

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 14213-1		PROJECT & LEG GOA-HERP-UTL 2013		If you download data after cast, fill this out Filename= 01		STATION NO. 01	
LATITUDE		LONGITUDE		G M T		TIME (GMT)		BOTTO M DEPTH STA. NAME/ID	
DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(m)
01	56	28	11	03	11	13	15	13	1495640

WIND DIRN. (deg) WIND SPD. (kts) WIND SPD. (m/s) WEATHER

SEA STATE VISIBILITY PRESSURE WET BULB Temp (°C) DRY BULB Temp (°C)

CLD (amt) TYPE

MAX. DEPTH = 1370

Sensor S/N (At Start of cruise or swap-out Local Time (ADT))  
 SBE type and S/N SBE 25 0422  
 PRESS S/N 0610  
 TEMP 182 S/Ns 4455  
 COND 182 S/Ns 2906  
 FLUOR S/N 2343  
 O2 (SBE43) S/N 2219  
 Transmissometer S/N C5T-1488PR  
 PAR S/N 7031  
 O2 SBE42S/N

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

Nis No.	Nis No.	Comments	Rosette Notes		Hydro Sampling		CHLOR Samples	
			SALT #	Nut #	OXY #	Flt ID	Chl VOL	Filter Vial #
1	Bot 130			1				
2	100			2				
3	50			3	138.89	6		
4	40			4	139.52	5		
5	30			5	139.79	4		
6	20			6	139.79	3		
7	10			7	139.39	2		
8	0			8	139.42	1		

Pycnocline Depth 12 Chlorophyll Max Depth 10



VESSEL		CRUISE ID (e.g. 1NW13-1)		PROJECT & LEG		STATION NO.	
Northwest Explorer 2013		11/13-1		GOA-IERP-JTL 2013		04	
CTD CAST #		LATITUDE		LONGITUDE		G M T	
00		dd.ffff		dd.ffff		Start	
DEG	MIN	DEG	MIN	DAY	MO	YR	TIME (GMT)
35	39	13	52	03	5	13	2108
Sensor S/N (At Start of cruise or swap-over 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							

MAX. DEPTH =

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

Nis No.	Nis DEPTH	Rosette Notes		Hydro Sampling		CHLOR. Samples		Comments
		SALT #	Nut.#	OXY #	BI ID	Chl VOI	Filter Vial #	
1	Bot 155	465	17	328				1
2	100		18					2
3	50		19		1	138.87	18	3
4	40		20		2	139.52	17	4
5	30		21		3	139.79	16	5
6	20		22		4	139.79	15	6
7	10		23		5	139.39	14	7
8	D		24		6	139.42	13	8

Pycnocline Depth 10 Chlorophyll Max Depth 12

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 11/13-1		PROJECT & LEG GOA-ERP-UTL 2013		If you download data after cast, fill this out Filename=		STATION NO. 05	
CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		BOTTO M DEPTH (m)
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	
0045	63.0762	N	135.7017	W	04	JUL	13	01	10

WET BULB Temp (°C) WIND DIRN. SPD. (kts) WIND SPD. (kts) WEATHER  
 DRY BULB Temp (°C) VISIBILITY (deg) CLOUD (amt) STA. NAME/D

MAX. DEPTH = 200

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 No.	Nis No.	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut.#	OXY #	BI ID	Chl	VOI Filter Vial #	
1	200		25					
2	100		26					
3	50		27		1	138.85	24	
4	40		28		2	139.52	23	
5	30		29		3	139.79	22	
6	20		30		4	139.70	21	
7	10		31		5	139.39	20	
8	0		32		6	139.42	19	

Pycnocline Depth Hard to tell Chlorophyll Max Depth 18 m

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 11W13-1		PROJECT & LEG GOA-IERP-UTL 2013		If you download data after cast, fill this out Filename=		STATION NO. 7	
CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		BOTTO M DEPTH (m)
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	
0056	13806N	1362021E	13	16	51				

MAX. DEPTH = 203

SENSOR S/N (At Start of cruise or swap-over Local Time (ADT))

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 No.	Nis No.	Rosette Notes		Hydro Sampling		CHLOR. Samples		Comments
		SALT #	Nut.#	OXY #	BI ID	Chl VOL	Filter Vial #	
1	200		33					
2	100		34					
3	50		35	1	138.89	30		
4	40		36	2	139.52	29		
5	30		37	3	139.99	28		
6	20		38	4	139.79	27		
7	10		39	5	139.39	26		
8	D		466	410	329	25		

Pycnocline Depth 15m Chlorophyll Max Depth 40m

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 1NW13-1		PROJECT & LEG GOA-IERP-UTL 2013		If you download data after cast, fill this out Filename=		STATION NO. 9							
CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		BOTTO M DEPTH STA. NAME/ID						
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR		MIN					
006559664	N	13	6	09	54	W	04	J	U	L	13	2	3	4	5

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

MAX. DEPTH = 200

COMMENT: Difficult conditions, factors that may affect measurements or aid processing  
 Error on west occurred right as bottle & fired. AS232 error.  
 Will see if it repeats. Wire got jammed in winch earlier.

Nis No.	Nis No.	Comments	Hydro Sampling		CHLOR Samples											
			SALT #	Nut.#	OXY #	BI ID	Chl Vol	Filter	Vial #							
1	200			41												
2	100			42												
3	50			43			1	138.82	36							
4	40			44			2	139.52	35							
5	30			45			3	139.29	34							
6	20			46			4	139.29	23							
7	10			47			5	139.39	32							
8	0			48			6	139.42	31							

Pycnocline Depth 20 Chlorophyll Max Depth 40

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. '1NW13-1')		PROJECT & LEG GOA-IERP-UTL 2013		STATION NO. 13	
Latitude 13 20 14.7 N		Longitude 75 56 26.7 W		GMT Start Time (GMT) 13 19 29		Filename= 2379 SEC 60	
CTD CAST #	DEG	MIN	DEG	MIN	HR	MIN	SEC
00756	13	20	75	56	13	19	29

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

MAX\_DEPTH =

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 No.	Nis No.	Rosette Notes		Hydro Sampling		CHLOR. Samples		Comments
		SALT #	Nut #	OXY #	BLID	Chi	VOL	
1	200	467	49	330				
2	100		50					
3	50		51		1	138.87	42	
4	40		52		2	139.52	41	
5	30		53		3	139.79	40	
6	20		54		4	139.79	39	
7	10		55		5	139.39	38	
8	0		56		6	139.42	37	

Pycnocline Depth 12 m Chlorophyll Max Depth 28 m

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 11W13-1		PROJECT & LEG GOA-IERP-UTL 2013		STATION NO. 15												
If you download data after cast, fill this out Filename=																		
CTD CAST #	LATITUDE		LONGITUDE		GMT		BOTTO M DEPTH STA. NAME/ID											
	DEG	MIN	DEG	MIN	DAY	MO		YR										
008	56	43	53	N	13	6	52	W	06	J	U	L	1	3	0	1	0	4
008	56	43	53	N	13	6	52	W	06	J	U	L	1	3	0	1	0	4

Sensor SIN (At Start of cruise or swap-out Local Time (ADT))  
 SBE type and SIN  
 PRESS SIN  
 TEMP 1 & 2 S/Ns  
 COND 1&2 S/Ns  
 FLUOR SIN  
 O2 (SBE43) SIN  
 Transmissometer SIN  
 PAR SIN  
 O2 SBE42SIN

MAX. DEPTH = 200

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

Nis No.	DEPTH	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments	Nis No.
		SALT #	Nut.#	OXY #	Btl ID	Chl Vol	Filter Vial #		
1	200		57						1
2	100		58						2
3	50		59		1	138.87	44		3
4	40		60		2	139.57	47		4
5	30		61		3	139.39	46		5
6	20		62		4	139.39	45		6
7	10		63		5	139.39	44		7
8	0		64		6	139.42	43		8

Pycnocline Depth 12 m Chlorophyll Max Depth 34





VESSEL Northwest Explorer 2013	CRUISE ID (e.g. 1NW13-1) 11W13	PROJECT & LEG GOA-IERP-UTL 2013	If you download data after cast, fill this out Filename=		STATION NO. 18						
CTD CAST #	LATITUDE	LONGITUDE	GMT	DRY BULB Temp (°C)	WET BULB Temp (°C)	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (amt)	WEATHER	BOTTO M DEPTH	STA. NAME/ID
D11056	69152 N	1357433 W	06 JUL 13	1749						180	SECL10

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

MAX. DEPTH = 175

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 #	BI ID	CHI VOL	Filter Vial #		
1		73						1
2		74						2
3		75		1	138.87	60		3
4		76		2	139.69	59		4
5		77		3	139.79	58		5
6		78		4	139.79	57		6
7		79		5	139.39	56		7
8		80		6	139.49	55		8

Pycnocline Depth 13 Chlorophyll Max Depth 15

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 1113		PROJECT & LEG GOA-IERP-UTL 2013		If you download data after cast- fill this out Filename=		STATION NO. 21										
CTD CAST #	LATITUDE		LONGITUDE		G M T		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	WIND SPD. (kts)	CLOUD (am)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO												

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

MAX. DEPTH = 133

Nis No.	DEPTH	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut #	OXY #	Btl ID	Chl Vol	Filter Vial #	
1	133		81					
2	100		82					
3	50		83		1	139.42	66	
4	40		84		2	139.52	65	
5	30		85		3	139.79	64	
6	20		86		4	139.79	63	
7	10		87		5	139.39	62	
8	0		89		6	139.42	61	

Pycnocline Depth 10 Chlorophyll Max Depth 14

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 1NW13		PROJECT & LEG GOA-IERP-UTL 2013		If you download data after cast, fill this out Filename=		STATION NO. 22	
CTD CAST #	LATITUDE		LONGITUDE		GMT		Start TIME (GMT)		BOTTO M DEPTH (m)
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	
01256	76730	N	1355195	W	06	JUL	13	22	28

WET BULB Temp (°C) . . . . .  
 DRY BULB Temp (°C) . . . . .  
 WIND DIRN. SPD. (kts) . . . . .  
 WIND DIRN. (deg) . . . . .  
 VISIBILITY . . . . .  
 SEA STATE . . . . .  
 PRESSURE . . . . .  
 CLOUD (amt) . . . . .  
 WEATHER . . . . .  
 MAX. DEPTH = 83

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  
*Oxygen, conductivity, and temperature all diverted significantly from downcast  
 exp upcast.*

Nis No.	Nis No.	Rosette Notes		Hydro Sampling		CHLOR. Samples		Comments
		SALT #	Nut.#	OXY #	BN ID	Chl VOL	Filter Vial #	
1	83		89					
2	75		90					
3	50		91		1	138.87	72	
4	40		92		2	139.52	71	
5	30		93		3	139.79	70	
6	20		94		4	139.59	69	
7	10		95		5	139.39	68	
8	0		96		6	139.42	67	

Pycnocline Depth *very gradual* Chlorophyll Max Depth *10 M*

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 11W13		PROJECT & LEG GOA-IERP-UTL 2013		STATION NO. 23	
If you download data after cast- fill this out Filename=							
CTD CAST #	LATITUDE		LONGITUDE		GMT		BOTTO M DEPTH (m)
	DEG	MIN	DEG	MIN	HR	MIN	
0135700581	N	1359742	W	0730	13	1500	855EE7.5

Sensor S/N (At Start of cruise or swap-ol 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

MAX. DEPTH = 80 M

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

Nis No. DESIRED	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	NIS No.
		SALT #	Nut.#	OXY #	BI ID		
1	bet		97				1
2	50		98		1	138.87	2
3	40		99		2	139.52	3
4	30		100		3	139.59	4
5	20		101		4	139.59	5
6	10		102		5	139.39	6
7	0		103		6	139.42	7
8							8

Pycnocline Depth | | Chlorophyll Max Depth 13

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 11W13		PROJECT & LEG GOA-HERP-UTL 2013		if you download data after cast- fill this out Filename=		STATION NO. 24	
CTD CAST # 1145697821		LATITUDE ? N		LONGITUDE ? W		GMT 13 JUL 13 1751		Start TIME (GMT)	
DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	
11	45	69	78	21	07	JUL	13	17	51
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 STA. NAME/ID	

MAX. DEPTH = 105

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

Sensor S/N (At Start of cruise or swap-ot 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

Nis No.	Nis No.	No DESIRED	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments
			SALT #	Nut.#	OXY #	B/I ID	Chl VOL	Filter Vial #	
1	104	105							
2	75	106							
3	50	107				1	138.82	84	
4	40	108				2	139.52	83	
5	30	109				3	139.79	82	
6	20	110				4	139.99	81	
7	10	111				5	139.39	80	
8	0	112				6	139.42	79	

Pycnocline Depth 14? Chlorophyll Max Depth 15

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 11613		PROJECT & LEG GOA-IERP-UTL 2013		If you download data after cast- fill this out Filename=		STATION NO. 26	
CTD CAST #		LATITUDE		LONGITUDE		GMT		Start TIME (GMT)	
01556	90182	N136	296	W075	W132	117			
DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	

MAX. DEPTH = 200

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

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 No.	DEPTH	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut.#	OXY #	BI ID	Chl VOL	Filter Vial #	
1	200	469	113	332				
2	100		114					
3	50		115		1	139.42	90	
4	40		116		2	139.52	89	
5	30		117		3	139.79	86	
6	20		118		4	139.79	87	
7	10		119		5	139.39	86	
8	D		120		6	139.42	85	

Pycnocline Depth 10 m Chlorophyll Max Depth 15 m

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 11W13-1		PROJECT & LEG GOA-IERP-JTL 2013		if you download data after cast, fill this out Filename=		STATION NO. 29	
CTD CAST #		LATITUDE		LONGITUDE		G M T		TIME (GMT)	
DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	
01656	73874	N	136816	08	JUL	13	15	02	
Sensor S/N (At Start of cruise or swap-out Local Time (ADT))		DRY BULB Temp (°C)		WET BULB Temp (°C)		PRESSURE (mb)		SEA STATE	
SBE type and S/N		Temp (°C)		Temp (°C)		(mb)		X X X	
PRESS S/N		Temp (°C)		Temp (°C)		(mb)		X X X	
TEMP 1 & 2 S/Ns		Temp (°C)		Temp (°C)		(mb)		X X X	
COND 1&2 S/Ns		Temp (°C)		Temp (°C)		(mb)		X X X	
FLUOR S/N		Temp (°C)		Temp (°C)		(mb)		X X X	
O <sub>2</sub> (SBE43) S/N		Temp (°C)		Temp (°C)		(mb)		X X X	
Transmissometer S/N		Temp (°C)		Temp (°C)		(mb)		X X X	
PAR S/N		Temp (°C)		Temp (°C)		(mb)		X X X	
O <sub>2</sub> SBE42S/N		Temp (°C)		Temp (°C)		(mb)		X X X	

MAX. DEPTH = 201

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

Nis No.	Nis No.	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments
			SALT #	Nut.#	OXY #	Btl ID Chl Vol Filter Vial #	
1	200			121			
2	100			122			
3	50			123	1	138.87	96
4	40			124	2	139.52	95
5	30			125	3	139.79	94
6	20			126	4	139.79	93
7	10			127	5	139.39	92
8	0			128	6	139.42	91

Pycnocline Depth 20m Chlorophyll Max Depth 32



VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 10W13-1		PROJECT & LEG GOA-ERP-UTL 2013		If you download data after cast- fill this out Filename=		STATION NO. 31	
CTD CAST #	LATITUDE		LONGITUDE		G M T		Star TIME (GMT)		BOTTO M DEPTH (m)
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	
01756	56	72	5	13	7	3	2	8	9
1	3	7	3	2	8	9	1	3	2
2	5	6	7	2	5	9	1	3	2
3	1	3	7	3	2	8	9	1	3
4	1	3	7	3	2	8	9	1	3
5	1	3	7	3	2	8	9	1	3
6	1	3	7	3	2	8	9	1	3
7	1	3	7	3	2	8	9	1	3
8	1	3	7	3	2	8	9	1	3

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

MAX. DEPTH =

COMMENT: Difficult conditions, factors that may affect measurements or aid processing  
 Although data stream never stopped during this cast, the CTD hit the water  
 hard (almost 90° angle that it bent to) and I stretched the termination. R. Hopcroft  
 reterminated after this cast since the Berge seat wouldn't talk.

Nis No.	DEPTH	Rosette Notes		Hydro Sampling		CHLOR-Samples		Comments
		SALT #	Nut #	OXY #	Btl ID	Chl VOL	Filter Vial #	
1	200		129					
2	100		130					
3	50		131		1	138.87	102	
4	40		132		2	139.52	101	
5	30		133		3	139.99	100	
6	20		134		4	139.99	99	
7	10	490	135	339	5	139.99	98	
8	0		136		6	139.92	97	bottle & closed 1/2 out of water - only 1/2 full

Pycnocline Depth 12 Chlorophyll Max Depth 25

400/100/100/x

P45

33.6

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 1NW13		PROJECT & LEG GOA-HERP-UTL 2013		If you download data after cast fill this out Filename=		STATION NO. 34		
CTD CAST #	LATITUDE		LONGITUDE		GMT		Start TIME (GMT)		BOTTO M DEPTH STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR		MIN
0118	57.3	63.8	51.3	60.7	52°W	10	JUL	13	501	100 SEGO

Sensor S/N (At Start of cruise or swap-of 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

*O<sub>2</sub> sensor not working - will try a back flush*

MAX. DEPTH = 95

No. DESIRED	NIS DEPTH	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	NIS No.
			SALT #	Nut.#	OXY #	BI ID		
1	95			137				1
2	75			138				2
3	50			139	1	138.87	108	3
4	40			140	2	139.52	107	4
5	30			141	3	139.79	106	5
6	20			142	4	139.79	105	6
7	10			143	5	139.39	104	7
8	0			144	6	139.42	103	8

Pycnocline Depth 17m Chlorophyll Max Depth 18m



VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 11W13		PROJECT & LEG GOA-IERP-JUL 2013		If you download data after cast- fill this out File name =		STATION NO. 37											
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)	CLD (amt)	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO													YR
02	25	7	28	31	4	13	6	3	3	2	3	19	26						

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  
*O<sub>2</sub> sensor reading negative. I was going to take O<sub>2</sub> sample here, but I'll try to fix the sensor first, will flush system again and check connections. Maybe I need to make a call.*

Nis No.	DEPTH	Rosette Nicks		Hydro-Sampling		CHLOR-Samples		Comments
		SALT #	Nut #	OXY #	BIT ID	Chl Vol	Filter Vial #	
1	200		153					
2	100		154					
3	50		155	1	158.87	120		
4	40		156	2	158.87	119		
5	30		157	3	159.79	118		
6	20		158	4	159.79	117		
7	10		159	5	159.79	116		
8	0		160	6	159.79	115		

Pycnocline Depth 13 Chlorophyll Max Depth 12



VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 1NW13		PROJECT & LEG GOA-IERP-UJT 2013		If you download data after cast- fill this out Filename=		STATION NO. 40										
CTD CAST #	LATITUDE		LONGITUDE		G M T		DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. (deg)	SPD. (kts)	CLOUD (amt)	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO												YR
02257	03630	N137	1175	W11	JUL	13	15	43							X	X	X	X

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  
*O2 sensor re-attached, but readings are still bad*

Nis No. DESIRED	Rosette Nicles		Hydro Sampling		CHLOR Samples		Comments
	SALT #	Nut #	OXY #	Btl ID	Chl VOL	Filter Vial #	
1		169					1
2		170					2
3		171		1	132		3
4		172		2	131		4
5		173		3	130		5
6		174		4	129		6
7		175		5	128		7
8		176		6	127		8

Pycnocline Depth 3 m Chlorophyll Max Depth 35



VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 11/13		PROJECT & LEG GOA-IERP-JUL 2013		If you download data after cast- fill this out Filename=		STATION NO. 45											
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. (deg) (kts)	WIN D SPD. (kts)	CLOUD (amt)	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID	
	DEG	MIN	DEG	MIN	DAY	MO													YR
0245717171	N	137.9528	W	12	JUL	13	18	53											

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

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 No.	DEPTH	Rosette Notes		Hydro-Sampling		CHLOR-Samples		Comments
		SALT #	Nut.#	OXY #	Btl ID	Chl VOI	Filter Vial #	
1	200		185					
2	100		186					
3	50		187	1	13988	144		
4	40		188	2	13987	143		
5	30		189	3	13986	142		
6	20		190	4	13985	141		
7	10		191	5	13984	140		
8	0		192	6	13983	139		

Pycnocline Depth 12 Chlorophyll Max Depth 22



VESSEL: Northwest Explorer 2013  
 CRUISE ID (e.g. 1NW13-1): 10w13  
 PROJECT & LEG: GOA-IERP-UTL 2013  
 STATION NO.: 47  
 If you download data after cast- fill this out  
 Filename=

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												
025573352	N	13	E	19	13	JUL	13	00	05											2572	SEI410

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)): 1 3  
 MAX. DEPTH = 200

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 No.	NIS DEPTH	Roseffe Notes		Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut. #	OXY #	Btl ID	Chl Vol	Filter Vial #	
1	200	473	193					
2	100		194					
3	50		195		1	1387	150	
4	40		196		2	1382	149	
5	30		197		3	1383	148	
6	20		198		4	1384	147	
7	10		199	335	5	1385	146	
8	0		200		6	1386	145	

Pycnocline Depth: 17  
 Chlorophyll Max Depth: 16



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

STATION NO. 52  
 If you download data after cast- fill this out  
 Filename=

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)	CLD (amt)	TYPE	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN												
027	57.6346	1°N	137.7269	0°W	13	JUL	13	23	21											250	SEK410

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

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

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

Conductivity cell was giving sporadic readings during descent for first ~27 meters. Jellyfish? looked good after.  
 Lost signal at ~30m on upcast. Restarted and put down to 50m to collect remaining samples. Took first five bottle samples from 1st cast.

Nis No.	DEPTH	Rosette Notes		Hydro-Sampling		CHLOR-Samples		Comments
		SALT #	Nut #	OXY #	Btl ID	Chl	VOI	
1	200			209				
2	100			210				
3	50			211		138.87	162	
4	40			212		139.52	161	
5	30			213		139.99	160	
6	20			214		139.79	159	↓ got on 2nd "dip" after powder caking
7	10	474		215		139.59	158	CTA Used Niskins 6-4.
8	0			216		139.42	157	

Pycnocline Depth 15 Chlorophyll Max Depth 13





VESSEL Northwest Explorer 2013 CRUISE ID (e.g. 1NW13-1) 1NW13 PROJECT & LEG GOA-IERP-UTL 2013 STATION NO. 55

if you download data after cast- fill this out  
 Filename=  
 CTD CAST # 03D 575708 N 1366316 W 14 JUL 13 22:46  
 TIME (GMT) HR MIN  
 G M T DAY MO YR  
 LONGITUDE DEG MIN  
 LATITUDE DEG MIN  
 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

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

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

No. DESIRED	NIS DEPTH	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments	NIS No.
		SALT #	Nut. #	OXY #	Btl ID	Chl VOI	Filter Vial #		
1	200	475	233	336					1
2	100		234						2
3	50		235		1	139.87	180		3
4	40		236		2	139.52	179		4
5	30		239		3	139.99	178		5
6	20		238		4	139.99	177		6
7	10		239		5	139.59	176		7
8	D		240		6	139.42	175		8

Pycnocline Depth Chlorophyll Max Depth 20







VESSEL: Northwest Explorer 2013  
 CRUISE ID (e.g. 1NW13-1): 11W13  
 PROJECT & LEG: GOA-IERP-JUL 2013  
 STATION NO.: 58  
 If you download data after cast- fill this out  
 Filename=

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)	CLD (amt)	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR												
03	57.91372	N	136.7919	W	15	JUL	13	17	38										

Sensor S/N (At Start of cruise or swap-out Local Time (ADT))  
 MAX. DEPTH = 174

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 No.	DEPTH	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments
			SALT #	Nut #	OXY #	Btl ID Ctl Vol Filter Vial #	
1	174			257			
2	100			258			
3	50			259	1	138.87	198
4	10			260	2	139.52	199
5	30			261	3	139.71	196
6	70			262	4	139.98	195
7	10			263	5	139.39	194
8	0			264	6	139.42	193

Pycnocline Depth 11 Chlorophyll Max Depth 19



VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 1NW13		PROJECT & LEG GOA-IERP-JUL 2013		If you download data after cast- fill this out Filename=		STATION NO. 61	
CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		BOTTO M DEPTH STA. NAME/ID (m)
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	
035	57.7940°	N	137.1940°	W	13	JUL	13	22	17

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

1	3
---	---

MAX. DEPTH = 201

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 No.	Nis No.	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut #	OXY #	Btl ID	Chl	VOI/Filter Vial #	
1	200		273					
2	100		274					
3	50		275		1	138.87	210	
4	40		276		2	139.52	209	
5	30		277		3	139.79	208	
6	20		278		4	139.79	207	
7	10		279		5	139.39	206	
8	0		280		6	139.42	205	

Pycnocline Depth 8, 15 Chlorophyll Max Depth 1107

13.3 C Air 13.7 C SST

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 10W13		PROJECT & LEG GOA-IERP-UTL 2013		If you download data after cast- fill this out Filename=		STATION NO. 65	
CTD CAST # 036		LATITUDE 57.62697° N		LONGITUDE 138.4184° W		GMT Start TIME (GMT) 16 JUL 13 18 57		BOTTO M DEPTH STA. NAME/ID 2893SEK60	
DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	
57	62	69	7	16	JUL	13	18	57	

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

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 No.	DEPTH	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut. #	OXY #	Bit ID	Chl VOI	Filter Vial #	
1	200		281					
2	100		282					
3	50		283		1	138.89	216	
4	40		284		2	139.52	215	
5	30		285		3	139.89	214	
6	20		286		4	139.89	213	
7	10		287		5	139.39	212	
8	D		288		6	139.42	211	

Pycnocline Depth 20 Chlorophyll Max Depth 28

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) NW13		PROJECT & LEG GOA-IERP-JUL 2013		if you download data after cast- fill this out Filename=		STATION NO. 67	
CTD CAST #	LATITUDE		LONGITUDE		G M T		start TIME (GMT)		BOTTO M DEPTH (m)
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	
03757	78433	N	1328803	W	17	JUL	13	00	51

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

MAX. DEPTH = 201

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 No.	DEPTH No. DESIRED	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut #	OXY #	Btl ID	Chl	Vol	
1	200	477	289	338				
2	100		290					
3	50		291		1	139.87	222	
4	40		292		2	139.52	221	
5	30		293		3	139.79	220	
6	20		294		4	139.79	219	
7	10		295		5	139.39	218	
8	0		296		6	139.42	217	

Pycnocline Depth 12 Chlorophyll Max Depth 15



VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 11W13		PROJECT & LEG GOA-IERP-UTL 2013		If you download data after cast- fill this out File name =		STATION NO. 71							
CTD CAST #	LATITUDE DEG MIN	LONGITUDE DEG MIN	GMT DAY MO YR	Start TIME (GMT) HR MIN	DRY BULB Temp (°C)	WET BULB Temp (°C)	PRESSURE (mb)	SEA STATE	VISIBILITY	WIND DIRN. SPD. (deg)	WIND DIRN. SPD. (kts)	WIND DIRN. SPD. (kts)	WEATHER	BOTTO M DEPTH	STA. NAME/ID
								WIND DIRN. SPD. (kts)	WIND DIRN. SPD. (kts)	WEATHER	BOTTO M DEPTH	STA. NAME/ID			
03958	02253 N	1370697 W	17 JUL 13	2223										3645	SEL110

MAX. DEPTH = 201

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

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

O<sub>2</sub> (SBE43) S/N

Transmissometer S/N

PAR S/N

O<sub>2</sub> SBE42S/N

Nis No.	Nis No.	No. DESIRED	Rosette Notes		Hydro Sampling		CHLOR. Samples		Comments
			SALT #	Nut #	OXY #	Btl ID	Chl VOL	Filter Vial #	
1	200			305					Bottle Filled at 201 m.
2	100			306					
3	50			307			139813	234	conductivity and O <sub>2</sub> Freshened out on downcast
4	40			308			13992	233	around 15m. They looked better after
5	30			309			13917	232	passing ~ 32m and throughout
6	20			310			13939	231	upcast
7	10			311			13951	230	Small fluor "blip" around 90m which
8	0			312			13910	229	corresponds with a drastic O <sub>2</sub> increase.

Pycnocline Depth 10m Chlorophyll Max Depth 11m

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 11/13		PROJECT & LEG GOA-IERP-UTL 2013		If you download data after cast- fill this out Filename= STATION NO. 73	
CTD CAST #		LATITUDE		LONGITUDE		G M T	
04058.06364		N 136.9353		W 118.7441		Start TIME (GMT) HR MIN 01 42	
04058.06364		N 136.9353		W 118.7441		1 3	
04058.06364		N 136.9353		W 118.7441		1 3	

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

MAX. DEPTH = 201

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 No.	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments
	No. DESIRED	NO. OBTAINED	SALT #	Nut #	OXY #	Btl ID Cht VOL Filter Vial #	
1	200			313			
2	100			314			
3	50			315	1	13180	240
4	40			316	2	13150	239
5	30			317	3	13150	239
6	20			318	4	13150	237
7	10			319	5	13150	236
8	D			320	6	13150	235

Pycnocline Depth 8-20? Chlorophyll Max Depth 8

not a hard break



VESSEL Northwest Explorer 2013 CRUISE ID (e.g. 1NW13-1) PROJECT & LEG GOA-IERP-UTL 2013 STATION NO. 74

If you download data after cast, fill this out  
 Filename=

CTD CAST #	LATITUDE		LONGITUDE		G M T			Start 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												
04158	10	36.5	N	136	79	3	W	18	JUL	13	02	31							

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

MAX. DEPTH = 192

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

O<sub>2</sub> (SBE43) S/N

Transmissometer S/N

PAR S/N

O<sub>2</sub> SBE42S/N

Nis No. DESIRED	Nis DEPTH	Rosette Noles		Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut #	OXY #	Btl ID	Chl VOI	Filter Vial #	
1	192		321					
2	100		322					
3	50		323		1	139.473	246	
4	40		324		2	139.52	245	
5	30		325		3	139.59	244	
6	20		326		4	139.66	243	
7	10		327		5	139.71	242	
8	0		328		6	139.76	241	

Pycnocline Depth 7m Chlorophyll Max Depth surface

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 11/13		PROJECT & LEG GOA-HERP-UTL 2013		If you download data after cast, fill this out Filename=		STATION NO. 75	
CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		BOTTO M DEPTH (m)
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	
04258	09	22	13	27	18	JUL	13	15	01

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

MAX. DEPTH = 128

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

No. DESIRED	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments	Nis No.
		SALT #	Nut #	OXY #	BH ID		
1	127		329				1
2	100		330				2
3	50		331	1	138.87	252	3
4	40		332	2	139.52	251	4
5	30		333	3	139.79	250	5
6	20		334	4	139.79	249	6
7	10		335	5	139.39	248	7
8	0		336	6	139.16	247	8

Pycnocline Depth 11 Chlorophyll Max Depth 13



VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 11113		PROJECT & LEG GOA-IERP-UTL 2013		If you download data after cast- fill this out Filename=		STATION NO. 77	
CTD CAST #		LATITUDE		LONGITUDE		G M T		Start TIME (GMT)	
0445821051	N 13 08 21	W 18 08 21	13	20	06				

Sensor S/N (At Start of cruise or swap-o-L Local Time (ADT))

MAX DEPTH = 119

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 No.	Nis No.	Rosette Notes		Hydro Sampling		CHLOR. Samples		Comments
		SALT #	Nut.#	OXY #	Btl ID Ctl VOL	Filter Vial #		
1	119		345					
2	75		346					
3	50		347	1	130.87	264		
4	40		348	2	150.92	263		
5	30		349	3	150.59	262		
6	20		350	4	150.19	261		
7	10		351	5	150.51	260		
8	0		352	6	150.27	259		

Pycnocline Depth 16 Chlorophyll Max Depth 19





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VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 10613		PROJECT & LEG GOA-IERP-UTL 2013		if you download data after cast- fill this out Filename=		STATION NO. 84	
CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		BOTTO M DEPTH (m)
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	
04757	7739	N	1385807	W	19	JUL	13	00	22
Sensor S/N (At Start of cruise or swap-of 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									

MAX. DEPTH = 202

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

Nis No.	DEPTH	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut #	OXY #	Bit ID	Chl VOI	Filter Vial #	
1	200		369					
2	100		370					
3	50		371		1	139.87	282	
4	40		372		2	139.52	281	
5	30		373		3	139.24	280	
6	20		374		4	139.29	279	
7	10	480	375	341	5	139.39	278	
8	0		376		6	139.12	277	

Pycnocline Depth 7 Chlorophyll Max Depth 17

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 1NW13		PROJECT & LEG GOA-IERP-UTL 2013		STATION NO. 86	
CTD CAST #		LATITUDE		LONGITUDE		G M T	
04857		61949N		1391155W		Start TIME (GMT) 1813	
DEG	MIN	DEG	MIN	DAY	MO	YR	HR
57	19	13	11	20	JUL	13	18
BOTTO M DEPTH (m)		WET BULB Temp (°C)		DRY BULB Temp (°C)		WIND DIRN (deg)	
3168		15.5		15.5		181	
STA. NAME/ID		WET BULB Temp (°C)		DRY BULB Temp (°C)		WIND SPD (kts)	
SEM80		15.5		15.5		181	
WEATHER		WET BULB Temp (°C)		DRY BULB Temp (°C)		WIND SPD (kts)	
5		15.5		15.5		181	
CLOUD (amt)		WET BULB Temp (°C)		DRY BULB Temp (°C)		WIND SPD (kts)	
5		15.5		15.5		181	
SEA STATE		WET BULB Temp (°C)		DRY BULB Temp (°C)		WIND SPD (kts)	
5		15.5		15.5		181	
PRESSURE		WET BULB Temp (°C)		DRY BULB Temp (°C)		WIND SPD (kts)	
1013		15.5		15.5		181	
VISIBILITY		WET BULB Temp (°C)		DRY BULB Temp (°C)		WIND SPD (kts)	
10		15.5		15.5		181	
MAX. DEPTH =		WET BULB Temp (°C)		DRY BULB Temp (°C)		WIND SPD (kts)	
201		15.5		15.5		181	

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 No.	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments
	No. DESIRED	SALT #	Nut #	OXY #	Bit ID	Chl Vol/Filter Vial #	
1	200		377				
2	100		378				
3	50		379		1	138.87	288
4	40		380		2	139.52	287
5	30		381		3	139.79	286
6	20		382		4	139.79	285
7	10		383		5	139.39	284
8	0		384		6	139.40	283

Pycnocline Depth 14m Chlorophyll Max Depth 19m



VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 1NW13		PROJECT & LEG GOA-IERP-UJT 2013		If you download data after cast- fill this out Filename= STATION NO. 87	
CTD CAST #		LATITUDE		LONGITUDE		G M T	
0495746365N		1389765W		20 JUL 13 2035		TIME (GMT) HR MIN	
DEG MIN		DEG MIN		DAY MO YR		DRY BULB Temp (°C)	
13		89		20 JUL 13		20.35	
WET BULB Temp (°C)		WIND DIRN. (deg)		WIND SPD. (kts)		WIND CLD (amt)	
.		.		.		.	
PRESSURE		SEA STATE		VISIBILITY		WEATHER	
.		.		.		.	
BOTTO M DEPTH (m)		STA. NAME/ID					
3085		SELE80					

Sensor S/N (At Start of cruise or swap-out Local Time (ADT)) 1 3  
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

COMMENT: Difficult conditions, factors that may affect measurements or aid processing  
*In sensor went crazy on upcast from ~105m to ~100m but then corrected itself for remainder.*

NIS No.	NIS DEPTH	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut.#	OXY #	Filter Vial #	Btl ID	Chl Vol	
1	200	481	385	348				
2	100		386					
3	50		387		1	138.87	294	
4	40		388		2	139.50	293	
5	30		389		3	139.79	292	
6	20		390		4	139.79	291	
7	10		391		5	139.39	290	
8	0		392		6	139.47	289	

Pycnocline Depth 9 Chlorophyll Max Depth 20

VESSEL: Northwest Explorer 2013  
 CRUISE ID (e.g. 1NW13-1): 1NW13  
 PROJECT & LEG: GOA-IERP-UJT 2013  
 STATION NO.: 88

If you download data after cast- fill this out  
 Filename=

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)	CLD (amt)	WEATHER	BOTTO M DEPTH (m)	STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN											
050573	13	27	74	13	21	06	13	00	00										20170516K80	

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  
 O2 sensor had spikes around 105m, & 112m

MAX. DEPTH = 200

Nis No.	DEPTH	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut #	OXY #	Bit ID	Chl Vol	Filter Vial #	
1	200		393					
2	100		394					
3	50		395	1	138.87	300		
4	40		396	2	139.52	299		
5	30		397	3	139.79	298		
6	20		398	4	139.79	297		
7	10		399	5	139.39	296		
8	0		400	6	139.10	295		

Pycnocline Depth (0m/15m) Chlorophyll Max Depth 22m

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 11113		PROJECT & LEG GOA-IERP-JTL 2013		if you download data after cast- fill this out Filename=		STATION NO. 90	
CTD CAST #	LATITUDE		LONGITUDE		G M T		TIME (GMT)		BOTTO M DEPTH STA. NAME/ID
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	
0515700742	1384820	21	JUL	13	15	00			

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

MAX. DEPTH = 201

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

O<sub>2</sub> (SBE43) S/N

Transmissometer S/N

PAR S/N

O<sub>2</sub> SBE42 S/N

NIS No.	NIS No.	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments
			SALT #	Nut.#	OXY #	Btl ID Chl Vol Filter Vial #	
1	200			401			
2	100			402			
3	50			403	1	138.87	306
4	40			404	2	139.52	305
5	30			405	3	139.79	304
6	20			406	4	139.79	303
7	10			407	5	139.39	302
8	0			408	6	139.40	301

Pycnocline Depth 12 m Chlorophyll Max Depth 20 m

VESSEL Northwest Explorer 2013 CRUISE ID (e.g. 1NW13-1) PROJECT & LEG GOA-IERP-UTL 2013 STATION NO. 91

Filename= If you download data after cast- fill this out

CTD CAST # 0525670651°N 138.1621°W 21 JUL 4 3 19 18

LONGITUDE DEG MIN 138.1621°W DAY MO YR HR MIN

TIME (GMT)

G M T

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

0 298755880

MAX. DEPTH = 202

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

O<sub>2</sub> (SBE43) S/N

Transmissometer S/N

PAR S/N

O<sub>2</sub> SBE42S/N

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

Nis No.	Rosette Notes	Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut.#	OXY #	Bit ID Chl VOI Filter Vial #	
1	200		409			
2	100		410			
3	50		411	1	138.79	312
4	40		412	2	139.52	311
5	30		413	3	139.79	310
6	20		414	4	139.79	309
7	10	482	415	5	139.39	308
8	D		416	6	139.49	307

Pycnocline Depth 24 Chlorophyll Max Depth 29

VESSEL Northwest Explorer 2013		CRUISE ID (e.g. 1NW13-1) 10W13		PROJECT & LEG GOA-IERP-UTL 2013		If you download data after cast- fill this out Filename=		STATION NO. 92	
CTD CAST #		LATITUDE		LONGITUDE		G M T		TIME (GMT)	
DEG MIN		DEG MIN		DEG MIN		DAY MO YR		HR MIN	
0535639905N		13718348W		21 JUL 13		22 29			
BOTTO M DEPTH STA. NAME/ID		WEATHER		GLOUD (amt)		WIND DIRN. SPD. (kts)		WIND DIRN. SPD. (deg)	
28975EE810		x		x		x		x	
PRESS S/N		TEMP 1 & 2 S/Ns		COND 1 & 2 S/Ns		FLUOR S/N		O2 (SBE43) S/N	
PAR S/N		Transmissometer S/N		PAR S/N		O2 SBE42S/N		MAX. DEPTH = 202	

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

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

Nis No.	Nis No.	Rosette Notes		Hydro Sampling		CHLOR Samples		Comments
		SALT #	Nut.#	OXY #	Btl ID	Chl VOI	Filler Vial #	
1	200		417					
2	100		418					
3	50		419		1	139.37	318	
4	40		420		2	139.32	317	
5	30		421		3	139.29	316	
6	20		422		4	139.29	315	
7	10		423		5	139.31	314	
8	0		424		6	139.42	313	

Pycnocline Depth 4 Chlorophyll Max Depth 19