	pth .	Chlorophyll Max Depth	- 20)epth	Pycnocline Depth	Ру	3.6
œ		139,42 324	6	432			8
7	Lugols (64) and Formalin (16)	139.39 323	5	52			7 10
G	Lugols (63)	139,79 322	Ť	430	Ť		6 20
O1	LUGOIS (62)	139,32)	W	1729			30
4		l	N	428			40
w	LN9018 (61)	138.84 319		427			3
2	5			426			2 100
				425			190
ह		Bit ID Chi VOL Filter Vial #	OXY# Bti I	Nut.#	SALT#		No.DESIRED
Z	Comments	CHLOR Samples	C	Hydro Sampling	Hydr	Nis DEPTH Rosette Notes	Nis DEPTH
							O2 SBE42S/N
	are the second s					PO132	PAR SIN 7
						2	OZ (SBE43) S/N
							FLUOR S/N
						Ns	COND 182 S/Ns
<u>L.</u>			0				TEMP 1 82 SNs
	COMMENT: DIMICULE CONDUINGS, Tactor's trial may affect the assistance in an excessing	MAN MOU		COMMEN		SIN	SBE type and S/N
C		PRUBI13	(ADT) D	p-Ot Local Time	se or swa	Sensor S/N (At Start of cruise or swap-outocal Time (ADT)	Sensor S/
	X	1 3 1	AWOUX VA	04/B. Q	K - 110	12.440	agron
	Temp (°C) Temp (°C) (mb) * * (deg) (kts) * * *	YR HR N	DAY		DEG	MIM	DEG
lö	DRY BULB WET BULB R SE DIRN. SPD. CLE	ତି :	_	LONGITUDE	_	LATITUDE	CAST#
	ESSURE STATE BILITY SUD SUD OUD (am PE ATHER	GMT			<u> </u>		
	Filename= 2NWI3_OOT 95	GOA-IERP-UTL 2013		W 13	2NW	Northwest Explorer 2013	Northwes
-	I this out STATIO	PROJECT & LEG		CRUISE ID (e.g. 1NW13-1)	CRUISE	į	VESSEL

	h	Chlorophyll Max Depth	Chloropt		\$	Pycnocline Depth	Pyc		
8		330) 139.42	6	044	-			8
7	Lugols (68) and Formalin (17)	139.39 329		IJ	439	7			7] (
6	Lugols (67-)	328	139.49	F	438	_ (~		Ö	о ()
On	Lugols (66)	327) [F] TO	()	437	1		30	6.7
4		2 326	2 39.52	K \	J36			0	4
ω	LUGO1S (65)	325	138.87		435			<i>S S S S S S S S S S</i>	ω Γ7
N					154	1		00	2 /(
				0	433 310	483 1		25	1
Š		Bil ID Chi VOI Filter Vial #	ID CH VO	OXY# Bt	Nut# 0>	SALT#		No.DESIRED	lo.DE
Nis	Comments	npies	CHLOR Samples		ampling	Hydro Sampling	ette Notes	Nis DEPTH Rosette Notes	lis DE
								PAR S/N	PAR S/N
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S	1 + 10 10 07 112 SOUTO (CITO	レクストウィーフィーフィーフィーフィーフィーフィーフィーフィーフィーフィーフィーフィーフィ	ME	Bulums	ASSU			NS (CA)	FLUOR SAN
	temo of the water	-						COND 182 S/Ns	OND
1	De 211.6°C.	1+ 10	area	record	WA Y	81		TEMP 1 &2 SNs	TEMP 1
Ψ <u></u>		TX++X	M the	Z MIN	ASSU			PRESS S/N	PRESS S/N
	COMMENT: Difficult conditions, factors that may affect measurements or aid processing	ons, factors	ılt conditi	: Difficu	OMMENI	0	7	N/S bne av	ő
7	MAX. DEPTH = 12.	ω		(ADT)	Local Time	or swap-o	Sensor SIN (At Start of cruise or swap-ot Local Time (ADT)	or S/N (A	Sens
0	14.610.2 xx	3 2 1	Alugi	(W 0 3		11402	H. 424	259	002
	Temp (°C) Temp (°C) (mb) * * (deg) (kts) * * * (m)	YR HR MIN	МО	DAY	MIN	DEG	MIN	DEG	
lä	DRY BULB WET BULB PR SESSIBILITY WIN D D DIE H BOTTO M DEPTH STA. NAME/ID	TIME (GMT)	G M T		ONGITUDE	- Fo	LATITUDE	#:	CTD CAST#
<u> </u>	02	GOA-IERP-UTL 2013	GOA-IERF	<u>-</u>	413	ZNW 13	Northwest Explorer 2013	⊮est Ex	Northy
╝	If you download data after cast- fill this out STATION NO	UE1.	DROIECT & 1EG	2	TANIA -				1

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Northwest Explorer 2013 NESSEL TEMP 1 &2 SNs 0935921 Nis DEPTH Rosette Notes O2 SBE42S/N PAR S/N 02 (SBE43) S/N COND 182 S/Ns SBE type and S/N Sensor S/N (At Start of cruise or swap-or Local Time (ADT) CTD CAST# LUOR S/N ransmissometer S/N RESS S/N o.DESIRED LATITUDE 07814C03.91804AU91 Pycnocline Depth CRUISE ID (e.g. 1NW13-1) SALT# N Hydro Sampling ONGITUDE 七十十 COMMENT: Difficult conditions, factors that may affect measurements or aid processing

There is no way to tell how far down the 多杆 老 42 生 圭 Nut.# mere OXY# DAY CC5 2 Bit ID Chi VOI Filter Vial # 3AU913 6 **CHLOR Samples** ଜ GOA-IERP-UTL 2013 PROJECT & LEG no way to to OW Z T 139,42 337 12977 139,79 138.87 139.52 39.39 336 ΥR 3 8 4 2 0 1 2 335 334 332 33/ HR MIN Temp (°C) ugols (72 TT/Slobin SlobYT Stobn DRY BULB If you download data after cast- fill this out Filename= nowtar N WET BULB 9F 60 seas c Comments Z PRESSURE and SEA STATE VISIBILITY DIRN. Formalin 8 SPD. (kts) Ŭ CLOUD (amt STATION NO. WEATHER DEPTH STA. NAME/ID вотто MAX. DEPTH = 15 1128 X BC 110 D0101 0 ኟ No. Nis O ω N

l	Ponth	Chlorophyll Max Depth	Pycnocline Depth	Pychoc	
00					œ
7		6 151,42342	455		7
o	LUGOIS (76) and Formalin (1911)	5 159.39 341	H24		6
თ	LUGOIS (75)	4 139.79 340	453		<u>5</u>
4	Lugois (74)	3 139.59 339	452		4 ()()
ω		2 13952 330	あ		3 40
N	Lugois (73)	788.84 7337	450		2 50
			144A		- 65
ह		Bil ID Chi VOL Filter Vial #	SALT# Nut.# OXY#		No.DESIRED
Z	Comments	CHLOR Samples	Hydro Sampling	Nis DEPTH Rosette Notes	Nis DEPTH
				Ž	PAR S/N O2 SBE42S/N
1		7	Pro 24	neter S/N	Transmissometer S/N
<u></u>	been around 0730 Alaskatime.	and pave	1, ±' \$ hc	SIN	02 (SBE43) S/N
Q	JET TE PORT SECOND TO ELIZALADA	WA Waited	tip; so	- W - W	FLUOR S/N
Ļ	SHIPS MARIN NOT	MS ton)	maknik	SINS	COND 182 S/Ns
	the time as it was a very bush	1 11 13 1	10707	ONe.	TEMP 1 23 SNS
	CUMMENT: DITTICUIT conditions, factors triat may affect measurements of aid processing	micult conditions, ia	COMMENT	d S/N	SBE type and S/N
_			SWAD-OLLOCAL TIME (ADT)	Sensor S/N (At Start of Cruise of swap-offocal lime (AD))	Sensor
	MAX DEPTH = /o	04AW01.	Time (A)		
بحر	× × × × × × × × × × × × × × × × × × ×	04 A V9 1 3	3953.09w04	929.47N	Sh00
-	R MIN Temp (°C) Temp (°C) (mb) (° * (deg) (kts) * * * (m)	DAY MO YR HR	DEG MIN	DEG MIN	
10	TIME SSULB WET BULB RESIDENCE WIN DEPTH STA. NAME/ID	GMT	LONGITUDE	LATITUDE	CTD CAST#
<u> </u>	Filename= 20013-001	GOA-IERP-UTL 2013	ZNWIS	Northwest Explorer 2013	Northwe
	If you download data after cast- fill this out STATION NO.	PROJECT & LEG	CRUISE ID (e.g. 1NW13-1)	C	VESSEL

Pycnocline Depth

PAR S/N 02 SBE42S/N CTD CAST# Northwest Explorer 2013 SBE type and S/N VESSEL Nis DEPTH Rosette Notes Sensor S/N (At Start of cruise or swap-or Local Time (ADT) 05502 02 (SBE43) S/N COND 182 S/Ns PRESS S/N Transmissometer S/N FLUOR SAN TEMP 1 &2 SNs o.DESIRED 200 LATITUDE SALT# CRUISE ID (e.g. 1NW13-1) ZNW Hydro Sampling 4455. 32 A0 5 AUA COMMENT: Difficult conditions, factors that may affect measurements or aid processing 454 4 194 458 954 463 Nut.# Ē 0XY# Bil ID Chi VOL Filter Vial # **CHLOR Samples** GMT PROJECT & LEG MO GOA-IERP-UTL 2013 元光 139.79345 138.87 343 YR HR MIN 30059 が下で 940 Sperior 51001Z DRY BULB Temp (°C) NGOIS If you download data after cast- fill this out
Filename= 2N W 13 - Ø₱5 Filename= WET BULB 8t Comments PRESSURE and formalin SEA STATE VISIBILITY OD SE CLOUD (amt (kts) STATION NO. WEATHER 996 M DEPTH 70 MAX. DEPTH = 200 STA. NAME/ID <u>Z</u> No. No. N On

Pycnocline Depth

Chlorophyll Max Depth

Pycnocline Depth

œ	10	1 138.8434	4(%)	8 8
7	+7 LUAOIS (80) and Formalin (20)	2 134.52 34	462	7 10
o _	the Lugols (79)	3 139.39.346	1461	. 10
ςn	45 Lugo Is (78)	F 1281 T	160	30
4	41	(C) (N) (N) (N) (N) (N) (N) (N) (N) (N) (N	459	40
ယ	43 Lugals (4子)	CH2 247 B	458	3 50
N			457	2 100
			227	, 202
S S	Vial #	Bil ID Chi VOL Filter Vial #	SALT# Nut.# OXY#	No.DESIRED S.
Nis	Comments	CHLOR Samples	Hydro Sampling	Nis DEPTH Rosette Notes
				O2 SBE42S/N
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				02 (SBE43) S/N
				FLUOR S/N
				COND 182 S/Ns
				TEMP 1 &2 SNs
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2	0925 MAX. DEPTH = 2	ω ω	swap-ot Local Time (ADT)	Sensor S/N (At Start of cruise or swap-ot Local Time (ADT) 5 A U 9
7	× × × × × × × × × × × × × × × × × × ×	22805Aug 131	814455.228	00 459 20.2981
2	HR MIN Temp (°C) Temp (°C) (mb) * (deg) (kts) * * (m)	Ϋ́R	DEG MIN	DEG MIN
<u> </u>	TIME TIME ORY BULB WET BULB PR SESSI WIND DEPTH STA. NAME/ID	GMT	LONGITUDE	CTD CAST # LATITUDE
	Filename= 2NW 13_046	GOA-IERP-UTL 2013	2NW13	est Explorer 2013 /
	If you download data after cast- fill this out STATION NO.	PROJECT & LEG	CRUISE ID (e.g. 1NW13-1)	VESSEL CF

Northwest Explorer 2013 Nis DEPTH Rosette Notes O2 SBE42S/N VESSEL PAR S/N 02 (SBE43) S/N COND 182 S/Ns 0075928. CTD CAST# Transmissometer S/N FLUOR SAN TEMP 1 &2 SNs SBE type and S/N Sensor S/N (At Start of cruise or swap-or Local Time (ADT) 10.DESIRED RESS S/N 201 LATITUDE 157 4454.73805 AUG Pycnocline Depth CRUISE ID (e.g. 1NW13-1) SALT# Hydro Sampling 2NW13 LONGITUDE 494 100 465 Nut.# 468 七9年 COMMENT: Difficult conditions, factors that may affect measurements or aid processing 041 CISKID #8 5 0XY# Į. Bil ID Chi VOL Filter Vial # 6 **CHLOR Samples** GMT PROJECT & LEG GOA-IERP-UTL 2013 . Õ 139.79 352 光光 139.42 354 139.52 350 139,39 353 38.87349 Ϋ́R <u>n</u> ယ rak na, HR MIN Slobn Slobn Temp (°C) DRY BULB 19015 Filename= If you download data after cast- fill this out Og collected WET BULB $\overline{\phi}$ 82 ZNW Comments PRESSURE SEA STATE VISIBILITY DIRN. From bottom instead SPD. (kts) H CLOUD (amt
TYPE
WEATHER
DEPTH STA. NAME/ID STATION NO. MAX. DEPTH = 20 577 **K**[**B**3 No. (J) ω N Nis

	« Depth	Chlorophyll Max Depth	Pycnocline Depth	Pyc
œ	00	(o 139.42 360	479	8 0
7	59 Lugols (88) and Formalin (22)	5 139.39 359	1476 1971	7 10
6	58 LIGOIS (87)	4 191.79 358	477	6 20
(J)	FUGOIS(86)	3 PA 25 PT BEI	476	30
4	06	2 139.52 356	475	40
ယ	55 Lugols (85)	138.87 ZSS	474	50
N			473	2 100
			472	5
<u>N</u>	Vial #	Bil ID Chi VOL Filter Vial #	SALT# Nut.# OXY#	No.DESIRED
Z	Comments	CHLOR Samples	Hydro Sampling	Nis DEPTH Rosette Notes
				02 SBE42S/N
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	ALAMAN TO THE TOTAL THE TOTAL TO THE TOTAL TOTAL TO THE T			Transmissometer S/N
				FLUOR S/N
				COND 182 SINS
				TEMP 1 &2 SNs
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	COMMENT: Difficult conditions, factors that may affect measurements or aid processing	fficult conditions, f	COMMENT: Di	SBE type and S/N
<u>N</u>	304 MAX DEPTH = 15	5 Aug 1 3 1	e or swap-ot Local Time (ADT)	Sensor S/N (At Start of cruise or swap-ot Local Time (ADT)
2		05AUQ 1 3 2)	2-4454.968	005936.19
	N Temp (°C) Temp (°C) (mb) * * (deg) (kts) * * * (m)	DAY MO YR H	DEG MIN	DEG
\ME/ID	TIME TIME TIME SURE STATE VIN D D D D TO DRY BULB WET BULB PRESSTATE VIN D D D TYPE WE DEPTH STA. NAME/ID	G M T	LONGITUDE	CAST # LATITUDE
	Filename= 2NWIS_008	GOA-IERP-UTL 2013	2NW13	Northwest Explorer 2013
	If you download data after cast- fill this out STATION NO.	PROJECT & LEG	CRUISE ID (e.g. 1NW13-1)	VESSEL

ω CTD CAST# S 02 SBE42S/N PAR S/N Nis DEPTH Rosette Notes Sensor S/N (At Start of cruise or swap-ot Local Time (ADT) 02 (SBE43) S/N LUOR S/N TEMP 1 &2 SNs ransmissometer S/N OND 182 S/Ns RESS S/N o.DESIRED BE type and S/N 30 20 095944 강 ATITUDE 05814455.12 SALT# DEG Hydro Sampling LONGITUDE 1767 COMMENT: Difficult conditions, factors that may affect measurements or aid processing ななし 483 64 Nut.# 6 охү# N Btl ID Chl VOL Filter Vial # 6 CHLOR Samples N_O G 玉 139.39 139.79 139.52 138.88 139.41366 Ř 362 364 2000 w ယ 600 69 HR MIN Spbr Temp (°C) DRY BULB WET BULB 1901S(91 Slabn 0 W 2 ငံ Comments PRESSURE 2 SEA STATE ر 2 VISIBILITY DIRN. Formalin CLOUD (amil TYPE WEATHER (중 (중 M DEPTH STA. NAME/ID MAX. DEPTH = 9 (3 23 KIB1 N Z

VESSEL

CRUISE ID (e.g. 1NW13-1)

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Northwest Explorer 2013

Pycnocline Depth

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VESSEL Northwest Explorer 2013 CTD CAST# Nis DEPTH Rosette Notes 02 SBE42S/N PAR S/N Transmissometer S/N 02 (SBE43) S/N FLUOR S/N COND 182 S/Ns TEMP 1 &2 SNs SBE type and S/N Sensor S/N (At Start of cruise or swap-or Local Time (ADT) DIGA NO 1 3 RESS S/N o.DESIRED 3 05 LATITUDE Pycnocline Depth SALT# CRUISE ID (e.g. 1NW13-1) 316H396H 2NW 13 Hydro Sampling ONGITUDE で (2) Nut.# COMMENT: Difficult conditions, factors that may affect measurements or aid processing G & 504 mec 867 0XY# Ø 6 Aug Bil ID Chi VOL Filter Vial # W N S 6 **CHLOR Samples** ດ M T PROJECT & LEG GOA-IERP-UTL 2013 5000 <u>₹</u> ¥ at prevented + 1 375 74 848 848 378 七七公 ယ CTD a-듔 TIME (GMT) ΜÑ DRY BULB not have samples SINT SOLD Filename= If you download data after cast- fill this out ocean oar Temp WET BULB W 000 Comments PRESSURE Johns Joseph Smell but there SEA STATE VISIBILITY DIRN. SPD. (kts) robat CLOUD (amt TYPE WEATHER STATION NO. Was М DEPTH MAX. DEPTH = 1181121 STA. NAME/ID ĕ. Zi Si 6 lω

		Chlorophyll Max Depth	5		Pycnocline Depth	Pycno	
ω		384	6		27		* Ø
7		383	IJ	0	510		7 10
on .		382	丰	à	P09		20
(J)		381	W	Ğ.	508		3
4		380	12	平	402		40
ω		3 7 9	1->	8	50g		50
2				Yi.	505		2 100
_				下	50-		1200
ĕ		Bit ID Chi VOI Filter Vial #		L# OXY#	SALT# Nut.#		No.DESIRED
Zis	Comments	CHLOR Samples	CHL	pling	Hydro Sampling	sette Notes	Nis DEPTH Rosette Notes
	The state of the s						02 SBE42S/N
					CHANGE OF THE PARTY OF THE PART	- X-2,1985-1,1980-1	PAR S/N
					200	N/S	Transmissometer S/N
							02 (SBE43) S/N
					T X		FLUOR S/N
	- Carlotte						COND 182 SINS
							PRESS S/N
_	COMMENT: Difficult conditions, factors that may affect measurements or aid processing	onditions, factors	Difficult c	MMENT: D	CON		SBE type and S/N
8	MAX. DEPTH = 2	W9 1 3 0 70	Ut O	cal Time (AD:	or swap-orlo	Sensor S/N (At Start of cruise or swap-or Local Time (ADT) 7 PUB	Sensor S/N (/
C	x x x x	VIQ 1 3 50	A FOW P	0 9 V	14935	58.92°	01255
1	N Temp (°C) Temp (°C) (mb) * * (deg) (kts) * *	NO YR	DAY	MZ	DEG	MIN	DEG
E/ID	DRY BULB WET BULB PRESSURE SEA STATE VISIBILITY DIRN. SPD. CLYPE WEATHER M DEPTH STA. NAME/ID	G M T TIME	ര	<u> </u>		ATT	CAST #
	Filename = 2NW13_612 106	GOA-IERP-UTL 2013		9. INWIST	2NW13	Northwest Explorer 2013	VESSEL Northwest E
	If you download data after past, fill this out STATION NO	O In O I PO		ANIMA		-	1

VESSEL PAR S/N 02 SBE42S/N Northwest Explorer 2013 CTD CAST# Sensor SIN (At Start of cruise or swap-or Local Time (ADT) 0 7A 49 1 3 TEMP 1 &2 SNs SBE type and S/N Transmissometer S/N 02 (SBE43) S/N FLUOR S/N COND 182 S/Ns PRESS SAN Nis DEPTH Rosette Notes o.DESIRED 8 LATITUDE 12 8 77 14 947 2 78 0 7 A 4 1 3 2008 CRUISE ID (e.g. 1NW13-1) SALT# 97519 Hydro Sampling LONGITUDE COMMENT: Difficult conditions, factors that may affect measurements or aid processing 518 U W 5 <u>万</u>上 <u>5</u>2 J Nut.# 中 ਹ # XXO DAY Bil ID Chi VOL Filter Vial # J F CV 6 CHLOR Samples GMT GOA-IERP-UTL 2013 PROJECT & LEG ž 385 388 386 289 387 98 HR MIN 12 DRY BULB WET BULB Temp (°C) Filename= If you download data after cast-fill this out Comments NW13-013 PRESSURE SEA STATE VISIBILITY DIRN. SPD. WIND CLOUD (amt TYPE WEATHER DEPTH (S STATION NO. MAX. DEPTH =/ STA. NAME/ID No. თ Ç

Pycnocline Depth

VESSEL CTD CAST# Northwest Explorer 2013 02 SBE42S/N PAR S/N 02 (SBE43) S/N FLUOR SAN TEMP 1 &2 SNs PRESS S/N Sensor S/N (At Start of cruise or swap-ollocal Time (ADT) Vis DEPTH Rosette Notes OND 182 S/Ns SBE type and S/N lo.DESIRED ransmissometer S/N 00 2 LATITUDE MIN Pycnocline Depth 2 NW 13-1) SALT# DEG Hydro Sampling LONGITUDE 524 520 525 COMMENT: Difficult conditions, factors that may affect measurements or aid processing Nut.# <u>≤</u> OXY# 08Aug: 30010 PAY Btl ID Chl VOL Filter Vial # S 7A4013 6 CHLOR Samples N O GMT PROJECT & LEG GOA-IERP-UTL 2013 ž 395 GPC 十 万 の 十 392 W D HR MIN TIME (GMT) Temp (°C) DRY BULB 2 Filename= 2NW 13-014 If you download data after cast- fill this out WET BULB Temp (°C) Comments PRESSURE SEA STATE VISIBILITY DIRN. SP □ ≦ CLOUD (amt TYPE WEATHER (kts) BOTTO M DEPTH MAX. DEPTH = 80 90 d 21 STA. NAME/ID No Zis 6 O

		Chlorophyll Max Depth	Depth	Pycnocline Depth	
8		6 402	-534		8
7		5 401	533		7 10
6	53	J-100	532		. 20
ch .		399	53	0	3
4		2 398			40
ω		1 39年	52 9		50
2			528		2 75
-	(*		527		100
o O		Bit ID Cht VOLFilter Vial #	Nut.# OXY #	SALT#	No.DESIRED
Zis	Comments	CHLOR Samples	Hydro Sampling		Nis DEPTH Rosette Notes
				E AV	02 SBE42S/N
					PAR S/N
				A	Transmissometer S/N
					02 (SBE43) S/N
					FLUOR S/N
					COND 182 S/Ns
					TEMP 1 &2 SNs
					PRESS S/N
	COMMENT: Difficult conditions, factors that may affect measurements or aid processing	cult conditions, factors	COMMENT: Diffi		SBE type and S/N
0	MAX. DEPTH =	BAUD , 3 1 3 1 1 1 2 1 2	p-or Local Time (ADT)	Sensor SIN (At Start of cruise or swap-ollocal Time (ADT) 00 AU	Sensor S/N (A)
2	x x x x 1195020	BAN9131502	040.43WBB	1 . 8 6 N 1 S O	φ1 559
	Temp (°C) Temp (°C) (mb) * * (deg) (kts) * * * (m)	MO YR F		MIN DEG	DEG
E/ID	DRY BULB WET BULB PR SEA STATE WIN Q OF THE BOTTO SEA M STA NAME/ID	G M T TIME (GMT)	LONGITUDE	LATITUDE	CTD CAST#
	Filename= 2NW13_\phi 15	GOA-IERP-UTL 2013	2NW13	ll .	Northwest Explorer 2013
		DBO IECT 9 I EC	T D (> ANIMA A)	in id Oil	in oon

PAR S/N O2 SBE42S/N CTD CAST# Northwest Explorer 2013 VESSEL lω Nis DEPTH Rosette Notes 02 (SBE43) S/N Sensor S/N (At Start of cruise or swap-or Local Time (ADT) Transmissometer S/N FLUOR S/N COND 182 S/Ns TEMP 1 &2 SNs O.DESIRED PRESS S/N SBE type and S/N 00 50 LATITUDE ₹ **Pycnocline Depth** ZNW SALT# CRUISE ID (e.g. 1NW13-1) 993535 Hydro Sampling 5015 LONGITUDE 245 COMMENT: Difficult conditions, factors that may affect measurements or aid processing 538 Nut.# _0_ охү # SW BBAUA DAY Btl ID Chl VOL Filter Vial C **CHLOR Samples** GMT PROJECT & LEG GOA-IERP-UTL 2013 Chlorophyll Max Depth 8 ¥ 404 80H ယ 9 HR MIN (GMT) Temp (°C) DRY BULB If you download data after cast- fill this out Filename= WET BULB Comments PRESSURE SEA STATE VISIBILITY 016 DIRN. CLOUD (amt (Kis STATION NO. WEATHER
M
DEPTH STA NAME/ID the tite MAX. DEPTH = 6917 4209 ĕ N S

rolder

PAR S/N O2 SBE42S/N VESSEL CTD CAST# Northwest Explorer 2013 Nis DEPTH Rosette Notes SBE type and S/N Sensor S/N (At Start of cruise or swap-or Local Time (ADTO CA) U 4 3 Transmissomeler S/N 02 (SBE43) S/N 6.DESIRED LUOR S/N COND 182 S/Ns EMP 1 &2 SNs PRESS S/N Z 75844.40 NI 4951 LATITUDE S **Pycnocline Depth** 187 550 072 SALT# CRUISE ID (e.g. 1NW13-1) ZZW IS Hydro Sampling LONGITUDE も七の 442 246 건강 1420元 COMMENT: Difficult conditions, factors that may affect measurements or aid processing 5H8 Nut.# DN Y DBM 七七. OXY# Btl ID Chl VOL Filter Vial # 2 6 S **CHLOR Samples** ଜ <u>ଲ</u> T PROJECT & LEG GOA-IERP-UTL 2013 30004 10 7 2 7 (GMT) <u>≤</u> DRY BULB Temp (°C) Filename= 2NW13 If you download data after cast- fill this out WET BULB Comments PRESSURE SEA STATE VISIBILITY DIRN. 419 CLOUD (amt)
TYPE
WEATHER (kts) STATION NO. DEPTH STA. NAME/ID MAX, DEPTH = / 10/0 N_O Z

O2 SBE42S/N CTD CAST# No.DESIRED Nis DEPTH Rosette Notes 02 (SBE43) S/N Northwest Explorer 2013 Transmissometer S/N COND 182 S/Ns SBE type and S/N VESSEL FLUOR S/N EMP 1 &2 SNs RESS S/N 200 50 LATITUDE <u>S</u> **Pycnocline Depth** CRUISE ID (e.g. 1NW13-1) SALT# DEG 9 Hydro Sampling ZMN3 LONGITUDE S Nut.# SEAS WENT FOURTH 80 WE STANT ON OCCUPANDAM AT STATIONS NO 209, ht 209, hx 209 **別 4**000 <u>855</u> 555 552 VI VI # AXO | W | Bit ID Chi VOL Filter Vial # 1 Ø A ua F 6 N **CHLOR Samples** GMT PROJECT & LEG GOA-IERP-UTL 2013 Mo <u> သ</u> hp20gh 00 F 416 19 455 茮 200 TIME (GMT) Si N Slobri SIOPM Slobn DRY BULB SIODM Temp (°C) If you download data after cast- fill this out Filename= WET BULB 2 (96) و <u>2</u> Comments PRESSURE SEA STATE VISIBILITY DIRN. 2 Leans S D ≦ CLOUD (amt (kts) STATION NO. WEATHER M DEPTH STA. NAME/ID MAX. DEPTH = 200 853hx205 No. ω N

PAR S/N O2 SBE42S/N VESSEL CTD CAST# Northwest Explorer 2013 Nis DEPTH Rosette Notes 02 (SBE43) S/N Sensor S/N (At Start of cruise or swap-ot Local Time (ADT) \ PAUO 1 3 FLUOR S/N SBE type and S/N IO.DESIRED COND 182 S/Ns PRESS S/N ransmissometer S/N EMP 1 &2 SNs 2 LATITUDE 06N 199 29 Pycnocline Depth 024 SALT# CRUISE ID (e.g. 1NW13-1) Hydro Sampling 405 LONGITUDE 260 260 1306 000 562 Nut.# COMMENT: Difficult conditions, factors that may affect measurements or aid processing 500 597 . | 4| 2| w | 1 | Ø | A ua OXY# Bil ID Chi VOUFilter Vial # L J (1) N 6 **CHLOR Samples** GMT PROJECT & LEG GOA-IERP-UTL 2013 M O 첫 426 425 423 422 421 H2H HR MIN 904 DRY BULB ugois(IBØ) ugols (99 1901S (98) slopr Filename= If you download data after cast- fill this out WET BULB ြင 4 Comments PRESSURE SEA STATE 200 VISIBILITY DIRN. 019 SPD WN CLOUD (amt tormalin (kts) WEATHER M DEPTH STA. NAME/ID 0 MAX. DEPTH = 175 80h t20 5 25 No. Z

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(26)	Lugols (103) and Formalin	5 . 430	570	4
ر د	Lugo15 (102)	4 429	569	320
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000000000000000000000000000000000000000		2 427	507	140
No.		Bit ID Chi VOL Filter Vial #	SALT# Nut# OXY#	No.DESIRED
Nis	Comments	CHLOR Samples	Hydro Sampling	Nis DEPTH Rosette Notes
				PAR S/N 02 SBE42S/N
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BOTTO M DEPTH STA. NAME/ID	ORY BULB WET BULB PRESSURE SEA STATE VISIBILITY DIRN. SPD. CLOUD (am TYPE WEATHER	G M T TIME	LONGITUDE	
121	MISTER	GOA-IERP-UTL 2013	2NWIS	Northwest Explorer 2013
Č	If you download data after cast- fill this out	PROJECT & LEG	CRUISE ID (e.g. 1NW13-1)	VESSEL

	(Depth	Chlorophyli Max Depth	Pycnocline Depth	Pyci
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(J)	Lugols (4 435	576	5 30
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ω		2 433	145	3 40
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			572	1 76
Š	Vial#	Bil ID Chi VOI Filter Vial #	SALT # Nut.# OXY #	No.DESIRED
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				PAR S/N
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	Sond out part davo in the total would	and before	tro,	COND 1&2 S/Ns
	I amino regative readings, wall flush	Serves Car	OXUO	TEMP 1 &2 SNs
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27	50 XXX XXX XXX XXXX XXXX XXXX XXXX XXXX	1 / Aug 1 3 t	1 50 /k . 2 3w	02115829.919N
	N Temp (°C) Temp (°C) (mb) * * (deg) (kts)	DAY MO YR H	DEG MIN	DEG
E/ID	TIME TIME TIME DRY BULB WET BULB PRESSURE SEA STATE VIN D DOUD (am) TYPE WED THE REPORT OF THE REPOR	GMT	LONGITUDE	CTD LATITUDE
	Filename= 2NW13_021	GOA-IERP-UTL 2013	2NWI3	Northwest Explorer 2013
	If you download data after cast- fill this out STATION NO.	PROJECT & LEG	CRUISE ID (e.g. 1NW13-1)	VESSEL

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PAR S/N Northwest Explorer 2013 02 SBE42S/N SBE type and S/N CTD CAST# **NESSEL** Nis DEPTH Rosette Notes Transmissometer S/N 02 (SBE43) S/N COND 182 S/Ns FLUOR S/N TEMP 1 82 SNs Sensor S/N (At Start of cruise or swap-or Local Time (ADT) lo.DESIRED PRESS S/N *a*0 50 00 LATITUDE Ν N N Pycnocline Depth 2NW13 SALT# Hydro Sampling 50 d 2. ONGITUDE 185 <u>万</u>% 580 COMMENT: Difficult conditions, factors that may affect measurements or aid processing 581 七四 Nut.# 1000 C # AXO とのかっろう P Bit ID Chi VOL Filter Vial # 6 CHLOR Samples G M T GOA-IERP-UTL 2013 PROJECT & LEG NO N sensor rooks better theis Ϋ́R 438 439 044 # 443 442 32069 HR MIN 209 flush og Se Stobni DRY BULB Temp (°C) Slobn 011)Slo**b**n. Ngols Filename= If you download data after cast- fill this out Ø WET BULB Sensor bo!) 9 80.1 Comments PRESSURE Pusud 1 SEA'STATE \leq mext station DIRN. CLOUD (amt) 07 Gay (Rap (kts) Tormalin 7 STATION NO. WEATHER M DEPTH вотто MAX. DEPTH =/ 76 B6 HN 205 28 STA. NAME/ID No. Nis

Q: What did the magician say to the fisherman?

	Pycnocline Depth Chlorophyll Max Depth	B Pycr
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	SALT# Nut.# OXY# Bil ID Chl VOt Filter Vial # No.	No.DESIRED
	Hydro Sampling CHLOR Samples Comments Nis	Nis DEPTH Rosette Notes
pump problem	Salinity is reading way too low at beginning, waybe apur	OF OPENSY.
	SO FILES VIII DE VIO OSSIGNI STATIO E TELLO COCI.	PAR SN
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	for of sensor is around of 19, which is way lower	02 (SBE43) S/N
	OXUGED SENSON STILL WAS DAVIDE ISSUES. THE VOHOR	FLUOR S/N
C	ien senser to truto tix/ciego it, the	COND 182 S/Ns
ONE LOCKING	After flushing Deignized water through the	PRESS S/N
の中さた神からから		SBE type and S/N
	OF SWAD-01 LOCAL TIME (ADT) AUG 1 3 1 6 1 7	Sensor S/N (At Start of cruise or swap-or Local Time (ADT)
	115) BT. 1787 12AW a1 3 00117 1. DT. TH. XX 1168hd205	d235857.558
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	GOA-IERP-UTL 2013 Filename= 2N M 13_\$2	Northwest Explorer 2013
	CRUISE ID (e.g. 1NW13-1) PROJECT & LEG If you download data after cast- fill this out STATION NO.	VESSEL

Will the transfer to the first the transfer to the times and the transfer to t back to surface and started back down again fix itself. Brought

A: Pick a cod, any cod!

PAR S/N 02 SBE42S/N VESSEL Northwest Explorer 2013 Nis DEPTH Rosette Notes Sensor S/N (At Start of cruise or swap-ot Local Time (ADT) No.DESIRED 02 (SBE43) S/N LUOR S/N RESS SAN ransmissometer S/N OND 182 S/Ns **EMP 1 8.2 SNs** BE type and S/N 65 LATITUDE <u>₹</u> Pycnocline Depth CRUISE ID (e.g. 1NW13-1) SALT # Nut.# OXY # 2NW DEG Hydro Sampling LONGITUDE COMMENT: Difficult conditions, factors that may affect measurements or aid processing 200 120 回り 595 Pustin + + haxing 0 HIVE 1. 86 W 12 A 40 Bil ID Chi VOI Filter Vial # T دں 5 6 **CHLOR Samples** G M T marking. N O GOA-IERP-UTL 2013 Se352 100+ 7 Chlorophyll Max Depth 131504 130704 YR HR MIN 나53 452 5 35万 H25H 450 (GMT) Temp (°C) DRY BULB WET BULB If you download data after cast- fill this out Filename= 2NWI3_B2H Filename= Temp (°C) Comments PRESSURE QL+ SEA STATE DIRN. SPO. CLOUD (amt Short today WEATHER DEPTH BOTTO Y 30 50 10 MAX. DEPTH = 170 لہ STA, NAME/ID No. Nis G

PROJECT & LEG

STATION NO.

PAR S/N O2 SBE42S/N 02 (SBE-44) SIN 23060) 0 12 15 15 15 CTD CAST# Northwest Explorer 2013 VESSEL SBE type and S/N Nis DEPTH Rosette Notes Transmissometer S/N COND 182 S/Ns TEMP 1 &2 SNs Sensor S/N (At Start of cruise or swap-ot Local Time (ADT) 10.DESIRED PRESS S/N 75 8 LATITUDE <u>S</u> Pycnocline Depth || || || || || 2NW13 CRUISE ID (e.g. 1NW13-1) SALT# DEG Hydro Sampling 1000 LONGITUDE CR. 197W 112A U9 COMMENT: Difficult conditions, factors that may affect measurements or aid processing

On Maker Changed to SRE A3, Con Like en bered 606 Nut.# We did 2 Of White Chouses <u>₹</u> 10170 V # AXO PAG Bit ID Chi VOL Filter Vial # N 6 SINITCH THE CHLOR Samples ດ GOA-IERP-UTL 2013 PROJECT & LEG Clourents S O 150 CA 3 줐 458 品 ω ယ 42 7 こううつ 30170V62 6 HR MIN 5 TIME (GMT) 354 display from SBE43 Ka reading DRY BULB Temp (°C) If you download data after cast- fill this out To port Filename= WET BULB Temp (°C) and I now. 0 Sydraco Irinity boson Comments PRESSURE SEA STATE DIRN. S (deg) THIS SPD N CLOUD (amt (kts) CHTYEN COSH STATION NO. WEATHER ВОТТО DEPTH Realized MAX. DEPTH = ~ 78 89 Ó 1201 STA. NAME/ID 5 No. No. U ω N ~

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No.		Bil ID Chi VOL Filter Vial #	SALT# Nut.# OXY#	Vo.DESIRED S.	lo.DE
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STATION NO.	If you download data after cast- fill this out	PROJECT & LEG	CRUISE ID (e.g. 1NW13-1)		VESSEL

Pycnocline Depth

VESSEL	, in		CRUISE ID	CRUISE ID (e.g. 1NW13-1)		PROJECT & LEG	LEG		If you do	If you download data after cast- fill this out	nafter cast N √ l /2	Z 21 co	7	STATION NO.	N NO.		
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one box, all other nutrient samples for this cast are in a new box.

Pycnocline Depth

02851 PAR S/N 02 SBE42S/N G Ch A w SBE type and S/N CAST# Northwest Explorer 2013 VESSEL Nis DEPTH Rosette Notes COND 182 S/Ns Transmissomeler S/N 02 (SBE43) S/N FLUOR S/N TEMP 1 &2 SNs Sensor S/N (At Start of cruise or swap-or Local Time (ADT) lo.DESIRED RESS S/N 0 040 2 LATITUDE ĭ Z N N SALT# ZNWI3 Hydro Sampling 4954.53w LONGITUDE COMMENT: Difficult conditions, factors that may affect measurements or aid processing 630 20 625 6 470 626 624 Nut.# OXY# Bil ID Chi VOL Filter Vial # F 3Aug S 6 CHLOR Samples GMT Aug GOA-IERP-UTL 2013 PROJECT & LEG MO Patina ¥ 477 647 844 476 924 124 124 ယ HR MIN 08 will take alook DRY BULB Temp (°C) Filename= 2NW13 If you download data after cast- fill this out WET BULB Temp (°C) Comments (dE) PRESSURE SEA STATE VISIBILITY DIRN. 928 0 SPD N CLOUD (amt (kts) STATION NO. WEATHER

MEATHER

MEA 0250 ht 201 MAX. DEPTH = 20C No.

Chlorophyll Max Depth

Pycnocline Depth

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N _o .		Bit ID Chi VOL Filter Vial #	OXY#	SALT# Nut.#	0	No.DESIRED
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	is the month of the family having	28 C	DAR HALLE			FLUOR S/N
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	RE TE					l ⊟i
	ا ک	GOA-IERP-UTL 2013	W	2NNI	Northwest Explorer 2013	Northwes
	If you download data after cast- fill this out STATION NO.	PROJECT & LEG	1NW13-1)	CRITISE ID (e.g. 1NW13-1)		VESSEI

Pycnocline Depth

Northwest Explorer 2013 CTD CAST# VESSEL Sensor SIN (At Start of cruise or swap-or Local Time (ADT) PAR S/N 02 (SBE43) S/N SBE type and S/N 45000 Nis DEPTH Rosette Notes 02 SBE42S/N FLUOR S/N COND 182 S/Ns TEMP 1 &2 SNs ransmissometer S/N o.DESIRED RESS S/N 70 40 00 LATITUDE 00 99114955.69w14AU9131505 Pycnocline Depth 2NW13 SALT# Hydro Sampling LONGITUDE COMMENT: Difficult conditions, factors that may affect measurements or aid processing 649 940 55 <u>S</u> 643 E42 Nut.# DAK 王 PAR + calde, Min sounds # AXO Still not reading correctly. 上の J Bil ID Chi VOI Filter Vial # N CHLOR Samples PROJECT & LEG ດ ⊠ ⊺ GOA-IERP-UTL 2013 beta valtage on que e old 0 0 0 H88 487 2 186 118 TIME (GMT) DRY BULB SRED tocky if was gota Temp (°C) Filename= 2 If you download data after cast-fill this out Filename= 2NWI3_030 Temp (°C) WET BULB Comments PRESSURE SEA STATE VISIBILITY DIRN. (deg) SPD ₹ CLOUD (amt TYPE WEATHER (kts) Capter Clarker y vower STATION NO CH DEPTH вотто 2P171/1/197 MAX DEPTH = 200 to old STA. NAME/ID No. Ċ N o 4 ω

		Chlorophyll Max Depth	Chloroph	3	Pycnocline Depth	Pyci		
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Ņ.		Filter Vial #	Bil ID Chi VOI Filter Vial #	Nut.# OXY#	SALT# N		10.DESIRED	<u></u>
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Pycnocline Depth

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No.	Bil ID Chi VOI Filter Vial #	SALT# Nut.# OXY#	No.DESIRED
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15:25

PAR S/N Northwest Explorer 2013 FLUOR S/N COND 182 S/Ns SBE type and S/N 0075746. CTD CAST# Nis DEPTH Rosette Notes 02 SBE42S/N TEMP 1 &2 SNs Sensor SIN (At Start of cruise or swap-ollocal Time (ADT) No.DESIRED Transmissometer S/N 02 (SBE43) S/N RESS S/N 70 LATITUDE MN NOh Pycnocline Depth SALT# Hydro Sampling 2 ZZ 3 ONGITUDE 36.129w1 COMMENT: Difficult conditions, factors that may affect measurements or aid processing Nut.# Σ 0XY# 48 DAY t 3 Btl ID Chl VOI Filter Vial # 6 Ω 6AU9 132024 **CHLOR Samples** GMT GOA-IERP-UTL 2013 MO Ϋ́R 527 522 \frac{1}{2} \frac\ 53 HR MIN Temp (°C) DRY BULB WET BULB SIODIN ugolsi Slobn Filename=2NW13-00 Temp (°C) 120 0 2 77 Comments PRESSURE 2 SEA STATE VISIBILITY DIRN. Ø37 MIROW ADA SPD. MN (kts) CLOUD (amt TYPE WEATHER x 6645 M1 1293 5 BOTTO M DEPTH STA. NAME/ID MAX. DEPTH = 3 3 No. No.

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	If you download data after cast- fill this out STATION NO.	PROJECT & LEG	PRO	1 ANN/12-1	5	0000			2

Pycnocline Depth

Chlorophyll Max Depth

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PAR S/N CTD CAST# Northwest Explorer 2013 VESSEL 02 SBE42S/N 02 (SBE43) S/N TEMP 1 &2 SNs Nis DEPTH Rosette Notes FLUOR SAN COND 182 S/Ns SBE type and S/N Sensor SIN (At Start of cruise or swap-or Local Time (ADT) 10.DESIRED Transmissometer S/N RESS S/N 120 H LATITUDE S Pycnocline Depth 2NW 13-1) SALT# DEG Hydro Sampling ONGITUDE COMMENT: Difficult conditions, factors that may affect measurements or aid processing 27 0/2 Nut.# OXY# ٤ 100 Kg DAY MO Bit ID Chi VOL Filter Vial # S 日の 6 N CHLOR Samples PROJECT & LEG ധ ™ ™ GOA-IERP-UTL 2013 Chlorophyll Max Depth <u>က</u> 80t~ @ YR HR MIN 849 七七百 546 545 1949 圣 TIME (GMT) Lugols (132) DRY BULB WET BULB Temp (°C) Ngo1S 1901s (133) If you download data after cast- fill this out Filename= 2NWI3_840 Filename= Temp (°C) (HSI) (JS) 90 Comments PRESSURE ana SEA STATE VISIBILITY DIRN. (deg) Formalin (34 CLOUD (amt TYPE WEATHER (kts) STATION NO. BOTTO M DEPTH 20 MAX. DEPTH = STA. NAME/ID No No

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2 - 1 0 5	No.	Bit ID Chi VOL Filter Vial #	SALT# Nut# OXY# Bi	No.DESIRED SA
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VESSEL 02 SBE42S/N PAR S/N 02 (SBE43) S/N TEMP 1 &2 SNs PRESS S/N Sensor S/N (At Start of cruise or swap-ollocal Time (ADT) | B/N U 0 1 3 0 7 0 CTD CAST# Northwest Explorer 2013 Nis DEPTH Rosette Notes Transmissometer S/N 20ND 182 S/Ns SBE type and S/N LUOR S/N Io.DESIRED LATITUDE <u>K</u> Pycnocline Depth SALT# CRUISE ID (e.g. 1NW13-1) Hydro Sampling LONGITUDE COMMENT: Difficult conditions, factors that may affect measurements or aid processing 22.4 22.4 Nut.# 招 0XY# Bil ID Chi VOL Filter Vial # الا 6 CHLOR Samples ଜ M T PROJECT & LEG GOA-IERP-UTL 2013 560 422 559 556 픘 TIME DRY BULB WET BULB Filename= 2N W13- Ø42 If you download data after cast- fill this out Comments PRESSURE SEA STATE VISIBILITY DIRN. © D ≦ CLOUD (amt TYPE WEATHER STATION NO. BOTTO M DEPTH 6487171818 MAX. DEPTH = 200 STA. NAME/ID No.

VESSEL PAR S/N 02 SBE42S/N Northwest Explorer 2013 CTD CAST# FLUOR S/N TEMP 1 &2 SNs 0413571) Nis DEPTH Rosette Notes Transmissometer S/N 02 (SBE43) S/N 20ND 182 S/Ns PRESS S/N Sensor S/N (At Start of cruise or swap-ollocal Time (ADT) (BAUA 13 1 206 SBE type and S/N 6.DESIRED 3 LATITUDE 294.79 ∞. 59 N J Pycnocline Depth 501 CRUISE ID (e.g. 1NW13-1) SALT# 2NW13 DEG Hydro Sampling 5/26.69 WERAUD 1300 B112.12 12 LONGITUDE 上公上 736 735 Nut.# COMMENT: Difficult conditions, factors that may affect measurements or aid processing 734 128 OXY # Bil ID Chi VOL Filter Vial # DAY MO 7 (V) N 6 CHLOR Samples ଜ ଞ_ = PROJECT & LEG GOA-IERP-UTL 2013 YR HR MIN Temp (°C) 565 566 563 562 十9日 56日 TIME (GMT) DRY BULB Filename= If you download data after cast- fill this out WET BULB Temp (°C) . 6 2NW13-B43 Comments PRESSURE SEA STATE VISIBILITY DIRN. SP D N CLOUD (amt TYPE WEATHER STATION NO. вотто DEPTH STA. NAME/ID MAX. DEPTH = 50 € 1p189 No. 0 Ċ. N

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VESSEL CTD CAST# Northwest Explorer 2013 TEMP 1 &2 SNs Sensor S/N (At Start of cruise or swap-or Local Time (ADT) | 8AUA 1 3 ころナンナナの O2 SBE42S/N PAR S/N 02 (SBE43) S/N FLUOR S/N COND 182 S/Ns PRESS S/N SBE type and S/N Nis DEPTH Rosette Notes Fransmissometer S/N Io.DESIRED LATITUDE 97 N 152 2. 26 W 19 A U Q 1 3 0 10 23 Pycnocline Depth 2NW13 SALT# Hydro Sampling LONGITUDE COMMENT: Difficult conditions, factors that may affect measurements or aid processing 145 24 Nut.# OXY # 142 DAY MO Bit ID Chi VOI Filter Vial # J 6 S CHLOR Samples GOA-IERP-UTL 2013 ഗ ™ ™ PROJECT & LEG YR HR MIN Temp (°C) 1七公 2002 2008 0.49 DRY BULB WET BULB Filename= 2NW 13_044 If you download data after cast- fill this out 0 Temp (°C) 2 Comments PRESSURE SEA STATE VISIBILITY SPD D WIN CLOUD (amt TYPE WEATHER DEPTH 1 (kts) STATION NO. MAX. DEPTH = 50 641 NI 1189 STA. NAME/ID No. თ ĊT

PAR S/N VESSEL O2 SBE42S/N CTD CAST# Nis DEPTH Rosette Notes 02 (SBE43) S/N COND 182 S/Ns Northwest Explorer 2013 ransmissometer S/N FLUOR S/N TEMP 1 &2 SNs SBE type and S/N Sensor S/N (At Start of cruise or swap-or Local Time (ADT) | A AUD 1 3 C 70 A IO.DESIRED RESS S/N 04 B LATITUDE 7. 3 UN Pycnocline Depth SALT# 2NW13-1) Hydro Sampling ONGITUDE COMMENT: Difficult conditions, factors that may affect measurements or aid processing 945 Nut.# S S OXY# Bil ID Chi VOL Filter Vial 6 () CHLOR Samples GMT GOA-IERP-UTL 2013 PROJECT & LEG MO ¥ 340 たたらりたる 747 747 574 픘 503 (GMT) DRY BULB WET BULB If you download data after cast fill this out Filename= 2NW13-045 |Filename= 2NW | 3 Temp (°C) Comments PRESSURE SEA STATE VISIBILITY DIRN. SPD. (kts) CLOUD (amt TYPE WEATHER STATION NO. BOTTO M DEPTH 1400 MAX. DEPTH =50 M) 185 STA. NAME/ID No. Nis

02 SBE42S/N CTD CAST# VESSEL PAR S/N 02 (SBE43) S/N COND 182 S/Ns TEMP 1 82 SNs Sensor S/N (At Start of cruise or swap-ot Local Time (ADT) 19AUQ 13 11 11 15 Northwest Explorer 2013 Nis DEPTH Rosette Notes fransmissometer S/N SBE type and S/N Io.DESIRED LUOR S/N RESS S/N Sout on LATITUDE SALT# CRUISE ID (e.g. 1NW13-1) 0 2NW13 Hydro Sampling LONGITUDE 弘 站 COMMENT: Difficult conditions, factors that may affect measurements or aid processing Nut.# 453 ર ∂ ⊗ ₩ <u>در</u> ۱۷۷ 0XY# Bil ID Chi VOL Filter Vial # CHLOR Samples GMT GOA-IERP-UTL 2013 PROJECT & LEG 3 ¥ 585 08 0 1980 089 50 5000 ĦŖ <u>9</u> (GMT) MIN DRY BULB WET BULB If you download data after cast- fill this out Filename= Temp (°C) CA Comments PRESSURE SEA STATE VISIBILITY DIRN. 48 CLOUD (amt)
TYPE
WEATHER (kts) STATION NO. DEPTH STA. NAME/ID ВОТТО MAX. DEPTH = 50 10h p 185 N Z ග Ch

Pycnocline Depth

VESSEL Northwest Explorer 2013 CTD CAST# 02 SBE42S/N FLUOR S/N 0475649. Nis DEPTH Rosette Notes PAR S/N 02 (SBE43) S/N TEMP 1 82 SNs Sensor S/N (At Start of cruise or swap-or Local Time (ADT) COND 182 S/Ns RESS S/N SBE type and S/N 6.DESIRED ransmissometer S/N ひ DEG LATITUDE **≲** Ż Pycnocline Depth 2NW13-1) SALT# DEG Hydro Sampling LONGITUDE 404 COMMENT: Difficult conditions, factors that may affect measurements or aid processing 271. 19W119AUG Nut.# OXY # Bit ID Chi VOL Filter Vial # N CHLOR Samples PROJECT & LEG ଜ ଞ_ T GOA-IERP-UTL 2013 S O Ϋ́R 590 582 788 887 587 080 HR MIN TIME (GMT) Temp (°C) DRY BULB Filename= If you download data after cast- fill this out WET BULB Temp (°C) Comments 2NW13 PRESSURE SEA STATE VISIBILITY DIRN. SPD SE CLOUD (amt TYPE WEATHER (kts) STATION NO 104186 JULY 1285 ВОТТО DEPTH MAX. DEPTH = 20 STA. NAME/ID No. Nis თ Ch

		Chlorophyll Max Depth	Chlor	epth	Pycnocline Depth	Pyo	
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ĕ		Bil ID Chl VOL Filter Vial #	Bil ID Chi	Nut# OXY#	SALT#	Name of the last	No.DESIRED
Zis	Comments	CHLOR Samples	CHLOR	Hydro Sampling	Hydro	Nis DEPTH Rosette Notes	VIS DEPTH
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78	MAX DEPTH = 2	1136658	20 Auc)-OL Local Time (ADT	e or swap	Sensor S/N (At Start of cruise or swap-ot Local Time (ADT) 20 AU 0	Sensor S/N
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<u>l∺</u>	DRY BULB WET BULB PRESSURE WIND DRY BULB WET BULB PRESSURE WIND DO CLOUD M M DEPTH STA. NAME/ID	TIME (GMT)	G M T	LONGITUDE	5	LATITUDE	CTD CAST #
	o	GOA-IERP-UTL 2013		W 13		Northwest Explorer 2013	Northwest
	If you download data after cast- fill this out STATION NO.	PROJECT & LEG		D (e.a. 1NW13-1.)	CRUISE		VECCEI

VESSEL Northwest Explorer 2013 0496 CTD CAST# 02 SBE42S/N PAR S/N COND 182 S/Ns TEMP 1 &2 SNs Sensor SIN (At Start of cruise or swap-or Local Time (ADT) Nis DEPTH Rosette Notes 02 (SBE43) S/N FLUOR S/N SBE type and S/N lo.DESIRED RESS SAN ransmissometer S/N leaking LATITUDE **Pycnocline Depth** SALT# 2NW13 CRUISE ID (e.g. 1NW13-1) Hydro Sampling ONGITUDE 780 337 **5**4 **44**4 546 COMMENT: Difficult conditions, factors that may affect measurements or aid processing 862 St. Nut.# 00 0XY # 603 At 04 DAY MO Bil ID Chi VOL Filter Vial # **CHLOR Samples** G M T GOA-IERP-UTL 2013 PROJECT & LEG are ΥR cruorials 800 100 598 602 000 HR MIN 0 3 aluminum for Lugols (138) and Formalin (35 MOIS (137) ugoIS/136 _ugoIS(135) DRY BULB WET BULB Filename= If you download data after cast- fill this out Temp (°C) \$ Comments (600 0 PRESSURE SEA STATE VISIBILITY WIND DIRN. 6+8are SPD SE CLOUD (amt TYPE WEATHER® (kts) in crovials STATION NO. ВОТТО DEPTH MAX. DEPTH = 8.7×161 STA. NAME/ID NO NO

time of

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0 (000)	787	7 8
608 Lyapis (142) and Formalin (36).	786	6
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606 [MG018(140)	784 3	30
1605 P. C. B.	783	3 40 P
(604 LUGOIS (139)	782	2 50
1	197	, 75
Bit ID Chi VOL Filter Vial # No.	SALT# Nut.# OXY#	No.DESIRED
CHLOR Samples Comments Nis	Hydro Sampling	Nis DEPTH Rosette Notes
		PAR S/N 02 SBE42S/N
Do Stopicate Cite for State Simples	3 NOTANS	Transmissometer S/N
ban + tire, rebooked program and tred at	BoHle 7	02 (SBE43) S/N
		FLUOR S/N
Minum foil.	וא פונ	COND 1&2 SINS
Chinvials torchiorophyll—storing/heezing filters	No Mor	TEMP 1 &2 SNs
		PRESS S/N
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AU913 MAX DEPTH = 76	Sensor S/N (At Start of cruise or swap-ollocal Time (ADT) 20A 49	Sensor S/N (At Start of crui
A 49 1 3	N 15282.99W	3
MO YR HR MIN Temp (°C) Temp (°C) (mb) * (deg) (kts) * * (m)	DEG MIN DAY	DEG
G M T TIME STATE WIN D CHEEN BOTTO STATE WIN D CHEEN BOTTO WIN SPD. CLEY W DEPTH STA. NAME/ID	LONGITUDE	CTD LATITUDE
W13_W5/	2NW 3	Northwest Explorer 2013

Pycnocline Depth

		th .	Chlorophyll Max Depth		Pycnocline Depth	id.	
	ω		0 615	5) (79E	Ø	8
	7	Lugois (146) and Formalin (37)	614	5	77	10 leaking	7
	თ	Lugois (145)	(013	4	72	20	တ
	Ch	Mgols (144)	612	3	742	(S)	(J)
	4		611	N	- TO	40	4
	ω	Lugois (143)	010		Obt	50 Slawly	ω
	2				-78C	100	2
	_			0	3 8 £	55	<u> </u>
	ĕ		Bil ID Chi VOL Filter Vial #	ОХҮ#	SALT# Nut#	lo.DESIRED	No.E
	Z.	Comments	CHLOR Samples	TO STATE	Hydro Sampling	Nis DEPTH Rosette Notes	N S
						02 SBE42S/N	02 8
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(ium foil	in alumir	STATIF		COND 182 S/Ns	CON
E)hq	15.33	for Chlorophyllfillers - Storing/fr	Chronials	more	No	TEMP 1 &2 SNs	TEM ?
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			AU9 1 3 0705	Time (ADT) 2	ise or swap-or Local	Sensor S/N (At Start of cruise or swap-or Local Time (ADT)	Sel
ī.	1	512.412.8 ××× p/16/19181	Aug 1 3 1 50	32W21	N 15228.	5115648.84	8
	_	N Temp (°C) Temp (°C) (mb) * (deg)	MO YR H	DAY	DEG MIN	DEG	
	<u> </u>	DRY BULB WET BULB PRESSURE SEA STATE VIN D D OUD (am) D OUD (am) SPD. CLOVE M DEPTH STA. NAME/ID	G M T TIME	DE .	LONGITUDE	CTD LATITUDE	C c
		Filename= 2NWI3-Ø51 163	PRÖJECT & LEG GOA-IERP-UTL 2013	1NW13-1)	2NW13	VESSEL Northwest Explorer 2013	No.

	Chlorophyll Max Depth		Pycnocline Depth
<u>~</u>			
7	621	802	7
0	620 Lugols (150) and Formalin (38)	80 5	6 10
(n	019 LUGOIS(149)		20
4	(018 Lygols(148)	799 3	30
ω	617	798 2	3 HO
Ν	616 LUGOIS(147)	797 1	2 50
-		中6 320	75 See 505
š	LFilter Vial #	Nut.# OXY # Bil ID Chi VOL Filter Vial #	Vo.DESIRED SALT#
Z S	nples Comments	Hydro Sampling CHLOR Samples	Nis DEPTH Rosette Notes Hydro
			02 SBE42S/N
1			PAR S/N
			Transmissometer S/N
1_			02 (SBE43) S/N
	ATTENIA TOLL		COND 182 S/Ns
1886	VIOLA FOR CHIOR OPHY THE THE STORING / THE	L	TEMP 1 &2 SNs
<u> </u>			PRESS S/N
-	COMMENT: Difficult conditions, factors that may affect measurements or aid processing	COMMENT: Difficult condit	SBE type and S/N
¶0 ,	3 2 0 2 MAX. DEPTH = 7	OLLocal Time (ADT) 2\ AUG	Sensor S/N (At Start of cruise or swap-ot local Time (ADT)
	3 1 0 0 5 9	53.57w21Aug1	15257012.818 N 152
<u> </u>	N Temp (°C) Temp (°C) (mb) * * (deg) (kts) * *	MIN DAY MO	DEG MIN DEG
<u>lō</u>	TIME TIME TIME OFF BULB WET BULB PR SE SE STATE OFF BULB WET BULB PR SE	G M T	CTD LATITUDE LO
<u> </u>	613 Filename= 2NW13_052	1NV13-1)	Northwest Explorer 2013 2 N W 3

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	pth	Chlorophyll Max Depth		Depth	Pycnocline Depth		
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5		(024	B	807			5
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N _o .	312	Btl ID Chl VOL Filter Vial #	OXY# Btl II	Nut.#	SALT#	RED	No.DESIRED
Zis	Comments	CHLOR Samples	CI	Hydro Sampling	Ну	Nis DEPTH Rosette Notes	Nis DEP
						ZS/N	02 SBE42S/N
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						Transmissometer S/N	Transmis
						13) S/N	02 (SBE43) S/N
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	Laboratory (Control of the Control o					2 SNs	TEMP 1 &2 SNs
	- 1						DDE SON ON
	COMMENT: Difficult conditions, factors that may affect measurements or aid processing	conditions factor	IT: Difficult	COMMEN		and SAN	CBE ton
PTH=200	O MAX. DEPTH =	Aug , 36200	(ADT) 22	ap-ot Local Tim	cruise or sw	Sensor S/N (At Start of cruise or swap-ollocal Time (ADT) 2.2 A	Senso
X289	>	W913150	S w સ સ્ટ્રાસ્ટ્ર A	8391.5	N N	58 M2.3	Ø53
	MIN Temp (°C) Temp (°C) (mb) * (deg) (kts) * * * (m)	MO YR HR M	DAY	S MIN	DEG	DEG	
BOTTO M DEPTH STA. NAME/ID	DRY BULB WET BULB PRESSUI PRESSUI SEA STA' VISIBILIT DIRN. SPD. CLOUD (6 TYPE	G M T TIME (GMT)		LONGITUDE		LATITUDE	CTD CAST#
7	TE Y						
	3	GOA-IERP-UTL 2013		SIMP MIS		Northwest Explorer 2013	Northy
	If you download data after cast- fill this out STATION NO.	PROJECT & LEG		CRUISE ID (e.g. 1NW13-1)	CRUIS	•	VESSEL

Chlorophyll Max Depth

VESSEL PAR S/N O2 SBE42S/N CTD CAST# Northwest Explorer 2013 タグレンタ 02 (SBE43) S/N FLUOR SAN TEMP 1 &2 SNs PRESS S/N Sensor S/N (At Start of cruise or swap-or Local Time (ADT) 22A 49 1 3 Nis DEPTH Rosette Notes COND 182 S/Ns SBE type and S/N ransmissometer S/N Io.DESIRED 9 75 LATITUDE N 2 Pycnocline Depth CRUISE ID (e.g. 1NW13-1) SALT# Nut.# DEG Hydro Sampling 2NW13 ONGITUDE 00 <u>古</u> 918 COMMENT: Difficult conditions, factors that may affect measurements or aid processing Miscommunication trycuryer + 4.03w22Aug 13 Salinitus <u>₹</u> 322 OXY # Bil ID Chl VOL Filter Vial # good in to DAY 57 CHLOR Samples samples take ଉ M T PROJECT & LEG GOA-IERP-UTL 2013 Š Sak 629 ? (GMT) たらっ とりー CTO WIT 30 Sh meks Temp (°C) DRY BULB Filename= if you download data after cast- fill this out MOHOO! Sport Co WET BULB Temp (°C) 2NW13 Comments N PRESSURE SEA STATE VISIBILITY DIRN. (deg) 15g SP D \{ Z \}
CLOUD (amt TYPE | WEATHER (kts) on bard STATION NO. Ø11201 E209 DEPTH STA, NAME/IE вотто MAX. DEPTH = S O ω

MAX. DEPTH = Nis No. No.

		Chlorophyll Max Depth	Pycnocline Depth	Ру	
	8	639	508 814 3%	Ø	8
	7	638	875	0	7
	0	(037-	824	20	o .
	5	(e.36	8 22	30	U1
		635	822	4	4
	3	634	821	50	ω
	2		820	15	Ν
			819	110	->
	No.	/# Bil ID Chi VOL Filter Vial #	SALT# Nut# OXY#	Vo.DESIRED	No.D
	Comments	CHLOR Samples	Hydro Sampling	Nis DEPTH Rosette Notes	Nis
				02 SBE42S/N	02 S
				PAR S/N	PAR
		0.5		ransmissometer S/N	Trans
100.				02 (SBE43) S/N	02 (6
ナンクク				FLUOR S/N	FLC
2			HEADS	COND 1&2 S/Ns	CON
7. SC		2		TEMP 1 &2 SNs	TEM
)		Charan a mus	T or	PRESS S/N	PREC
	COMMENT: Difficult conditions, factors that may affect measurements or aid processing	Difficult conditions, factors tha	COMMENT:	SBE type and S/N	SBE
	MAX. DEPTH =	on 22 Aug 113 1 337	se or swap-ot Local Time (A	Sensor S/N (At Start of cruise or swap-ot Local Time (ADT)	Sen
	× × × ×	7w/2AUG132137	45.48071N	65830.38	85
	Temp (°C) Temp (°C) (mb) * ' (deg) (kts) * * " (m)		DEG MIN	DEG MIN	
	SEA VISII DIRN. SPD.	(GMT) D	LONGITUDE	CAST # LATITUDE	CAS
	SSURE STATE BILITY UD (am E ATHER BOTTO	G M T			
	Filename= 2NW13_056 1W7		2NW13	Northwest Explorer 2013	Non
	If you download data after cast- fill this out STATION NO	-1) PROJECT & LEG	CRUISE ID (e.g. 1NW13-1)	VESSEL	VES