

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 11NW13-1) 2NW13
 PROJECT & LEG GOA1ERP-UTL 2013
 If you download data after cast, fill this out
 Filename = 2NW13_001
 STATION NO. 93

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)	DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTO M DEPTH	STA. NAME/ID
	DEG	-MIN-	DEG	-MIN-	DAY	MO	YR												
001	58	47	89	14	04	19	13	17	10										200YBC50

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 03AUG 13
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1&2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N 70132
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 PAR WASNT SHOWING a number, not sure why
 MAX DEPTH = 190

NIS DEPTH	Rosette Notes	Hydro Sampling			CHLOR Samples			Comments	NIS No.
		SALT #	Nut #	OXY #	Bit ID	Chl Vol	Filter Vial #		
1	1901		425						1
2	100		426						2
3	50		427		1	138.87	319	LUGOLIS (61)	3
4	40		428		2	139.52	320		4
5	30		429		3	139.74	321	LUGOLIS (62)	5
6	20		430		4	139.74	322	LUGOLIS (63)	6
7	10		431		5	139.39	323	LUGOLIS (64) and Formalin (16)	7
8	0		432		6	139.42	324		8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) ZNW13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast- fill this out
 Filename= 2NW13-002
 STATION NO. 194

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN													Temp (°C)
00259	4	42	140	25	6	6	2013	1	3	21	14	6	10	2							136	YBC30

Sensor S/N (At Start of cruise or swap-01/Local Time (ADT))
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1 & 2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 ASSUMING THAT THE DRY BULB TEMP IS THE AIR TEMP, we recorded it to be ~14.6°C.
 ASSUMING WET BULB IS THE TEMP OF THE WATER (around 10m), we recorded it to be ~10.9°C.

MIS DEPTH	Rosette Notes	Hydro Sampling			CHLOR Samples			Comments	MIS No.
		SALT #	Nut #	OXY #	BILL ID	CHL VOL	Filter Vial #		
1		483	433	310					1
2			434						2
3			435		1	138.87	325	LVG01S (65)	3
4			436		2	139.52	326		4
5			437		3	139.79	327	LVG01S (66)	5
6			438		4	139.99	328	LVG01S (67)	6
7			439		5	139.39	329	LVG01S (68) and Formalin (17)	7
8			440		6	139.42	330		8

Pycnocline Depth _____ Chlorophyll Max Depth _____

10m temp.

VESSEL: Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1): 2NW13
 PROJECT & LEG: GOA-IERP-UTL 2013
 If you download data after cast, fill this out: Filename = 2NW13-003
 STATION NO. 95

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt) TYPE WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR										MIN
035923	07	04	03	11	04	Aug	13	04	20	12	41	2	9				158	YBC10

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)): 3Aug13 1720
 SBE type and S/N: _____
 PRESS S/N: _____
 TEMP 1 & 2 S/Ns: _____
 COND 1 & 2 S/Ns: _____
 FLUOR S/N: _____
 O2 (SBE43) S/N: _____
 Transmissometer S/N: _____
 PAR S/N: _____
 O2 SBE42S/N: _____

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 There is no way to tell how far down the CTD is without starting the sea save program, so we will have to take you the first chum pot points when processing the data.

NIS DEPTH No. DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples			Comments
		SALT #	Nut #	OXY #	Bit ID	CHL VOL	Filter Vial #	
1	151		441					
2	100		442					
3	50		443	1	138.87	331	Urgols (69)	
4	40		444	2	131.52	332		
5	30		445	3	139.79	334	Urgols (70)	
6	20		446	4	139.74	335	Urgols (71)	
7	10		447	5	139.39	336		
8	0		448	6	139.42	337	Urgols (72) and Formalin (18)	

Pycnocline Depth _____ Chlorophyll Max Depth _____

MAX DEPTH = 151

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast, fill this out
 Filename = 2NW13-004
 STATION NO. 910

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)	DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	WEATHER TYPE	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR												
004	29	47	129	53	04	Aug	13												

Sensor S/N (At Start of cruise or swap-on/Local Time (ADT)) 04AW013
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1 & 2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 Forgot to fill in the time as it was a very busy morning (not sure how many bottles we were going to trip) so we waited until the 1st second to fill the bottles. It should have been around 0730 Alaska time though.

No. DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples			Comments
		SALT #	Nut #	OXY #	Btl ID	Chl Vol	Filter Vial #	
1	65		449			138.87		LU901S (73)
2	50		450		1	337		
3	40		451		2	338		
4	30		452		3	339		LU901S (74)
5	20		453		4	340		LU901S (75)
6	10		454		5	341		LU901S (76) and Formalin (91)
7	0		455		6	342		
8								

Pycnocline Depth _____ Chlorophyll Max Depth _____

MAX DEPTH = 65

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. '1NW13-1') 2NW13
 PROJECT & LEG GOA-IEP-UTL 2013
 If you download data after cast- fill this out
 Filename= 2NW13-005
 STATION NO. 98

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)	DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	WEATHER TYPE	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO												
0559	20	348	144	55	12	Aug	13	14	59								1996	K1B4

Sensor S/N (At Start of cruise or swap-out/Local Time (ADT)) 15 Aug 13 0659
 SBE type and S/N _____
 PRESS S/N _____
 TEMP 1 & 2 S/Ns _____
 COND 1&2 S/Ns _____
 FLUOR S/N _____
 O2 (SBE43) S/N _____
 Transmissometer S/N _____
 PAR S/N _____
 O2 SBE42S/N _____

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 MISSED SOME BOTTLES - WITH REDO

No. DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples			Comments	No.
		SALT #	Nut #	OXY #	Btl ID	CHL VOL	Filter Vial #		
1	200		456						1
2	100		457						2
3	50		458	1	158.87		343	Lugols (77)	3
4	40		459	2	152		344		4
5	30		460	3	139.99		345	Lugols (78)	5
6	20		461	4	139.99		346	Lugols (79)	6
7	10		462	5	139.31		347	Lugols (80) and Formalin (20)	7
8	0		463	6	139.42		348		8

Pycnocline Depth _____ Chlorophyll Max Depth _____

MAX DEPTH = 200

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IEP-UTL 2013
 If you download data after cast, fill this out. Filename= 2NW13-0010
 STATION NO. 98

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)	DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO														YR
00	05	20	29	41	44	55	22	08	05	15	25									

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 05 Aug 13 0925
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1 & 2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 MAX. DEPTH = 202

Nis DEPTH No. DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples			Comments	Nis No.
		SALT #	Nut.#	OXY #	Bill ID	Chl Vol	Filter Vial #		
1	202		456						1
2	100		457						2
3	50		458		10	139.42	343	LUGOL'S (77)	3
4	40		459		5	139.39	344		4
5	30		460		4	139.99	345	LUGOL'S (78)	5
6	20		461		3	139.99	346	LUGOL'S (79)	6
7	10		462		2	139.52	347	LUGOL'S (80) and Formalin (20)	7
8	0		463		1	138.87	348		8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IEEP-UTL 2013
 If you download data after cast, fill this out
 Filename= 2NW13-007
 STATION NO. 99

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN (deg)	WIND SPD (kts)	CLOUD (amt)	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR											
00759	28	15	144	54	05	Aug	13	18	10	14	2							577	K11B3

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 05 Aug 13 1010
 MAX DEPTH = 201

SBE type and S/N _____
 PRESS S/N _____
 TEMP 1 & 2 S/Ns _____
 COND 1&2 S/Ns _____
 FLUOR S/N _____
 O2 (SBE43) S/N _____
 Transmissometer S/N _____
 PAR S/N _____
 02 SBE42S/N _____

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 NISTON # 8 is varying, data collected from bottom instead

Nis DEPTH No. DESIRED	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	Nis No.
		SALT #	Nut #	BI ID	CHI VOL/Filter Vial #		
1	201	494	404	131			1
2	100		465				2
3	50		466	1	138.87	Lygols (81)	3
4	40		467	2	139.52		4
5	30		468	3	139.79	Lygols (82)	5
6	20		469	4	139.79	Lygols (83)	6
7	10		470	5	139.39	Lygols (84) and Formalin (21)	7
8	0		471	6	139.42		8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NWX-1) 2NWX13
 PROJECT & LEG GOA-IEEP-UTL 2013
 If you download data after cast, fill this out
 Filename= 2NWX-008
 STATION NO. 100

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	WEATHER TYPE	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR											
00859	36	19	144	54	05	AUG	13	21	04	11.8		x	x					161	K1B2

Sensor S/N (At Start of cruise or swap-out/Local Time (ADT)) 05 AUG 13 1304
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1&2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

N/S DEPTH No. DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples		Comments	N/S No.
		SALT #	Nut #	OXY #	BI ID	CHL VOL		
1	151		472					1
2	100		473					2
3	50		474	1	138.87		L19015 (85)	3
4	40		475	2	139.52			4
5	30		476	3	139.79		L19015 (86)	5
6	20		477	4	139.79		L19015 (87)	6
7	10		478	5	139.39		L19015 (88) and Formalin (22)	7
8	0		479	6	139.42	360		8

Pycnocline Depth _____ Chlorophyll Max Depth _____
 MAX DEPTH = 151

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast- fill this out
 Filename= 2NW13-009
 STATION NO. 101

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)	DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO													
009	59	44	05	14	20	6	11	16	0	13	5							100	K1E1

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 05AW9 1 3 1611
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1 & 2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 * LOST ABOUT 25% OF SAMPLE FROM FILTER BECAUSE IT WAS LEAKING. TURNS OUT THE FILTER WASN'T ON ALL THE WAY ALTHOUGH IT SEEMED TO BE COVERING ALL OF THE OILY PART (CHLOROPHYLL ONLY)

No. DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples		Comments	Nts No.
		SALT #	Nut #	OXY #	Bill ID	Chl Vol		
1	9.6		480					1
2	17.5		481					2
3	5.0		482	1	139.87	361*	Lugols (89)	3
4	4.0		483	2	139.52	362		4
5	3.0		484	3	139.94	363	Lugds (90)	5
6	2.0		485	4	139.94	364	Lugols (91)	6
7	1.0		486	5	139.39	365	Lugols (92) and Formalin (23)	7
8	0		485	6	139.42	366		8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA/ERP-UTL 2013
 If you download data after cast- fill this out
 Filename = 2NW13-011
 STATION NO 103

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR												
011	58	31.7	N	14	18	3	11	19	16										118	HT243

Sensor S/N (At Start of cruise or swap-or Local Time (ADT))
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1&2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42SN

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 did not hold CTD at surface due to large swell
 almost lost CTD at surface, but there was a safety that prevented it. Looks like we will be calling it for oceanography today (this means we will not have samples from H0243).

No. DESIRED	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	Nis No.
		SALT #	Nut.#	BILD CML VOL	Filter Vial #		
1	105	486	496	239			1
2	95		497				2
3	50		498				3
4	40		499				4
5	30		500				5
6	20		501				6
7	10		502				7
8	5		503				8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL: Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1): 2NW13
 PROJECT & LEG: GOA-IERP-U1L 2013
 STATION NO.: 106
 If you download data after cast- fill this out
 Filename = 2NW13_012

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR												
012	58	58	149	25	07	Aug	13	1500		13.4		x	x						236	h1243

Sensor S/N (At Start of cruise or swap-out/Local Time (ADT)) 07Aug13 0700
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1&2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

NIS DEPTH	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut.#	BIT ID	CHL VOL	
1	200		504			
2	100		505			
3	50		506	1	379	
4	40		507	2	380	
5	30		508	3	381	
6	20		509	4	382	
7	10		510	5	383	
8	∅		511	6	384	

Pycnocline Depth _____ Chlorophyll Max Depth _____

MAX. DEPTH = 200

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA:ERP-UTL 2013
 If you download data after cast, fill this out
 Filename= 2NW13-013
 STATION NO. 108

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN												
01	3	59	1	2	0	7	A	9	1	3	2	0	0							147	h213

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 07A49131208

MAX DEPTH = 150

SBE type and S/N _____
 PRESS S/N _____
 TEMP 1 & 2 S/Ns _____
 COND 1&2 S/Ns _____
 FLUOR S/N _____
 O2 (SBE43) S/N _____
 Transmissometer S/N _____
 PAR S/N _____
 O2 SBE42S/N _____

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

NIE DEPTH	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut.#	OXY #	Bill ID Chl VOLL	
1	150		512			
2	100		513			
3	50		514		1	385
4	40		515		2	386
5	30		516		3	387
6	20		517		4	388
7	10		518		5	389
8	0		497	519	22	390

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NWT3-1) 2NWT13
 PROJECT & LEG GOA/IERP-UTL 2013
 If you download data after cast- fill this out
 Filename= 2NWT13-014
 STATION NO. 1089

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN	WIND SPD	CLOUD (amt)	WEATHER	BOTTO M DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	Temp (°C)	Temp (°C)	(mb)	*	*	(deg)	(kts)	*	*	(m)	
014	59	25	91	15	08	AUG	13	00	12	12.8									90m	0213

Sensor S/N (At Start of cruise or swap-01 Local Time (ADT)) 07 AUG 13 1010
 SBE type and S/N
 PRESS S/N
 TEMP 1 82 SNS
 COND 182 SNS
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

MAX DEPTH = 80

NIS DEPTH	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	NIS No.
		SALT #	Nut.#	OXY #	Bill ID Chl Vol		
1	80		520				1
2	50		521	1		391	2
3	40		522	2		392	3
4	30		523	3		393	4
5	20		524	4		394	5
6	10		525	5		395	6
7	0		526	6		396	7
8							8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-ERP-UTL 2013
 If you download data after cast- fill this out
 Filename = 2NW13-015
 STATION NO. 110

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID		
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR													MIN	
015	59	11.8	6N	150	40	43	W	08	49	13	15	02									119	h0209

Sensor S/N (at Start of cruise or swap-out Local Time (ADT)) 08 AUG 13 0306Z
 SBE type and S/N _____
 PRESS S/N _____
 TEMP 1 & 2 S/Ns _____
 COND 1&2 S/Ns _____
 FLUOR S/N _____
 O2 (SBE43) S/N _____
 Transmissometer S/N _____
 PAR S/N _____
 O2 SBE42S/N _____

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 MAX. DEPTH = 110

Nis DEPTH No. DESIRED	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	Nis No.
		SALT #	Nitt#	OXY #	BILLID CHL VOL		
1	110		524				1
2	75		528				2
3	50		529	1	397		3
4	40		530	2	398		4
5	30		531	3	399		5
6	20		532	4	400		6
7	10		533	5	401		7
8	0		534	6	402		8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) ZNW13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast- fill this out
 Filename= ZNW13-010
 STATION NO. 112

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)	DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO												
01	16	58	58	119	15	08	10	13	20	10	12	5	x	x	x	x	1169	11h209

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 08 Aug 13 12:10
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1 & 2 S/Ns
 FLUOR S/N
 02 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 02 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 *found out filter was slightly skewed for nutrient samples. This could affect samples from cast 015 and nutrients 535-538 (other filter holder was used for samples 539-542)
 the filter holder

NIS DEPTH No. DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples		Comments	NIS No.
		SALT #	Nut #	OXY #	Bill ID	Chl VOL Filter Vial #		
1		400	*535	173			1	
2		100	*536				2	
3		50	*537		1	403	3	
4		40	*538		2	404	4	
5		30	539		3	405	5	
6		20	540		4	406	6	
7		10	541		5	407	7	
8		0	542		6	408	8	

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast- fill this out
 Filename= 2NW13-017
 STATION NO. 113

CTD CAST #	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	TIME (GMT)	DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTO M DEPTH	STA. NAME/ID	
01	75	84	4	46	11	11	13	00	00	00	11.5										114	11209

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) DEAV001316007
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1&2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

NIS DEPTH	Rosette Notes	Hydro Sampling	CHLOR Samples	Comments				
No. DESIRED		SALT #	Nut #	OXY #	BI ID	CHI VOL	Filter Vial #	
1	160		543					
2	100		544					
3	50		545		1		409	
4	40		546		2		410	
5	30		547		3		411	
6	20		548		4		412	
7	10		549		5		413	
8	0		489	550	072	6	414	

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast, fill this out
 Filename= 2NW13-018
 STATION NO. 119

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN	WIND SPD (kts)	CLOUD (amt)	WEATHER	BOTTO M DEPTH STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN										
018	18	57	74	3	14	19	5	18	W	10	13	15	00						853h X 205

Sensor S/N (At Start of cruise or swap-01 Local Time (ADT)) 18 Aug 13 07400
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1 & 2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 Seas were rough so we didn't do oceanography at stations m209, m209, h209

Nis DEPTH	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	Nis No.
		SALT #	Nut #	OXY #	BIT ID CHL VOL Filter Vial #		
1	200		551				1
2	100		552				2
3	50		553	1	415	Lugols (93)	3
4	40		554	2	416		4
5	30		555	3	417	Lugols (94)	5
6	20		556	4	418	Lugols (95)	6
7	10		557	5	419	Lugols (96) and Formalin (24)	7
8	0		558	6	420		8

Pycnocline Depth _____ Chlorophyll Max Depth _____

MAX. DEPTH = 200

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 11NW13-1) 2NW13
 PROJECT & LEG GOA-ERP-UTL 2013
 If you download data after cast- fill this out
 Filename= 2NW13-019
 STATION NO. 120

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTO M DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN											
019	5	2	06	11	19	Aug	13	19	04										180	1205

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 10 Aug 13 1104
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1 & 2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 MAX DEPTH = 175

No. DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples		Comments	N/S No.
		SALT #	Nut #	OXY #	BI ID	CHL VOL		
1	175	490	559	300				1
2	100		500					2
3	50		501		1		421	3
4	40		502		2		422	4
5	30		503		3		423	5
6	20		504		4		424	6
7	10		505		5		425	7
8	0		506		6		426	8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA/ERP-UTL 2013
 If you download data after cast, fill this out
 Filename = 2NW13-020
 STATION NO. 181

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN												
02	05	16	18	53	09	13	2013	22	49		11.8		X	X			X	X	X	0256mp205	

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) DAU9131449
 MAX. DEPTH = 40

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

SBE type and S/N _____
 PRESS S/N _____
 TEMP 1 & 2 S/Ns _____
 COND 1 & 2 S/Ns _____
 FLUOR S/N _____
 O2 (SBE43) S/N _____
 Transmissometer S/N _____
 PAR S/N _____
 O2 SBE42SN _____

Nis DEPTH No DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples		Comments	Nis No.
		SALT #	Nut#	OXY #	Btl ID	Chl Vol		
1	40		507	2		427		1
2	30		508	3		428	Lugols (101)	2
3	20		509	4		429	Lugols (102)	3
4	10		570	5		430	Lugols (103) and Formalin (26)	4
5	0		571	6		431		5
6								6
7								7
8								8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast fill this out
 Filename= 2NW13-021
 STATION NO. 123

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR												
021	56	29.94	N	150	18.23	W	11	Aug	13	1501										85M1205

Sensor S/N (At Start of cruise or swap-01 Local Time (ADT)) 11 Aug 13 0701
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1 & 2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 OXYGEN SENSOR giving negative readings, will flush the cart before sampling but don't if got cved, will change out for new sensor.
 Distn # is staying

Nis DEPTH	Rosette Notes	Hydro Sampling			CHLOR Samples			Comments	Nis No.
		SALT #	Nut #	OXY #	BILL ID	CHL VOL	Filter Vial #		
1	76		572						1
2	50		573	1				Lugols (104)	2
3	40		574	2					3
4	30		575	3				Lugols (105)	4
5	20		576	4				Lugols (106)	5
6	10		577	5				Lugols (107) and Formalin (27)	6
7	0		578	6					7
8	8								8

Pycnocline Depth _____ Chlorophyll Max Depth _____

MAX DEPTH = 75

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NWX-1) 2NWX13
 PROJECT & LEG GOA-ERP-UTL 2013
 If you download data after cast, fill this out
 Filename= 2NWX13-022
 STATION NO. 125

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR													MIN
022	58	11.3	150	42.7	11	AUG	13	20	09	11	13	9	9							166	h205

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 11 AUG 13 1209
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1&2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 No time to flush O2 sensor, busy day will log on this afternoon.
 Will take oxygen sample at next station if O2 sensor looks better

NIS DEPTH No. DESIRED	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	NIS No.
		SALT #	Nut #	OXY #	Bit ID		
1	175		579				1
2	100		580				2
3	50		581	1		Lugols (108)	3
4	40		582	2			4
5	30		583	3		Lugols (109)	5
6	20		584	4		Lugols (110)	6
7	10		585	5		Lugols (111) and Formalin (28)	7
8	0		586	6			8

Pycnocline Depth _____ Chlorophyll Max Depth _____

MAX DEPTH = 175

Q: What did the magician say to the fisherman?

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 2NW13		PROJECT & LEG GOAIEEP-UTL 2013		If you download data after cast- fill this out Filename= 2NW13_023		STATION NO. 126	
CTD CAST #		LATITUDE DEG MIN		LONGITUDE DEG MIN		G M T DAY MO YR		TIME (GMT) HR MIN	
1235857		558151		071787		12Aug13		0017	
Sensor S/N (At Start of cruise or swap-01 Local Time (ADT))		Sensor S/N		Sensor S/N		Sensor S/N		Sensor S/N	
155		100		50		40		30	
20		10		0					
491		594		593		498		449	
SBE type and S/N		PRESS S/N		TEMP 1 & 2 S/Ns		COND 1 & 2 S/Ns		FLUOR S/N	
02 SBE42SN		02 SBE43 S/N		Transmissometer S/N		PAR S/N		02 SBE42SN	
COMMENT: Difficult conditions, factors that may affect measurements or aid processing									
After flushing/detonized water through the oxygen sensor to try to fix/clean it. The oxygen sensor still was having issues. The NOHARD for O2 sensor is around 0.19 which is way lower than it should be. We will try and fix it tonight so there will be no oxygen sample this cast.									
Salinity is reading way too low at beginning, maybe a pump problem									
NIS DEPTH		Rosette Notes		Hydro Sampling		CHLOR Samples		Comments	
No. DESIRED		SALT #		Nut #		OXY #		Btl ID Chl Vol Filter Vial #	
1		155		587					
2		100		588					
3		50		589		4		444 Lugo15(112)	
4		40		590		2		445	
5		30		591		3		446 Lugo15(113)	
6		20		592		4		447 Lugo15(114)	
7		10		593		5		448 Lugo15(115) and Formalin (29)	
8		0		594		6		449	

Pycnocline Depth
 Chlorophyll Max Depth
 seemed to fix itself. Brought back to surface and started back down again.

A: Pick a cod, any cod!

Disturbance # 7, etc and waiting

VESSEL Northwest Explorer 2013 CRUISE ID (e.g. TNW13-1) 2NW13 PROJECT & LEG GOA-IERP-UTL 2013 If you download data after cast, fill this out Filename = 2NW13-024 STATION NO. 127

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN											
024	58	45.51	N	151	32.86	W	12	AUG	13	1504										175m0201

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 12Aug 13 0704 MAX DEPTH = 170

SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1&2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 Fish on sensor not in great box apart, cleaned & remanded
 still not working, still switches out nearby meter today
 Distin #7 leaking

NIS DEPTH No. DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples		Comments	NIS No.
		SALT #	Nut #	OXY #	BI ID	CH VOL		
1	165		595					1
2	100		596					2
3	50		597	1		450		3
4	40		598	2		451		4
5	30		599	3		452		5
6	20		600	4		453		6
7	10		601	5		454		7
8	0		602	6		455		8

Pycnocline Depth Chlorophyll Max Depth

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOAIEP-UTL 2013
 If you download data after cast, fill this out: Filename = 2NW13-025
 STATION NO. 128

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)	DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN (deg)	WIND SPD (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO														YR
025	58	29.17	N	151	08	97	W	12	49	13										8916h201

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 1 2A1410 1 3
 MAX DEPTH = 72

SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1 & 2 S/Ns
 FLUOR S/N
 O2 (SBE40) S/N 230601
 Transmissometer S/N
 PAR S/N
 O2 SBE42SN

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 O2 meter changed to SBE43, can file entered prior to cast, but not worked reading savings (went in again voltage numbers are negative)
 O2 Using voltages 0 and 4 new. (O2 current + O2 temp)
 WE THINK THE O2 SHOULD BE FINE FOR THIS CAST. REALIZED WE DIDN'T SWITCH THE DISPLAY FROM SBE43 TO SBE23.

Nis DEPTH	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	
		SALT #	Nut #	OXY #	Bill ID CH VOL		Filter Vial #
1	75		1003		1	450	
2	50		1004		2	457	
3	40		1005		3	458	
4	30		1006		4	459	
5	20		1007		5	460	
6	10		1008		6	461	
7	0		1009		6	461	
8							

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
CRUISE ID (e.g. 11NW13-1) 2NW13
PROJECT & LEG GOA-IERP-UTL 2013
STATION NO. 129
Filename= 2NW13_0210

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)	DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE (deg)	VISIBILITY (deg)	WIND DIRN (deg)	WIND SPD (kts)	CLOUD (amt) TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR												
026	58	15	43	N	15	04	41	13										00165	N1201

Sensor S/N (At Start of cruise or swap-or Local Time (ADT)) 12Aug 13
SBE type and S/N
PRESS S/N
TEMP 1 & 2 S/Ns
COND 1 & 2 S/Ns
FLUOR S/N
O2 (SBE43) S/N
Transmissometer S/N
PAR S/N
O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 Chl a upcast lower values than downcast
 O2 sensor still not working properly. no time to look at water re-reading yet.
 We think the O2 should be fine for this cast. Realized we didn't switch the display from SBE43 to SBE23. The voltage reading seemed to be re-reading just fine.

NIS DEPTH No. DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples			Comments	NIS No.
		SALT #	Nut #	OXY #	BI ID	CH VOL	Filter Vial #		
1		492	610	1			4102		1
2			611	2			4103		2
3			612	3			4104		3
4			613	4			4105		4
5			614	5			4106		5
6			615	6			4107		6
7									7
8									8

Pycnocline Depth _____ **Chlorophyll Max Depth** _____

MAX DEPTH = 51

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast- fill this out
 Filename= 2NW13-026
 STATION NO. 131

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)	DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR													
02758	11	55N	150	19.68W	13	Aug	13	15	00	11.1									178	HP201

Sensor S/N (At Start of cruise or swap-out local Time (ADT)) 13Aug 13 07:06
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1&2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmission S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 O₂ is working. For both this and previous cast. Calorous cast. Did not manage to empty O₂ to SBE 43 from 413)
 # 8 is leaking

NIS DEPTH No. DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples			Comments	NIS No.
		SALT #	Nut #	OXY #	Btl ID	Chl Vol	Filter Vial #		
1		493	616	111					1
2			617						2
3			618		1		4108		3
4			619		2		4109		4
5			620		3		470		5
6			621		4		471		6
7			622		5		472		7
8			623		6		473		8

Pycnocline Depth _____ Chlorophyll Max Depth _____

Nutrient sample 616 is in one box, all other nutrient samples for this cast are in a new box.

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NWI13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast, fill this out
 Filename = 2NWI13-028
 STATION NO. 132

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)	DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTO M DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	Temp (°C)	Temp (°C)	(mb)	*	(deg)	(kts)	*	*	(m)	
028	51	47.6	83	14	9	5	1	3	19	08	12.5	11.6		x	x			025	4h+201

Sensor S/N (At Start of cruise or swap-out local Time (ADT)) 13Aug 13 1108
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 SNS
 COND 1&2 SNS
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42SN
 COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 #8 Still leaking, will take about 5 hrs to fix
 MAX DEPTH = 200

Nis DEPTH	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	Nis No.
		SALT #	Nut #	OXY #	Btl ID Chl Vol		
1	200		624				1
2	100		625				2
3	50		626	1			3
4	40		627	2			4
5	30		628	3			5
6	20		629	4			6
7	10		630	5			7
8	0		631	6			8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-ERP-JTL 2013
 If you download data after cast, fill this out
 Filename= 2NW13-029
 STATION NO. 134

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)	DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE VISIBILITY	WIND DIRN. SPD. (kts)	CLOUD (amt) TYPE	WEATHER	BOTTO M DEPTH STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR									
029	37	32.65	N	179	30.23	W	14	AUG	13							1532
																1520

Sensor S/N (At Start of cruise or swap-out/Local Time (ADT)) 13AUG13
 SBE type and S/N _____
 PRESS S/N _____
 TEMP 1 & 2 S/Ns _____
 COND 1&2 S/Ns _____
 FLUOR S/N _____
 02 (SBE43) S/N _____
 Transmissometer S/N _____
 PAR S/N _____
 02 SBE42S/N _____

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 #8 is no longer working! We fixed the problem! Yay!
 PAR values are stationary around surface at 1532hrs. PAR values begin to decrease as cast PAR after working at derived data. Will replace with backup PAR sensor.

NIS DEPTH No. DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples		Comments	NIS No.
		SALT #	Nut.#	OXY #	Bill ID	Chl Vol		
1			032					1
2			033					2
3			034		1		480	3
4			035		2		481	4
5			036		3		482	5
6			037		4		483	6
7			038		5		484	7
8			039		6		485	8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOAIEP-UJT 2013
 If you download data after cast- fill this out: Filename= 2NW13-030
 STATION NO. 135

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR												
0305	18	09	149	55	14	AUG	13	15	05	12	9								12919	1197

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 14 AUG 13 0705
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1 & 2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 PAR still not reading correctly. Tried switching to old PAR + cable, tested voltage on board & old cables, nothing obvious, will call SRE today if we get a moment.

NIS DEPTH No DESIRED	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	NIS No
		SALT #	Nut.#	OXY #	Bill ID		
1	200		640				1
2	100		641				2
3	50		642	1		486	3
4	40		643	2		487	4
5	30		644	3		488	5
6	20		645	4		489	6
7	10		646	5		490	7
8	0		647	6		491	8

Pycnocline Depth _____ Chlorophyll Max Depth _____

MAX DEPTH = 200

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 11NW13-1) 2NW13
 PROJECT & LEG GOA/ERP-JUL 2013
 If you download data after cast, fill this out
 Filename= 2NW13-031
 STATION NO. 136

CTD CAST #	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	TIME (GMT)	DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
031	57	33	44	51	14	Aug	13	19	08	13.8	15.7		x	x				x	x	x	0179m	1797

Sensor S/N (At Start of cruise or swap-01 Local Time (ADT)) 14 Aug 13 1108
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1 & 2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmitter S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 Still working on PAR.

MAX DEPTH = 167

NIS DEPTH No. DESIRED	Rosette Notes	Hydro Sampling SALT #	Nut.#	OXY #	CHLOR Samples Bill ID	Chl Vol	Filter Vial #	Comments	NIS No.
1	167	495	648	176					1
2	100		649						2
3	50		650		1				3
4	40		651		2				4
5	30		652		3				5
6	20		653		4				6
7	10		654		5				7
8	0		655		6				8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast- fill this out
 Filename= 2NW13-032
 STATION NO. 138

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE VISIBILITY	WIND DIRN (deg)	WIND SPD (kts)	CLOUD (amt) TYPE	WEATHER	BOTTO M DEPTH STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN									
032	52	42.13	N	150	45.80	W	15	AUG	13	00	21	10.0	x	x	x	x	x	002hP197

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 14 Aug 13 1621
 MAX DEPTH = 77

SBE type and S/N _____
 PRESS S/N _____
 TEMP 1 & 2 S/Ns _____
 COND 1 & 2 S/Ns _____
 FLUOR S/N _____
 O2 (SBE43) S/N _____
 Transducer S/N _____
 PAR S/N _____
 O2 SBE42SN _____

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 Called seabird & tested necessary for volume & tested
 PAR looks like there's a bird on for volume & (PAR)
 PAR for the rest of this trip.

Nis DEPTH No. DESIRED	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut #	OXY #	BL ID CHL VOL Filler Vol #	
1	77		656			
2	50		657	1	498	
3	40		658	2	499	
4	30		659	3	500	
5	20		660	4	501	
6	10		661	5	502	
7	0		662	6	503	
8						

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL: Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1): 2NW13
 PROJECT & LEG: GOA/ERP-UTL 2013
 If you download data after cast, fill this out: Filename = 2NW13-033
 STATION NO: 139

CTD CAST #	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	TIME (GMT)	DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN (deg)	WIND SPD (kts)	CLOUD (amt)	WEATHER	BOTTOM DEPTH (m)	STA. NAME/ID	
033	58	07	99	N	15	10	09	GW	15	01	11.5	10.0		X	X			X	X		0676	11497

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)): 15Aug13 0701
 SBE type and S/N: _____
 PRESS S/N: _____
 TEMP 1 & 2 S/Ns: _____
 COND 1&2 S/Ns: _____
 FLUOR S/N: _____
 O2 (SBE43) S/N: _____
 Transmissometer S/N: _____
 PAR S/N: _____
 O2 SBE42S/N: _____

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 PAR still isn't working

No. DESIRED	Rosette Notes	Hydro Sampling	CHLOR Samples	Comments	No.			
		SALT #	Nut #	OXY #	BILD CH VOL	Filter Vol	Val #	
1	105		603					1
2	50		604	1				2
3	40		605	2				3
4	30		606	3				4
5	20		607	4				5
6	10		608	5				6
7	0	496	609	6				7
8								8

Pycnocline Depth _____ Chlorophyll Max Depth _____

depth ≈ 50-60m

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NWX-1) 2NWX		PROJECT & LEG GOA-IERP-UTL 2013		If you download data after cast- fill this out Filename= 2NWX-034		STATION NO. 141													
CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE VISIBILITY	WIND DIRN. (deg)	WIN D SPD. (kts)	CLOUD (amt) TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID			
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR											MIN	Temp (°C)	Temp (°C)
034	58	14	49	151	25	34	15	AUG	13	19	30	10.0	64m	197	
Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) SBE type and S/N _____ PRESS S/N _____ TEMP 1 & 2 S/Ns _____ COND 1&2 S/Ns _____ FLUOR S/N _____ O2 (SBE43) S/N _____ Transmissometer S/N _____ PAR S/N _____ O2 SBE42S/N _____																					
COMMENT: Difficult conditions, factors that may affect measurements or aid processing																					
NIS DEPTH No. DESIRED		Rosette Notes		Hydro Sampling		CHLOR Samples		Comments		NIS											
				SALT #		Nut #		OXY #		BILLID		CHL VOL		Filter		Vial #					
1	50						670			4											1
2	40						671			2											2
3	30						672			3											3
4	20						673			4											4
5	10						674			5											5
6	0						675			6											6
7																					7
8																					8

Pycnocline Depth _____ Chlorophyll Max Depth _____

MAX. DEPTH = 52

Faint handwritten notes in the bottom left corner.

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOAIEP-UTL 2013
 Station No. 142
 If you download data after cast - fill this out
 Filename = 2NW13_035

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY (deg)	WIND DIRN. (kts)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR													MIN
035	58	28.51	152	00.18	31	5A	14	13	23	14											

Sensor S/N (At Start of cruise or swap-out/Local Time (ADT)) 15Aug13 1514
 MAX DEPTH = 75

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

SBE type and S/N _____
 PRESS S/N _____
 TEMP 1 & 2 S/Ns _____
 COND 1&2 S/Ns _____
 FLUOR S/N _____
 O2 (SBE43) S/N _____
 Transmissometer S/N _____
 PAR S/N _____
 O2 SBE42S/N _____

NIS DEPTH No. DESIRED	Rosette/Notes	Hydro Sampling			CHLOR Samples		Comments	NIS No.
		SALT #	Nut#	OXY #	BILD CHL VOL	Filter Vial #		
1		497	0710	242			516	1
2			077				517	2
3			078				518	3
4			079				519	4
5			080				520	5
6			081				521	6
7			082					7
8								8

Pycnocline Depth _____ Chlorophyll Max Depth _____

depth ≈ 169

VESSEL Northwest Explorer 2013 CRUISE ID (e.g. 1NW13-1) 2NW13 PROJECT & LEG GOA-IERP-UTL 2013 STATION NO. 143

File name = 2NW13_0360

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)	DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN (deg)	WIND SPD (kts)	CLOUD (amt)	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID		
	DEG	MIN	DEG	MIN	DAY	MO													YR	HR
0360	58	00	16	N	152	01	24	W	10	Aug	13	15	01						158m	1493

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 10 Aug 13 07:01
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 SNS
 COND 1&2 SNS
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 Close to land, cap of salinity shows near surface
 Dry spikes to 200m, feathered decrease as water depth
 Do not sample as cloudy

NO 40 m sample. Bottle didn't fire

NIS DEPTH No. DESIRED	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments
	SALT #	Nut #	OXY #	Btl ID	Chl Vol	Filter Vial #	
1	150		0885				
2	100		0884				
3	50		0885	1		522	LU9015 (116)
4	30		0885	3		523	LU9015 (117)
5	20		0887	4		524	LU9015 (118)
6	10		0888	5		525	LU9015 (119) and Formalin (30)
7	0		0889	6		526	
8							

Pycnocline Depth _____ Chlorophyll Max Depth _____

15:25
15:42

VESSEL Northwest Explorer 2013 CRUISE ID (e.g. 'NW13-1') 2NW13 PROJECT & LEG GOA-IERP-UPL 2013 If you download data after cast, fill this out Station No. 145
 Filename= 2NW13-037

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN (deg)	WIND SPD (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR												
037	52	46.40	N	151	36.22	W	13	20	24	11.8	10.1									045m1493

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 19AUG 13 1224
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 SNS
 COND 1&2 SNS
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

NIS DEPTH No DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples		Comments	NIS No.
		SALT #	Nut #	OXY #	Btl ID	CHL VOL		
1	39		0910	2		524		1
2	30		091	3		528	Lugols (120)	2
3	20		092	4		529	Lugols (121)	3
4	10		093	5		530	Lugols (122) and Formalin (31)	4
5	8	498	094	6		531		5
6								6
7								7
8								8

Pycnocline Depth _____ Chlorophyll Max Depth _____

MAX DEPTH = 39

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast- fill this out
 Filename= 2NW13-038
 STATION NO. 140

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)	DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTO M DEPTH (m)	STA NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	Temp (°C)	Temp (°C)	(mb)	*	(deg)	(kts)	*	*		
038	57	32.7	151	10.6	7	AUG	13	00	00	11.5		x			x	x		0069h	P193

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 16 AUG 13 110000
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1&2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

NIS DEPTH	Rosette Notes	Hydro Sampling			CHLOR Samples			Comments	NIS No.
		SALT #	Nut #	OXY #	Bit ID	Chl VOL	Filter Vial #		
1	50		695		1		532	LV9015 (123)	1
2	40		696		2		533		2
3	30		697		3		534	LV9015 (124)	3
4	20		698		4		535	LV9015 (125)	4
5	10		699		5		536	LV9015 (126) and Formalin (32)	5
6	0		700		6		537		6
7									7
8									8

Pycnocline Depth _____ Chlorophyll Max Depth _____

0006

VESSEL Northwest Explorer 2013 CRUISE ID (e.g. 'NW13-1') 2NW13 PROJECT & LEG GOA-IERP-UTL 2013 STATION NO. 147
 If you download data after cast- fill this out Filename= 2NW13-039

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR												
039	52	18.43	N	150	45.68	W	19	AUG	13	1500	12.3									135mL193

Sensor S/N (At Start of cruise or swap-or Local Time (ADT)) 17AUG 13 0900
 SBE type and S/N _____
 PRESS S/N _____
 TEMP 1 & 2 S/Ns _____
 COND 1&2 S/Ns _____
 FLUOR S/N _____
 O2 (SBE43) S/N _____
 Transmissometer S/N _____
 PAR S/N _____
 O2 SBE42S/N _____

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

MAX DEPTH = 166

Nis DEPTH NO DESIRED	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	Nis No.
		SALT #	Nut #	OXY #	BUILD CHL VOL		
1		499	701	211			1
2			702				2
3			703			Wgols (127)	3
4			704				4
5			705			Wgols (128)	5
6			706			Wgols (129)	6
7			707			Wgols (130) and Formalin (33)	7
8			708				8

Pycnocline Depth Chlorophyll Max Depth

1523

1541

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IERP-UJTL 2013
 If you download data after cast fill this out
 Filename= 2NW13-040
 STATION NO. 149

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)	DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR													
040	52	04	150	20	17	AUG	13	20	15	13	8	x	x						149	14913

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 17AUG 13 1215
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1&2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 Or spike @ ~70m

MAX. DEPTH =

No DESIRED	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	Nis No.
		SALT #	Nut #	OXY #	Bit ID		
1	200		709				1
2	100		710				2
3	50		711	1		Lugols (131)	3
4	40		712	2			4
5	30		713	3		Lugols (132)	5
6	20		714	4		Lugols (133)	6
7	10		715	5		Lugols (134) and Formalin (34)	7
8	0		716	6			8

Pycnocline Depth Chlorophyll Max Depth

VESSEL: Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1): 2NW13
 PROJECT & LEG: GOA-ERP-UTL 2013
 If you download data after cast- fill this out: Filename = 2NW13-042
 STATION NO.: 151

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN												
042	25	4.74	N	151.62	13	Aug	13	07	01	12.5			x	x						042	h1109

Sensor S/N (At Start of cruise or swap-over/Local Time (ADT)) 1BAWG130701
 COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 MAX DEPTH = 200

SBE type and S/N _____
 PRESS S/N _____
 TEMP 1 & 2 S/Ns _____
 COND 1&2 S/Ns _____
 FLUOR S/N _____
 O2 (SBE43) S/N _____
 Transmissometer S/N _____
 PAR S/N _____
 O2 SBE42S/N _____

MIS DEPTH No. DESIRED	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	MIS No.
		SALT #	Nut #	BIL ID	CIN VOL		
1	200		725				1
2	100		726				2
3	50		727	1		556	3
4	40		728	2		557	4
5	30		729	3		558	5
6	20		730	4		559	6
7	10		731	5		560	7
8	0		732	6		561	8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast- fill this out
 Filename= 2NW13-043
 STATION NO. 153

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH STA. NAME/ID (m)
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR											
043	18	59	115	136	1	Aug	13	00	08	12	21	5							64hp189

Sensor S/N (At Start of cruise or swap-out/Local Time (ADT)) 18AUG13 1208
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1&2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

MAX DEPTH = 50

NIS DEPTH No DESIRED	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	NIS No.
		SALT #	NUT #	OXY #	Bil ID Chl Vol		
1	50	501	733	324	1	502	1
2	40		734		2	503	2
3	30		735		3	504	3
4	20		736		4	505	4
5	10		737		5	506	5
6	0		738		6	507	6
7							7
8							8

Pycnocline Depth _____ Chlorophyll Max Depth _____

2015
2032

VESSEL Northwest Explorer 2013 CRUISE ID (e.g. 1NW13-1) 2NW13 PROJECT & LEG GOAIEP-UTL 2013 If you download data after cast, fill this out Filename= 2NW13-044 STATION NO. 154

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTO M DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	Temp (°C)	Temp (°C)	(mb)	(deg)	(kts)	(amt)		(m)	
044	57	31.9	152	2.26	19	Aug	13	00	23	13.1	10.9						64	ML189

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 18 Aug 13 1622 MAX DEPTH = 50

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1&2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 02 SBE42S/N

NIS DEPTH No. DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples			Comments	NIS No.
		SALT #	Nut.#	OXY #	Btl ID	CHL VOL	Filter Vial #		
1	50		739		1		568		1
2	40		740		2		569		2
3	30		741		3		570		3
4	20		742		4		571		4
5	10		743		5		572		5
6	Ø		744		6		573		6
7									7
8									8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013 CRUISE ID (e.g. 1NW13-1) PROJECT & LEG GOA-IERP-UTL 2013

Filename= 2NW13-045

Station No. 155

If you downloaded data after cast, fill this out

MAX DEPTH = 50

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

SBE type and S/N

PRESS S/N

TEMP 1 & 2 S/Ns

COND 1&2 S/Ns

FLUOR S/N

O2 (SBE43) S/N

Transmissometer S/N

PAR S/N

O2 SBE42S/N

CTD CAST #

LATITUDE DEG MIN LONGITUDE DEG MIN G M T TIME (GMT) DRY BULB WET BULB PRESSURE SEA STATE VISIBILITY WIND DIRN SPD (kts) CLOUD (amt) TYPE WEATHER BOTTO M DEPTH STA. NAME/ID

No DESIRED	Rosette Notes	Hydro Sampling	CHLOR Samples	Comments	NIS No.
1	50	745	1	574	1
2	40	746	2	575	2
3	30	747	3	576	3
4	20	748	4	577	4
5	10	749	5	578	5
6	Ø	750	6	579	6
7					7
8					8

Pycnocline Depth Chlorophyll Max Depth

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast- fill this out
 Filename= 2NW13-040
 STATION NO. 157

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE (deg)	VISIBILITY (kts)	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt) TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR											
04052	3	59	152	2	28	19	AUG	13	19	43	11.5	x	x	x	x	x	x	130	1485

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 19 AUG 13 1143
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1&2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 OZ SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

MAX DEPTH = 50

NIS DEPTH No. DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples			Comments
		SALT #	Nut #	OXY #	Bil ID	CHL VOL	Filter Vial #	
1		502	751	325	1		580	
2			752		2		581	
3			753		3		582	
4			754		4		583	
5			755		5		584	
6	leaving		756		6		585	
7								
8								

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NWX3-1) 2NWX3
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast, fill this out
 Filename = 2NWX3-047
 STATION NO 158

CTD CAST #	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	TIME (GMT)	DRY BULB	WET BULB	PRESSURE	SEA STATE	WIND DIRN.	WIND SPD.	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH	STA. NAME/ID	
047	56	49	61	N	15	1	3	19	15	19 AUG 13 1536											4185	185

Sensor S/N (At Start of cruise or swap-out/Local Time (ADT)) 19 AUG 13 1536
 SBE type and S/N
 PRESS S/N
 TEMP 1 82 S/Ns
 COND 182 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

MAX. DEPTH = 200

NIS DEPTH	Rosette Notes	Hydro Sampling	CHLOR Samples	Comments	NIS No.					
No. DESIRED		SALT #	Nut.#	OXY #	Bill ID	Chl VOL	Filter Vol	#		
1	200		757							1
2	100		758							2
3	50		759		1					3
4	40		760		2					4
5	30		761		3					5
6	20		762		4					6
7	10		763		5					7
8	0	503	764	326	6					8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast- fill this out
 Filename= 2NW13-040
 STATION NO. 159

CTD CAST #	LATITUDE		LONGITUDE		G M T			TIME (GMT)	DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	WEATHER	BOTTO M DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	Temp (°C)	Temp (°C)	(mb)	(deg)	(kts)	(%)		(m)		
040	05	09	51	11	20	Aug	13	06	58	13.8		x	x			x	x	285	h x 195

Sensor S/N (At Start of cruise or swap-out/Local Time (ADT)) 20 Aug 13 0658
 SBE type and S/N
 PRES S/N
 TEMP 1 & 2 S/Ns
 COND 1&2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 OZ SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

MAX. DEPTH = 200

NIS DEPTH No DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples		Comments	NIS No.
		SALT #	Nut.#	OXY #	Bil ID	Chl VOL		
1	200		765					1
2	100		760					2
3	50		767	1				3
4	40		768	2				4
5	30		769	3				5
6	20		770	4				6
7	10		771	5				7
8	0		772	6				8

Pycnocline Depth _____ Chlorophyll Max Depth _____

Need time of CTD cast!

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 2NW13		PROJECT & LEG GOA-ERP-UTL 2013		If you download data after cast- fill this out Filename = 2NW13-050		STATION NO. 101	
CTD CAST #		LATITUDE		LONGITUDE		G M T 2300Z TIME (GMT)		DRY BULB WET BULB Temp (°C) Temp (°C)	
DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	Temp (°C)
05	56	34	1	20	09	13			12.9
Sensor S/N (At Start of cruise or swap-out Local Time (ADT))		COMMENT: Difficult conditions, factors that may affect measurements or aid processing		MAX DEPTH = 76					
SBE type and S/N		PRESS S/N		TEMP 1 & 2 S/Ns		COND 1 & 2 S/Ns		FLUOR S/N	
O2 (SBE43) S/N		Transmissometer S/N		PAR S/N		O2 SBE42S/N			
Nis DEPTH		Rosette Notes		Hydro Sampling		CHLOR Samples		Comments	
No. DESIRED	SALT #	Nut #	OXY #	Bit ID	Chl. VOL	Filter Vial #			
1	75	781							
2	50	782	1						LN901S (139)
3	40	783	2						
4	36	784	3						LN901S (140)
5	20	785	4						LN901S (141)
6	10	786	5						LN901S (142) and Formalin (36)
7	0	787	6						
8									

Pycnocline Depth _____ Chlorophyll Max Depth _____

NO MORE CRYOVIALS FOR CHLOROPHYLL - STORING/FREEZING FILTERS IN ALUMINUM FOIL.

Bottle 4 didn't fire, reloaded program and fired at surface. No storage site for spare swimmers.

VESSEL: Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1): 2NW13
 PROJECT & LEG: GOA-IERP-UTL 2013
 FILENAME: 2NW13-051
 STATION NO.: 103

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB	WET BULB	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR													MIN
051	56	48.84	N	152	28.32	W	21	AUG	13	15	05	12.4	12.8							1166	HP181

Sensor S/N (At Start of cruise or swap-on/Local Time (ADT)) 211 AUG 13 07105
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1 & 2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 OZ SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 No more cruvoials for chlorophyll filters - storing/freezing filters in aluminum foil
 A few O₂ spikes seen at bottom 1/8 of cast

NIS DEPTH No. DESIRED	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut #	OXY #	Bil ID	
1	155		788			
2	100		780			
3	50	slowing leaking	790	1	610	Lugols (143)
4	40		791	2	611	
5	30		792	3	612	Lugols (144)
6	20		793	4	613	Lugols (145)
7	10	slowing leaking	794	5	614	Lugols (146) and Formalin (37)
8	0		795	6	615	

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IERP-JTL 2013
 Station No. 1605
 If you download data after cast, fill this out
 Filename= 2NW13_052

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR													MIN
05251	02	08	N	152	53	54	W	21	AUG	13	20	05	18	11	18						008411181

Sensor S/N (At Start of cruise or swap-out/Local Time (ADT)) 21 Aug 13 12:02
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1 & 2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 No more cruorials for chlorophyll filters - storing/freezing filters in aluminum foil.

Nis DEPTH No. DESIRED	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	Nis No.
		SALT #	Nut. #	OXY #	Bil ID		
1	75	505	796	320			1
2	50		799		1	616	2
3	40		798		2	617	3
4	30		799		3	618	4
5	20		800		4	619	5
6	10		801		5	620	6
7	0		802		6	621	7
8							8

Pycnocline Depth _____ Chlorophyll Max Depth _____

20:12
 20:28

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast- fill this out
 Filename= 2NW13_053
 STATION NO. 107

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt) TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR											MIN
053	58	02.38	N	148	39.55	W	22	AUG	13	15	00	12.9						651	hx2019

Sensor S/N (At Start of cruise or swap-out/Local Time (ADT)) 22AUG 13 0700
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1&2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 MAX DEPTH = 200

Nis DEPTH No. DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples		Comments	Nis No.
		SALT #	Nut.#	OXY #	Bl ID	CHL VOL		
1	200		803					1
2	100		804					2
3	50		805	1		622		3
4	40		806	2		623		4
5	30		807	3		624		5
6	20		808	4		625		6
7	10		809	5		626		7
8	0		810	6		627		8

Pycnocline Depth _____ Chlorophyll Max Depth _____

1529

1525
1540

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NWX3-1) 2NWX13
 PROJECT & LEG GOA-IERP-UTL 2013
 If you download data after cast- fill this out
 Filename= 2NWX13-054
 STATION NO. 168

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH STA. NAME/ID (m)
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR											
054	58	16	119	14	22	Aug	13	18	16	10.4		x	x						1100m E2019

Sensor S/N (At Start of cruise or swap-01 Local Time (ADT)) 22Aug 13 1016
 SBE type and S/N
 PRESS S/N
 TEMP 1 82 SNS
 COND 182 SNS
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing
 Salinity SBE ~ 23.5‰ meters.
 Increased depth info, CTD not bottom Brinyard on board for clean and inspect then be dangerous
 Miscommunication
 NO samples taken/ bottles fired

Nis No	No DESIRED	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	Nis No
			SALT #	Nut.#	OXY #	Bill ID		
1	110		507	811	322			1
2	75			812				2
3	50			813				3
4	40			814				4
5	30			815				5
6	20			816				6
7	10			817				7
8	0			818				8

Pycnocline Depth _____ Chlorophyll Max Depth _____

VESSEL Northwest Explorer 2013
 CRUISE ID (e.g. 1NW13-1) 2NW13
 PROJECT & LEG GOAIEP-UTL 2013
 If you download data after cast- fill this out
 Filename= 2NW13_055
 STATION NO 108

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		DRY BULB	WET BULB	PRESSURE	SEA STATE	VISIBILITY	WIND DIRN.	WIND SPD.	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR												
055	58	16	14	30	22	Aug	13	18	36											

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 22Aug 13 1036
 SBE type and S/N
 PRESS S/N
 TEMP 1 & 2 S/Ns
 COND 1 & 2 S/Ns
 FLUOR S/N
 O2 (SBE43) S/N
 Transmissometer S/N
 PAR S/N
 O2 SBE42S/N

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

MAX DEPTH =

Nis DEPTH	Rosette Notes	Hydro Sampling			CHLOR Samples		Comments	Nis No.
		SALT #	Nut #	OXY #	BU ID	CHL VOL		
1	110	507	811	322				1
2	75		812					2
3	50		813		1	028		3
4	40		814		2	029		4
5	30		815		3	030		5
6	20		816		4	031		6
7	10		817		5	032		7
8	0		818		6	033		8

Pycnocline Depth _____ Chlorophyll Max Depth _____

1854

1849
1903

123

VESSEL Northwest Explorer 2013 CRUISE ID (e.g. 1NW13-1) PROJECT & LEG GOA-ERP-UJTL 2013

2NW13

GOA-ERP-UJTL 2013

Filename= 2NW13-056

STATION NO 109

CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)	DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID			
	DEG	MIN	DEG	MIN	DAY	MO														YR	HR	MIN
056	58	50	38	N	149	22	57	W	22	AUG	13	21	37							11.1	120	MP209

Sensor SIN (At Start of cruise or swap-out/Local Time (ADT)) 22 AUG 13 1337

COMMENT: Difficult conditions, factors that may affect measurements or aid processing

High Chlorophyll a was observed

SBE type and SIN _____
 PRESS SN _____
 TEMP 1 & 2 SNS _____
 COND 1&2 SNS _____
 FLUOR SN _____
 02 (SBE43) SN _____
 Transmittometer SIN _____
 PAR SN _____
 02 SBE42SN _____

NIS DEPTH No DESIRED	Rosette Notes	Hydro Sampling			CHLOR Samples		Comments	NIS No.
		SALT #	NUT #	OXY #	Bil ID	Chl VOL		
1	110		819					1
2	75		820					2
3	50		821			634		3
4	40		822			635		4
5	30		823			636		5
6	20		824			637		6
7	10		825			638		7
8	0		826	325		639		8

Pycnocline Depth _____ Chlorophyll Max Depth _____

2153

21:50
2207