3	43.0	48.0	45.8	01.8	02.0	01.9	05.2	09.3	07.1	00104	00352
4	42.0	48.0	44.6	01.6	02.0	01.8	04.3	10.1	06.5	00115	00375
5	42.0	45.0	43.8	01.8	01.9	01.8	06.2	10.5	08.6	00085	00277
6	39.0	46.0	43.0	01.4	01.9	01.6	-00.2	09.5	04.2	00089	00281
7	41.0	45.0	42.5	01.6	01.8	01.7	05.3	08.9	07.2	00052	00162
8	32.0	43.0	37.8	00.8	01.8	01.4	02.6	12.3	05.4	00072	00202

HAUL10.TAB

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	232.974086	23:22:41	000.8	418.7	143.6	00780	01326
1	233.010775	0:15:31	300.7	386.1	343.4	00135	00447
2	233.017095	0:24:37	249.8	299.8	273.5	00116	00392
3	233.022535	0:32:27	200.7	248.8	225.6	00104	00352
4	233.027419	0:39:28	149.3	199.8	175.7	00115	00375
5	233.032801	0:47:13	100.8	148.1	123.1	00085	00277
6	233.036806	0:52:59	075.3	100.1	088.0	00089	00281
7	233.040984	0:59:0	050.5	074.0	061.4	00052	00162
8	233.043449	1:2:33	023.1	050.0	038.4	00072	00202
9	233.046840	1:7:26					

MOCNESS Data Sheet

HAUL 11

Cruise CCE-P1408 Date 22 Aug 2014 Haul # 11 Cycle # 3 Tow # 1Wind Speed 6-7 (kts.) Direction 303 (°) Sea State 1-2 (ft.)File Name: Processed HAUL11 Raw _____Start Time 13:25 (PDT) End Time 14:40 (PDT)
234.558657 Lat 234.611481Lat 34.3728 Lat 34.4118
Long 121.3444 Long 121.3372Event deploy # 327 Event rec. # 328Bottom Depth 2,436 (m) Console Operator IRINA

Pre-deployment checks:

- ☒ Flow Meter
- ☒ Net Response
- ☒ Stepping Motor
- ☒ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

Net Mesh 202 µmFrame Size 1 m²

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	13:25	37°	224	677	413	0		5% Form.		95% EtOH
1	13:51	39	205	562	400	300		5% Form.		95% EtOH
2	14:02	38	115	303	300	251		5% Form.		95% EtOH
3	14:07	44	138	350	251	200		5% Form.		95% EtOH
4	14:13	41	127	326	200	150		5% Form.		95% EtOH
5	14:19	40	145	394	150	101		5% Form.		95% EtOH
6	14:26	43	72	188	101	76		5% Form.		95% EtOH
7	14:30	44	75	201	76	50		5% Form.		95% EtOH
8	14:33	49	74	201	50	24		5% Form.		95% EtOH
9	14:37	38	56	150	24	0		5% Form.		95% EtOH
Closed	14:40									

At Depth Data 680wire out 413 (m)Time 13:49 (PDT)

Notes: _____

Surface Data

Pressure 11.9 (m)Temp. 18.68 (°C)Salinity 33.3 (‰)O₂ 7.37 (ml/l)Fluoresc. 0.0484 (V)Trans 0.2184 (1/m)Battery 19.7 (V)

Flowcounts Vol. (corr.)

Final 232 700.8

Initial 8 24.3

224 676.5

HAUL 11

MOCNESS - [Data Acquisition and Control System]

S Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

Time 14:55:11
 Pressure 0.0 m
 Temp 22.38 C
 Salinity 2.1 o/oo
 Density -0.722
 Oxygen 7.16 ml/l
 Fluoresc. 0.0450 V
 LightXmis 0.0000 /m
 Irradiance

Net Operation

Net_Num 9
 OpenTime 17.5 min
 Vol_Filtered 127.1 m3
 Angle 63 deg
 Flow_Counts 61
 Hor_Vel 0.0 kts
 Vert_Vel 0.2 m/min
 Battery 19.3 V

Net - Ship Position

Latitude 34N 24.829
 Longitude 121W 20.02
 Net_Dist 512.2 m
 Total_Dist 5391.2 m

Program Settings

Pause Acqui
 Reset
 Baud Rate 2400
 Sample Rate 4.0 sec
 Printer Off

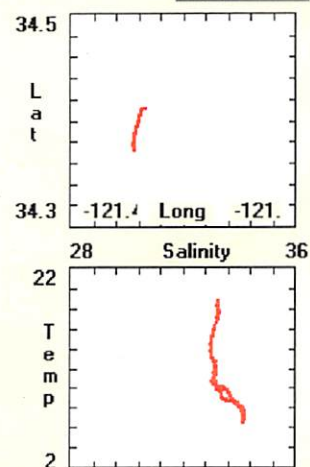
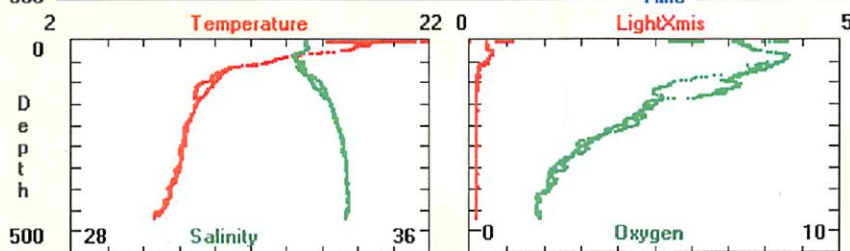
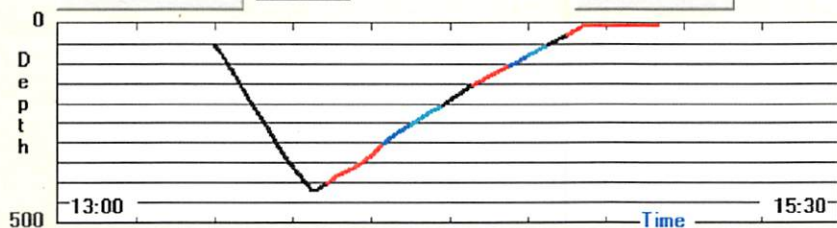
Processed File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL11.PRO
 Raw File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL11.raw

Acquisition Ended. tries = 0

Step Net

Increment Net#

End Acqui



HAUL11.TAB

Tow: Haul11 CCE-LTER

Date: 22/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.2	416.1	145.3	06.6	22.3	13.5	06.6	22.3	13.4	00.12	50.00	39.03
1	300.2	397.7	351.8	07.1	07.9	07.5	07.0	07.9	07.5	34.14	34.22	34.19
2	250.7	298.8	273.2	07.8	08.2	08.1	07.8	08.2	08.1	34.11	34.17	34.14
3	201.3	249.7	224.2	08.2	08.5	08.3	08.1	08.4	08.3	33.99	34.11	34.05
4	150.7	200.2	174.8	08.4	08.9	08.7	08.3	08.9	08.7	33.84	33.99	33.92
5	101.7	149.8	124.1	08.9	09.2	09.0	08.9	09.1	09.0	33.43	33.84	33.63
6	075.9	100.5	089.0	09.2	10.4	09.7	09.2	10.4	09.7	33.25	33.43	33.36
7	050.4	075.0	062.2	10.4	13.0	11.3	10.4	13.0	11.3	33.05	33.25	33.14
8	024.8	050.1	037.5	13.0	16.0	14.0	13.0	16.0	14.0	32.99	33.15	33.05

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	-01.44	36.68	29.21	00.09	00.86	00.36	00.04	00.15	00.05	01.8	08.4	04.4
1	26.63	26.77	26.71	00.09	00.10	00.09	00.04	00.05	00.05	01.8	02.6	02.0
2	26.54	26.62	26.58	00.09	00.10	00.09	00.04	00.05	00.05	02.5	03.0	02.7
3	26.43	26.54	26.48	00.09	00.10	00.09	00.04	00.05	00.05	03.0	03.9	03.5
4	26.23	26.43	26.32	00.09	00.10	00.09	00.04	00.05	00.05	04.0	04.9	04.5
5	25.87	26.22	26.05	00.09	00.11	00.09	00.04	00.05	00.05	04.9	07.3	06.3
6	25.53	25.86	25.71	00.09	00.12	00.10	00.05	00.05	00.05	06.8	07.4	07.2
7	24.97	25.52	25.27	00.11	00.24	00.14	00.05	00.12	00.07	07.4	08.3	08.0
8	24.29	24.96	24.67	00.23	00.31	00.26	00.10	00.14	00.12	08.3	08.6	08.5

net#	irrmin	irrmax	irravg
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	64.0	31.2	00.0	01.4	00.4	-38.7	10.0	-10.2	00593	00805
1	31.0	40.0	35.6	01.2	01.6	01.4	04.2	14.1	09.2	00159	00426
2	36.0	42.0	38.7	01.5	01.6	01.5	07.4	12.0	09.4	00079	00227
3	38.0	43.0	40.8	01.5	01.8	01.6	05.6	10.3	07.9	00093	00274
4	39.0	42.0	40.4	01.5	01.8	01.6	07.2	10.3	08.9	00084	00249
5	36.0	41.0	38.6	01.4	01.6	01.5	03.1	09.1	07.1	00104	00304
6	35.0	39.0	36.9	01.4	01.5	01.4	04.5	08.5	06.9	00053	00154
7	36.0	40.0	38.1	01.4	01.6	01.5	05.1	08.7	07.1	00054	00158
8	34.0	39.0	36.3	01.4	01.5	01.4	03.9	09.5	06.7	00055	00161

HAUL11.TAB

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	234.549549	13:11:21	000.2	416.1	145.3	00593	00805
1	234.577558	13:51:41	300.2	397.7	351.8	00159	00426
2	234.585000	14:2:23	250.7	298.8	273.2	00079	00227
3	234.588715	14:7:44	201.3	249.7	224.2	00093	00274
4	234.593079	14:14:1	150.7	200.2	174.8	00084	00249
5	234.597025	14:19:43	101.7	149.8	124.1	00104	00304
6	234.601910	14:26:44	075.9	100.5	089.0	00053	00154
7	234.604421	14:30:22	050.4	075.0	062.2	00054	00158
8	234.606979	14:34:3	024.8	050.1	037.5	00055	00161
9	234.609572	14:37:47					

HAUL 12

MOCNESS Data Sheet

Cruise CCE-P1408 Date 22⁻²³ Aug 2014 Haul # 12 Cycle # 3 Tow # 2Wind Speed 6 (kts.) Direction 328 (°) Sea State 2-3 (ft.)File Name: Processed HAUL12 Raw _____Start Time 22:45 (PDT) End Time 00:09 (PDT)

234.948067

235.004965

Lat _____

Lat _____

34.3653

34.3991

Long _____

Long _____

121.2777

121.3276

Event deploy # 336Event rec. # 337Net Mesh 202 µmFrame Size 1 m²Bottom Depth 2,100 (m)Console Operator D. Jensen

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	22:45	45	475	1,419	424	0		5% Form.		95% EtOH
1	23:16	46	198	480	397	299		5% Form.		95% EtOH
2	23:23	46	158	378	299	250		5% Form.		95% EtOH
3	23:29	49	238	561	250	208		5% Form.		95% EtOH
4	23:38	45	242	610	200	151		5% Form.		95% EtOH
5	23:48	46	170	425	151	100		5% Form.		95% EtOH
6	23:55	46	82	199	100	74		5% Form.		95% EtOH
7	23:59	46	100	248	74	49		5% Form.		95% EtOH
8	00:03	54	69	159	49	26		5% Form.		95% EtOH
9	00:06	—	(19)	(43)	26	0		5% Form.		95% EtOH
Closed	00:09									

Net Response

At Depth Data

wire out 706 (m)Time 23:11 (PDT)Notes: Data dropped out from 21.5 to 0.5 m, on ascent.
Will have to estimate volume filtered

Surface Data

Pressure 2.7 (m)Temp. 18.56 (°C)Salinity 33.28 (‰)O₂ 7.38 (ml/l)Fluoresc. 0.0496 (V)Trans 0.1794 (m)Battery 19.4 (V)

424

7.02

34.21

1.70

0.0468

0.0975

19.3

Flow counts

Vol. (Corr.)

Final 537

1545.2

Initial 62

126.4

475

1418.8

HAUL 12

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

Time 00:22:13
 Pressure 0.5 m
 Temp 17.13 C
 Salinity 5.09 o/oo
 Density 2.651
 Oxygen 8.49 ml/l
 Fluoresc. 0.0460 V
 LightXmis 0.6933 /m
 Irradiance

Net Operation

Net_Num 9
 OpenTime 15.7 min
 Vol_Filtered 262.3 m3
 Angle 63 deg
 Flow_Counts 173
 Hor_Vel 22.6 kts
 Vert_Vel 45.1 m/min
 Battery 19.1 V

Net - Ship Position

Latitude 34N 23.943
 Longitude 121W 19.65
 Net_Dist 674.2 m
 Total_Dist 5950.0 m

Program Settings

Pause Acqui
 Baud Rate 2400
 Sample Rate 4.0 sec
 Printer Off

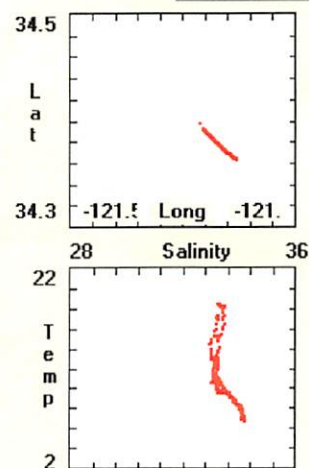
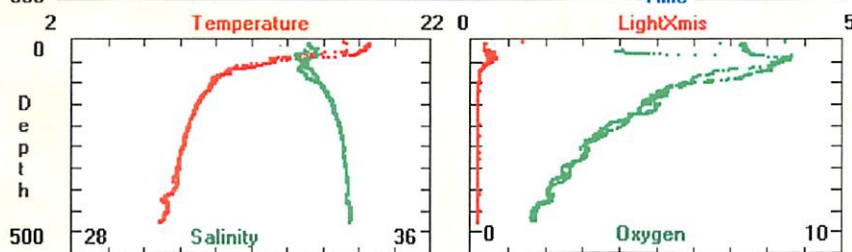
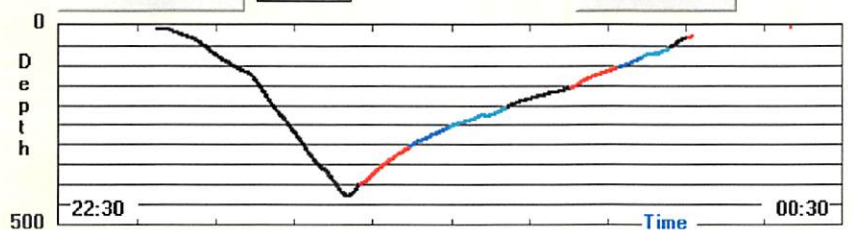
Processed File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL12.PRO
 Raw File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL12.raw

Acquisition Ended. tries = 0

Step Net

Increment Net#

End Acqui



HAUL12.TAB

Tow: Haul12 CCE-LTER

Date: 22/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	002.6	425.7	182.9	06.9	18.7	10.7	06.9	18.7	10.7	01.93	34.24	33.71
1	299.9	395.4	345.4	07.2	08.0	07.7	07.1	07.9	07.6	34.12	34.24	34.17
2	251.0	298.4	274.0	07.9	08.1	08.0	07.9	08.1	08.0	34.07	34.13	34.10
3	200.6	249.5	226.1	08.1	08.5	08.4	08.1	08.5	08.4	34.01	34.08	34.05
4	151.2	200.0	173.9	08.6	08.9	08.7	08.5	08.9	08.7	33.83	34.01	33.91
5	100.5	150.6	122.7	08.9	09.8	09.4	08.9	09.8	09.4	33.57	33.83	33.72
6	075.4	099.6	088.8	09.8	10.6	10.0	09.8	10.6	10.0	33.23	33.58	33.38
7	050.2	073.9	063.4	10.7	13.0	11.3	10.7	13.0	11.3	33.04	33.22	33.10
8	025.8	049.0	035.8	13.0	15.4	14.1	13.0	15.4	14.0	33.00	33.17	33.06

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	00.19	26.81	25.75	00.09	00.35	00.13	00.04	00.15	00.05	01.6	08.6	04.7
1	26.61	26.77	26.68	00.09	00.10	00.10	00.04	00.05	00.05	01.7	02.7	02.2
2	26.53	26.61	26.56	00.09	00.10	00.09	00.04	00.05	00.05	02.7	03.2	02.9
3	26.42	26.53	26.48	00.09	00.10	00.09	00.04	00.05	00.05	03.1	03.6	03.3
4	26.22	26.41	26.31	00.09	00.11	00.09	00.04	00.05	00.05	03.7	05.0	04.4
5	25.87	26.22	26.05	00.09	00.10	00.09	00.04	00.05	00.05	04.6	05.8	05.1
6	25.46	25.86	25.69	00.10	00.11	00.10	00.05	00.05	00.05	05.6	07.5	06.7
7	24.96	25.42	25.24	00.11	00.23	00.15	00.05	00.11	00.07	07.6	08.3	08.0
8	24.45	24.96	24.68	00.23	00.30	00.27	00.11	00.15	00.12	04.3	08.7	07.2

net#	irrmin	irrmax	irragv
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	26.0	57.0	45.0	00.4	09.3	01.2	-27.0	23.5	-13.1	00462	01448
1	38.0	46.0	41.9	01.5	02.0	01.8	09.5	20.3	12.7	00116	00359
2	42.0	47.0	44.7	01.8	02.0	01.9	05.0	12.8	08.4	00088	00300
3	45.0	50.0	46.5	01.6	02.2	01.9	-03.5	09.9	05.6	00132	00461
4	42.0	48.0	45.3	01.6	02.0	01.8	01.9	09.1	05.1	00146	00479
5	41.0	46.0	43.1	01.5	01.9	01.7	04.3	11.1	07.0	00107	00334
6	40.0	45.0	41.9	01.5	01.9	01.6	04.1	10.7	06.8	00053	00162
7	40.0	45.0	42.7	01.5	02.2	01.7	00.6	10.7	05.6	00064	00201
8	40.0	48.0	44.8	01.6	02.0	01.9	05.7	13.0	09.8	00038	00124

HAUL12.TAB

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	234.948021	22:45:9	002.6	425.7	182.9	00462	01448
1	234.969525	23:16:7	299.9	395.4	345.4	00116	00359
2	234.974965	23:23:56	251.0	298.4	274.0	00088	00300
3	234.979097	23:29:53	200.6	249.5	226.1	00132	00461
4	234.985278	23:38:48	151.2	200.0	173.9	00146	00479
5	234.992107	23:48:38	100.5	150.6	122.7	00107	00334
6	234.997130	23:55:51	075.4	099.6	088.8	00053	00162
7	234.999641	23:59:28	050.2	073.9	063.4	00064	00201
8	235.002731	0:3:56	025.8	049.0	035.8	00038	00124
9	235.004549	0:6:33					

HAUL 13

MOCNESS Data Sheet

Cruise CCE-P1408 Date 23 Aug 2014 Haul # 13 Cycle # 3 Tow # 3Wind Speed 6-7 (kts.) Direction 314 (°) Sea State 1-2 (ft.)File Name: Processed HAUL13 Raw _____Start Time 13:22 (PDT) End Time 14:43 (PDT)

235.557326

Lat

34.3922

Long

121.1879

Event deploy # 357

Lat

34.4041

Long

121.2263

Event rec. # 358Bottom Depth 1,705 (m)Console Operator JAB

Pre-deployment checks:

- ☒ Flow Meter
- ☒ Net Response
- ☒ Stepping Motor
- ☒ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

Net Mesh 202 µmFrame Size 1 m²

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	13:22	39	350	1,006	418	0		5% Form.		95% EtOH
1	13:52	47	238	622	399	300		5% Form.		95% EtOH
2	14:03	43	141	350	300	251		5% Form.		95% EtOH
3	14:09	48	143	351	251	200		5% Form.		95% EtOH
4	14:15	46	170	423	200	151		5% Form.		95% EtOH
5	14:22	44	149	392	151	102		5% Form.		95% EtOH
6	14:29	42	91	248	102	75		5% Form.		95% EtOH
7	14:33	34	75	220	75	51		5% Form.		95% EtOH
8	14:38	38	51	145	51	24		5% Form.		95% EtOH
9	14:41	43	50	130	24	0		5% Form.		95% EtOH
Closed	14:43									

Net Conf

At Depth Data

wire out 709.0 (m)Time 13:51 (PDT)

Notes:

Surface Data

Pressure 3.4 (m)Temp. 18.83 (°C)Salinity 33.28 (‰)O₂ 7.21 (ml/l)Fluoresc. 0.0486 (V)Trans 0.1759 (fm)Battery 19.4 (v)

Flow counts Vol. (corr.)

Final

372

1071.1

Initial

22

64.9

350

1006.2

HAUL 13

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

Time 14:55:32
 Pressure 0.2 m
 Temp 21.8 C
 Salinity 0.01 o/oo
 Density -2.173
 Oxygen 7.23 ml/l
 Fluoresc. 0.0448 V
 LightXmis 0.8859 /m
 Irradiance

Net Operation

Net_Num 9
 OpenTime 14.3 min
 Vol_Filtered 118.3 m3
 Angle 63 deg
 Flow_Counts 60
 Hor_Vel 0.0 kts
 Vert_Vel 0.2 m/min
 Battery 19.1 V

Net - Ship Position

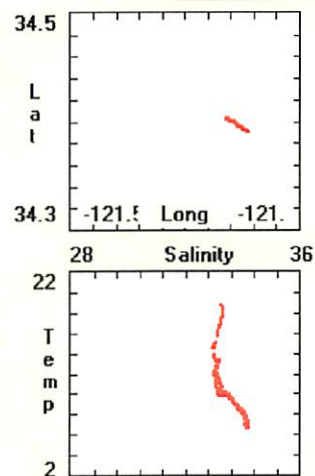
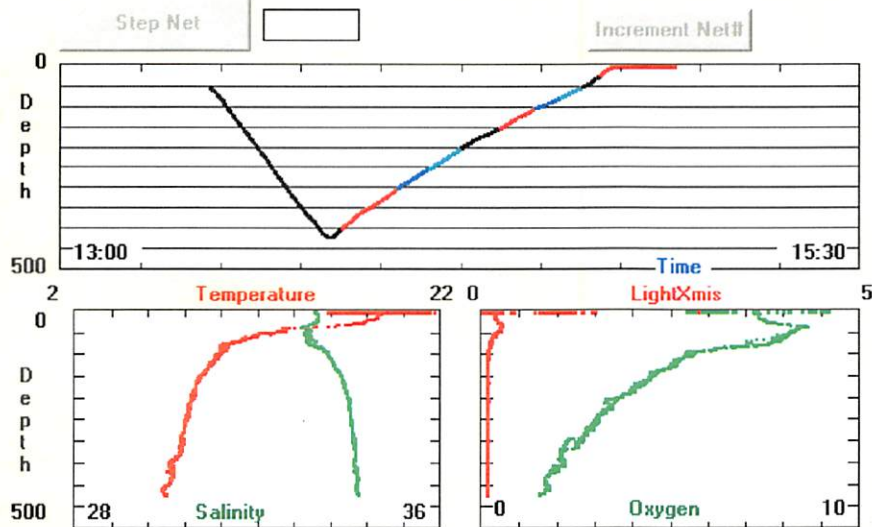
Latitude 34N 24.323
 Longitude 121W 13.54
 Net_Dist 172.6 m
 Total_Dist 4232.8 m

Program Settings

Pause Acqui
 Baud Rate 2400
 Sample Rate 4.0 sec
 Printer Off

Processed File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL13.PRO
 Raw File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL13.raw

Acquisition Ended. tries = 0



HAUL13.TAB

Tow: Haul13 CCE-LTER

Date: 23/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.5	420.6	206.9	06.8	20.5	10.3	06.8	20.5	10.3	02.13	50.00	34.27
1	299.8	397.4	346.4	07.1	08.0	07.5	07.0	08.0	07.5	34.13	34.23	34.18
2	251.1	298.9	274.4	07.8	08.1	08.0	07.8	08.1	08.0	34.08	34.18	34.12
3	200.4	250.0	225.9	08.1	08.5	08.2	08.1	08.4	08.2	34.03	34.08	34.06
4	152.1	199.7	174.3	08.4	08.8	08.6	08.4	08.8	08.6	33.88	34.02	33.95
5	102.3	151.3	125.6	08.8	09.9	09.4	08.8	09.9	09.4	33.59	33.88	33.73
6	076.0	101.8	089.8	09.9	10.3	10.1	09.9	10.3	10.1	33.25	33.59	33.49
7	051.4	075.5	062.6	10.0	11.9	11.2	10.0	11.9	11.2	33.07	33.24	33.13
8	023.6	050.7	038.5	12.0	17.6	14.1	12.0	17.6	14.1	33.00	33.30	33.13

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	00.03	36.30	26.24	00.09	00.42	00.13	00.04	00.24	00.05	01.6	08.7	04.2
1	26.63	26.78	26.70	00.09	00.10	00.09	00.05	00.05	00.05	01.7	02.3	02.0
2	26.55	26.63	26.58	00.09	00.10	00.09	00.05	00.05	00.05	02.3	03.0	02.8
3	26.45	26.55	26.51	00.09	00.10	00.09	00.04	00.05	00.05	03.0	03.5	03.3
4	26.27	26.44	26.36	00.09	00.10	00.09	00.04	00.05	00.05	03.6	04.5	04.1
5	25.87	26.27	26.07	00.09	00.10	00.09	00.04	00.05	00.05	04.5	05.6	05.0
6	25.58	25.87	25.76	00.09	00.11	00.10	00.05	00.06	00.05	05.6	07.4	06.1
7	25.10	25.58	25.29	00.10	00.17	00.14	00.05	00.09	00.07	07.4	08.1	07.9
8	24.06	25.09	24.70	00.17	00.29	00.24	00.07	00.14	00.11	07.7	08.6	08.3

net#	irrmin	irrmax	irragv
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	26.0	64.0	36.3	00.0	03.1	00.9	-29.0	16.8	-13.0	00465	01245
1	34.0	46.0	40.9	01.5	01.8	01.6	06.4	14.7	09.5	00157	00462
2	40.0	45.0	42.1	01.6	01.8	01.7	05.8	10.5	08.3	00089	00274
3	40.0	46.0	42.5	01.6	01.9	01.7	05.8	10.5	08.5	00088	00276
4	42.0	46.0	43.8	01.6	01.9	01.7	04.7	10.3	06.8	00106	00334
5	38.0	43.0	40.5	01.5	01.8	01.6	04.3	09.7	07.5	00100	00303
6	36.0	41.0	37.4	01.4	01.5	01.4	03.1	08.0	05.5	00069	00200
7	29.0	38.0	35.0	01.1	01.5	01.3	03.7	08.7	06.0	00061	00168
8	26.0	33.0	28.3	01.1	01.2	01.1	05.1	11.3	08.5	00046	00114

HAUL13.TAB

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	235.550856	13:13:13	000.5	420.6	206.9	00465	01245
1	235.578356	13:52:49	299.8	397.4	346.4	00157	00462
2	235.585706	14:3:25	251.1	298.9	274.4	00089	00274
3	235.589884	14:9:25	200.4	250.0	225.9	00088	00276
4	235.594016	14:15:22	152.1	199.7	174.3	00106	00334
5	235.598993	14:22:33	102.3	151.3	125.6	00100	00303
6	235.603681	14:29:18	076.0	101.8	089.8	00069	00200
7	235.606933	14:33:59	051.4	075.5	062.6	00061	00168
8	235.609815	14:38:7	023.6	050.7	038.5	00046	00114
9	235.612002	14:41:17					

MOCNESS Data Sheet

HAUL 14

Cruise CCE-P1408 Date 23-24 Aug 2014 Haul # 14 Cycle # 3 Tow # 4Wind Speed 7-8 (kts.) Direction 310 (°) Sea State 2-3 (ft.)File Name: Processed HAUL 14 Raw _____Start Time 23:26 (PDT) End Time 00:54 (PDT)

235.975799

Lat _____

Lat 236.037674

34.3754

34.4067

Long _____

Long 121.2106

121.1608

Event deploy # 364Event rec. # 365Net Mesh 202 µmFrame Size 1 m²Bottom Depth 1,588 (m)Console Operator Ben Whitmore

Pre-deployment checks:	
<input checked="" type="checkbox"/>	Flow Meter
<input checked="" type="checkbox"/>	Net Response
<input checked="" type="checkbox"/>	Stepping Motor
<input checked="" type="checkbox"/>	Clean Optical Surface
<input checked="" type="checkbox"/>	Transmissometer
<input checked="" type="checkbox"/>	Fluorometer

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	23:26	43°	464	1,312	409	0		5% Form.		95% EtOH
1	23:58	48°	201	453	399	300		5% Form.		95% EtOH
2	00:05	49°	223	509	300	250		5% Form.		95% EtOH
3	00:13	52°	156	353	250	200		5% Form.		95% EtOH
4	00:18	48°	231	517	200	151		5% Form.		95% EtOH
5	00:27	48°	228	532	151	101		5% Form.		95% EtOH
6	00:35	47°	147	353	101	77		5% Form.		95% EtOH
7	00:41	40°	129	329	77	51		5% Form.		95% EtOH
8	00:46	43°	83	202	51	26		5% Form.		95% EtOH
9	00:50	43°	44	115	26	6		5% Form.		95% EtOH
Closed	00:54									

At Depth Data

wire out 798 (m)Time 23:56 (PDT)Notes: The Nets were tangled at recovery, may have explained sparse samples

Surface Data

Pressure 2.6 (m)Temp. 18.65 (°C)Salinity 33.21 (‰)O₂ 7.35 (ml/l)Fluoresc. 0.0520 (V)Trans 0.1779 (1/m)Battery 19.2 (V)

Flow counts
 Final 481
 Initial 17
464

Vol. (corr.)
1352.2
40.2
1312.0

HAUL 14

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

 Time 01:03:21
 Pressure 0.6 m
 Temp 18.25 C
 Salinity 50.0 o/oo
 Density 36.746
 Oxygen 6.08 ml/l
 Fluoresc. 0.0448 V
 LightXmis 0.5707 /m
 Irradiance

Net Operation

 Net_Num 9
 OpenTime 13.0 min
 Vol_Filtered 94.8 m3
 Angle 64 deg
 Flow_Counts 49
 Hor_Vel 0.0 kts
 Vert_Vel -0.2 m/min
 Battery 18.9 V

Net - Ship Position

 Latitude 34N 24.518
 Longitude 121W 12.72
 Net_Dist 489.6 m
 Total_Dist 6015.1 m

Program Settings

 Pause Acqui
 Baud Rate 2400
 Sample Rate 4.0 sec
 Printer Off

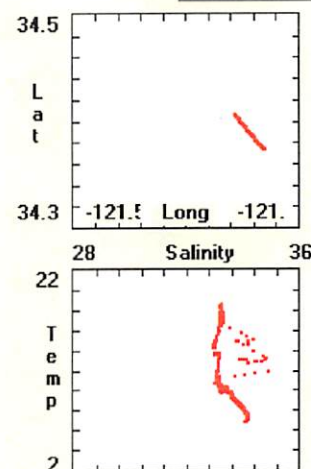
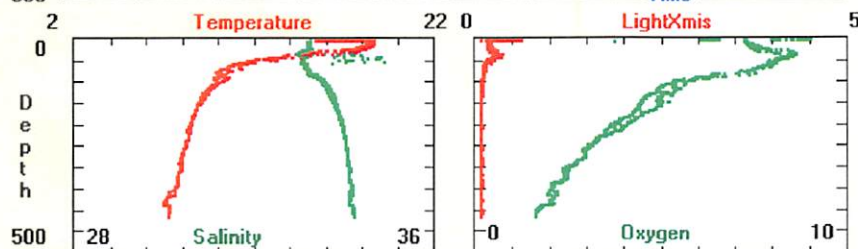
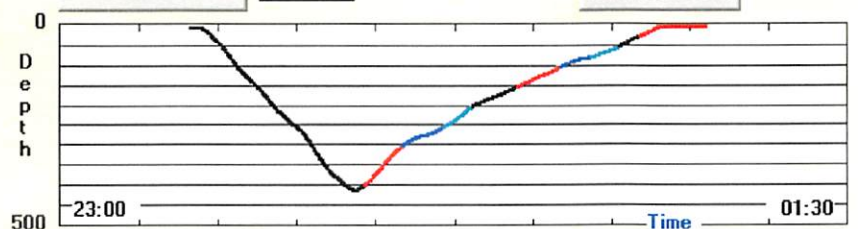
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 Raw File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL14.raw

Acquisition Ended. trys = 0

Step Net

Increment Net#

End Acqui



HAUL14.TAB

Tow: Haul14 CCE-LTER

Date: 23/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	002.3	411.7	207.2	07.0	50.0	10.1	06.9	50.0	10.1	00.15	34.93	33.81
1	300.6	397.9	347.1	07.0	08.0	07.6	07.0	08.0	07.6	34.13	34.24	34.17
2	251.2	299.5	273.8	07.9	08.2	08.0	07.9	08.1	08.0	34.08	34.16	34.10
3	200.1	249.7	226.6	08.2	08.5	08.4	08.2	08.5	08.4	34.01	34.08	34.05
4	151.2	199.3	175.7	08.5	08.9	08.7	08.5	08.9	08.7	33.88	34.01	33.93
5	100.8	150.0	125.7	08.9	09.9	09.3	08.9	09.9	09.3	33.62	33.88	33.77
6	076.9	100.4	086.5	09.8	10.2	10.1	09.8	10.2	10.0	33.32	33.62	33.48
7	051.2	076.2	064.2	09.9	11.5	10.5	09.9	11.5	10.5	33.05	33.29	33.18
8	025.7	050.3	037.3	11.6	15.5	13.6	11.6	15.5	13.6	33.00	33.21	33.09

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	-11.82	26.79	25.93	00.10	00.37	00.12	00.04	00.15	00.05	01.6	08.7	04.4
1	26.61	26.77	26.69	00.10	00.11	00.10	00.05	00.05	00.05	01.7	02.5	02.1
2	26.53	26.61	26.57	00.10	00.10	00.10	00.04	00.05	00.05	02.4	03.1	02.9
3	26.42	26.53	26.47	00.10	00.10	00.10	00.05	00.05	00.05	03.0	03.8	03.4
4	26.26	26.41	26.33	00.09	00.10	00.10	00.04	00.05	00.05	03.7	04.4	04.2
5	25.89	26.26	26.11	00.09	00.10	00.10	00.04	00.05	00.05	04.5	05.3	04.8
6	25.64	25.89	25.76	00.10	00.12	00.11	00.05	00.05	00.05	05.3	07.1	06.1
7	25.20	25.63	25.44	00.11	00.15	00.12	00.05	00.07	00.05	07.1	08.1	07.7
8	24.40	25.19	24.79	00.15	00.31	00.24	00.07	00.13	00.11	08.1	08.7	08.4

net#	irrmin	irrmax	irravg
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	29.0	53.0	40.8	00.7	03.5	01.0	-22.9	10.3	-12.2	00495	01470
1	38.0	49.0	43.9	01.4	02.3	02.0	09.1	19.2	13.8	00107	00349
2	47.0	51.0	48.7	01.8	02.2	02.0	01.5	10.7	06.2	00119	00407
3	46.0	49.0	47.3	01.9	02.2	02.1	06.6	11.4	09.3	00080	00277
4	47.0	50.0	48.5	01.9	02.2	02.0	03.7	10.3	05.9	00125	00426
5	46.0	49.0	48.0	01.9	02.2	02.0	03.9	08.4	06.1	00123	00425
6	44.0	48.0	46.9	01.6	02.0	01.9	01.2	06.8	04.3	00085	00287
7	40.0	46.0	42.7	01.5	01.8	01.7	02.3	06.6	04.5	00083	00267
8	40.0	44.0	41.8	01.6	01.8	01.7	05.1	09.1	07.1	00052	00165

HAUL14.TAB

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	235.975567	23:24:48	002.3	411.7	207.2	00495	01470
1	235.998611	23:58:0	300.6	397.9	347.1	00107	00349
2	236.003704	0:5:20	251.2	299.5	273.8	00119	00407
3	236.009282	0:13:22	200.1	249.7	226.6	00080	00277
4	236.013044	0:18:46	151.2	199.3	175.7	00125	00426
5	236.018900	0:27:12	100.8	150.0	125.7	00123	00425
6	236.024664	0:35:31	076.9	100.4	086.5	00085	00287
7	236.028657	0:41:15	051.2	076.2	064.2	00083	00267
8	236.032558	0:46:52	025.7	050.3	037.3	00052	00165
9	236.035023	0:50:25					

MOCNESS Data Sheet

HAUL 15

Cruise CCE-P1408 Date 26 Aug 2014 Haul # 15 Cycle # 4 Tow # 1Wind Speed 4 (kts.) Direction 342 (°) Sea State 1-2 (ft.)File Name: Processed HAUL15 Raw _____Start Time 14:11 (PDT) End Time 15:47 (PDT)

238.591400

Lat

33.5037

Long

122.5333

Event deploy # 423Event rec. # 424Bottom Depth 3,994 (m)Console Operator Ohman

Pre-deployment checks:

- ☒ Flow Meter
- ☒ Net Response
- ☒ Stepping Motor
- ☒ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

Net Mesh 202 μ mFrame Size 1 m²

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	14:11	41°	493	1,287	418	0	50%	5% Form.	50%	95% EtOH
1	14:45	46°	279	651	399	300		5% Form.		95% EtOH
2	14:56	50°	207	469	300	252		5% Form.		95% EtOH
3	15:03	47°	274	636	252	201		5% Form.		95% EtOH
4	15:14	49°	175	409	201	150		5% Form.		95% EtOH
5	15:21	43	220	543	150	101		5% Form.		95% EtOH
6	15:29	46	98	227	101	76		5% Form.		95% EtOH
7	15:33	44	128	321	76	49		5% Form.		95% EtOH
8	15:39	44	83	204	49	25		5% Form.		95% EtOH
9	15:43	45	95	238	25	0	✓	5% Form.	✓	95% EtOH
Closed	15:47									

Net response

At Depth Data

wire out 849 (m)Time 14:44 (PDT)

Notes:

Surface Data

Pressure 3.7 (m)Temp. 19.27 (°C)Salinity 33.03 (‰)O₂ 7.17 (ml/l)Fluoresc. 0.0440 (V)Trans 0.1725 (fm)Battery 19.4 (v)

418 m.

6.0

34.10

2.12

0.0454

0.0943

19.1 v.

Flow counts Vol. (Corr.)

Final 501

Initial 8

493

1308.5

22

1286.5

HAUL 15

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

Time 15:57:08
 Pressure 0.2 m
 Temp 21.03 C
 Salinity 50.0 o/oo
 Density 35.957
 Oxygen 5.96 ml/l
 Fluoresc. 0.0450 V
 LightXmis 0.2935 /m
 Irradiance

Net Operation

Net_Num 9
 OpenTime 13.9 min
 Vol_Filtered 209.2 m3
 Angle 64 deg
 Flow_Counts 104
 Hor_Vel 0.0 kts
 Vert_Vel 0.4 m/min
 Battery 18.9 V

Net - Ship Position

Latitude 33N 33.998
 Longitude 122W 31.98
 Net_Dist 586.8 m
 Total_Dist 7469.0 m

Program Settings

Pause Acqui
 Baud Rate 2400
 Sample Rate 4.0 sec
 Printer Off

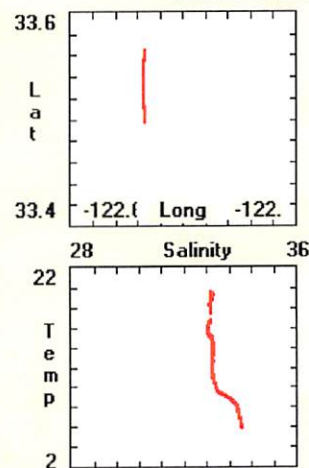
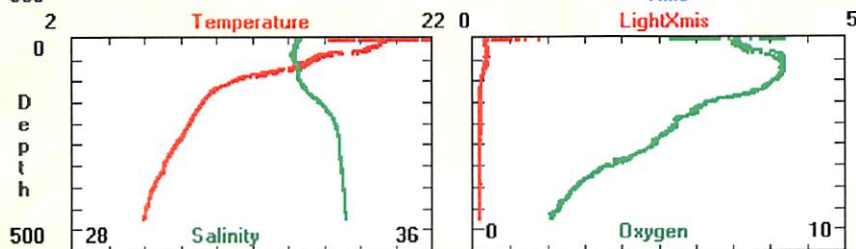
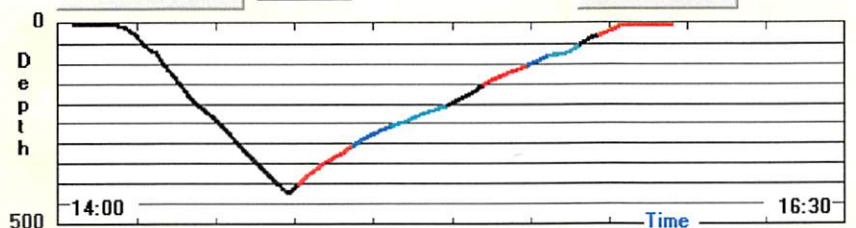
Processed File Name C:\MOCNESS\MOCDATA\CCCE-LTER\HAUL15.PRO
 Raw File Name C:\MOCNESS\MOCDATA\CCCE-LTER\HAUL15.raw

Acquisition Ended. tries = 0

Step Net

Increment Net#

End Acqui



HAUL15.TAB

Tow: Haul15 CCE-LTER

Date: 26/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	-000.5	419.6	173.4	06.0	23.6	12.1	05.9	23.6	12.1	05.66	50.00	36.88
1	300.2	397.5	344.8	06.1	07.1	06.6	06.0	07.1	06.6	33.99	34.08	34.04
2	251.9	299.5	273.1	07.1	07.7	07.4	07.1	07.7	07.4	33.95	34.00	33.97
3	201.4	250.9	225.8	07.7	08.4	08.1	07.7	08.4	08.1	33.88	33.96	33.93
4	151.5	200.7	178.3	08.5	09.2	08.8	08.4	09.2	08.7	33.57	33.88	33.77
5	100.8	150.0	123.0	09.2	10.8	09.8	09.2	10.8	09.8	33.10	33.56	33.29
6	076.2	100.3	087.7	10.8	12.6	11.5	10.8	12.6	11.5	33.02	33.10	33.04
7	048.7	075.6	066.9	12.6	15.1	13.7	12.6	15.1	13.7	33.00	33.07	33.04
8	025.1	047.8	035.2	15.1	17.7	15.9	15.1	17.7	15.9	32.87	33.00	32.92

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	02.56	36.35	27.81	00.09	00.90	00.27	00.04	04.90	00.06	02.1	08.4	05.3
1	26.61	26.82	26.72	00.09	00.10	00.09	00.04	00.05	00.05	02.3	03.7	02.9
2	26.50	26.62	26.56	00.09	00.10	00.09	00.04	00.05	00.05	03.7	04.8	04.3
3	26.33	26.50	26.42	00.09	00.11	00.10	00.04	00.05	00.05	04.8	05.5	05.1
4	25.97	26.33	26.19	00.10	00.10	00.10	00.04	00.05	00.05	05.4	06.3	05.8
5	25.34	25.96	25.65	00.10	00.11	00.10	00.04	00.05	00.05	06.2	08.0	07.4
6	24.95	25.34	25.16	00.11	00.13	00.12	00.05	00.07	00.06	08.0	08.4	08.2
7	24.42	24.96	24.74	00.13	00.18	00.15	00.06	00.09	00.08	08.3	08.4	08.3
8	23.80	24.41	24.18	00.17	00.19	00.18	00.05	00.07	00.06	07.8	08.4	08.2

net#	irrmin	irrmax	irravg
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	64.0	38.3	00.0	01.8	00.8	-21.4	15.7	-09.4	00643	01547
1	42.0	50.0	45.6	01.8	02.0	01.9	05.4	16.4	09.5	00157	00507
2	46.0	53.0	48.7	01.9	02.2	02.0	02.9	10.5	06.6	00111	00375
3	45.0	51.0	48.1	01.8	02.0	01.9	02.1	07.4	04.8	00155	00519
4	44.0	49.0	46.0	01.8	02.0	01.8	04.9	11.8	07.2	00101	00327

HAUL15.TAB

5	43.0	49.0	45.8	01.6	02.0	01.8	02.3	10.7	05.9	00129	00425
6	43.0	48.0	45.1	01.6	01.9	01.8	04.1	08.2	06.3	00059	00187
7	38.0	46.0	41.9	01.4	01.8	01.6	-00.6	10.5	04.3	00088	00268
8	41.0	46.0	43.7	01.6	01.9	01.7	04.1	10.5	07.1	00051	00161

net#	Year/day/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	238.584213	14:1:16	-000.5	419.6	173.4	00643	01547
1	238.615150	14:45:48	300.2	397.5	344.8	00157	00507
2	238.622488	14:56:22	251.9	299.5	273.1	00111	00375
3	238.627685	15:3:52	201.4	250.9	225.8	00155	00519
4	238.634942	15:14:19	151.5	200.7	178.3	00101	00327
5	238.639676	15:21:8	100.8	150.0	123.0	00129	00425
6	238.645718	15:29:49	076.2	100.3	087.7	00059	00187
7	238.648507	15:33:51	048.7	075.6	066.9	00088	00268
8	238.652639	15:39:47	025.1	047.8	035.2	00051	00161
9	238.655058	15:43:16					

MOCNESS Data Sheet

HAUL 16

Cruise CCE-P1408 Date 27²⁸ Aug 2014 Haul # 16 Cycle # 4 Tow # 2

Wind Speed 7 (kts.) Direction 329 (°) Sea State 2-3 (ft.)

File Name: Processed HAUL 16 Raw _____

Start Time 23:19 (PDT) End Time 00:52 (PDT)
239.972882 Lat 33.5572 240.036389 Lat 33.6050

Long 122.4405 Long 122.4820

Event deploy # 452 Event rec. # 453

Bottom Depth 3937 (m) Console Operator Amanda Netborn

Pre-deployment checks:

- ☒ Flow Meter
- ☐ Net Response
- ☒ Stepping Motor
- ☐ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

Net Mesh 202 µm

Frame Size 1 m²

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	23:19	46	526	1,393	422	0	50%	5% Form.	50%	95% EtOH
1	23:53	40	294	703	399	300		5% Form.		95% EtOH
2	00:05	50	156	368	300	252		5% Form.		95% EtOH
3	00:11	48	190	440	252	203		5% Form.		95% EtOH
4	00:18	47	220	518	203	150		5% Form.		95% EtOH
5	00:27	43	206	508	150	100		5% Form.		95% EtOH
6	00:35	46	106	258	100	77		5% Form.		95% EtOH
7	00:40	41	101	257	77	49		5% Form.		95% EtOH
8	00:44	43	82	200	49	26		5% Form.		95% EtOH
9	00:48	43	85	222	26	0	↓	5% Form.	↓	95% EtOH
Closed	00:52									

Net Confirmation

At Depth Data

wire out 782 (m)

Time 23:51 (PDT)

Surface Data

Pressure 2.0 (m)

Temp. 19.42 (°C)

Salinity 33.01 (‰)

O₂ 7.14 (ml/l)

Fluoresc. 0.0468 (V)

Trans 0.1563 (1/m)

Battery 19.14 (V)

Notes:

Final 569 Vol. (Corr.) 1487.2
Initial 43 94.1
526 1393.1

HAUL 16

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

Time 01:02:30
 Pressure 0.6 m
 Temp 18.1 C
 Salinity 50.0 o/oo
 Density 36.786
 Oxygen 6.05 ml/l
 Fluoresc. 0.0448 V
 LightXmis 0.4893 /m
 Irradiance

Net Operation

Net_Num 9
 OpenTime 14.1 min
 Vol_Filtered 237.8 m3
 Angle 64 deg
 Flow_Counts 108
 Hor_Vel 0.0 kts
 Vert_Vel 0.2 m/min
 Battery 18.7 V

Net - Ship Position

Latitude 33N 36.403
 Longitude 122W 28.95
 Net_Dist 467.9 m
 Total_Dist 6852.3 m

Program Settings

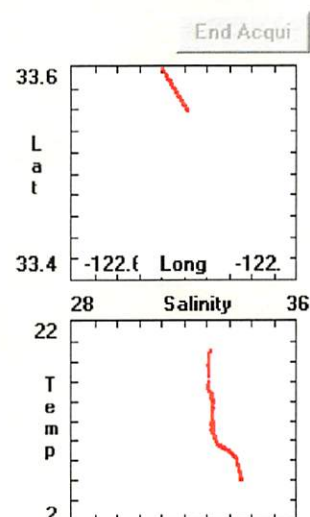
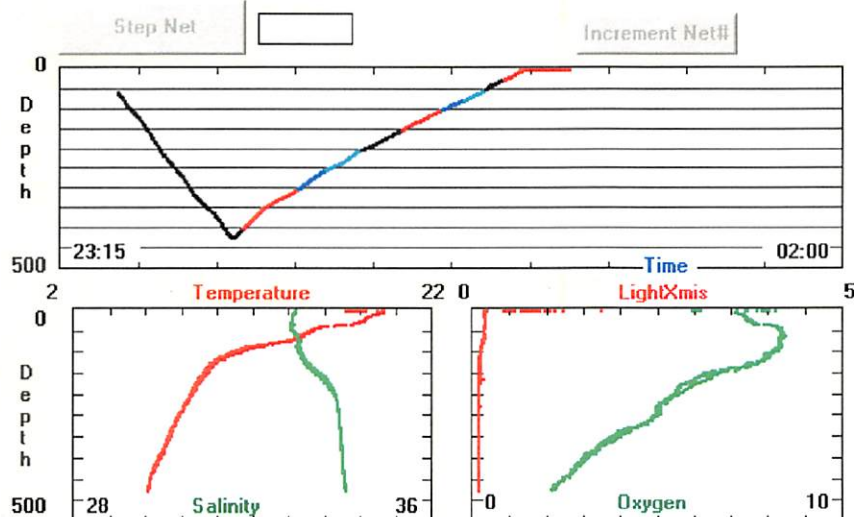
Pause Acqui
 Baud Rate 2400
 Sample Rate 4.0 sec
 Printer Off

Processed
 File Name
 Raw File
 Name

C:\MOCNESS\MOCDATA\ACCE-LTER\HAUL16.PRO

C:\MOCNESS\MOCDATA\ACCE-LTER\HAUL16.raw

Acquisition Ended. tries = 0



Tow: Haul16 CCE-LTER

Date: 27/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	001.4	424.2	214.4	06.1	50.0	10.3	06.1	50.0	10.3	00.09	34.10	33.52
1	300.5	397.7	341.7	06.3	07.3	06.9	06.3	07.3	06.8	33.99	34.06	34.02
2	251.3	299.8	274.6	07.3	07.9	07.6	07.3	07.8	07.6	33.95	33.99	33.97
3	202.2	251.2	228.0	07.8	08.5	08.2	07.8	08.5	08.2	33.88	33.95	33.92
4	151.3	202.4	178.4	08.5	09.2	08.8	08.5	09.2	08.8	33.56	33.88	33.77
5	101.0	149.8	124.6	09.2	10.7	09.8	09.2	10.6	09.8	33.12	33.56	33.30
6	077.3	100.7	088.8	10.7	12.9	11.5	10.7	12.9	11.5	33.00	33.12	33.04
7	050.0	076.7	064.2	13.0	15.2	14.3	12.9	15.2	14.3	32.94	33.07	33.03
8	026.5	049.1	036.9	15.2	17.9	16.3	15.2	17.9	16.3	32.88	32.95	32.90

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	-11.87	26.82	25.65	00.09	02.28	00.12	00.04	00.09	00.05	02.2	08.5	05.3
1	26.59	26.78	26.67	00.09	00.10	00.09	00.04	00.05	00.05	02.5	03.7	03.1
2	26.48	26.58	26.53	00.09	00.09	00.09	00.04	00.05	00.05	03.7	04.9	04.4
3	26.32	26.48	26.41	00.09	00.10	00.09	00.04	00.05	00.05	04.8	05.4	05.1
4	25.96	26.32	26.19	00.09	00.10	00.10	00.04	00.05	00.05	05.4	06.4	05.7
5	25.37	25.96	25.66	00.10	00.11	00.10	00.04	00.05	00.05	06.2	08.0	07.4
6	24.90	25.37	25.16	00.10	00.14	00.12	00.05	00.07	00.06	07.9	08.4	08.2
7	24.36	24.90	24.61	00.13	00.17	00.15	00.06	00.09	00.08	08.3	08.5	08.3
8	23.68	24.35	24.07	00.16	00.18	00.17	00.05	00.06	00.05	07.6	08.4	08.1

net#	irrmin	irrmax	irragv
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	33.0	64.0	45.8	00.8	04.7	01.2	-47.9	14.9	-12.4	00488	01595
1	40.0	49.0	45.1	01.8	02.0	01.9	04.4	14.1	08.8	00171	00545
2	43.0	55.0	46.0	01.8	02.0	01.9	05.0	11.6	08.2	00088	00289
3	43.0	52.0	46.4	01.6	02.0	01.9	02.7	11.6	06.8	00109	00358
4	44.0	50.0	46.6	01.8	02.0	01.8	01.7	09.5	05.8	00129	00418
5	42.0	51.0	45.2	01.6	02.0	01.8	01.6	09.3	06.1	00123	00400
6	41.0	49.0	43.9	01.5	01.8	01.7	01.0	08.4	05.1	00068	00212
7	39.0	44.0	41.6	01.5	01.8	01.6	03.3	10.1	05.8	00068	00208
8	39.0	45.0	42.1	01.5	01.8	01.6	03.7	09.7	06.7	00053	00162

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	HAUL10.TAB pavg	#obs	vol
0	239.972095	23:19:49	001.4	424.2	214.4	00488	01595
1	239.995671	23:53:45	300.5	397.7	341.7	00171	00545
2	240.003669	0:5:17	251.3	299.8	274.6	00088	00289
3	240.007813	0:11:15	202.2	251.2	228.0	00109	00358
4	240.012917	0:18:36	151.3	202.4	178.4	00129	00418
5	240.018958	0:27:18	101.0	149.8	124.6	00123	00400
6	240.024722	0:35:35	077.3	100.7	088.8	00068	00212
7	240.027928	0:40:12	050.0	076.7	064.2	00068	00208
8	240.031134	0:44:50	026.5	049.1	036.9	00053	00162
9	240.033646	0:48:27					

400-300 m.

STROBE ON, STROBE OFF

HAUL 17

MOCNESS Data Sheet

Cruise CCE-P1408 Date 28 Aug 2014 Haul # 17 Cycle # 4 Tow # 3Wind Speed 10⁻¹² (kts.) Direction 337 (°) Sea State 2-4 (ft.)
(low period swell)File Name: Processed HAUL17 Raw _____Start Time 13:26 (PDT) End Time 16:18 (PDT)

240.559109 Lat 240.679144

Lat 33.5869 33.5850

Long 122.4130 122.4061

Event deploy # 471 Event rec. # 472Bottom Depth 3,894 (m) Console Operator Ohman

Pre-deployment checks:

- ☒ Flow Meter
- ☒ Net Response
- ☒ Stepping Motor
- ☒ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

Net Mesh 202 μ mFrame Size 1 m²

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	13:26	30°	387	1,143	433	0	X	5% Form.		95% EtOH
1	13:56	39°	178	511	397 → 300	100%		5% Form.		95% EtOH
2	14:07	28°	86	270	397 ← 300			5% Form.		95% EtOH
3	14:16	34°	108	307	397 → 298			5% Form.		95% EtOH
4	14:22	26°	82	248	402 ← 298			5% Form.		95% EtOH
5	14:31	35°	508 +195703 =195703	12652 +3797=1644	402 → 300		X	5% Form.		95% EtOH
6	15:14	32°	101	303	396 ← 300	100%		5% Form.		95% EtOH
7	15:24	33°	207	596	396 → 301			5% Form.		95% EtOH
8	15:35	27°	75	231	402 ← 301			5% Form.		95% EtOH
9	15:43	43°	726	1,921	301 → 0			5% Form.		95% EtOH
Closed	16:18									

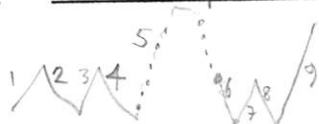
STROBE ON

STROBE OFF

At Depth Data

wire out 641 (m)Time 13:51 (PDT)Notes: Both strokes fully flashing (all LED's) on descent.steamed in 0.5 nm (diameter) circle. started ~2.5 nm downwind of drifter.

Surface Data

432 Pressure 1.6 (m)6.12 Temp. 19.52 (°C)34.11 Salinity 33.01 (‰)2.04 O₂ 7.10 (ml/l)0.0466 Fluoresc. 0.0446 (V)0.1053 Trans 0.1712 (fm)20.0 Battery 20.1 (v)Based on yesterday's day Mocness, max euphausiid layer ~400-300 m.
Pete D. found backscatter patches at 200 kHz at ~140-180 m.Net 5' in @ 25 m min⁻¹ @ surface @ 14:55 - All LED's flashing, both rows.
back down @ 30 m min⁻¹. Then slowed to ~15 m min⁻¹ @ 300 m.Did not preserve nets 0, 5.

	Flow counts	Vol. (corr.)
Final	426	1262.7
Initial	39	119.4
	387	1143.3

Notes:

UP			DOWN		
Net S	FC	Vol	Net S	FC	Vol
Final	509	1267.5	Final	779	2293.1
Initial	1	2.9	Initial	584	1913.6
	508	1264.6		195	379.5

Hand 17
(corr.)

703

1644.1

STROBE ON | STROBE OFF

HAUL 17

page A

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

Time 15:29:34
 Pressure 343.1 m
 Temp 6.8 C
 Salinity 34.03 o/oo
 Density 26.683
 Oxygen 3.07 ml/l
 Fluoresc. 0.0452 V
 LightXmis 0.0986 /m
 Irradiance

Net Operation

Net_Num 7
 OpenTime 5.7 min
 Vol_Filtered 220.1 m3
 Angle 36 deg
 Flow_Counts 102
 Hor_Vel 1.2 kts
 Vert_Vel 8.1 m/min
 Battery 19.7 V

Net - Ship Position

Latitude 33N 35.101
 Longitude 122W 24.37
 Net_Dist 328.8 m
 Total_Dist 3690.5 m

Program Settings

Pause Acqui
 Reset
 Baud Rate 2400
 Sample Rate 4.0 sec
 Printer Off

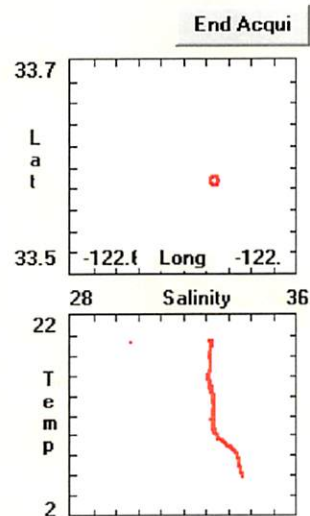
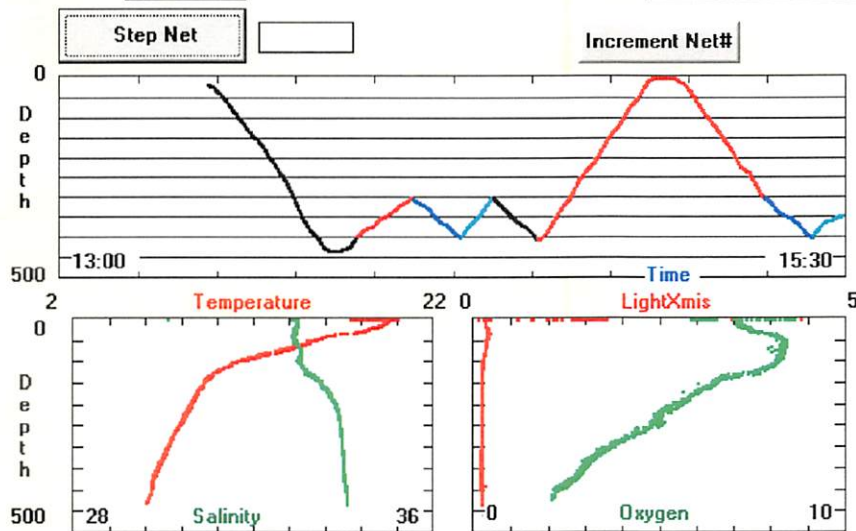
Processed
 File Name
 Raw File
 Name

C:\MOCNESS\MOCDATA\CCE-LTER\HAUL17.PRO

C:\MOCNESS\MOCDATA\CCE-LTER\HAUL17.raw

##MN-08 00 36 1862 05459 2240 358586 334288 19711:1

\$GPGGA,222931,3335.1012,N,12224.3772,W,2,8,2,0,28,



MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

Time 16:32:37
 Pressure 0.2 m
 Temp 19.66 C
 Salinity 0.01 o/oo
 Density -1.715
 Oxygen 8.76 ml/l
 Fluoresc. 0.0434 V
 LightXmis 0.9305 /m
 Irradiance

Net Operation

Net_Num 9
 OpenTime 48.8 min
 Vol_Filtered 1753.6 m3
 Angle 63 deg
 Flow_Counts 816
 Hor_Vel 0.0 kts
 Vert_Vel 0.2 m/min
 Battery 19.6 V

Net - Ship Position

Latitude 33N 35.421
 Longitude 122W 24.53
 Net_Dist 490.4 m
 Total_Dist 4900.2 m

Program Settings

Pause Acqui
 Reset
 Baud Rate 2400
 Sample Rate 4.0 sec
 Printer Off

Processed
 File Name
 Raw File
 Name

C:\MOCNESS\MOCDATA\CCE-LTER\HAUL17.PRO

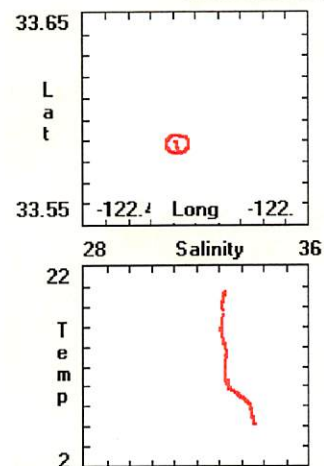
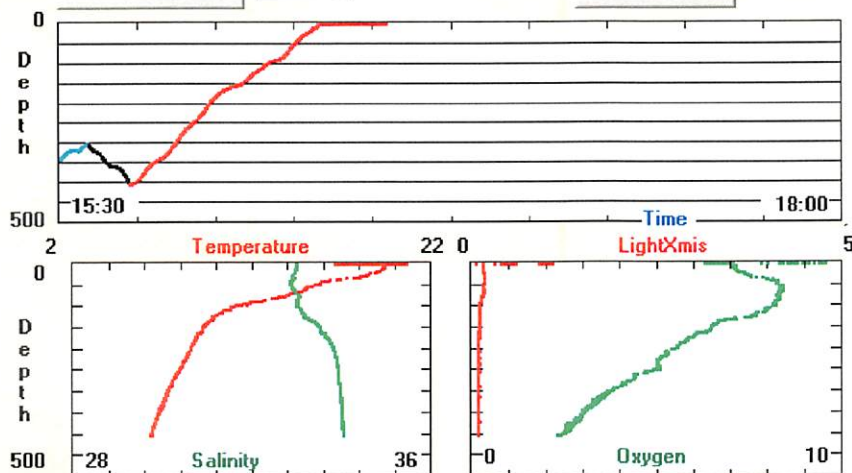
C:\MOCNESS\MOCDATA\CCE-LTER\HAUL17.raw

Acquisition Ended. tries = 0

Step Net

Increment Net#

End Acqui



HAUL17.TAB

Tow: Haul17 CCE-LTER

Date: 28/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	-000.1	433.1	163.8	06.1	22.8	13.2	06.0	22.8	13.2	03.07	50.00	37.98
1	299.7	394.8	345.7	06.4	07.3	06.8	06.3	07.2	06.7	33.99	34.09	34.03
2	302.2	398.6	349.5	06.3	07.2	06.7	06.3	07.2	06.7	34.00	34.09	34.04
3	298.3	395.3	347.0	06.4	07.2	06.7	06.4	07.2	06.7	34.00	34.09	34.03
4	300.2	402.0	352.8	06.4	07.2	06.7	06.3	07.2	06.7	34.00	34.09	34.04
5	-001.2	401.8	157.8	06.4	20.1	11.4	06.3	20.1	11.4	00.01	50.00	33.57
6	300.5	398.9	349.9	06.4	07.2	06.7	06.4	07.2	06.7	34.00	34.09	34.04
7	300.1	395.5	340.7	06.4	07.3	06.9	06.4	07.3	06.8	33.99	34.08	34.02
8	304.7	402.4	349.4	06.4	07.3	06.8	06.4	07.3	06.8	34.00	34.08	34.03

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	00.56	36.33	28.43	00.10	05.42	00.25	00.03	04.92	00.05	02.0	08.7	05.4
1	26.60	26.79	26.69	00.10	00.11	00.10	00.04	00.05	00.05	02.2	03.7	03.0
2	26.60	26.79	26.70	00.10	00.11	00.10	00.04	00.05	00.05	02.2	03.6	02.9
3	26.60	26.79	26.70	00.10	00.11	00.10	00.04	00.05	00.05	02.3	03.6	02.9
4	26.61	26.79	26.71	00.10	00.11	00.10	00.04	00.05	00.05	02.2	03.6	02.9
5	-01.36	36.90	25.50	-00.05	14.03	00.25	00.03	04.93	00.09	02.3	08.7	06.0
6	26.60	26.78	26.70	00.10	00.11	00.10	00.04	00.07	00.05	02.3	03.6	03.0
7	26.58	26.78	26.67	00.10	00.10	00.10	00.04	00.05	00.05	02.3	03.8	03.1
8	26.59	26.78	26.68	00.10	00.10	00.10	00.04	00.05	00.05	02.3	03.7	03.1

net#	irrmin	irrmax	irrav
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	82.0	37.1	00.0	02.0	00.7	-33.1	20.5	-09.3	00651	01332
1	27.0	42.0	32.8	01.1	01.5	01.2	02.7	19.4	09.5	00157	00378
2	21.0	39.0	29.1	00.4	01.1	00.7	-17.1	-00.8	-10.5	00138	00300
3	22.0	43.0	29.6	00.9	01.6	01.3	03.1	22.5	16.1	00090	00201
4	26.0	61.0	32.6	00.5	01.2	00.7	-18.5	06.6	-11.8	00126	00285
5	00.0	57.0	36.4	00.0	04.2	01.3	-27.8	29.1	02.4	00649	01767
6	26.0	34.0	30.7	00.5	01.1	00.8	-18.1	-05.1	-11.1	00135	00349
7	29.0	38.0	33.1	00.9	02.4	01.3	-03.5	18.4	08.6	00169	00454

HAUL17.TAB

8	22.0	32.0	27.5	00.3	00.9	00.7	-25.4	00.4	-12.1	00121	00272
net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol				
0	240.550637	13:12:54	-000.1	433.1	163.8	00651	01332				
1	240.581169	13:56:52	299.7	394.8	345.7	00157	00378				
2	240.588519	14:7:27	302.2	398.6	349.5	00138	00300				
3	240.594977	14:16:46	298.3	395.3	347.0	00090	00201				
4	240.599201	14:22:51	300.2	402.0	352.8	00126	00285				
5	240.605104	14:31:21	-001.2	401.8	157.8	00649	01767				
6	240.635301	15:14:49	300.5	398.9	349.9	00135	00349				
7	240.641620	15:23:55	300.1	395.5	340.7	00169	00454				
8	240.649826	15:35:45	304.7	402.4	349.4	00121	00272				
9	240.655486	15:43:53									

100 → near surface

STROBE ON / STROBE OFF

HAUL 18

MOCNESS Data Sheet

Cruise CCE-P1408 Date 29 Aug 2014 Haul # 18 Cycle # 4 Tow # 4Wind Speed 12-14 (kts.) Direction 334 (°) Sea State 2-4 (ft.)File Name: Processed HAUL18 Raw _____Start Time 00:13 (PDT) End Time 01:35 (PDT)
241.009433 241.065880Lat 33.6033 Lat 33.6012Long 122.3896 Long 122.3832Event deploy # 482 Event rec. # 483Bottom Depth 3,853 (m) Console Operator Ohman

Pre-deployment checks:

- ☒ Flow Meter
- ☒ Net Response
- ☒ Stepping Motor
- ☒ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

Net Mesh 202 μ mFrame Size 1 m²

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	00:13	45°	203	498	99	← 0		5% Form.		95% EtOH
1	00:25	41°	220	592	99	→ 3		5% Form.		95% EtOH
2	00:35	38°	107	284	100	← 3		5% Form.		95% EtOH
3	00:42	34°	169	474	100	→ 3		5% Form.		95% EtOH
4	00:49	43°	111	291	99	← 3		5% Form.		95% EtOH
5	00:56	50°	161	407	99	→ 0		5% Form.		95% EtOH
6	01:07	—	83	231	99	← 7		5% Form.		95% EtOH
7	01:14	48°	154	397	99	→ 2		5% Form.		95% EtOH
8	01:21	36°	104	304	99	← 2		5% Form.		95% EtOH
9	01:28	42°	157	408	99	→ 0		5% Form.		95% EtOH
Closed	01:35									

STROBE ON

STROBE OFF

At Depth Data

wire out _____ (m)

Time _____ (PDT)

Surface Data

Pressure 19.5 (m)Temp. 19.15 (°C)Salinity 33.0 (‰)O₂ 7.15 (ml/l)Fluoresc. 0.0468 (V)Trans 0.1551 (1/m)Battery 19.7 (V)Notes: Steered in circle 0.5 nm diameter. Stopped at 5 mwo.down @ 15 m min⁻¹ - 1st net onlyup @ 20 m min⁻¹; thereafter @ 20 m min⁻¹time out: 01:03time in: 01:07All LED's on upon recovery of Net 5

	Flow counts	Vol. (corr.)
Final	212	539.7
Initial	9	21.4
	203	498.3

Notes:

UP

5/6

Net 5	FC	Vol
Final	162	459.9
Initial	1	2.6
	161	407.3

Haul 18
(Corr.)

STROBE ON | STROBE OFF

HAUL 18

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

Time 01:45:19
 Pressure 1.1 m
 Temp 17.99 C
 Salinity 50.0 o/oo
 Density 36.815
 Oxygen 6.25 ml/l
 Fluoresc. 0.0518 V
 LightXmis 0.7176 /m
 Irradiance

Net Operation

Net_Num 9
 OpenTime 16.8 min
 Vol_Filtered 462.4 m3
 Angle 63 deg
 Flow_Counts 208
 Hor_Vel 0.0 kts
 Vert_Vel -0.2 m/min
 Battery 19.5 V

Net - Ship Position

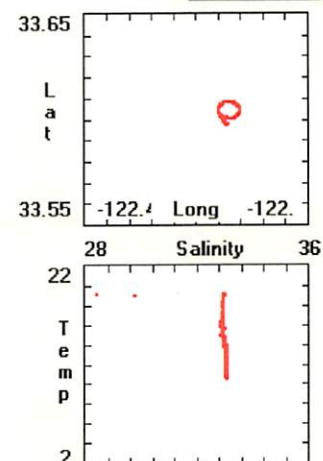
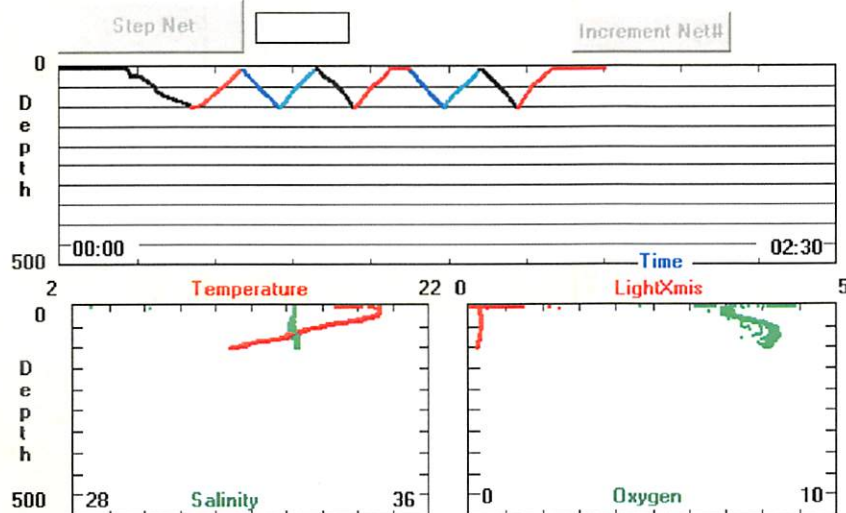
Latitude 33N 36.097
 Longitude 122W 23.19
 Net_Dist 609.0 m
 Total_Dist 5280.5 m

Program Settings

Pause Acqui
 Baud Rate 2400
 Sample Rate 4.0 sec
 Printer Off

Processed File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL18.PRO
 Raw File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL18.raw

Acquisition Ended. tries = 0



HAUL18.TAB

Tow: Haul18 CCE-LTER

Date: 29/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.7	099.0	022.4	11.0	19.3	16.9	11.0	19.3	16.9	25.71	50.00	43.27
1	002.7	098.9	057.4	11.0	19.3	15.1	11.0	19.3	15.1	32.89	33.07	33.00
2	002.8	100.1	051.7	10.9	19.3	15.8	10.9	19.3	15.7	32.92	33.08	33.01
3	002.5	099.9	047.2	11.0	19.3	16.1	10.9	19.3	16.1	32.88	33.07	32.99
4	001.9	098.9	045.8	10.9	19.3	16.2	10.9	19.3	16.2	32.89	33.09	33.00
5	000.4	099.3	031.8	10.9	19.3	16.5	10.9	19.3	16.5	00.01	50.00	27.79
6	008.7	099.1	056.2	10.8	19.3	15.1	10.8	19.3	15.1	32.92	33.10	33.02
7	002.3	097.1	047.7	10.9	19.3	15.8	10.9	19.3	15.8	32.87	33.08	32.99
8	002.5	099.9	048.0	10.9	19.3	15.8	10.9	19.3	15.8	32.90	33.09	33.01

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	17.93	36.92	31.89	00.05	01.24	00.11	00.04	00.09	00.05	04.7	08.4	07.0
1	23.45	25.27	24.37	00.12	00.17	00.14	00.05	00.08	00.06	07.1	08.5	08.0
2	23.45	25.29	24.24	00.12	00.17	00.15	00.05	00.08	00.06	07.1	08.4	07.9
3	23.45	25.28	24.14	00.12	00.17	00.15	00.05	00.08	00.05	07.1	08.5	07.9
4	23.45	25.28	24.13	00.12	00.18	00.15	00.05	00.08	00.06	06.5	08.4	07.8
5	-01.33	36.91	20.11	-00.04	13.92	00.33	00.05	00.10	00.07	06.3	08.7	07.9
6	23.44	25.32	24.38	00.11	00.17	00.15	00.05	00.08	00.06	07.1	08.4	07.8
7	23.45	25.29	24.21	00.11	00.17	00.15	00.05	00.08	00.06	07.1	08.5	08.0
8	23.45	25.30	24.23	00.11	00.17	00.15	00.05	00.08	00.06	07.0	08.4	07.8

net#	irrmin	irrmax	irravg
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	64.0	41.2	00.0	01.5	00.5	-26.8	03.1	-03.1	00477	00563
1	36.0	54.0	43.0	01.4	01.9	01.7	-06.1	16.3	09.9	00142	00408
2	37.0	50.0	42.4	00.9	01.5	01.1	-18.1	04.5	-13.0	00109	00333
3	33.0	50.0	41.5	01.1	01.9	01.7	-08.2	20.3	13.4	00106	00299
4	39.0	55.0	46.2	00.8	01.5	01.1	-21.5	05.8	-13.0	00106	00320
5	00.0	56.0	30.0	00.0	02.0	01.2	-13.8	20.1	08.4	00165	00349
6	32.0	52.0	39.9	00.7	01.2	00.9	-18.8	-09.0	-14.6	00095	00272
7	32.0	44.0	38.8	01.1	01.8	01.6	-02.9	20.9	13.5	00103	00282
8	29.0	47.0	39.1	00.7	01.6	01.1	-20.4	08.9	-13.2	00106	00333

HAUL18.TAB

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	240.995544	23:53:34	000.7	099.0	022.4	00477	00563
1	241.017836	0:25:40	002.7	098.9	057.4	00142	00408
2	241.024491	0:35:16	002.8	100.1	051.7	00109	00333
3	241.029595	0:42:37	002.5	099.9	047.2	00106	00299
4	241.034572	0:49:47	001.9	098.9	045.8	00106	00320
5	241.039537	0:56:56	000.4	099.3	031.8	00165	00349
6	241.047257	1:8:3	008.7	099.1	056.2	00095	00272
7	241.051713	1:14:28	002.3	097.1	047.7	00103	00282
8	241.056551	1:21:25	002.5	099.9	048.0	00106	00333
9	241.061516	1:28:35					

HAUL 19

MOCNESS Data Sheet

Cruise CCE-P1408 Date 30 Aug 2014 Haul # 19 Cycle # 5 Tow # 1Wind Speed 13-15 (kts.) Direction 331 (°) Sea State 3-4 (ft.)File Name: Processed HAUL 19 Raw _____Start Time 13:08 (PDT) End Time 14:44 (PDT)
242.546968 Lat 32.8193 242.61360 Lat 32.8771Long 123.8848 Long 123.9107Event deploy # 516 Event rec. # 517Bottom Depth 4,434 (m)Console Operator Ben Whitmore

Pre-deployment checks:

- ☒ Flow Meter
- ☒ Net Response
- ☒ Stepping Motor
- ☒ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

Net Mesh 202 µmFrame Size 1 m²

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	13:08		5387-808 +270 = 808	13857 +622 = 2008	415	0	50%	5% Form.	50%	95% EtOH
1	13:52		224	520	300	251		5% Form.		95% EtOH
2	14:00		186	411	251	202		5% Form.		95% EtOH
3	14:07		257	574	202	152		5% Form.		95% EtOH
4	14:17		182	416	152	102		5% Form.		95% EtOH
5	14:24		142	337	102	76		5% Form.		95% EtOH
6	14:31		100	259	76	51		5% Form.		95% EtOH
7	14:36		90	254	51	26		5% Form.		95% EtOH
8	14:40		46	143	26	0	✓	5% Form.	✓	95% EtOH
9	14:44							5% Form.		95% EtOH
Closed										

At Depth Data

No. 9 samples wire out 840 (m)
Time 13:39 (PDT)

Surface Data

 Pressure 3.1 (m)
 Temp. 19.74 (°C)
 Salinity 33.05 (‰)
 O₂ 7.01 (ml/l)
 Fluoresc. 0.0436 (V)
 Trans 0.1509 (m)
 Battery 19.6 (V)

Notes:

Net #1 did not trip on command; manually incremented net #, but then found on recovery that net #9 still closed.

I.e., we have 9 samples from this haul, incl. Net #8, not 10 samples.

Net 0 sampled 0 → 415 → 300 m.
 Net 1 sampled 300 → 251 m.

depths are incorrect.
MDO

Flow counts Vol. (Corr.)

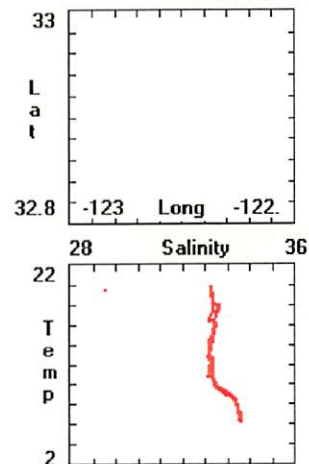
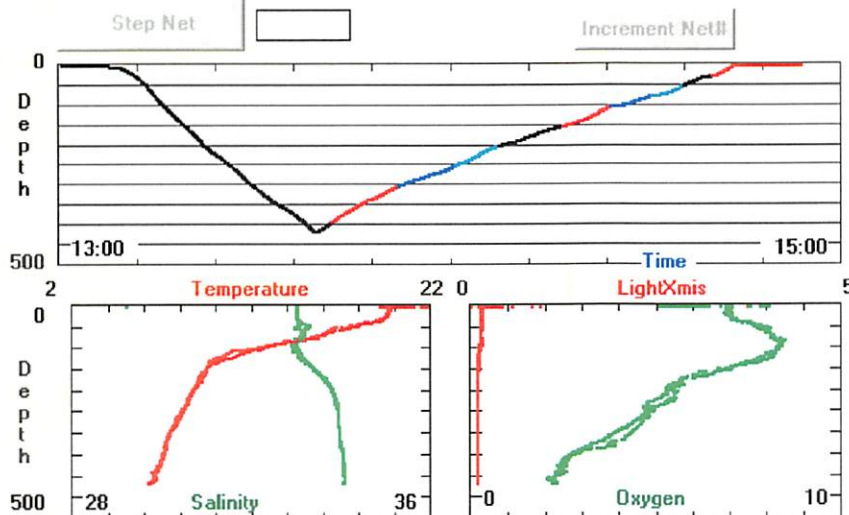
 Net 0 Final 600 1532.1
 Initial 62 146.6
 538 1385.5

HAUL #19 - revised depths

HAUL 19

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	14:54:01	Net_Num	9	Latitude	32N 52.618	Pause Acqui	Reset
Pressure	0.0 m	OpenTime	13.6 min	Longitude	123W 54.55	Baud Rate	2400
Temp	24.49 C	Vol_Filtered	231.8 m3	Net_Dist	144.7 m	Sample Rate	4.0 sec
Salinity	0.33 o/oo	Angle	63 deg	Total_Dist	7331.7 m	Printer	Off
Density	-2.576	Flow_Counts	87	Processed File Name	C:\MOCNESS\MOCDATA\CCE-LTER\HAUL19.PRO		
Oxygen	7.10 ml/l	Hor_Vel	0.0 kts	Raw File Name	C:\MOCNESS\MOCDATA\CCE-LTER\HAUL19.raw		
Fluoresc.	0.0450 V	Vert_Vel	0.0 m/min	Acquisition Ended, tries = 0			
LightXmis	0.3598 /m	Battery	19.3 V				
Irradiance							



N.B. Net 1 tripped late
(i.e., did not trip on
first try)

HAUL19.TAB

Tow: Haul19 CCE-LTER

Date: 30/08/14

Temperature Probe # 1164 Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.0	417.0	181.9	06.3	50.0	12.4	06.3	50.0	12.4	05.19	50.00	36.38
1	302.4	391.4	343.9	06.5	07.4	07.1	06.5	07.4	07.1	33.99	34.08	34.05
2	251.5	301.5	277.3	07.4	08.1	07.8	07.4	08.1	07.8	33.95	34.00	33.97
3	201.5	250.8	225.7	08.1	08.7	08.5	08.1	08.7	08.4	33.83	33.95	33.90
4	151.8	201.4	176.9	08.7	09.4	09.0	08.7	09.4	09.0	33.48	33.83	33.69
5	101.8	151.3	129.9	09.4	11.1	09.9	09.4	11.1	09.9	32.94	33.47	33.26
6	076.6	102.1	091.9	11.1	15.1	12.9	11.1	15.1	12.9	32.95	33.11	33.01
7	051.2	076.1	067.2	15.2	17.4	16.0	15.2	17.4	16.0	33.13	33.24	33.15
8	026.1	050.1	036.2	17.5	19.4	18.6	17.5	19.4	18.6	33.02	33.32	33.14

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	02.22	36.10	27.37	00.09	03.76	00.12	00.03	04.92	00.06	02.1	08.5	05.3
1	26.57	26.75	26.66	00.09	00.10	00.09	00.04	00.05	00.05	02.4	03.8	03.0
2	26.43	26.57	26.50	00.09	00.10	00.09	00.04	00.05	00.05	03.8	04.7	04.3
3	26.26	26.43	26.34	00.09	00.09	00.09	00.04	00.05	00.05	04.7	05.6	05.2
4	25.87	26.26	26.10	00.09	00.09	00.09	00.04	00.05	00.05	05.4	06.8	05.9
5	25.17	25.86	25.61	00.09	00.11	00.10	00.05	00.06	00.05	06.8	08.3	07.5
6	24.49	25.16	24.86	00.11	00.14	00.12	00.06	00.07	00.07	08.2	08.5	08.3
7	24.07	24.49	24.33	00.13	00.15	00.13	00.05	00.06	00.05	07.8	08.2	08.1
8	23.42	24.06	23.69	00.14	00.15	00.15	00.05	00.05	00.05	07.1	07.8	07.4

net#	irrmin	irrmax	irravg
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	64.0	38.3	00.0	04.2	01.0	-20.8	16.1	-09.6	00619	01801
1	42.0	50.0	46.8	01.8	02.0	01.9	04.8	14.5	09.0	00153	00483
2	45.0	50.0	47.7	01.8	02.0	01.9	02.3	08.7	05.9	00129	00417
3	46.0	51.0	48.8	01.8	02.2	02.0	04.1	09.9	07.5	00100	00330
4	47.0	51.0	48.9	01.8	02.0	01.9	02.7	08.0	05.1	00147	00476

HAUL19.TAB

5	45.0	49.0	47.0	01.6	02.0	01.8	03.3	11.6	06.8	00109	00337
6	43.0	49.0	45.3	01.5	01.8	01.7	-01.2	07.0	04.1	00092	00282
7	37.0	46.0	40.6	01.4	01.6	01.5	00.6	09.9	04.9	00073	00209
8	33.0	45.0	41.1	01.2	01.8	01.5	01.8	09.8	05.8	00065	00184

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	242.541910	13:0:21	000.0	417.0	181.9	00619	01801
1	242.570752	13:41:52	302.4	391.4	343.9	00153	00483
2	242.577917	13:52:11	251.5	301.5	277.3	00129	00417
3	242.583958	14:0:54	201.5	250.8	225.7	00100	00330
4	242.588646	14:7:38	151.8	201.4	176.9	00147	00476
5	242.595521	14:17:32	101.8	151.3	129.9	00109	00337
6	242.600637	14:24:54	076.6	102.1	091.9	00092	00282
7	242.604954	14:31:7	051.2	076.1	067.2	00073	00209
8	242.608391	14:36:5	026.1	050.1	036.2	00065	00184
9	242.611458	14:40:30					

Changed Temp. sensor
now using #0753

MOCNESS Data Sheet

HAUL20

Cruise CCE-P1408 Date 31 Aug 2014 Haul # 20 Cycle # 5 Tow # 2

Wind Speed 17-20 (kts.) Direction 348 (°) Sea State 3-4 (ft.)

File Name: Processed HAUL 20 Raw _____

Start Time 01:26 (PDT) End Time 02:43 (PDT)
243.059514 Lat 243.113264

Long 32.8124 Long 32.8525

Event deploy # 525 Event rec. # 526

Bottom Depth 1,354 (m) Console Operator Ohman

Pre-deployment checks:

- ☒ Flow Meter
- ☒ Net Response
- ☒ Stepping Motor
- ☒ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

Net Mesh 202 µm

Frame Size 1 m²

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	01:26	36°	311	869	411	0	50%	5% Form.	50%	95% EtOH
1	01:52	40	194	501	398	300		5% Form.		95% EtOH
2	02:00	41	142	362	300	251		5% Form.		95% EtOH
3	02:07	42	166	429	251	201		5% Form.		95% EtOH
4	02:15	-	120	310	201	150		5% Form.		95% EtOH
5	02:20	44	118	287	150	99		5% Form.		95% EtOH
6	02:26	40	81	206	99	74		5% Form.		95% EtOH
7	02:29	40	105	271	74	50		5% Form.		95% EtOH
8	02:34	32	92	260	50	25		5% Form.		95% EtOH
9	02:39	36	62	173	25	0	↓	5% Form.	↓	95% EtOH
Closed	02:43									

Net response

At Depth Data

wire out 681 (m)
Time 01:50 (PDT)

Surface Data

Pressure 21.3 (m)
Temp. 18.09 (°C)
Salinity 34.12 (‰)
O₂ 7.2 (ml/l)
Fluoresc. 0.0454 (V)
Trans 0.1414 (1/m)
Battery 19.5 (V)

Notes:

Temp sensor 1164 surged on tow cable yoke during deployment.
Had to replace sensor 0753
But we do not have coefficients for 0753, so used 1164.

411
4.82
36.0
2.13
0.0466
0.0947
19.3

* Net zero sample spilled a little on splitting
~ 10% of sample lost

Flow counts Vol. (corr.)

Final 336 939.5
Initial 25 70.6
311 868.9

changed temp sensor

HAUL 20

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

Time 02:52:48
 Pressure 0.6 m
 Temp 17.52 C
 Salinity 50.0 o/oo
 Density 36.941
 Oxygen 4.86 ml/l
 Fluoresc. 0.0458 V
 LightXmis 0.5777 /m
 Irradiance

Net Operation

Net_Num 9
 OpenTime 13.1 min
 Vol_Filtered 462.6 m3
 Angle 64 deg
 Flow_Counts 165
 Hor_Vel 0.0 kts
 Vert_Vel 0.0 m/min
 Battery 19.2 V

Net - Ship Position

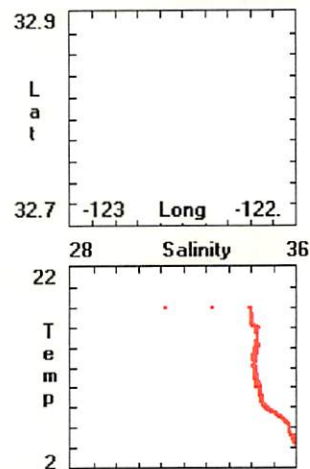
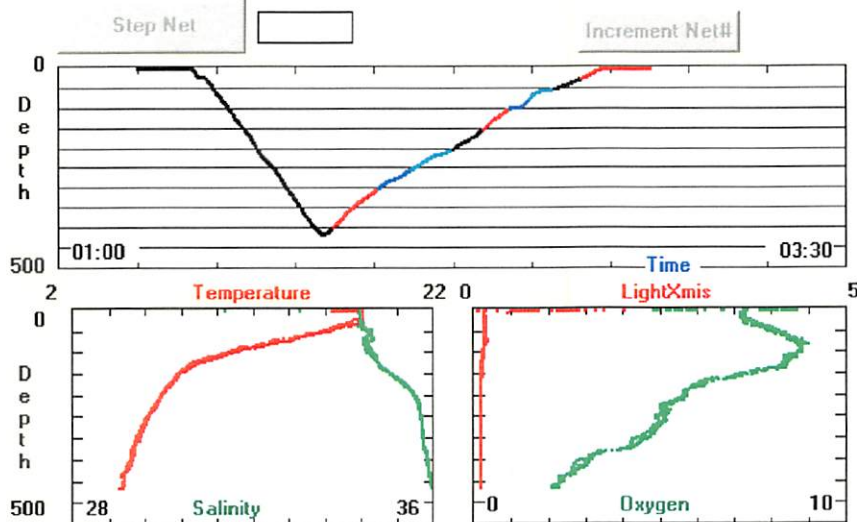
Latitude 32N 51.144
 Longitude 123W 52.35
 Net_Dist 166.2 m
 Total_Dist 5158.4 m

Program Settings

Pause Acqui Reset
 Baud Rate 2400
 Sample Rate 4.0 sec
 Printer Off

Processed File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL20.PRO
 Raw File Name C:\MOCNESS\MOCDATA\CCE-LTER\HAUL20.raw

Acquisition Ended. tries = 0



changed temp sensor

HAUL20.TAB

Need to recompute T, S, rho

(also O₂, flow)

Tow: Haul20 CCE-LTER

Date: 31/08/14

Temperature Probe # ~~1164~~ 0753

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.0	415.0	154.5	04.6	18.1	11.2	04.6	18.1	11.2	00.02	50.00	39.37
1	300.4	395.8	344.4	04.7	05.7	05.2	04.7	05.7	05.2	35.80	35.98	35.88
2	251.3	299.0	274.7	05.7	06.2	05.9	05.7	06.2	05.9	35.76	35.80	35.78
3	201.4	250.6	222.7	06.2	06.9	06.6	06.2	06.9	06.6	35.63	35.76	35.70
4	150.8	199.9	177.1	06.9	07.8	07.3	06.9	07.8	07.3	35.13	35.62	35.43
5	099.4	149.6	121.7	07.7	10.3	08.9	07.7	10.3	08.8	34.56	35.11	34.81
6	074.5	098.6	092.1	10.4	13.2	11.2	10.4	13.2	11.2	34.52	34.58	34.56
7	050.3	072.8	057.4	13.5	15.7	14.8	13.4	15.7	14.8	34.59	34.69	34.63
8	025.3	050.5	039.1	15.7	17.5	16.5	15.7	17.5	16.5	34.37	34.67	34.52

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	-01.28	36.99	29.97	00.00	06.30	00.22	00.00	00.09	00.05	02.1	09.7	05.7
1	28.23	28.47	28.35	00.09	00.09	00.09	00.04	00.05	00.05	02.3	04.5	03.4
2	28.13	28.23	28.18	00.09	00.10	00.09	00.04	00.05	00.05	04.7	05.2	04.9
3	27.94	28.13	28.03	00.09	00.09	00.09	00.04	00.05	00.05	05.1	05.7	05.3
4	27.41	27.92	27.72	00.09	00.09	00.09	00.04	00.05	00.05	05.7	07.1	06.1
5	26.56	27.40	26.99	00.09	00.12	00.10	00.05	00.06	00.05	07.4	08.7	08.3
6	26.02	26.54	26.39	00.12	00.13	00.12	00.06	00.07	00.07	08.7	08.9	08.8
7	25.56	25.99	25.73	00.13	00.14	00.14	00.05	00.05	00.05	08.2	08.6	08.4
8	24.95	25.56	25.27	00.14	00.15	00.14	00.05	00.05	00.05	07.5	08.2	07.9

net#	irrmin	irrmax	irravg
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	64.0	36.2	00.0	03.0	00.6	-25.2	15.1	-10.9	00555	01139
1	37.0	45.0	40.5	01.5	01.8	01.6	07.5	17.2	11.5	00128	00359
2	39.0	45.0	41.8	01.4	01.8	01.6	03.3	11.2	07.5	00097	00281
3	39.0	45.0	41.6	01.4	01.6	01.5	01.4	09.9	06.5	00116	00334
4	38.0	42.0	39.5	01.4	01.6	01.5	05.4	11.8	08.5	00086	00240
5	39.0	44.0	41.9	01.6	01.8	01.7	06.2	14.8	10.4	00075	00220
6	37.0	45.0	40.7	01.4	01.8	01.5	-01.9	15.0	05.8	00057	00166
7	40.0	47.0	44.0	01.4	01.9	01.7	-00.9	15.0	05.7	00069	00208
8	31.0	42.0	35.3	01.2	01.5	01.3	02.6	07.4	04.8	00075	00208

HAUL20.TAB

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	243.051956	1:14:48	000.0	415.0	154.5	00555	01139
1	243.077905	1:52:11	300.4	395.8	344.4	00128	00359
2	243.083900	2:0:48	251.3	299.0	274.7	00097	00281
3	243.088461	2:7:22	201.4	250.6	222.7	00116	00334
4	243.093889	2:15:11	150.8	199.9	177.1	00086	00240
5	243.097928	2:21:0	099.4	149.6	121.7	00075	00220
6	243.101470	2:26:6	074.5	098.6	092.1	00057	00166
7	243.104155	2:29:59	050.3	072.8	057.4	00069	00208
8	243.107407	2:34:40	025.3	050.5	039.1	00075	00208
9	243.110949	2:39:45					

400-300m.

STROBE OFF / STROBE ON
temp. sensor #0753

HAUL 21

MOCNESS Data Sheet

Cruise CCE-P1408 Date 31 Aug 2014 Haul # 21 Cycle # 5 Tow # 3Wind Speed 18.22 (kts.) Direction 339 (°) Sea State 3-5 (ft.)File Name: Processed HAUL 21 Raw _____Start Time 13:28 (PDT) End Time 16:23 (PDT)

243.561331 243.682836

Lat _____ Lat _____

32.8246 32.8259

Long _____ Long _____

123.8685 123.8686

Event deploy # 544 Event rec. # 546Bottom Depth 4,537 (m) Console Operator Ohman

Pre-deployment checks:

- ☒ Flow Meter
- ☒ Net Response
- ☒ Stepping Motor
- ☒ Clean Optical Surface
- ☒ Transmissometer
- ☒ Fluorometer

Net Mesh 202 μ mFrame Size 1 m²

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	13:28	28°	330	1,030	427	0	<input checked="" type="checkbox"/>	5% Form.		95% EtOH
1	13:56	47°	154	424	396 → 300	100%		5% Form.		95% EtOH
2	14:04	32°	90	268	401 ← 300			5% Form.		95% EtOH
3	14:12	30°	196	555	401 → 300			5% Form.		95% EtOH
4	14:24	26°	89	272	399 ← 300			5% Form.		95% EtOH
5	14:33	29°	5347 +1457 = 679	1,3897 +2315 = 1,620	399 → 0 → 299		<input checked="" type="checkbox"/>	5% Form.		95% EtOH
6	15:15	28°	172	517	398 ← 299	100%		5% Form.		95% EtOH
7	15:29	39°	201	548	398 → 299			5% Form.		95% EtOH
8	15:39	—	51	155	402 ← 299			5% Form.		95% EtOH
9	15:45		828	2,663	402 → 0			5% Form.		95% EtOH
Closed	16:23									

Net response

STROBE

OFF

STROBE

ON

At Depth Data

wire out 639 (m)Time 13:53 (PDT)

Surface Data

Pressure 18.3 (m)Temp. 18.1 (°C)Salinity 34.42 (‰)O₂ 7.29 (ml/l)Fluoresc. 0.0448 (V)Trans 0.1552 (m)Battery 19.5 (V)Notes: Sites in circle, 0.5 nm diameter
Net 0 down @ 30 m min⁻¹; then up @ 15 m min⁻¹Net 5 open to surface, then back down to 300m.425 Start down again ~15:00
4.63 Activated strobe - all LED's flashing brightly.36.62
2.04 All LED's flashing on final ascent.0.0456
0.093619.3

Flow counts Vol. (corr.)

Net 0 Final 426 1265.1
Initial 96 235.3
330 1029.8

Net 5

49

49

DOWN

Net's	FC	Vol		FC	Vol
Final	535	1392.3	Final	951	2876.1
Initial	-1	3.1	Initial	-806	2645.5
	534	1389.2		145	230.6
		679			1,619.8

Haul 21
(corr.)

STROBE OFF/STROBE ON

HAUL #21

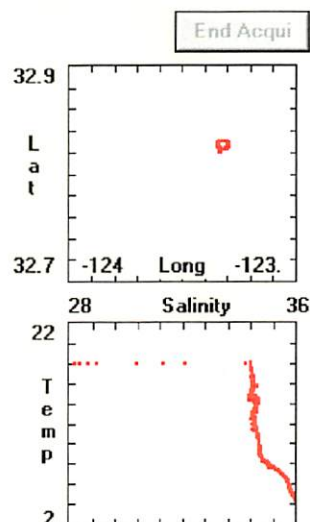
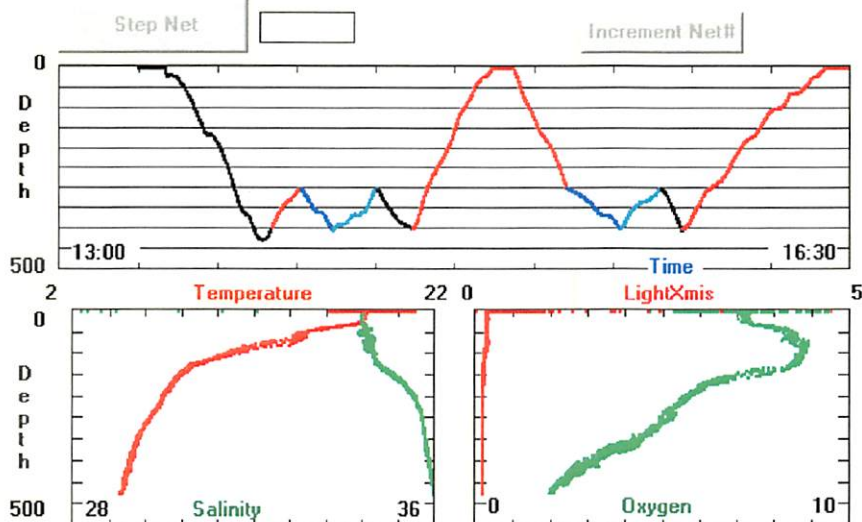
400-300 m.

Temp sensor 0753

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters		Net Operation		Net - Ship Position		Program Settings	
Time	16:37:08	Net_Num	9	Latitude	32N 49.729	Pause Acqui	Reset
Pressure	0.4 m	OpenTime	51.4 min	Longitude	123W 52.19	Baud Rate	2400
Temp	18.67 C	Vol_Filtered	1845.9 m3	Net_Dist	60.0 m	Sample Rate	4.0 sec
Salinity	1.29 o/oo	Angle	62 deg	Total_Dist	5393.2 m	Printer	Off
Density	-0.541	Flow_Counts	885	Processed File Name	C:\MOCNESS\MOCDATA\CCE-LTER\HAUL21.PRO		
Oxygen	7.89 ml/l	Hor_Vel	0.0 kts	Raw File Name	C:\MOCNESS\MOCDATA\CCE-LTER\HAUL21.raw		
Fluoresc.	0.8734 V	Vert_Vel	-0.2 m/min	Acquisition Ended. tries = 0			
LightXmis	0.0000 /m	Battery	19.0 V				
Irradiance							



HAUL21.TAB

Tow: Haul21 CCE-LTER

Date: 31/08/14 0753

Temperature Probe # ~~1164~~ Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.1	426.9	174.8	04.6	20.6	10.9	04.5	20.6	10.9	02.35	50.00	38.08
1	299.7	393.1	337.9	04.8	05.6	05.3	04.8	05.6	05.3	35.81	35.97	35.87
2	299.7	401.1	350.3	04.8	05.6	05.2	04.8	05.6	05.2	35.81	35.99	35.90
3	299.7	401.9	362.3	04.8	05.6	05.1	04.8	05.5	05.1	35.82	35.99	35.92
4	301.1	399.5	361.1	04.8	05.6	05.1	04.7	05.5	05.1	35.82	36.00	35.93
5	-001.3	397.9	141.9	04.8	18.4	10.9	04.7	18.4	10.8	00.03	50.00	35.27
6	300.2	398.5	344.0	04.8	05.6	05.2	04.8	05.6	05.2	35.82	35.98	35.90
7	298.1	397.5	342.0	04.9	05.5	05.2	04.8	05.5	05.2	35.81	35.98	35.88
8	300.1	401.8	344.1	04.9	05.5	05.2	04.9	05.5	05.2	35.81	35.98	35.88

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	00.43	36.90	28.99	00.09	03.04	00.16	00.03	00.14	00.05	02.0	08.9	05.7
1	28.25	28.46	28.33	00.09	00.10	00.09	00.04	00.05	00.05	02.4	04.5	03.5
2	28.25	28.49	28.37	00.09	00.10	00.09	00.04	00.05	00.05	02.2	04.5	03.2
3	28.26	28.49	28.40	00.09	00.10	00.09	00.04	00.05	00.05	02.2	04.3	02.9
4	28.26	28.50	28.40	00.09	00.10	00.09	00.04	00.05	00.05	02.2	04.3	02.9
5	-01.26	36.93	26.90	00.09	09.29	00.21	00.02	04.93	00.12	02.2	09.5	06.6
6	28.26	28.48	28.37	00.09	00.09	00.09	00.04	00.05	00.05	02.3	04.4	03.1
7	28.26	28.48	28.35	00.09	00.09	00.09	00.04	00.05	00.05	02.3	04.5	03.4
8	28.26	28.47	28.35	00.09	00.09	00.09	00.04	00.05	00.05	02.3	04.4	03.5

net#	irrmin	irrmax	irravg
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	64.0	34.9	00.0	03.7	00.9	-35.5	26.1	-11.5	00527	01420
1	29.0	47.0	35.9	01.2	01.6	01.5	05.6	26.7	13.1	00114	00292
2	28.0	48.0	34.3	00.5	01.4	00.8	-19.2	03.8	-11.6	00125	00298
3	27.0	36.0	31.1	00.7	01.5	01.2	-12.5	22.7	08.4	00175	00438
4	24.0	37.0	28.6	00.5	01.2	00.7	-17.5	03.3	-10.4	00141	00312

Need to recompute T , ρ , $\rho_{\text{H}_2\text{O}}$
(also O_2 , flow)

HAUL21.TAB

5	00.0	61.0	36.3	00.3	11.1	01.7	-29.5	37.5	02.5	00617	02308
6	26.0	34.0	30.5	00.5	01.1	00.9	-16.1	01.1	-07.1	00207	00555
7	27.0	39.0	33.5	00.7	01.6	01.3	-05.3	19.8	09.1	00159	00434
8	23.0	38.0	29.9	00.3	01.4	00.6	-24.5	02.7	-17.1	00087	00187

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	243.556169	13:20:53	000.1	426.9	174.8	00527	01420
1	243.580949	13:56:33	299.7	393.1	337.9	00114	00292
2	243.586285	14:4:14	299.7	401.1	350.3	00125	00298
3	243.592141	14:12:40	299.7	401.9	362.3	00175	00438
4	243.600324	14:24:28	301.1	399.5	361.1	00141	00312
5	243.606921	14:33:58	-001.3	397.9	141.9	00617	02308
6	243.635637	15:15:18	300.2	398.5	344.0	00207	00555
7	243.645301	15:29:14	298.1	397.5	342.0	00159	00434
8	243.652731	15:39:56	300.1	401.8	344.1	00087	00187
9	243.656817	15:45:48					

100-0

STROBE OFF / STROBE ON

HAUL # 22

Temp sensor #0753

Cruise CCE-P1408 Date 31-1 Sept 2014 Haul # 22 Cycle # 5 Tow # 4Wind Speed 19-20 (kts.) Direction 336 (°) Sea State 3-5 (ft.)File Name: Processed HAUL22 Raw _____Start Time 23:22 (PDT) End Time 01:07 (PDT)

243.974444

244.046887

Lat

Lat

32.8012

32.8078

Long

Long

123.8532

123.8514

Event deploy # 552Event rec. # 553Net Mesh 202 μ mFrame Size 1 m²Bottom Depth 4,356 (m)Console Operator Ohman

Net Tow Information

Net	Time Open	Angle	Flow Counts	Volume Filtered (m ³)	Max Depth (m)	Min Depth (m)	Split	Fixative	Split	Fixative
0	23:22	38°	128	366	100	0	100%	5% Form.		95% EtOH
1	23:32	42°	164	449	100	9		5% Form.		95% EtOH
2	23:41	34°	—	—	99	9		5% Form.		95% EtOH
3	23:49	39°	132	347	99	4		5% Form.		95% EtOH
4	23:59	40°	155	396	100	4		5% Form.		95% EtOH
5	00:08	39°	220	579	100	0		5% Form.		95% EtOH
6	00:23	42°	162	420	100	1		5% Form.		95% EtOH
7	00:34	53°	212	566	100	3		5% Form.		95% EtOH
8	00:44	44°	178	476	100	3		5% Form.		95% EtOH
9	00:56	37°	232	628	100	0		5% Form.		95% EtOH
Closed	01:07									

Net response

STROBE OFF

STROBE ON

At Depth Data

wire out _____ (m)

Time _____ (PDT)

Surface Data

Pressure 7.4 (m)Temp. 18.17 (°C)Salinity 34.42 (‰)O₂ 7.19 (ml/l)Fluoresc. 0.0454 (V)Trans 0.1425 (m)Battery 19.5 (V)

Notes:

steered circle - 0.5 nm diameter

Placed net in water and immediately lowered to 7 m.

Kept there 2-3 min while recording data, + started down at 15 m min⁻¹.

(*) No flow counts - Net 2. Flow counts, v.d. fix., horiz. velocity froze, 23:51 - flow counts working again - prob. on all of net 2.

All LED's flashing upon activation after retrieving Net 5.

TIME OFFSET:

EK60 computer

Moconess

12:34:39

12:30:35

∴ EK60 computer is 4 min 4 s ahead.

Flow counts

Vol. (corr)

Final Initial

193

65

128

560.3

194.2

366.1

Notes:

UP

5 1 6

Down

Net 5	FC	Vol	Net 6	FC	Vol
Final	221	581.9	Final	165	427.8
Initial	1	-2.5	Initial	3	7.5
	220	579.4		162	420.3

Haul 22
(Corr.)

STROBE OFF / STROBE ON

HAUL #22

Temp Sensor 0753

MOCNESS - [Data Acquisition and Control System]

Acquisition Setup Hardware Setup Runtime Options Plot Setup Capture Screen About

Environmental Parameters

Time 01:17:33
 Pressure 1.1 m
 Temp 17.35 C
 Salinity 50.0 o/oo
 Density 36.987
 Oxygen 6.45 ml/l
 Fluoresc. 0.0444 V
 LightXmis 0.6410 /m
 Irradiance

Net Operation

Net_Num 9
 OpenTime 21.2 min
 Vol_Filtered 449.2 m3
 Angle 62 deg
 Flow_Counts 235
 Hor_Vel 0.0 kts
 Vert_Vel -0.2 m/min
 Battery 19.0 V

Net - Ship Position

Latitude 32N 48.360
 Longitude 123W 50.90
 Net_Dist 610.8 m
 Total_Dist 6540.3 m

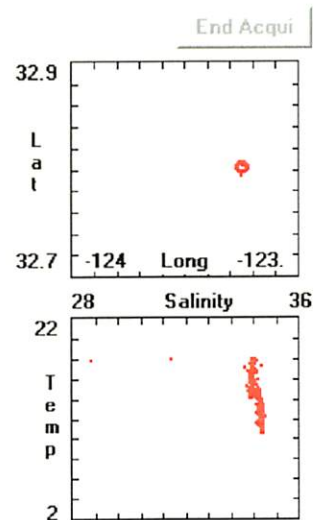
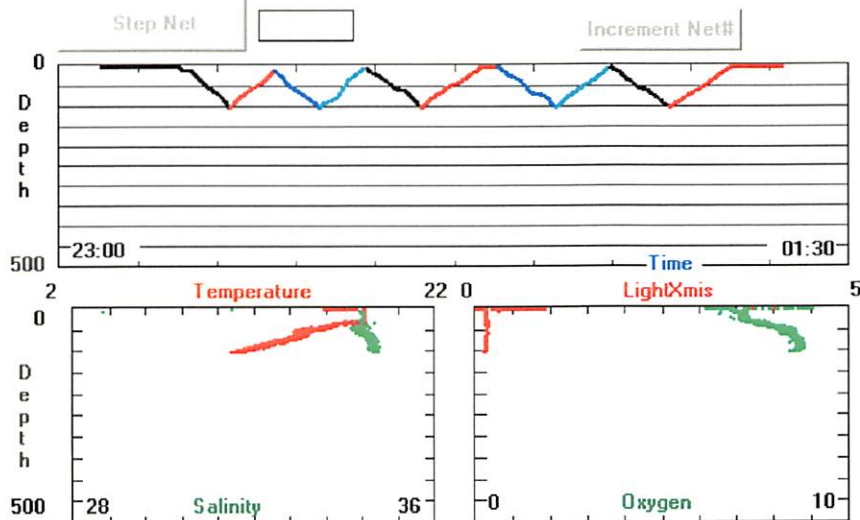
Program Settings

Pause Acqui
 Baud Rate 2400
 Sample Rate 4.0 sec
 Printer Off

Processed File Name C:\MOCNESS\MOCDATA\ACCE-LTER\HAUL22.PRO

Raw File Name C:\MOCNESS\MOCDATA\ACCE-LTER\HAUL22.raw

Acquisition Ended. trys = 0



Need to recompute T, S, rho
(also O₂ flow)

Tow: Haul22 CCE-LTER
Date: 31/08/14 0753

Temperature Probe # ~~1154~~ Conductivity Probe # 200 Pressure Probe # 146

Flow Meter Calibration 2.23 (m/count)

Fluro # 231

Oxygen Probe # 372

Tran # 399

MOCNESS STATISTICAL SUMMARY

net#	pmin	pmax	pavg	tmin	tmax	tavg	thmin	thmax	thavg	smin	smax	savg
0	000.8	099.9	017.4	10.9	18.2	16.7	10.8	18.2	16.7	17.02	50.00	43.97
1	009.0	099.5	053.0	10.9	18.2	14.9	10.9	18.2	14.9	34.28	34.75	34.52
2	010.2	099.1	058.0	11.1	18.2	14.5	11.1	18.2	14.5	34.31	34.74	34.54
3	002.9	096.5	050.9	11.2	18.2	15.1	11.2	18.2	15.1	34.31	34.79	34.56
4	006.5	100.1	049.0	10.8	18.2	15.4	10.8	18.2	15.4	34.08	34.76	34.52
5	000.2	099.2	037.2	10.9	18.2	15.7	10.8	18.2	15.7	00.01	50.00	28.77
6	001.0	100.0	050.0	10.8	18.2	15.3	10.8	18.1	15.3	24.10	34.74	34.45
7	002.5	098.3	049.1	10.8	18.2	15.2	10.8	18.2	15.2	34.28	34.74	34.49
8	002.0	099.7	051.9	11.2	18.2	15.2	11.1	18.2	15.2	34.31	34.75	34.54

net#	simin	simax	siavg	cmin	cmax	cavg	fmin	fmax	favg	oxmin	oxmax	oxavg
0	11.61	37.04	32.49	00.06	00.92	00.11	00.04	00.08	00.05	04.7	08.8	07.0
1	24.78	26.60	25.61	00.12	00.18	00.15	00.04	00.07	00.05	07.2	08.8	08.2
2	24.79	26.55	25.70	00.12	00.17	00.15	00.04	00.08	00.06	07.1	08.8	08.2
3	24.79	26.53	25.58	00.13	00.16	00.14	00.04	00.08	00.06	07.2	08.8	08.1
4	24.73	26.61	25.50	00.12	00.17	00.15	00.04	00.08	00.05	07.1	08.8	08.1
5	-01.24	37.35	21.04	00.00	03.73	00.30	00.04	00.08	00.05	06.2	08.8	08.1
6	16.92	26.61	25.46	00.12	00.22	00.15	00.05	00.08	00.05	07.1	08.8	08.1
7	24.79	26.61	25.51	00.12	00.16	00.15	00.05	00.08	00.05	06.9	08.8	08.2
8	24.79	26.56	25.55	00.13	00.17	00.15	00.05	00.08	00.06	06.5	08.8	08.1

net#	irrmin	irrmax	irravg
0	0.000000000	0.000000000	0.000000000
1	0.000000000	0.000000000	0.000000000
2	0.000000000	0.000000000	0.000000000
3	0.000000000	0.000000000	0.000000000
4	0.000000000	0.000000000	0.000000000
5	0.000000000	0.000000000	0.000000000
6	0.000000000	0.000000000	0.000000000
7	0.000000000	0.000000000	0.000000000
8	0.000000000	0.000000000	0.000000000

net#	amin	amax	aavg	spmin	spmax	spavg	armin	armax	aravg	#obs	vol
0	00.0	64.0	42.3	00.0	03.4	00.5	-21.4	01.8	-04.0	00371	00628
1	28.0	42.0	35.4	01.1	01.6	01.4	-06.0	17.2	10.4	00128	00334
2	27.0	44.0	36.1	00.0	01.1	00.0	-16.7	02.9	-10.4	00127	00000
3	23.0	50.0	37.2	00.0	01.5	01.1	-00.8	23.8	10.9	00130	00236
4	40.0	56.0	47.9	00.7	01.4	01.1	-16.5	-01.2	-09.1	00155	00408
5	00.0	56.0	36.7	00.0	01.6	01.2	-05.5	13.4	06.7	00218	00420
6	38.0	51.0	43.8	00.3	01.4	01.1	-18.4	-00.4	-08.9	00165	00459
7	38.0	48.0	43.9	01.2	01.6	01.5	-03.1	13.6	09.4	00151	00382
8	37.0	49.0	42.4	00.9	01.4	01.1	-15.9	03.9	-08.3	00172	00498

HAUL22.TAB

net#	Yearday/Time	hh:mm:ss (NetOpenTime)	pmin	pmax	pavg	#obs	vol
0	243.963495	23:7:25	000.8	099.9	017.4	00371	00628
1	243.980949	23:32:34	009.0	099.5	053.0	00128	00334
2	243.986944	23:41:11	010.2	099.1	058.0	00127	00000
3	243.992894	23:49:46	002.9	096.5	050.9	00130	00236
4	243.998981	23:58:31	006.5	100.1	049.0	00155	00408
5	244.006227	0:8:58	000.2	099.2	037.2	00218	00420
6	244.016400	0:23:36	001.0	100.0	050.0	00165	00459
7	244.024120	0:34:44	002.5	098.3	049.1	00151	00382
8	244.031181	0:44:54	002.0	099.7	051.9	00172	00498
9	244.039213	0:56:27					