

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO						
Ocean Starr		OS-19-01		Arctic IERP 2019		S N/A H 1						
Bongo:				RZA								
CONSC	LATITUDE	LONGITUDE	TIME (GMT)	DRY BULB	RH	Pressure	WIND DIRN.					
CAST #	DEG MIN	DEG MIN	DAY MO YR	HR MIN	(°C)	(mb)	(deg)					
0016317	64 N	16825.49 W	16 AUG 19	1617								
WEATHER OBS:				MAX DEPTH = 35 m								
SBE 9+ _____ Fluor/Turbidity _____ PRESS SN _____ SBE43-Oxy (pHme) _____ Pt Temp SN _____ SBE43-Oxy (sec) _____ Sec Temp SN _____ Altimeter _____ Pt Cond SN _____ PAR SN _____ Sec Cond SN _____				REMARKS: PP station 3 xpt #1 (total only) A = Altimeter P = Pseudorange CH1 @ 30m CH1 max surf 10								
Instrument Notes:				Recorder Initials:								
No	Depth	Rosette Notes	Hydro Team-PMEL	Amra	Chlorophyll	Saline	PP	FC	EDP	Fluor	EA	Comments
No	Desired		Sal	Nut Br	O2-Btl No	HAPB	GFF Vol	CH1 Vol	Lght Load	Vol	Cam	
1	30		215	001	263		290					
2	30			002			290					
3	20			003								
4	20						400	1.5%		500		
5	20						290					
6	11											
7	11			004			290	500				
8	11											Mission 208 in company
9	11											
10	0											
11	0			005								
12	0						290	500	100%			
1		Inline										

Lost
Sparrow

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.								
Ocean Starr		OS-19-04		Arctic IERP 2019		S N2 H 1								
CONSC CAST #		LATITUDE		LONGITUDE		TIME (GMT)		DRY BULB	RH	Pressure	WIND DIRN.	WIND SPD.	BOTTOM DEPTH	STA. NAME/ID
DEG MIN		DEG MIN		DAY MO YR		HR MIN		(°C)	(%)	(mb)	(deg)	(kts)	(m)	
0026409.50 N		171 28.91 W		07 AUG 19		1427							44	
WEATHER OBS:														MAX DEPTH = 38 m
REMARKS: PP Station. Except #2 ↑ Chla max 14m (3.5 mg/L) Dark during CID cast.														
Instrument Notes:														
Recorder Initials:														
NIS Depth Rosette Notes Hydro Team-PMEL Anna Potchloro Size Fac PE FC POP Flow Cam FA Comments														
No Desired Salt Nut.Bt O2-Bt.No HAPB GFF Vol Chla vol light level														
1 Bot 006 290 700 5% V 500 V Missed 14m to Chla														
2 25 8 290 700 1.5% V 500 V														
3 20 9 290 700 5% V 500 V														
4 14 10 700 5% V 500 V														
5 14 10 700 5% V 500 V														
6 14 10 700 5% V 500 V														
7 14 10 700 5% V 500 V														
8 10 11 700 5% V 500 V														
9 10 12 700 5% V 500 V														
10 10 12 700 5% V 500 V														
11 10 12 700 5% V 500 V														
12 10 12 700 5% V 500 V														

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.	
Ocean Starr		OS-19-01		Arctic IERP 2019		S N4 H 1	
CONSC CAST # 003		LATITUDE		LONGITUDE		TIME (GMT)	
DEG MIN		DEG MIN		DAY MO YR		HR MIN	
64 55. 69 N		16 9 55. 12 W		07 AUG 19		22 52	
Fluor/Turbidity		SBE43-Oxy (pHme)		SBE43-Oxy (sec)		Altimeter	
PRESS SN		Pt Temp SN		Sec Temp SN		Pt Cond SN	
Sec Cond SN		PAR SN		WEATHER OBS:		MAX DEPTH = 44 m	
Instrument Notes:		Recorder Initials:		REMARKS: 02 FLASK # 256			
No		Depth		Rosette Notes		Hydro Team-PMEL	
Desired		Salt		Nut.Bt		O2-Bt.No	
1 BOT				014		356	
2 30				015			
3 30				016			
4 25				016		A/P	
5 20				017			
6 20				018			
7 15				018			
8 15				019		A/P	
9 10				019		A/P	
10 10				020		A/P	
11 0				020			
12 0				020			
1		Inline					

25
FOL
New

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.									
Ocean Starr		OS-19-0		Arctic IERP 2019		Bongo: RZA S H									
CONSC CAST #	LATITUDE	LONGITUDE		TIME (GMT)		DRY BULB	RH	Pressure	WIND DIRN.	WIND SPD.	BOTTOM DEPTH	STA. NAME/ID			
DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(%)	(mb)	(deg)	(kts)	(m)	
0046423.60N	16705.21W	08	AUG	19	14	24							29	43	
WEATHER OBS:												MAX DEPTH = 25 m			
REMARKS:															
CTD Before mooring recovery to calibrate															
hydrocasts. 100 NBTs taken. Fluorometer on															
mooring 5m off bottom. Dark during CTD cast															
Instrument Notes:															
Recorder Initials:															
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
1															

VESSEL	CRUISE ID	PROJECT & LEG	Bongo:	RZA	STATION NO.
Ocean Starr	OS-19-01	Arctic IERP 2019			S N3 H 2
CONSC CAST #	LATITUDE	LONGITUDE	TIME (GMT)	DRY BULB	RH
DEG MIN	DEG MIN	DAY MO YR	HR MIN	(°C)	(%)
Pressure	WIND DIRN.	WIND SPD.	BOTTOM DEPTH	STA NAME/ID	
0056423.35 N	16704.56 W	08 AUG 19	1618	30	N3
Fluor/Turbidity	WEATHER OBS:	MAX DEPTH = 24 m			
SBE 9+					
PRESS SN	SBEA3-Oxy (prime)				
Pri Temp SN	SBEA3-Oxy (sec)				
Sec Temp SN	Altimeter				
Pri Cond SN	PAR S/N				
Sec Cond SN					
Instrument Notes:					
Recorder Initials:					
No	Depth	Rosette Notes	Hydro Team-PMEL	Chloro Tot	GFF Vol
No	Desired	Salt	Nut.BI	O2-BI.No	HAPB
1	305	216	021	286	
2	305				
3	14		022		
4	14				
5	0				
6	0		023		
7					
8					
9					
10					
11					
12					
1		Inline			

[illegible]

VESSEL Ocean Starr		CRUISE ID OS-19-0		PROJECT & LEG Arctic IERP 2019		STATION NO. S H	
				Bongo:		RZA	
CONSC CAST #		LATITUDE		LONGITUDE		TIME (GMT)	
DEG MIN		DEG MIN		DAY MO YR		HR MIN	
007 6732.31 N		164 53.17 W		19 AUG 19		1410	
						DRY BULB (°C)	
						RH (%)	
						Pressure (mb)	
						WIND DIRN. (deg)	
						WIND SPD. (kts)	
						BOTTOM DEPTH (m)	
						35 NS	
						STA. NAME/ID	
SBE 9+		Fluor/Turbidity		WEATHER OBS:			
PRESS SN		SBE43-Oxy (prime)		MAX DEPTH = 32 m			
Pri Temp SN		SBE43-Oxy (sec)					
Sec Temp SN		Altimeter					
Pri Cond SN		PAR S/N					
Sec Cond SN							
Instrument Notes:							
Recorder Initials:							
NIS		Rosette Notes		Hydro Team-PMEL		Chloro	
No		Salt		Nut.Bt		O2-Bt.No	
No		HAPB		GFF Vol			
1		1301		031			
2		1301					
3		20		032			
4		10		033			
5		0		034 288			
6							
7							
8							
9							
10							
11							
12							
1		Inline					

REMARKS:
 Calibration bottle @ 32m
 1100 CID w/ 1500 sec oxy sensor 1876

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.	
Ocean Starr		OS-19-0		Arctic IERP 2019		S H	
CONSC CAST #		LATITUDE		LONGITUDE		TIME (GMT)	
0086732.45 N		16453.67 W		10 AUG 19		1554	
DEG MIN		DEG MIN		DAY MO YR		HR MIN	
0086732.45 N		16453.67 W		10 AUG 19		1554	
SBE 9+		Fluor/Turbidity		WEATHER OBS:		MAX DEPTH =	
PRESS SN		SBE43-Oxy (prime)					
Pri Temp SN		SBE43-Oxy (sec)					
Sec Temp SN		Altimeter					
Pri Cond SN		PAR SN					
Sec Cond SN							
Instrument Notes:							
Recorder Initials:							
REMARKS: Post NS Recovery.							
886732.45							
0086732.45 N							
16453.67 W							
10 AUG 19							
1554							
MAX DEPTH =							
35							
NS							
m							
Bongo:							
RZA							
S H							
Comments							
Depth							
Fosette Notes							
Salt							
Hydro Team-PMEL							
Nut.Bil							
O2-Bil.No							
HABP							
Chloro							
GFF Vol							
SAR for							
Chl ml							
PP							
FEL							
POB							
ME							
E1000							
Can.							
FA							
Comments							
No							
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
1							
Inline							

[illegible]

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.	
Ocean Starr		OS-19-0		Arctic IERP 2019		S H	
CONSC CAST #		LATITUDE		LONGITUDE		TIME (GMT)	
DEG	MIN	DEG	MIN	DAY	MO	YR	HR MIN
01	68	40	38	N	16	7	44
SBE 9+		Fluor/Turbidity		WEATHER OBS:		MAX DEPTH = 47 m	
PRESS SN		SBE43-Oxy (prime)		REMARKS: 10-2-07 115			
Pri Temp SN		SBE43-Oxy (sec)		400 (0.01) 115			
Sec Temp SN		Altimeter					
Pri Cond SN		PAR S/N					
Sec Cond SN							
Instrument Notes:							
Recorder Initials:							
NIS No	Depth	Rosette Notes	Hydro Team-PMEL	Chloro	GFF Vol	Chloro	Fluor
No	Desired	Salt	Nut.Btl	O2-Btl.No	HARP	Chloro	Fluor
1	30		x054			290	1150
2	30		x055			290	1150
3	20		x056			290	1150
4	15		x057			290	1150
5	15		x058			290	1150
6	15		x059			290	1150
7	15		x060			290	1150
8	15		x061			290	1150
9	15		x062			290	1150
10	15		x063			290	1150
11	15		x064			290	1150
12	15		x065			290	1150
Inline							

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.	
Ocean Starr		OS-19-0		Arctic IERP 2019		S H	
CONSC CAST #		LATITUDE		LONGITUDE		TIME (GMT)	
DEG MIN		DEG MIN		DAY MO YR		HR MIN	
126919.15N		16737.38W		12 AUG 19		0028	
SBE 9+		Fluor/Turbidity		WEATHER OBS:		MAX DEPTH = 46 m	
PRESS SN		SBE43-Oxy (prime)		REMARKS: C11 - Barbed Netting Site			
Pri Temp SN		SBE43-Oxy (sec)					
Sec Temp SN		Altimeter					
Pri Cond SN		PAR S/N					
Sec Cond SN							
Instrument Notes:							
Recorder Initials:							
NIS	Depth	Rosette Notes	Hydro Team-PMEL	Ann	Choro	Site Free	FL
No	Desired	Salt	Nut.Bt	O2-Bt/No	HAPB	GFF Vol	Ch Vol
1	30T		1060	351		290	V
2	40		1061			190	V
3	30		1062			190	V
4	20		1063			190	V
5	10		1064			190	V
6	10						
7	0		1065			290	V
8	0						
9							
10							
11							
12							
1		inline					

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.	
Ocean Stair		OS-19-01		Arctic IERP 2019		Bongo: RZA S H	
CONSC CAST #	DEG	LATITUDE MIN	DEG	LONGITUDE MIN	DAY	MO	YR
0137013	12	N	16745	12	W	12	Aug 19
TIME (GMT)	HR	MIN	DRY BULB	°C	RH	Pressure	(mb)
1408							
WIND DIRN	WIND SPD	BOTTOM DEPTH	STA. NAME/ID				
		(m)					
		47	CK10				
WEATHER OBS:			MAX. DEPTH = 44 m				
REMARKS: Take O ₂ from surface. CK10 many seabirds in area. Primary channel has jelly interference. PP out #16 (6 drops) - mtd. 10/14							
Instrument Notes:							
Recorder Initials:							
No	Depth	Rosette Notes	Hydro Team-PMEL	Chloro	GFF Vol	EC	Fluo
No	Desired	Salt	Nut. Blt	O ₂ Blt. No	HAPB		
1	130T		V068		① 290		
2	130T				② 290	V	
3	130T				③ 290	V	
4	40		V069			V	
5	30		V070		290	V	
6	30						
7	30		V071		290	V	
8	20		V072		290	V	
9	10						
10	10		V073		290	V	
11	0						
12	0						
1	Inline						

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.	
Ocean Starr		OS-19-01		Arctic IERP 2019		S H	
CONSC CAST #		LATITUDE		LONGITUDE		TIME (GMT)	
0147001.03'N		146°51.93'W		12 AUG 19		1739	
DEG MIN		DEG MIN		DAY MO YR		HR MIN	
0147001.03'N		146°51.93'W		12 AUG 19		1739	
SBE 9+		Fluor/Turbidity		WEATHER OBS:		MAX DEPTH = 44 m	
PRESS SN		SBE43-Oxy (pHme)		REMARKS: PP 2nd #7 (PP size from 0 and 20m)			
Pri Temp SN		SBE43-Oxy (sec)					
Sec Temp SN		Altimeter					
Pri Cond SN		PAR SN					
Sec Cond SN							
Instrument Notes:							
Recorder Initials:							
NIS	Depth	Rosette Notes	Hydro Team-PMEL	Chloro	Size fac	PP	POF
No	Desired	Salt	Nut Bit	GFE Vol	Chla Vol	Light %	ml
1	30T		074	290		1.5%	500
2	40		075	290			
3	30		076	290	1150		
4	30		077	290	1150		
5	20					5%	500
6	20						
7	20						
8	10		078	290			
9	10		079			30%	500
10	0			290	1150		
11	0					100%	500
12	0						
1		Inline					

[illegible]

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.	
Ocean Starr		OS-19-0		Arctic IERP 2019		Bongo: RZA S H	
CONSC CAST #	DEG	LATITUDE MIN	DEG	LONGITUDE MIN	DAY	MO	YR
0167149.54N		16559.03W		13	AUG	19	
TIME (GMT)	DRY BULB	RH	Pressure	WIND DIRN	WIND SPD	BOTTOM DEPTH	STA. NAME/ID
1640	(°C)	(%)	(mb)	(deg)	(kts)	(m)	
						44	ICLL
WEATHER OBS:							MAX DEPTH = 40 m
SBE 9+ _____ SBE43-Oxy (prime) _____ SBE43-Oxy (sec) _____ PRESS SN _____ P1 Temp SN _____ P2 Temp SN _____ P1 Cond SN _____ P2 Cond SN _____ Sec Cond SN _____ Fluor/Turbidity _____ Altimeter _____ PAR S/N _____							
REMARKS: Ice Cape 1 near CR3 mooring site. CR1 max around 23m, another spike @ 29, valves seen at station.							
Instrument Notes:							
Recorder Initials:							
NIS	Depth	Rosette Notes	Hydro Team-PMEL	Chloro	Size fac	FC	Flow
No	Desired	Salt	Nut.Blt	O2-Blt.No	HARP	GFF Vol	Chl vol
1	307	819	88			290	540
2	29		84			290	540
3	29					290	540
4	23					290	540
5	23					290	540
6	10					290	540
7	0					290	540
8	0					290	540
9						290	540
10						290	540
11						290	540
12						290	540
1		Inline					

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.															
Ocean Starr		OS-19-0		Arctic IERP 2019		S H															
CONSC		LATITUDE		LONGITUDE		TIME (GMT)		DRY BULB		RH		Pressure		WIND DIRN.		WIND SPD.		BOTTOM DEPTH		STA. NAME/ID	
CAST #	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(%)	(mb)	(deg)	(kts)	(m)						
017	71	42	16	53	46	W	13	A	U	G	1	9	06					41		1C10	
WEATHER OBS:																		MAX DEPTH = 38 m			
REMARKS:																					
BP 6.0 at 0m and 22m																					
Instrument Notes:																					
Recorder Initials:																					
Fluor/Turbidity																					
SBE43-Oxy (prime)																					
PRESS SN																					
P4 Temp SN																					
SBE43-Oxy (sec)																					
Altimeter																					
P4 Cond SN																					
PAR S/N																					
Sec Cond SN																					
N/S																					
Depth																					
Rosette Notes																					
Salt																					
Nut.BI																					
O2-BI.No																					
HAPB																					
Chloro																					
GFF Vol																					
CH2O2																					
BP																					
EC																					
Flow																					
FA																					
Comments																					
N/S																					
No																					

[illegible]

[illegible]

VESSEL	CRUISE ID	PROJECT & LEG	STATION NO.
Ocean Starr	OS-19-01	Arctic IERP 2019	S H
Bongo:		RZA	

CONSC CAST #	DEG	LATITUDE MIN	DEG	LONGITUDE MIN	DAY	MO	YR	TIME (GMT) HR MIN	DRY BULB (°C)	RH (%)	Pressure (mb)	WIND DIRN. (deg)	WIND SPD. (kts)	BOTTOM DEPTH (m)	STA. NAME/ID
020	71°	20.578 N	164°	37.069 W	13	AUG	19	2345	.					43	IC07
WEATHER OBS:															
MAX DEPTH = 39 m															
REMARKS: Extra Nut. @ 25 by accident.															

NIS	Depth	Fosette Notes	Hydro Team-FMEL	Chloro	Size fac	Flow	Alky	Comments	
No	Desired	Salt	Nut.Bit	O2-Bit.No	HAPB	GFF Vol	CHL	CAN	NO
1	601		x109			290			1
2	30		x110			290			2
3	45		x111		VA/P				3
4	65							x262	4
5	25		x112			290	540		3
6	26		x113			290			4
7	15		x114			290	540		7
8	15				VA/P			x261	8
9	15		x115			290			9
10	10							x260	10
11	0		280 x 116			290			11
12	0				x363	VA/P			12
1		Inline							1

Recorder Initials:

VESSEL <i>Ocean Star</i>		CRUISE ID <i>OS-19-01</i>		PROJECT & LEG Arctic IERP 2019		STATION NO. S H	
				Bongo:		RZA	
CONSC CAST #		LATITUDE		LONGITUDE		TIME (GMT)	
DEG MIN		DEG MIN		DAY MO YR		HR MIN	
<i>021 51° 12.972 N</i>		<i>164° 15.479 W</i>		<i>14 AUG 19</i>		<i>0135</i>	
						DRY BULB (°C)	
						RH (%)	
						Pressure (mb)	
						WIND DIRN. (deg)	
						WIND SPD. (kts)	
						BOTTOM DEPTH (m)	
						STA. NAME/ID	
						<i>44</i>	
						<i>CG2</i>	
						MAX. DEPTH = <i>40</i> m	

SBE 9+		Fluor/Turbidity	
PRESS SN		SBE43-Oxy (prime)	
pH Temp SN		SBE43-Oxy (sec)	
Sec Temp SN		Altimeter	
pH Cond SN		PAR SN	
Sec Cond SN			

Instrument Notes:

REMARKS: *CK2 Pre Mowing Recovery*

Recorder Initials:

N/S	Depth	Rosette Notes	Hydro Team-PMEL				Chloro								Comments	N/S
			No. Desired	Salt	Nut.Btl	O2-Btl.No		HAPB	GFF Vol							
1	<i>BOT</i>			<i>x118</i>	<i>x370</i>		<i>290</i>								1	
2	<i>BOT</i>			<i>x119</i>			<i>290</i>								2	
3	<i>BOT</i>			<i>x120</i>			<i>290</i>								3	
4	<i>27</i>														4	
5	<i>27</i>			<i>x121</i>											3	
6	<i>20</i>			<i>x122</i>											4	
7	<i>10</i>			<i>x123</i>			<i>290</i>								7	
8	<i>0</i>														8	
9	<i>0</i>			<i>x124</i>											9	
10	<i>0</i>														10	
11															11	
12															12	
1		<i>Inline</i>													1	

VESSEL Ocean Star		CRUISE ID OS-19-0		PROJECT & LEG Arctic IERP 2019		Bongo:		RZA		STATION NO. S H	
CONSC CAST #		LATITUDE		LONGITUDE		TIME (GMT)		DRY BULB		RH	
DEG MIN		DEG MIN		DAY MO YR		HR MIN		°C		%	
0227113.08 N		16415.89 W		14 AUG 19		1455					
SBE 9+		Fluor/Turbidity		WEATHER OBS:		MAX DEPTH =		42		42	
PRESS SN		SBE43-Oxy (prime)									
P1 Temp SN		SBE43-Oxy (sec)									
Sec Temp SN		Altimeter									
P1 Cond SN		PAR SN									
Sec Cond SN											
Instrument Notes:											
Recorder Initials:											
Depth		Rosette Notes		Hydro Team-PMEL		Chloro				Comments	
No Desired		Salt		Nut.Bt		O2-Bt.No		HAPB		GFF Vol	
1 NA											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
1		Inline									

REMARKS: Comparison cast to see if the thermocline is deeper. No bottles tipped.

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.	
Ocean Starr		OS-19-0		Arctic IERP 2019		Bongo: RZA S H	
CONSC CAST #	DEG	LATITUDE MIN	DEG	LONGITUDE MIN	DAY	MO	YR
02371	12.61	N	16412.58	W	14	AUG	19
TIME (GMT)	HR	MIN	SEC	DRY BULB	RH	Pressure	WIND DIRN.
1526				(°C)	(%)	(mb)	(deg)
							WIND SPD.
							(kts)
							BOTTOM DEPTH
							(m)
							STA. NAME/ID
							43
							166
							MAX DEPTH = 39 m
SBE 9+				Fluor/Turbidity			
SBE43-Oxy (prime)							
PRESS SN				SBE43-Oxy (sec)			
Pri Temp SN				Altimeter			
Sec Temp SN				PAA SN			
Pri Cond SN							
Sec Cond SN							
Instrument Notes:							
Recorder Initials:							
NIS	Depth	Rosette Notes	Hydro Team-PMEL	Chloro	Chl a	EC	Flow
No	Desired		Salt Nut.Btl O2-Btl.No HAPB	GFF Vol	60L		Cam
1	301			290			
2	36			290			
3	25			290			
4	25			290			
5	16			290			
6	16			290			
7	10			290			
8	10			290			
9	0			290			
10	0			290			
11				290			
12				290			
1		Inline					

REMARKS: Chl. max @ 25, another peak around 16m

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.								
Ocean Starr		OS-19-01		Arctic IERP 2019		S H								
CONSC CAST #		LATITUDE		LONGITUDE		TIME (GMT)		DRY BULB	RH	Pressure	WIND DIRN.	WIND SPD.	BOTTOM DEPTH	STA. NAME/ID
DEG MIN		DEG MIN		DAY MO YR		HR MIN		(°C)	(%)	(mb)	(deg)	(kts)	(m)	
024 71 05		39 N		163 47 W		14 AUG 19		1709					42	155
WEATHER OBS:														MAX DEPTH = 38 m
SBE 9+														
PRESS SN														
SBE43-Oxy (prime)														
Prt Temp SN														
SBE43-Oxy (sec)														
Sec Temp SN														
Altimeter														
Prt Cond SN														
PAR S/N														
Sec Cond SN														
Fluor/Turbidity														
Instrument Notes:														
Recorder Initials:														
Bongo: RZA														

Depth		Rosette Notes		Hydro Team-PMEL		Chloro		SIF		O17		Comments	
Desired				Salt Nut.BI O2-BI No		GFF Vol		11/16		May Day			
1 30				x132 x344		240		540		✓			
2 27						290		540		✓			
3 27													
4 21				x133									
5 20													
6 20													
7 20				x134		290				✓			
8 10													
9 10				x135		290							
10 0													
11 0				x136		290		540					
12													
1		Inline											

VESSEL		CHUISE ID		PROJECT & LEG		STATION NO.	
Ocean Star		OS-19-0		Arctic IERP 2019		S H	
CONSC CAST #		LATITUDE		LONGITUDE		TIME (GMT)	
0257058.49 N		16333.82 W		14 AUG 19		1845	
DEG MIN		DEG MIN		DAY MO YR		HR MIN	
16333.82		14		AUG 19		1845	
SBE 9+		Fluor/Turbidity		WEATHER OBS:		MAX DEPTH = 41 m	
PRESS SN		SBE43-Oxy (prime)		REMARKS:			
Pri Temp SN		SBE43-Oxy (sec)					
Sec Temp SN		Altimeter					
Pri Cond SN		PAR SN					
Sec Cond SN							
Instrument Notes:							
Recorder Initials:							
Nits		Rosette Notes		Hydro Team-PMEL		Chloro	
No		Depth		Salt		Nut.Btl	
1		30		V		290	
2		30		V		290	
3		24		V		290	
4		24		V		290	
5		24		V		290	
6		20		V		290	
7		20		V		290	
8		20		V		290	
9		10		V		290	
10		10		V		290	
11		0		V		290	
12		0		V		290	
1		Inline					

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.												
Ocean Starr		OS-19-0		Arctic IERP 2019		S H												
				Bongo:		RZA												
CONSC CAST #	DEG	LATITUDE	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	TIME (GMT)	DRY BULB	RH	Pressure	WIND DIRN.	WIND SPD.	BOTTOM DEPTH	STA. NAME/ID
02670	51.18 N	163	10.99 W	14	A	U	G	19	20	21							44	
WEATHER OBS:																		MAX. DEPTH = 40 m
REMARKS:																		
Instrument Notes:																		
Recorder Initials:																		
N/S																		
No																		
Depth																		
Desired																		
Rosette Notes																		
Salt																		
Nut. Bl																		
O2 Bl. No																		
HARB																		
Chloro																		
GFF Vol																		
HARB																		
Comments																		
No																		
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
1																		

VESSEL	CRUISE ID	PROJECT & LEG	Bongo:	RZA	STATION NO.	
Ocean Starr	OS-19-0	Arctic IERP 2019			S H	
CONSC CAST #						
LATITUDE		LONGITUDE		TIME (GMT)	DYR BULB	
DEG MIN	DEG MIN DAY MO YR HR MIN	(°C)	% RH	Pressure (mb)	WIND DIRN. (deg) WIND SPD. (kts)	
					BOTTOM DEPTH (m)	STA NAME/ID
0277043.35 N 16251.05 W 14 AUG 19 2220 42 ICZ						
SBE 9+ Fluor/Turbidity MAX DEPTH = 37 m						
PRESS SN	SBE43-Oxy (prime)					
Pri Temp SN	SBE43-Oxy (sec)					
Sec Temp SN	Altimeter					
Pri Cond SN	PAR S/N					
Sec Cond SN						
Instrument Notes: 						
Recorder Initials:						
No	NIS Depth	Fosette Notes	Hydro Team-FMEL Salt Nut.Btl O2-Bll.No HABP	Chloro GFF Vol	Surface FL Flow Cam	Comments
1	80T		X118	290	✓	
2	28					
3	28		X149	290	✓	
4	20		X152	290	✓	
5	10		X150	290	✓	
6	10					
7	0		X151	371	✓	
8	0					
9						
10						
11						
12						
1		Inline				

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.	
Ocean Starr		OS-19-01		Arctic IERP 2019		Bongo: RZA S H	
CONSC CAST #	DEG	LATITUDE MIN	DEG	LONGITUDE MIN	DAY	MO	YR
02870	35.000	N	162.29	166	14	AUG	19
TIME (GMT)	HR	MIN	SEC	DRY BULB	RH	Pressure	WIND DIRN.
2355				(°C)	(%)	(mb)	(deg)
							WIND SPD.
							(kts)
							BOTTOM DEPTH
							(m)
							STA. NAME/ID
							39 IC 01
							MAX. DEPTH = 35 m
SBE 9+ _____ Fluor/Turbidity _____ PRESS SN _____ SBE43-Oxy (prime) _____ Pri Temp SN _____ SBE43-Oxy (sec) _____ Sec Temp SN _____ Altimeter _____ Pri Cond SN _____ PAR SN _____ Sec Cond SN _____							
Instrument Notes:							
Recorder Initials:							
NS	Depth	Rosette Notes	Hydro Team-PMEL	Chloro	Chlorophyll	Chlorophyll	Comments
No	Desired	Salt	Nut.Bit	O2-Bit.No	HAPB	GFF Vol	No
1	25		x153	x176		290	1
2	25					290	2
3	25		x154			290	3
4	20					290	4
5	20		x155			290	5
6	20					290	6
7	10		x156			290	7
8	10					290	8
9	10					290	9
10	0		x157			290	10
11	0					290	11
12	0					290	12
1		Inline					1

VESSEL Ocean Starr		CRUISE ID OS-19-01		PROJECT & LEG Arctic IERP 2019		STATION NO. S H	
				Bongo:		RZA	
CONSC CAST #		LATITUDE DEG MIN		LONGITUDE DEG MIN		TIME (GMT) HR MIN	
0307050542		N 16307		.259 W 15 AUG 19		1415	
				DAY MO YR		DRY BULB (°C)	
						RH (%)	
						Pressure (mb)	
						WIND DIRN. (deg)	
						WIND SPD. (kts)	
						BOTTOM DEPTH (m)	
						44	
						STA. NAME/ID	
						MAX. DEPTH = 40 m	

SBE 9+		Fluor/Turbidity		WEATHER OBS:	
PRESS SN		SBE43-Oxy (prime)			
Pri Temp SN		SBE43-Oxy (sec)			
Sec Temp SN		Altimeter			
Pri Cond SN		PAR S/N			
Sec Cond SN					

Instrument Notes:

Recorder Initials:

NIS	Depth	Rosette Notes	Salt	Nut. Bit	O2-Bit/No	HARB	Chloro	GFF Vol	Comments						NIS
No	Desired														No
1	Bot			165			✓ 290								1
2	Bot			166			✓ 290								2
3	Bot			167			✓ 290								3
4	30			168			✓ 290								4
5	20			169			✓ 290								3
6	20														4
7	20														7
8	10						✓ 290								8
9	10			170											9
10	0						✓ 290								10
11	0			171											11
12															12
1		Inline													1

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.	
Ocean Starr		OS-19-0		Arctic IERP 2019		Bongo: RZA	
CONSC CAST #		LATITUDE		LONGITUDE		TIME (GMT)	
DEG MIN		DEG MIN		DAY MO YR		HR MIN	
0317050.14		N 16307.38		18 AUG 19		1530	
SBE 9+		Fluor/Turbidity		WEATHER OBS:		MAX DEPTH = 41 m	
PRESS SN		SBE43-Oxy (pme)		REMARKS: Post cal CTD for Ck1			
P1 Temp SN		SBE43-Oxy (sec)		u/w O2: 293			
Sec Temp SN		Altimeter					
P1 Cond SN		PAR S/N					
Sec Cond SN							
Instrument Notes:							
Recorder initials:							
N/S		Depth		Rosette Notes		Hydro Team-PMEL	
No		Desired		Salt		Nut.Bit O2-Bit.No	
1		1301		x173		263	
2		27				290	
3		27		x174		290	
4		27				290	
5		18		x175		290	
6		18				50%	
7		18				33%	
8		10				100%	
9		10		x176		290	
10		0		x177		290	
11		0				290	
12		0				290	
1		Inline					

[illegible]

VESSEL Ocean Starr		CRUISE ID OS-19-0		PROJECT & LEG Arctic IERP 2019		STATION NO. S H																																																																																																																																																																																																				
				Bongo:		RZA																																																																																																																																																																																																				
CONSC CAST #		LATITUDE		LONGITUDE		TIME (GMT)																																																																																																																																																																																																				
DEG MIN		DEG MIN		DAY MO YR		HR MIN																																																																																																																																																																																																				
0347135.78 N		16130.92 W		19 AUG 19		1634																																																																																																																																																																																																				
SBE 9+		Fluor/Turbidity		WEATHER OBS:		MAX DEPTH = 41 m																																																																																																																																																																																																				
PRESS SN		SBE43-Oxy (prime)		REMARKS: Post CEO cast.																																																																																																																																																																																																						
P1 Temp SN		SBE43-Oxy (sec)		10% PAR @ 22m																																																																																																																																																																																																						
Sec Temp SN		Altimeter																																																																																																																																																																																																								
P1 Cond SN		PAR S/N																																																																																																																																																																																																								
Sec Cond SN																																																																																																																																																																																																										
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<table border="1"> <thead> <tr> <th>NIS</th> <th>Depth</th> <th>Rosette Notes</th> <th>Hydro Team-PMEL</th> <th>Area</th> <th>Chloro</th> <th>Chl a</th> <th>PP</th> <th>POR</th> <th>TA</th> <th>PAR</th> <th>Comments</th> <th>NIS</th> </tr> <tr> <th>No</th> <th>Desired</th> <th></th> <th>Salt</th> <th>Nut.Btl</th> <th>O2-Btl No</th> <th>HAPB</th> <th>GFF Vol</th> <th>Fluor</th> <th>Light %</th> <th></th> <th></th> <th>No</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>301</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>290</td> <td></td> <td></td> <td></td> <td></td> <td>1</td> </tr> <tr> <td>2</td> <td>26</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>290</td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>3</td> <td>26</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>3</td> </tr> <tr> <td>4</td> <td>26</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>4</td> </tr> <tr> <td>5</td> <td>18</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>290</td> <td></td> <td></td> <td></td> <td></td> <td>3</td> </tr> <tr> <td>6</td> <td>18</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>4</td> </tr> <tr> <td>7</td> <td>10</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>290</td> <td></td> <td></td> <td></td> <td></td> <td>7</td> </tr> <tr> <td>8</td> <td>10</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>8</td> </tr> <tr> <td>9</td> <td>10</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9</td> </tr> <tr> <td>10</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>290</td> <td></td> <td></td> <td></td> <td></td> <td>10</td> </tr> <tr> <td>11</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>11</td> </tr> <tr> <td>12</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>222</td> <td></td> <td></td> <td></td> <td></td> <td>12</td> </tr> <tr> <td>1</td> <td></td> <td>Inline</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> </tr> </tbody> </table>								NIS	Depth	Rosette Notes	Hydro Team-PMEL	Area	Chloro	Chl a	PP	POR	TA	PAR	Comments	NIS	No	Desired		Salt	Nut.Btl	O2-Btl No	HAPB	GFF Vol	Fluor	Light %			No	1	301						290					1	2	26						290					2	3	26											3	4	26											4	5	18						290					3	6	18											4	7	10						290					7	8	10											8	9	10											9	10	0						290					10	11	0											11	12	0						222					12	1		Inline										1
NIS	Depth	Rosette Notes	Hydro Team-PMEL	Area	Chloro	Chl a	PP	POR	TA	PAR	Comments	NIS																																																																																																																																																																																														
No	Desired		Salt	Nut.Btl	O2-Btl No	HAPB	GFF Vol	Fluor	Light %			No																																																																																																																																																																																														
1	301						290					1																																																																																																																																																																																														
2	26						290					2																																																																																																																																																																																														
3	26											3																																																																																																																																																																																														
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5	18						290					3																																																																																																																																																																																														
6	18											4																																																																																																																																																																																														
7	10						290					7																																																																																																																																																																																														
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12	0						222					12																																																																																																																																																																																														
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VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.	
Ocean Starr		OS-19-01		Arctic IERP 2019		S H	
				Bongo:		RZA	
CONSC CAST #		LATITUDE		LONGITUDE		TIME (GMT)	
DEG		MIN		DEG		MIN	
035	41° 02' 34.6" N	160° 29' 30.4" W	19 AUG 19	2120			
				DRY BULB	RH	Pressure	WIND DIRN
				(°C)	(%)	(mb)	(deg)
							WIND SPD
							(kts)
				BOTTOM DEPTH	STA. NAME/ID		
				(m)			
				50	CR4		
				MAX DEPTH =	47 m		
WEATHER OBS:							
REMARKS: Pre call record & observation							
Instrument Notes:							
Recorder Initials:							
N/S Depth Rosette Notes Hydro Team-PMEL Chloro GFF Vol							
No Desired Salt Nut Bril O2-BRL No HAPB							
1 1305 191 553 170 1416 11 Chla FL F10V PP							
2 1305 192 5316 170 1416 11 Chla FL F10V PP							
3 1305 193 5288 170 1416 11 Chla FL F10V PP							
4 1305 194 5288 170 1416 11 Chla FL F10V PP							
5 1305 195 5288 170 1416 11 Chla FL F10V PP							
6 1305 196 5288 170 1416 11 Chla FL F10V PP							
7 1305 197 5288 170 1416 11 Chla FL F10V PP							
8 1305 198 5288 170 1416 11 Chla FL F10V PP							
9 1305 199 5288 170 1416 11 Chla FL F10V PP							
10 1305 200 5288 170 1416 11 Chla FL F10V PP							
11 1305 201 5288 170 1416 11 Chla FL F10V PP							
12 1305 202 5288 170 1416 11 Chla FL F10V PP							
1 1305 203 5288 170 1416 11 Chla FL F10V PP							

VESSEL Ocean Star		CRUISE ID OS-19-01		PROJECT & LEG Arctic IERP 2019		Bongo:		STATION NO. S H	
CONSC CAST #		LATITUDE DEG MIN		LONGITUDE DEG MIN		TIME (GMT) HR MIN		DRY BULB (°C)	
0567112.37 N		15800.91 W		20 AUG 19		0406			
SBE 9+		Fluor/Turbidity		WEATHER OBS:		WIND DIRN. (deg)		WIND SPD. (kts)	
PRESS SN		SBE43-Oxy (prime)				RH (%)		Pressure (mb)	
Pri Temp SN		SBE43-Oxy (sec)						WIND DIRN. (deg)	
Sec Temp SN		Altimeter						WIND SPD. (kts)	
Pri Cond SN		PAR SN						BOTTOM DEPTH (m)	
Sec Cond SN								STA. NAME/ID	
								47 C45	
								MAX. DEPTH = 43 m	
REMARKS: Cal Cal for C45 Triplicate chle w/w 02:289									
Instrument Notes: Recorder Initials:									
NIS	Depth	Rosette Notes	Hydro Team-PMEL	Chloro					Comments
No	Desired	Salt	Nut.Bil	O2-Bil.No	HARP	GFF Vol			No
1	201		X200						1
2	Bot								2
3	Bot								3
4	30								4
5	30		X201						3
6	20		X205						4
7	15		X202						7
8	15								8
9	10		X203						9
10	10								10
11	0		X204 X203						11
12	0								12
1		Inline							1

[illegible]

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.																	
Ocean Starr		OS-19-01		Arctic IERP 2019		S H																	
CONSC CAST #		LATITUDE		LONGITUDE		TIME (GMT)		DRY BULB	RH	Pressure	WIND DIR/N.	WIND SPD.	BOTTOM DEPTH	STA. NAME/ID									
DEG		MIN		DEG		MIN		DAY	MO	YR	HR	MIN	(°C)	(%)	(mb)	(deg)	(kts)	(m)					
0387142.517 N		15345.03 W		20 A U G 19		2028												52	BTAG				
SBE 9+		Fluor/Turbidity		WEATHER OBS:		MAX DEPTH =																	
PRESS SN		SBE43-Oxy (prime)																					
P1 Temp SN		SBE43-Oxy (sec)																					
Sec Temp SN		Altimeter																					
P1 Cond SN		PAR SN																					
Sec Cond SN																							
Instrument Notes:																							
Recorder Initials:																							
N/S		Depth		Rosette Notes		Hydro Team-PMEL		Chloro		170 (6.4)		1001		FL		Flow		PP		Pof		Comments	
No		Desired		Satt		Nut:Btl		O2-Btl/No		HAPP		GFF Vol		170 (6.4)		57.1%		V		Cam		Lgt 1%	
1		385				1215						290				X 602		V					
2		40				1216						290				X 615		V					
3		40				1217						290				X 602		V					
4		30				1218						290				X 600		V					
5		20				1219						290				X 600		V					
6		20				1220						290				X 600		V					
7		20				1221						290				X 600		V					
8		10				1222						290				X 600		V					
9		10				1223						290				X 600		V					
10		0				1224						290				X 600		V					
11		0				1225						290				X 600		V					
12		0				1226						290				X 600		V					
1		Initive				1227						290				X 600		V					

[illegible]

[illegible]

VESSEL		CRUISE ID		PROJECT & LEG		STATION NO.																																																																																																																																																																																																																																																																																																													
Ocean Starr		OS-19-01		Arctic IERP 2019		S H																																																																																																																																																																																																																																																																																																													
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