Attachment 1: 2002 Daily Operations Logs



Date: 295404 Chief Scientist/Shift Leader:	Hardin	Project #: G005001, G005002, \$004974
Start Time (local): 0740	Stop time (local)	
Sampling Area(s): Wirthster		
Weather Conditions: (lear - pfly clary) Sampling Activities (by Station): NII, NI2  Anaphylad bans	, 545 ft	unds NE, seas 1-2 ft
Sampling Activities (by Station): \( \mathcal{N} \mathcal{N}, \mathcal{N} \mathcal{N} \)	4N13- R	ply + retireve
Anyhipad traps		<b>V</b> (
NOT-NOS, NOG - Deploy	mussels	T SPMDs
organized equipment in	AM- 1640	led ussel
voganized equipment in (movings Tequipment) in PM	be played.	trops+ mornings
in PM	, (	
Comments: placed to musgels in Placed 2 spmbs in on each maxing	one trap	on each mooning
Placed 2 spmbs in	Two cage	J (Ytotal SPMDs)
on each maving	<u>ل</u>	
		•
Field Personnel: Mark Mertz, To		
JOHN HAMDINT M	<del></del>	- BATIEUE
GREG DELFUSSE - FIT BARY LAWLEY - KLI		
bray LMley- KLJ		
Health and Safety Issues:		
		101
Signature:	Date:	29 Jul 04

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Date: 254 04	Chief Scientist/Shift Leader:	Hardin	Project #: G00500), G005002, G004974
Start Time (local):	30	Stop time (local):	2118
Sampling Area(s):	EAST of Endicoff	- (BSM	1P)-tigH
	oggy-5-10kts- Seas		
Sampling Activities (by	y Station):		
Deploy	Musels-SPMDs@	5 H	
lı '	'1 '1 t'	206	
h	u u	3A	
Calle	et sed + Waterla	3A	
colle	ct sed@ 3B	}	
		· · · · · · · · · · · · · · · · · · ·	
Comments: Log	dequipment + J	espolies	
,	I rewrings -	17	
Transit to Endicoff-P.U. Grab, Gary & Mike			
	isit to 5H- De		
	sultleuk e Lob- 2		
			ng-cullect sedtwater
Field Personnel:	3 3A, collect	sed e 3B	
> John Tr	efry, John Ho	udy, M	ite walsh, Mark
l .	, bary Lawley	<del></del>	
Health and Safety Issues: Live			
	1 ,		, , , , , , , , , , , , , , , , , , , ,
Signature:	1 that	Date:	30 July 04
///			,

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Date: 3/ Tu/()4	Chief Scientist/Shift Leader:	Huelin	Project #: G005001, G005002, G004974
_			
Start Time (local):	• •	Stop time (local):	//.00
Sampling Area(s):	iberty		
Weather Conditions:	Winds Hendy	30+KH5	busts to Yotkets
Sampling Activities (by	/ Station):		
			4
	·		· · · · · · · · · · · · · · · · · · ·
Commenter Train	rsit to Eudicot	the best	Ove and 1
Comments: / yar	ort it quareor	) yy - jraer	1 / /s
sample g	Call OTT Som	fling due	to inelement
wenter.			
Field Personnel:	aiding Trefry, To	ocine was	h, Mert 2
		•	
		,	
Health and Safety Issu	nes: Seas too rou	gh and we	ands to high to
Safely Sa	uple '	<i>)</i> `	J
1			
_	1.		
Signature:	HIL	Date: 3	1 Jul 04
- Simulator	V/W	Date. >	

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Date: / Aug 0 4	Chief Scientist/Shift Leader:	Hardin	Project #(G005001)G005002, G004974
Start Time (local):	_	Stop time (local):	1200
Sampling Area(s):			
Weather Conditions: (	runds 30+k+s	seas 74	ft, 6usts >35kts
Sampling Activities (by	Station): Myessel	sampling	. transit to
beach for	elevation/evosion	n Mapping.	ff, Gusts > 35 kts transit to Rain x wind in - no sampling in
to great,	GPS NOT design	red for rai	in - no sampling in
MOUNTING		·	
		· · · · · · · · · · · · · · · · · · ·	
	1		
Comments: Sam	pling by vessel,	not possili	ok due to
weathe	V.	<u> </u>	
	0/6 // 1/ -/		( )
Field Personnel:	Delforse, Hardin, 7	rocine, Wal	sh
		· · · · · · · · · · · · · · · · · · ·	<del></del>
	ues: Worl -		
Health and Safety Issu	ues: MOVIC -	<del></del>	· · · · · · · · · · · · · · · · · · ·
Signature:	the	Date:	Aug 54
	V		

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Date: 2 kg 04	Chief Scientist/Shift Leader:	Hardin	Project #: G005001, G005002, G004974
Start Time (local): 06		Stop time (local)	: /970
Sampling Area(s): Li	benty, BSMP		
Weather Conditions:	Hy daidy wil	w/ U-56-45	Am secus 2/f4
Sampling Activities (by	Station): 64-5	ediment w	ter amplipeds
Lot Jed-unfer	-; Log-Sed-Amphia	ets; LOB Ted	where sundingeds Amplipeds, 67-Sed; where
Los-sed-Grey	is); 5H-Sed-Brual	rest; EU-u	later '
Comments:			
	· · · · · · · · · · · · · · · · · · ·		
Field Personnel: 1/4	fry, Trocine, Men	M-7 Hud	la estatel
ricia i cisoimer.	0)11/ MONA, Just	1 6, 1, 1000	y Wass
		<del></del>	
Health and Safety Issu	ies: Une		1400
	. 1		
Signature:	141	Date: $\mathcal J$	Augo 4

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Page <u>5</u> of <u>21</u>

Date: 3Aug 04	Chief Scientist/Shift Leader:	Hardin	Project #: G005001 G005002 G004974
Start Time (local): 06	<i>3</i> 0	Stop time (local):	1745
Sampling Area(s):	up, liberty		
Weather Conditions: 5	: 10 k+5 in am - secu	r CIFA, E	direction
Sampling Activities (by	Station): 5(d) - 1/2	replay amphil	odj, sedmont.
560 46	Sectionary, 44	Sediment o	amphipals; 5(5)
Sediment of	-water 4c-se	dinent,	omphipals; 5(5) 17 Sed ment scrafer
Elotants	editions	·········	
<i>y</i> <del>y</del>			
Comments: And	har laste 50	(5), fouled	by ice, Incharline
cut-	to five vegel.		
	· · · · · · · · · · · · · · · · · · ·		
	1. 0.10		
Field Personnel:	who pletosse, a	alley, N	ents, tretry, Walsh
			. , , , , ,
Health and Safety Issue	es: Anelyw fooded	ph/cc not	ruised cuffing loose.
1	./ 1		<u> </u>
Signature:	tw	Date:	3 Aug 04

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Date: TAug OY	Chief Scientist/Shift Leader:	Hardis	Project #: G005001, G005002, G004974
Start Time (local):	NA	Stop time (local):	4.6.4
Sampling Area(s):	<u>  ~1                                   </u>	Stop time (local).	7.7
	wind 25-356+5	Con c 2-6	· 4
	•	39a 7 200	
Sampling Activities (by	$\sqrt{Station}$ :	· · · · ·	
$\frac{\omega_{\text{ind}}}{\omega_{\text{ind}}}$	1 SFFS, A	igh seas.	sampling not to check on 1273 and
ar temps	ch. Ivansited to	s (volcat)	to check on 1275 and
sea conc	ditions		
-			
Comments:		•	
Field Personnel:	tudin, which, 7	votry Can	lex Next2
	1400111	<u> </u>	
Health and Safety Issu	insi Hida di La	<b>-</b>	1
64 Saw	ues: High wholty Wlina	eas cause	Can Cel a 7104
0+ 3m	4000	· <u>.</u>	
1	11		
Signature:	TYW _	Date: 4	Ayo4

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Date: 5 Jug 54	Chief Scientist/Shift Leader:	trefry	Project #: G005001, G005002, G004974
Start Time (local):	0630	Stop time (local):	1725
Sampling Area(s):	35MP + Water	- Transects	sediment, S(1) water, afor; S2 water
Weather Conditions: 2	5 Kts-ESE,	4-5' sev	\$
Sampling Activities (by	Station): E(- cust	er, 5(17)	sediment, S(1) water,
E2 water;	E1, caster: 55 (	weer. 54 u	afor; S2 water
	·	·	
Comments:			
		<u> </u>	
Field Personnel:	ent 2. trefor 7	isome, gelfu	se
,0			· · · · · · · · · · · · · · · · · · ·
Health and Safety Issu	es: More		
		<del>-</del> - · · · · · · · · · · · · · · · · · ·	
Signature:	M	Date: 2	0 Aug 04
V			

	<del></del>
Date: Gacy O' Chief Scientist/Shift Leader: Trefay	Project #: G005001), G005002, G004974
Start Time (local): \$70 Stop time	ne (local): (8CO
Sampling Area(s): Northstar K Wafer to Weather Conditions: O-5ktr SE, C(ft 5	inscot
Weather Conditions: O-5ktr SE, CIFT J	es es
Sampling Activities (by Station): N(B sed, amphi)  N/2 sed; N/1 sed; NW sed; NO.  N/67 sed; N/17 sed; K/ warter;	ads; NI9 SED: NZO sed;
NPZ sed; NI sad; NW sed; NO.	sed; Nogsod; Nossod;
NOT sed; NIT sed; Kluster:	K2 water; K3 water
	,
Comments:	
	V-//
Field Personnel: Mertz, Trefry, Walth,	reform
Hoolth and Safatu laguage 1/2 a	
Health and Safety Issues:	
Signature: Jun Hu (for Mikeully) D	20. 20 Aug 4
Orginature. () by C ( ) by V ( ) cold ( )	ate: 20 Augs 4

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Date: 7 Aug 07	Chief Scientist/Shift Leader:	Trefly	Project #. G005001, G005002, G004974
Start Time (local):	WW	Stop time (local):	1800 receiver list amplipad 6 sed, NO3 sed,
Sampling Area(s): N	brthston, oko i	rafer	
Weather Conditions:	0-5-FTS-E; C	du sous	
Sampling Activities (b	y Station): NOG, Sedm	ent. NB-	rever list ampliful
+rap (No am	phipads); PB-1	crafer, NO	6 sed, NO3 sed,
NOT sed;	NOS sediku	uafer	
		· · · · · · · · · · · · · · · · · · ·	
		<del></del>	
Comments:			
		<u></u>	
		<del></del>	
		<del></del>	
Field Personnel:	altz shortz Tre	- France	
Ticial cigomici.	altz, Mertz, Tre		
			· · · · · · · · · · · · · · · · · · ·
Health and Safety Iss	ues: NW		
Signature:	hd GorMikeaulsi	1) Date: 2	O Aug V4

Date: 7 Aug 04 Chief Scientist/Shift Leader: +	Project #: G005002, G005002, G004974
	Stop time (local): 1730
Sampling Area(s): Point Braver Fish	o I tump Island fish
Sampling Area(s): Point Braver Fish Weather Conditions: U-WHS wind, Co	dun seas
Sampling Activities (by Station): Collect fis Point Braner, Sumple fi Strung Island.	h-remove net from
Point Braver, Sumple 5	she STP, SET NET@
Strong Island.	
Comments:	
	·
Field Personnei: Lawla / Lawle V @	O.R. Hodge Color Molfon @
Field Personnel: Hardy/Lauleye Stump Island	110., Harry, causey, versice
Stary 2 stary	
Health and Safety Issues:	
1	
Signature: Au DW	Date: 7 Aug 04
1 /	<i>)</i>

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Date: 8 Aug 04	Chief Scientist/Shift Leader: 4	ulsh	Project #: G005001, G005002, G004974
Start Time (local) 0700	)	Stop time (local):	1700
Sampling Area(s):	Sound Island (	west and	cast side)
Weather Conditions:	Calm ushed 55	eas	
Sampling Activities (by	station): Retrieve fi	sh from i	Fyte net, re-set
	for 2 retrieval a	1 BAry.@	1700
	restation): Retrievel Gi Fer 2 retrievel a RE-set @ 1700.	for 3rd re	trievalon 9 Aug.
Comments:		<del></del>	
Field Bergannel	which lawley, Melfo		
Field Personnel: L	casa, carrer, verte	)) <u>~</u>	
Health and Safety Issu	ues: Vone		
	1		
Signature: At 1	Chor Mike Wa	Ish Date: 2	O Aug V4
	, , , , , , , , , , , , , , , , , , , ,		

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Date: 8 Augo 4	Chief Scientist/Shift Leader:	Hardin	Project #: G005001, G005002, G004974
Start Time (local):	J700	Stop time (local):	1730
Sampling Area(s):	thstor - BSMP	· 	
Weather Conditions:	Aly Claudy- certal	1 0-5kt,	sees colm
Sampling Activities (by	Station): Lurths four-	- sef 2 f	Fishtraps adjacent
to purthifu.	Warner,	set Ampripe	Tishtrays adjacent d traps @ NO3 & Sofig (a) Sediment, 52 auter
107- Sed 40	Jafer		1 -
N2ta-celege	- 500 (u) water seo	linent, 50	Sa) Sediment, 52 auter
50 sedim	ent	<u> </u>	
		<u> </u>	
Comments:			
Field Personnel: $\mathcal{D}$	rentki, Hardin -	tefn, Their	e Alkine, Mertz
		/'	, , , , , , , , , , , , , , , , , , , ,
Health and Safety Issu	ies: Ume		
,	, , , , , , , , , , , , , , , , , , ,		· · · · · · · · · · · · · · · · · · ·
Signature:	wh	Date:	Aven 04
· · · / · / · · · · · · · · · · · · · ·	***		7 JV V J

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Date: 9 kuy 04 Chief Scientist/Shift Leader:	Hard	Project & COOFOO COOFOO COOFOO
		Project #: G005001, G005002, G004974
Start Time (local): 5	Stop time (local):	/900
Sampling Area(s): Westestan, BSMP		
Weather Conditions: OHS FHS 8 - C	idenseas in	am
Sampling Activities (by Station): 444- Sedin 5B amphipuds; 5A sed; NO NIS sed: 5F sed+ claims	nersi, amp	hiads; 58 sed; 58 sed
5B amphipuls; 5A sed; NO	6-LV wase	", NI3 Sed: ND ( Sed:
NIS sed: 5F sed+ clams	N14 980	, , , , , , , , , , , , , , , , , , , ,
<u> </u>	1	
· ·		
	···	
Comments:	·	
	·	
Field Personnel: Hawin, Mertz, P	toutki The	Lux
7,7,7	1000 647 610	
	<del></del>	
	-	
Health and Safety Issues:		
	- <u></u>	
Signature: Automotive Signature:	Date:	9 Aug 04
, ,		/ `

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Date: 9 Aug ou	Chief Scientist/Shift Leader:	Milu Walsh	Project #: G00	05001 G0050	02)G004974
Start Time (local): 17	32 8 Aug 04	Stop time (local):	1037	9 Aug	04
Sampling Area(s): S	tump Island			·	
Weather Conditions:	word calm - 5	cas Calm			
Sampling Activities (by	Station): Reffice	fish from	Stump	Island	
Eyke	net, remove fy	kenet.	····		
Comments: 17	hour soak time				
			-		
Field Personnel: (	valsh, Lawley,	Delfosse			
				.,	
Health and Safety Issu	es:				
			-		
					,
Signature: Kind	rail Walsh	Date: 9	Aug o	ч	

Date: 10 Aug 04 Chief Scientist/Shift Leader:	Walsh	Project #: G005001, G005002, G004974		
Start Time (local): 1441	Stop time (local):	1502		
Sampling Area(s): Northstar NO5				
Weather Conditions: Wind 5-10 Kts for	m the West	1 seas calm		
Sampling Activities (by Station): NOS SPI	ND/musse	15 / water station		
Sampling Activities (by Station): NOS SPI  Collected 56 20 Life	c Cubitan	uns for filtration.		
	·			
Comments: Ship samples in An	n: Mux	Vessel to east cide		
comments: Ship samples in An	90 gal + c	when		
	· · · · · · · · · · · · · · · · · · ·			
	·			
Field Personnel: WAISH, Murtz, All	Cita/			
1	<u> </u>			
Health and Safety Issues: NONE				
	-	***		
		- ve		
1				
Signature: Author	Data: 7	DAY04		
	Date. C	- 1790 1		

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Date: 11 Aug 4	Chief Scientist/Shift Leader:	Hardin	Project/#: G00500 ( \$005002 (\$004974)
Start Time (local):	<b>53</b> 0	Stop time (local):	(830
Sampling Area(s):	BSMP, Liberty		LOLA-SED; BALVERYER ISCHUD.
Weather Conditions:	0-5 Hs-W, a	lun Sear	
Sampling Activities (by	y Station): 5H L	Vwater;	LOLA-SEB; 3A Whenfu
Deploy	Fyke net@ 7	15UARIAK	Ischup.
		<del></del>	
Comments:			
		<del> </del>	
Field Personnel:	tardin, Cauley,	West Z W	alsh
			,
Health and Safety Issu	ies: None		
N11			
Signature:	DU	Date:	(1Augor

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Date: 12Aug 04	Chief Scientist/Shift Leader:	Hardin	Project #: G005001, G005002, ©004974
Start Time (local):	_	Stop time (local):	
Sampling Area(s): T	javariak BSMP		
Weather Conditions:	wind 5-WE+S Am	East. see	fish from 1x tenet
Sampling Activities (by	station): Tigranak	An-culket-	fish from 1x tenet
releuse	2 stickle back, 2	small cho	ir.
- 3A-C	coms,	· · · · · · · · · · · · · · · · · · ·	
- Re-sum	ple net @ 1700		
		<del>-</del>	·
Comments:			
		····	
Field Personnel:	budy, Cauley W	lentz 11/1	2/56
,	40000	10, 10, 00 v	
			and the
Health and Safety Issu	les:		
Signature:		Date: 12	LAug 04

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Start Time (local): OBOD  Stop time (local): 2350  Sampling Area(s): BSNP, Liberty  Weather Conditions: Fain (Light), wind 5+10 kts, South  Sampling Activities (by Station): 3A-Retrieve Mooring (nurse/r+SPND)  Set Amphiped traps & L17 + L18  Retrieve Mooring & L06  Collect Fish trauls & L(4 (5 trauls)  Collect LV water & L06  Retrieve Amphipeds & L17  Leather pikks up-Transit to Endicoft. + Anchor	Date: 13 Aug 04 Chief Scientist/Shift Leader: Handin Project#: G005001/, G005002/G004974
Sampling Area(s): BSMP, Liberty Weather Conditions: Fain (Light), wind 5+10 kts, South Sampling Activities (by Station): 3A-Retrieve Mooring Churse/1+5/PMD) Set Amphipal traps @ L17 + L18 Retrieve Marriag @ L06 Coblect Fishtrauds @ L(4 (5 trauds) Coblect LV water @ L06 Retrieve Amphipads @ L17 Leather picks up Transit to Endicott. + Andror Filter LV water > 2350 Comments: - seas pick up to 2-3 ft - 20+ kts wind (6)  Field Personnel: Havelin, Cauley, Nertz, Har Walsh  Health and Safety Issues: Nove	Start Time (local): Stop time (local): 2350
Weather Conditions: Fain (Light), wind 5-10 kts, South  Sampling Activities (by Station): 3A - Retrieve Mooring (Musself+SPMO)  Set Amphiped traps & L12 + L18  Retrieve Mooring & L06  Collect Fish traids & L(4 (5 traids)  Collect LV water & L06  Retrieve Amphipeds & L17  Leather picks up - Transit to Enclicate + Anchor  Filter LV hater > 2350  Comments: - Seas pick up to 2-3ft - 20+ kts wind (6)  Field Personnel: Havelin, lander, Mertz, Har willsh  Health and Safety Issues: Name	Sampling Area(s): BSMP, Liberty
Set Anghred traps @ L17 + L18  Retrieve Maring @ L06  Collect Fish trauls @ L(4 (5 trauls)  Collect LV unter @ L06  Retrieve Amphipals @ L17  Leather picks up - Transit to Encliant. + Anchor  Filter LV unter > 2350  Comments: - seas pick up to 2-3ft - 20+ kts whd (6)  Field Personnel: flavelin, lander, Nertz, flar which  Health and Safety Issues: Name	Weather Conditions: Pain (Light), wind 5+10 Kts, South
Set Anghred traps @ L17 + L18  Retrieve Maring @ L06  Collect Fish trauls @ L(4 (5 trauls)  Collect LV unter @ L06  Retrieve Amphipals @ L17  Leather picks up - Transit to Encliant. + Anchor  Filter LV unter > 2350  Comments: - seas pick up to 2-3ft - 20+ kts whd (6)  Field Personnel: flavelin, lander, Nertz, flar which  Health and Safety Issues: Name	Sampling Activities (by Station): 3A - Refrieve Mooring (musse/+18/MO)
Collect Fishtrauls @ L(4 (5 trauls)  Collect LV water @ LOG  Retrieve Amphipals @ L17  Leather picks up Transit to Enclicatt. & Andron  Filter LV hater > 2350  Comments: - seas pick up to 2-3ff-20+ Etswind (6)  Field Personnel: Havelin, Country, Mertz, Harrullsh  Health and Safety Issues: Name	Set Amphiped traps @ L17 + L18
Collect LV unter @ LOG  Retrieve Amphipals @ L17  Weather picks up - Transit to Endicott. * Anchor  Filter LV unter > 2350  Comments: - seas pick up to 2-3ft - 20t kts who (E)  Field Personnel: flavelin, lawley, Mertz, flar willsh  Health and Safety Issues: Name	
Retrieve Amphipals @ L17  Weather picks up - Transit to Endicott. * Anchor Filter LV water > 2350  Comments: - seas pick up to 2-3ft - 201 ktswhd(E)  Field Personnel: family, lawley, Nertz, far walsh  Health and Safety Issues: Name	
Health and Safety Issues: Name  Health and Safety Issues: Name  Weather pikks up to Enclicoft. + Anchor Filter LV water > 2350  Comments: - seas pick up to 2-3ff - 20+ kts wind (€)  Field Personnel: favelin, lawley, Nertz, flar walsh  Health and Safety Issues: Name	
Health and Safety Issues: Name  Health and Safety Issues: Name  Weather pikks up to Enclicoft. + Anchor Filter LV water > 2350  Comments: - seas pick up to 2-3ff - 20+ kts wind (€)  Field Personnel: favelin, lawley, Nertz, flar walsh  Health and Safety Issues: Name	Retrieve Amphipals @ L17
Comments: - seas pick up to 2-3ff - 204 kts wind (E)  Field Personnel: Hardin, Carley, Mertz, Har wilsh  Health and Safety Issues: None	heather picks up- Transit to Enclicatt. + Anchor
Comments: - seas pick up to 2-3ff - 204 kts wind (E)  Field Personnel: Hardin, Carley, Mertz, Har wilsh  Health and Safety Issues: None	Filter LV hater >> 2350
Field Personnel: Havelin, Cauley, Mertz, Har Wulsh  Health and Safety Issues: Name	comments: - seas pick up to 2-3ft - 20+ Ets whole
Health and Safety Issues: Nine	
	Field Personnel: Hardin, Cawley, Mertz, Harlielsh
Signature: Aug 04	Health and Safety Issues: Vine
Signature: Aug 64	
Signature: Aug 04	
Signature: Aug 04	
	Signature: Date: 14 Aug 04

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Date: 14/449 04	Chief Scientist/Shift Leader:	Hardin	Project #: G005001, G005002, G004974
	830	Stop time (local):	1450 (vested)
Sampling Area(s):	ibenty /BSMP		
Weather Conditions:	5-108fs - 5	<u>-</u>	
Sampling Activities (by	/ Station):		
Refri	eve 54 Maining	(mussels +	SPMD5) - too fow organisms
L17	-recover ampl	i pud Trap-	- too few organisms
	For sample	•	
	·		
Comments:	·		
			·
Field Personnel:	fardin, Lauley,	Mertz, C	ealsh
		•	
Health and Safety Issu	ies: Nove		
Signature:	Her	Date: /	4 Aug 04
1/	I		)

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Date: (5 Aug 1 Chief Scientist/Shift Leader: Hardin Project #: G005001 G005002 G0049	4/
Start Time (local): 40	
Sampling Area(s): Worth Stur	
Weather Conditions: Clear - Whels O-J Fts	
Sampling Activities (by Station): Retrieve marings from NUK,	
NUS, + NOG.	
Trawl @ N25	
collect LV water@ NO4	
1 / 6 / 1 / 4 / 4 / 4 / 4 / 5 / 5	
comments: Very minimal fish caught by traul @ 125	•
Field Personnel: Hardin, Luwley, Mertz, walsh	
(100) 111 - 100 111 1000 1	
Health and Safety Issues: Mone	
	·
	<u>.</u>
Signature: Date: 15 Aug 04	

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Attachment 2: 2002 Station Logs



· · · · · · · · · · · · · · · · · · ·	<del></del>		- A - W/-	y 141	<i></i>					
Station ID: N13	Date: 293	404	Time (	local): 17		Project	#: G0	05001 (G005	002, G00	4974
Recorder: Have	<i>t</i> in		Sampl	ing Locatio	n (circle o	ne): BSM	1P /1	Northstar / Li	// berty / Ot	her
Latitudo (MCC94)	70° 26 984			Longitude	/MCC0A	148	° 4	3.6192		
	and Measurements			Longitude	(446304				f+	
Wind Speed (kts):		Direction:	NE			Seas	/lce:	seas 1-2 off hunt	hytar	23-5 M
Water Depth (ft):	12	Conduc	tivity, Te	emperature	Depth (C		_			
Doppler Current:		Turbidit	y: <u> </u>		Instru	ment Tov	v: _			
Comments:										
Sediment Samples										
Device: Van Veen	Grab Other-	·-··		No.	of Replica	ates			- ····	
Organics	Metals	Grain S	ize		TOC		13C	Methyl I	Hg	Other
Sediment Texture (c	circle all that apply):	>50% silt/cl	ay	Fine	Coarse	Sand Gr	avel	Shell H	ash	Mixed
Indications of Anoxi	a: Yes No			H <sub>2</sub> S Odor	: Yes	No				
Sediment Comment	s:									
Water/Suspended	Sediment Samples:	Sur	face		Mid-Wat	er		Bottom	0	ther
Large Volume Wat	er Samples: F	Replicate 1	F	Replicate 2						
Volume filtered/prod	cessed (liters)		XAD (	Cartridge		Р	leated	Filter		TSS
LV Water Comment	s:									
Biota										
Amphipods	Traps Deployed:	1	Traps	Retrieved:	1		1	lnonyx: 🌫	150 cc	
Clams	Number of Grabs:		Astarte:				Cyrtodaria:			
Mussels/SPMD	Moorings Deployed:		Moori	ngs Retriev	ed:	Mussels	:	s	PMD:	
Biota Comments:	Trops Soa	Ked fi	ir 3	2:24						·
Quality Control Sa	mples									
Field Blank	Equipn	nent Blank			Trip Blan	k		0	ther	
Overall Comments	s:						<del></del>			
						<del></del>				
									······································	
Field Personnel:	Hardin W	ilsh 1	110 v	17			De	Hasse		
	7-00-1-1	<del> </del>						- N/J >		
Signature: M	a 6/20 -				Data	. 2a	<b>.</b> 0	104		
orginature.	· vy·				Date	· 21		<u> </u>		

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					<u> </u>					
Station ID: N12	Date: 29	7 Id 64	Pep( Time (		_	Project #: (	6005001, G	005002, GC	)04974	
Recorder: Ha	ideh	·······	Sampl	ing Location (c	on (circle one): BSMP (Northstar) / Liberty / Other					
Latitude (WGS84)	70° 27.2	950		Longitude (V	/GS84\	148°	47.19/1	<u> </u>		
Field Observations	<del>,</del>		· · · · · · · · · · · · · · · · · · ·	Longitudo (1	100011		25 1-	2.f4		
Wind Speed (kts):			NE			Seas/Ice	OFFN.	star =	3-5-4,10	
Water Depth (ft):	16.4	Conduc	tivity, Te	emperature, De	epth (CTI	$\overline{}$				
Doppler Current:		Turbidit	y:	-	Instrum	ent Tow:				
Comments:										
Sediment Samples	<del></del>									
Device: Van Veen				No. of I	Replicate	s		· · ·		
Organics	Metals	Grain S	ize	T	oc	13C	Meti	hyl Hg	Other	
Sediment Texture (	circle all that apply)	: >50% sitt/cl	ay	Fine (	Coarse S	and Grave	She	ll Hash	Mixed	
Indications of Anoxi	a: Yes No			H₂S Odor:	Yes	No				
Sediment Comment	ls:									
Water/Suspended	Sediment Sample	s: Sur	face	M	id-Water		Bottom		Other	
Large Volume Wat	er Samples:	Replicate 1	R	eplicate 2						
Volume filtered/prod	essed (liters)		XAD	Cartridge		Pleate	ed Filter		TSS	
LV Water Comment	ts:									
Biota							.,			
Amphipods	Traps Deployed:	1	Traps	Retrieved:	1		Anonyx:	£ 150	ml	
Clams	Number of Grabs		Astart	e:			Cyrtodaria:			
Mussels/SPMD	Moorings Deploye	ed:	Моогі	ngs Retrieved:	N	lussels:		SPMD:		
Biota Comments:										
Quality Control Sa	mples									
Field Blank	Equ	ipment Blank		Tri	p Blank			Other		
Overall Comments	s:									
Field Personnel:									ı	
	alsh, Mer	fz, Law	ley	, Deth	sse			· · · · · · ·		
Signature:	Hal		-1-	7		29 Ju	104			
	V/VW				Date.	- 100			· · · · · · · · · · · · · · · · · · ·	

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	<del></del>				···					
Station ID/V-1	Date: 293	Jul04	Time (	local): <i>[5]</i> 8	Project #:	G005001, G0050	02) G004974			
Recorder: Hav	din		Sampl	Sampling Location (circle one): BSMP / Northstar / Liberty / Other						
Latitude (WGS84)	70° 28. 41	<i>4</i> 4		Longitude (WGS84	148	42.942	1			
	and Measurements	<del></del>	<del>- · · · · · · · · · · · · · · · · · · ·</del>	Longitude (VVG304	1 110	17112				
		d Direction:	NE		Seastin	1-) St /20	Suiles off N.S			
Water Depth (ft):	26		·•	emperature, Depth (C		5. 1 211 / 24.	3 24(6) (1) 70-			
Doppler Current:		Turbidit			ment Tow:					
Comments:										
Sediment Samples	- <del></del>					λ.				
Device: Van Veen	<del></del>			No. of Replica	ates					
Organics	Metals	Grain S	ize	TOC	13	C Methyl H	la Other			
						o mount	ig Outer			
Sediment Texture (d	circle all that apply):	>50% silt/cl	ay	Fine Coarse	Sand Grave	el Shell Ha	sh Mixed			
Indications of Anoxi	a: Yes No			H₂S Odor: Yes	No					
Sediment Comment	s:	-		· · · · · · · · · · · · · · · · · · ·						
Water/Suspended	Sediment Samples:	Sur	face	Mid-Wat	er	Bottom	Other			
Large Volume Wat	er Samples: F	Replicate 1	R	eplicate 2	· · · · · · · · · · · · · · · · · · ·					
Volume filtered/prod				artridge	Plea	ted Filter	TSS			
LV Water Comment	S:				<u> </u>					
Biota	<del></del>	· · · · · · · · · · · · · · · · · · ·								
Amphipods	Traps Deployed:	/	Traps	Retrieved: /	,	Anonyx: 21	Conl			
Clams	Number of Grabs:	<del>-</del>	Astarte			Cyrtodaria:	0.000			
Mussels/SPMD	Moorings Deployed:		Moorir	ngs Retrieved:	Mussels:		PMD:			
Biota Comments:	04-NN-0	1- PHC/N	187-	T-AN						
Quality Control Sa	mples									
Field Blank	Equipm	ent Blank		Trip Blan	k	Oth	ner			
Overall Comments	) <b>:</b>									
, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,										
Field Personnel:	Harris, wa	ld. M	0.42	lader 1	le les so					
riola i orgonnici.	U - W 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1	<u> </u>	(N ) C	, wincy, 1)	<u> </u>					
		<u></u>								
1,	N				0 20	1 416				
Signature:	LW.	<del></del>		Date	: 29Ju	107				

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Station ID: PO6	Date: 29 Jul 04			Time (			Project #: G005001 G005002 G004974				
Recorder: Han	din			Sampl	ing Location (c	ircle on	e): BSMP /	Northstar )	Liberty / O	ther	
	···	19,574			Longitude (W	/GS84)	148° 4	3. 2126	)		
Field Observations				<del></del>		·	r		,		
Wind Speed (kts):	10-15	Wii	nd Direction:	ME			Seas/Ice	1-241/	1cc 3-5	OCFN.SH.	
Water Depth (ft):	37		Conduc	tivity, Te	emperature, De	epth (C1	TD):				
Doppler Current:			Turbidit	у:		Instrun	nent Tow:				
Comments:	<del>.</del>										
Sediment Samples									····		
Device: Van Veen	Grab	Other-			No. of F	Replicat	es				
Organics	i	Metals	Grain S	ize	TO	OC	130	Meth	ıyl Hg	Other	
									<i>.</i>		
Sediment Texture (c	ircle all	that apply):	>50% silt/cl	ay .	Fine (	Coarse	Sand Grave	Shel	l Hash	Mixed	
Indications of Anoxia					H₂S Odor:	Yes	No				
Sediment Comment	s:										
Water/Suspended	Sedime	nt Samples:	Sur	face	Mi	id-Wate	r	Bottom	(	Other	
Large Volume Water			Replicate 1	R	eplicate 2						
Volume filtered/proc	essed (	liters)		1	Cartridge		Pleate	ed Filter		TSS	
LV Water Comment	s:										
Biota											
Amphipods	Traps	Deployed:		Traps	Retrieved:			Anonyx:			
Clams	Numbe	er of Grabs:		Astarte:			Cyrtodaria:				
Mussels/SPMD	Moorin	ngs Deployed	1: /	Moorii	ngs Retrieved:	(	Mussels:()	)	SPMD: (&	)	
Biota Comments:	Refi	ieud or	15 AU	10	0840;	30,	Mussel	r alive	, øde	ad	
Quality Control Sa	mples	(Hard	in Lawley	1, N	Cort 2	Wal	14)				
Field Blank		Equip	ment Blank	•	Tri	p Blank	•		Other		
Overall Comments	: <b>F</b>	ingen =	25 KHZ	2							
		J									
Field Personnel: Hundin, Weste, Cawley, Bettosse											
	,					1					
Signature:	rth					Date:	29 Ju	104			
( /	J							-			

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Station ID: 103	5 Date: 29 Pul 04			Time (local):			Project #: G005001, G005002 G004974			
Recorder: Have	tin			Sampl	ing Location (d	circle on	e): BSMP /	Northstar / Liberty / C	Other	
Latitude (WGS84)	70°	29.632	.4		Longitude (V	VGS84)	1480 4	44. 7688		
Field Observations	and Me	asurements	· · · · · · · · · · · · · · · · · · ·							
Wind Speed (kts):	1045	Wind	Direction:	NE			Seas/ice	1-2/3-50ff No.	5-12	
Water Depth (ft): Conductivity, Temperature, Depth (CTD):										
Doppler Current: Turbidity: Instrument Tow:										
Comments:										
Sediment Samples										
Device: Van Veen	Grab (	Other-			No. of	Replicat	tes			
Organics	M	letals	Grain Si	<b>7</b> e	T	OC	13C	Methyl Hg	Other	
									-	
Sediment Texture (	circle all ti	hat apply):	>50% silt/cl	 av	Fine	Coarse	Sand Grave	I Shell Hash	Mixed	
Indications of Anoxi	******	11.11.	0070000	<del>-</del> )	H <sub>2</sub> S Odor:	Yes	No ·	- Onon Fidon	WIIAGG	
Sediment Comment			•		1.120 04011					
Water/Suspended		nt Samples:	Surf	ace		id-Wate	er	Bottom	Other	
Large Volume Wat			eplicate 1		eplicate 2		<u> </u>			
Volume filtered/prod					artridge		Pleate	ed Filter	TSS	
LV Water Comment	s:				<u> </u>		'		<b>'</b>	
Biota			· ·			••				
Amphipods	Trans D	eployed:		Trans	Retrieved:			Anonyx:		
Clams		r of Grabs:		Astart				Cyrtodaria:		
Mussels/SPMD		as Deployed:	1		ngs Retrieved:	1	Mussels:(1)		)	
Biota Comments:		red 0			5 Aug			s alive I dea	<u> </u>	
Quality Control Sa	,		n Lawle			ealsh		y arrow, were		
Field Blank		I	ent Blank	7 / / / /	<i>7</i> 1	ip Blank	<del>'/</del>	Other		
Overall Comments	. 0	inger = ?		· · · ·	1 111	ip biai ik		Other	· ·	
	<u>, , , , , , , , , , , , , , , , , , , </u>		<u> </u>							
		7 - 14 . A							<del></del>	
Field Personnel: Hardyh, Walsh, Mertz. Gawley, lettosse										
			•			1	•			
1.	$\neg t$		·			T		- /		
Signature: M	1 DM					Date:	29 3	4/04		

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#### MMS Continuation of Arctic Nearshore Impact Monitoring in the Development Area (cANIMIDA)

( retyrue on 15 Augoy) Summer 2004 Station Log Station ID: NOY Time (local): 1643 Date: 29 Jul 04 Project #: G005001(G005002) G004974 Recorder: Sampling Location (circle one): BSMP / Northstar / Liberty / Other 700 29,6735 Latitude (WGS84) Longitude (WGS84) Field Observations and Measurements Wind Speed (kts): Lo~15 Wind Direction: Seas/Ice: F-3ff Water Depth (ft): Conductivity, Temperature, Depth (CTD): Doppler Current: **Turbidity:** Instrument Tow: Comments: Sediment Samples Device: Van Veen Grab Other-No. of Replicates **Organics** Metals **Grain Size** TOC 13C Methyl Ha Other Sediment Texture (circle all that apply): >50% silt/clay Fine **Coarse Sand Gravel** Shell Hash Mixed Indications of Anoxia: Yes No H<sub>2</sub>S Odor: Yes No **Sediment Comments:** Water/Suspended Sediment Samples: Surface Mid-Water Bottom Other Large Volume Water Samples: Replicate 1 Replicate 2 Volume filtered/processed (liters) XAD Cartridge Pleated Filter TSS LV Water Comments: Biota **Amphipods** Traps Deployed: Traps Retrieved: Anonyx: Clams Number of Grabs: Astarte: Cyrtodaria: SPMD: (2) Mussels: (1) Mussels/SPMD Moorings Deployed: Moorings Retrieved: / Amer= 37kHZ RETRIEVED @ 1013 ON 15 Aug 04 **Biota Comments:** 41 mussels alive. & dead Quality Control Samples [ Field Blank **Equipment Blank** Trip Blank Other **Overall Comments:** burdin, Lawley, Mertz, wilsh, Delfosse (29 Jul)
burdin, Lawley, Mertz, wilsh 15 Aug 84

Date: 29 Jul 04

15 Aug 84 Field Personnel: Signature:

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Station ID: 5H	Date: 34J	404	Time (loca	): 1300	Project #:	G005001, G0	05002,)G00	)4974	
Recorder: Ha	relin		Sampling L	ocation (circle o	ne): BSMP)	/ Northstar /	Liberty/O	ther the	
Latitude (WGS84)	70° 22.23	18		ngitude (WGS84		47.78	70 70		
Field Observations and Measurements									
Wind Speed (kts):	5-10 Wind	d Direction:	NE		Seas/Ice	:0-1/1	cE-1-7.	milespy	
Water Depth (ft): 22 Conductivity, Temperature, Depth (CTD):									
Doppler Current: Turbidity: Instrument Tow:									
Comments:									
Sediment Samples									
Device: Van Veen	Grab Other-			No. of Replica	ates				
Organics	Metals	Grain Si	ze	TOC	13(	C Meth	vl Ha	Other	
							,g		
Sediment Texture (d	circle all that apply):	>50% silt/cla	ay Fi	ne Coarse	Sand Grave	el Sheil	Hash	Mixed	
Indications of Anoxi	a: Yes No		H <sub>2</sub> :	Odor: Yes	No	·- · · · · · · · · · · · · · · · · · ·			
Sediment Comment	s:								
Water/Suspended	Sediment Samples:	Surf	ace	Mid-Wat	ter	Bottom	0	Other	
Large Volume Wat	er Samples: F	Replicate 1	Replic	ate 2					
Volume filtered/prod	essed (liters)		XAD Cartr	dge	Pleat	ed Filter		TSS	
LV Water Comment	s:	·							
Biota									
Amphipods	Traps Deployed:		Traps Retr	ieved:	Anonyx:				
Clams	Number of Grabs:		Astarte:		_	Cyrtodaria:			
Mussels/SPMD	Moorings Deployed:		Moorings I	Retrieved: /	Mussels: (1	) ]	SPMD:(2)	)	
Biota Comments:	34 kmg pi	mar -	38 m	assels Aliv	4 (2 jar	5) B Den	d		
Quality Control Sa	mples					,			
Field Blank	Equipn	nent Blank		Trip Blan	k		Other		
Overall Comments	:: Retrieved N	roving-	14 Aug			location			
	OL-PHC/MET					**	, .		
04-5H - C	1- PHC-SPMP	9 04-3	5H. 0.	2- PHE- SP	mo				
Field Personnel: Trefry, Lawley, Houdin, Walsh, Mertz									
Signature:	1 HA			Deta	. RT	uly 04	۷		
Orginature / / / V	- Man			Date		viy or			

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Station ID: LC	96	Date: 305	N04	Time (I	ocal): IGI	٥	Project #: G005001, G005002, G004974			
Recorder: #	ardiv	`		Sampli	ng Location	circle on	e): BSMP /	Northstar (	Liberty) Ot	her
Latitude (WGS84		016.92	53		Longitude (	WGS84)	147°	34.05	82	
Field Observation			:	NE	<del></del>		7, "	- / /	1-2	
Wind Speed (kts)	: 0× 3	V I Wind	Direction:	•	<del>_</del>			0-1/	/ce my	25 /0
Water Depth (ft):		<u>0'</u>			emperature, [			<del></del>		
Doppler Current: Turbidity: Instrument Tow:										
Comments:		· <u></u>								
Sediment Samp	les									
Device: Van Veen Grab Other- No. of Replicates										
Organics		Metals	Grain Si	ze		тос	13C	Methy	yl Hg	Other
Sediment Texture	e (circle all	that apply):	>50% silt/cl	ay	Fine	Coarse	Sand Grave	Shell	Hash	Mixed
Indications of Anoxia: Yes No H₂S Odor: Yes No										
Sediment Comm	ents:							-		
Water/Suspende	ed Sedime	ent Samples:	Surf	ace		Viid-Wate	er	Bottom	0	ther
Large Volume V	ater Sam	ples: F	Replicate 1	· R	eplicate 2					
Volume filtered/p	rocessed	(liters)		XAD C	Cartridge		Pleate	ed Filter		TSS
LV Water Comm	ents:									
Biota										
Amphipods	Traps	Deployed:		Traps Retrieved:				Anonyx:		
Clams		er of Grabs:		Astarte				Cyrtodaria:		
Mussels/SPMD	Moori	ngs Deployed:	1	Moorir	ngs Retrieved	d: /	Mussels: (1	(2)		
Biota Comments	: Reti	neved al	( Comes	rels a	live, 20	perx	w. 451	anos-2	per I	W
Quality Control			tricued				-on le		,	
Field Blank		Equipm	ent Blank		/	rip Blank			Other	
Overall Comme	nts:							•		
Field Personnel: Hundin Trefry, Martz, Cauley, Walsh										
		,	1.				( '	•		
Si	)/1	Hal					21	104		·
Signature: (	Signature: Date: 30Jul04									

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	· · · · · · · · · · · · · · · · · · ·									
Station ID: 3A	Date: 30 Jul 04 Time (local): 1745 Project #: G005001, G005002, G004974									
Recorder:	ardin		Sampl	ing Location (circle	one). BSM	Nor	thstar / Liberty	Other 24		
Latitude (WGS84) 70° 16.9306 Longitude (WGS84) 147° 05.4467										
Field Observations and Measurements										
	Wind Speed (kts): 0-5 Wind Direction: 1/2, Seas/Ice: 0-( /=/nile A)									
Water Depth (ft):	17			emperature, Depth	• • • • • • • • • • • • • • • • • • • •		Churt,	present		
Doppler Current: Turbidity: Instrument Tow:										
Comments:										
Sediment Samples										
Device: Van Veen	Grab Other-		,	No. of Rep	icates		, , , , , , , , , , , , , , , , , , , ,			
Organics	Metals	Grain S	ize	TOC		13C	Methyl Hg	Other		
Sediment Texture (d	circle all that apply):	>50% silt/cl	ay	Fine Coa	se Sand Gra	ıvel	Shell Hash	Mixed		
Indications of Anoxi	a: Yes No			H₂S Odor: Y	es No					
Sediment Comment	s:									
Water/Suspended	Sediment Samples:	Sur	face	Mid-W	/ater	В	ottom	Other		
Large Volume Wat	er Samples: F	Replicate 1	R	eplicate 2						
Volume filtered/prod	essed (liters)		XAD	Cartridge	Ple	eated Fi	lter	TSS		
LV Water Comment	'S:				,					
Biota										
Amphipods	Traps Deployed:		Traps	Retrieved:		Ano	nyx:			
Clams	Number of Grabs:	·	Astart			T t	Cyrtodaria:			
Mussels/SPMD	Moorings Deployed:	1	1	ngs Retrieved: 1	Mussels:	(1)	SPMD(	2)		
Biota Comments:	37 K	HZ 0	wer					<i>,</i>		
Quality Control Sa	mples	<del></del>	<del>/ '</del>			•				
Field Blank	Equipn	nent Blank		Trip Bl	anķ		Other			
Overall Comments	A .	refrecta	8	1.0	NIS					
04-3	A	1-T-MU	~	Mu15015	N-20	yer	Jar po	leod		
04-3A-01-PHE-SPMD = 04-JA-02-PHE-SPMD; 1=top 2=bothon										
Field Personnel: Mertz, treffy, Hardin, Walsh, Lawley										
	4		• •	-			1			
Signature:	10 10			n	nte: 30:	Tul	<b>«</b> 4			
Oignature.	w vyu			Di	ne.	1416	~ (			

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#### MMS Continuation of Arctic Nearshore Impact Monitoring in the Development Area (cANIMIDA)

**Summer 2004 Station Log** Date: Bo Tul Time (local): 1830 Station ID: Project #: G005001 Sampling Location (circle one): BSMP / Northstar / Liberty Other Recorder: 70° 16.9327 Latitude (WGS84) Longitude (WGS84) **Field Observations and Measurements** Ke olmilere NE 0-5 Wind Direction: Wind Speed (kts): Seas/Ice: Conductivity, Temperature, Depth (CTD): Water Depth (ft): **Doppler Current:** Instrument Tow: Turbidity: Comments: **Sediment Samples** Device: Van Veen Grab Other-No. of Replicates Organics TOC 13C Metals **Grain Size** Methyl Hg Other OY-3A-UL-PHC-S Sediment Texture (circle all that apply): Fine >50% silt/clay **Coarse Sand Gravel** Shell Hash Mixed Indications of Anoxia: Yes No H<sub>2</sub>S Odor: Yes No - Stiff day under & 2 am Sediment Comments: Water/Suspended Sediment Samples: Surface Mid-Water **Bottom** Other Large Volume Water Samples: Replicate 1 Replicate 2 Volume filtered/processed (liters) XAD Cartridge **Pleated Filter** TSS LV Water Comments: Biota **Amphipods** Traps Deployed: Traps Retrieved: Anonyx: **Clams** Number of Grabs: Astarte: Cyrtodaria: Mussels/SPMD Moorings Deployed: Moorings Retrieved: Mussels: SPMD: **Biota Comments: Quality Control Samples** Field Blank **Equipment Blank** Trip Blank Other **Overall Comments:** y, Walsh, Hardin, Mertz,

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Signature:

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Date: 30 Jul 04

Sta	ation ID: 36	3	Date: 30To	104	Time (local): 1847 Project			Project #. G005001, G005002, G004974			
		tard		•		ing Location (circle		7	Northstar / Liberty	~~ ( ) !	
rte	couluel. [			1-20	Sampli	ng Location (circle	OHEJE DON				
La	atitude (WGS84)	70	0 17.9	035		Longitude (WGS	34) <b>[4</b>	7	02.544	3	
<u> </u>	eld Observatio		<del>- 1</del>		A 115	· · · · · · · · · · · · · · · · · · ·			16		
	ind Speed (kts):				NE	<u> </u>	Seas	s/Ice:	of see on a	1 Side	
	ater Depth (ft):	12	)			emperature, Depth	(CTD): trument To			1310 UCL	
	oppler Current:			Turbidit	у	IIIS	rument ro	N.			
	omments:						-				
	ediment Sampl		011			TN 65 .	•	<u>;</u>		<del> </del>	
	evice: (Van Ve	en Gran	Other-			No. of Repl	icates (				
	organics B-01-PHC-S		Metals	Grain S	ize	TOC		13C	Methyl Hg	Other	
·	· · · · · · · · · · · · · · · · · · ·		that annied:	>50% silt/cl	lay	Fine Cook	no Cond C	muol	Shell Hash	Mixed	
	ediment Texture			( >50% SIIVC				Stiell Hasti	IVIIXEU		
	dications of And		es No		٠		- Comment	<i>)</i>		1.0:	
	ediment Comme		ight brace			n cloy(		~15°		•	
	/ater/Suspende	_	-		face _	Mid-W	ater		Bottom	Other	
	arge Volume W	-		Replicate 1	1	eplicate 2	· .	M4	1 Cit	Too	
	olume filtered/pr	'	(inters)		XAD	XAD Cartridge Pleate			i Filter	TSS	
	V Water Comme	ents:									
	iota	7	D. d. d.	<del></del>	T_	D. ( )					
	mphipods		Deployed:			Retrieved:		Anonyx:			
	lams lussels/SPMD		per of Grabs: ings Deployed:		Astart	e: ngs Retrieved:	Mussels		Cyrtodaria: SPMI		
			ings Deployed.		INIOOH	nda rzemiesen	IMIUSSEIS	·	. J OF IVIL	J.	
	iota Comments:				<del> </del>	<del></del>	<del> </del>				
	<i>Quality Control</i> ield Blank	<i>sampies</i>		nont Black		Trin DI	ank		Other	<del>,,</del> ,,	
	ieid Blank Overall Commei	nte ·	j Equipri	nent Blank		Trip BI	auK		Uiner		
	TOTAL SOMME	1701						<u></u>			
	· · · · · · · · · · · · · · · · · · ·	41.	. 1.2 11	. ام .		( 116	1 (	/.	•		
F	ield Personnel	: IVLE	MEI H	won,	we	fry, Was	h, Ca	wie	7	······································	
						(			•		
	Λ	.1	, / /		· · · · · · ·					·	
s	Signature:		then			Da	ate: 30	Ju	ily 04	· · · · · · · · · · · · · · · · · · ·	
	/ /	•	•						(		

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#### MMS Continuation of Arctic Nearshore Impact Monitoring in the Development Area (cANIMIDA)

	Summe	r 2004 Station Log	- lst A	upliped tray	in
Station ID: LOY Date: 2Au	1604 Tir	ne (local): 07.00	1 /	0500, G005002, G	1
Recorder: Hardin	Sa	mpling Location (circle o	ne): BSMP / 1	Northstar / Liberty	Other
70°17.0616 Latitude (WGS84) 70°17.0560	(1) (2)	Longitude (WGS84	1470 40	1.0326	
Field Observations and Measurements	560-70	17,0604 1	170 40.00	,	
Wind Speed (kts): 0-5 Wind	Direction: 50	J	Seas/Ice:	0-177 / No 10	e
Water Depth (ft): / Y	<u> </u>	r, Temperature, Depth (C		· · · · · · · · · · · · · · · · · · ·	
Doppler Current:	Turbidity:	✓ Instr	ument Tow:		
Comments:					
Sediment Samples Selice	rent Eury	le @ 0920			
Device: (Van Veen Grab) Other-	1	No. of Replic	ates (	<b></b>	
Organics Metals	Grain Size	тос	13C	Methyl Hg	Other
04-604-01-PAC-S	U				
Sediment Texture (circle all that apply):	>50% silt/clay	Fine Coars	e Sand Gravel	Shell Hash	Mixed
Indications of Anoxia: Yes (No)		H₂S Odor: Yes	(ND		
Sediment Comments: Light Bu	own - Me	l. firm clay a	- 2 cml		
Water/Suspended Sediment Samples:	Surface	1. firm clay 2 20.5 1 Mid-Wa	ter /-5 2°	Bottom & M	Other
	Replicate 1	Replicate 2			
Volume filtered/processed (liters)	X	AD Cartridge	Pleated	d Filter	TSS
LV Water Comments:					
	dine o	705		`	
Amphipods Traps Deployed:	^	aps Retrieved:	1	Anonyx: 2 /80.	n/
Clams Number of Grabs:		starte:	(	Cyrtodaria:	
Mussels/SPMD Moorings Deployed:		oorings Retrieved:	Mussels:	SPMD:	
Biota Comments. 04-Lo4-01- PAC	MET-AN	ove trap	2/Good	me trop?	20m/
Quality Control Samples	<u> </u>		, ower,	<b>V</b> ,000,00	
	nent Blank	Trip Blan	 nk	Other	4-1
Overall Comments: Talls	recovere	10 1505	····		
	•				
Field Personnel: Mu+2,	Trefry,	Tweine, Wa	ilsh t	Hurden	
1	•	•	t		
Signature:			e: 2 Aug	14	

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Station ID: 606	Dai	te: 2Au	904	Time (	local): ][(	o	Project #:	G005001, G	005002, G	004974
Recorder: Have	din	•		Sampl	ing Location		e): BSMP	Northstar	/ Liberty /	Other
Latitude (WGS84)	70°	17.9	321		Longitude (	WGS84)	148	, 6 40 C	906	
Field Observations	and Measu	rements					-		-/flo	ارس
Wind Speed (kts):	0-5	Wind	Direction:			,	Seas/Ice	: <td>Lice</td> <td></td>	Lice	
Water Depth (ft):	19		Conduc	tivity, Te	emperature, [	Depth (CT	D): $ u$	/ /		
Doppler Current:	V		Turbidit	y:		Instrum	ent Tow:			
Comments:										
Sediment Samples	<u> </u>									
Device: (Van Veen	Grab ) Oth	er-			No. of	f Replicate	es /			
Organics	Meta	als ,	Grain Si	ze		TOC	13(	C Met	hyl Hg	Other
04-Lat-01-PHC	ι		1/			1/			<b>.</b>	
Sediment Texture (	circle all that	apply):	>50% silt/cl	av	Fine	Coarse	Sand Grave	el She	ll Hash	Mixed
Indications of Anoxi	a: Yes	No		•	H₂S Odor:	Yes	No			
   Sediment Comment	ts:									
Water/Suspended	Sediment S	amples:	Surl	ace 1 /	1.5,2.5	Wid-Wate	r	Bottom		Other
Large Volume Wat	er Samples	: R	eplicate 1	R	eplicate 2					
Volume filtered/prod	cessed (liters	5)		XAD (	Cartridge		Pleat	ed Filter		TSS
LV Water Commen	ts:									
Biota					··•·					
Amphipods	Traps Dep	loved:		Traps	Retrieved:			Anonyx:		
Clams	Number of			Astart				Cyrtodaria		
Mussels/SPMD	Moorings I	-			ngs Retrieved	d: N	Mussels:	- Ojrioudiidi	SPMD:	
Biota Comments:										
Quality Control Sa	mples									
Field Blank			ent Blank		Т	rip Blank			Other	
I ICIU DIAIIK		Equipm	CIR DIGITA			iip ciaint			•	
Overall Comments	S:	Equipm	DIATIK			np Blank				
· · · · · · · · · · · · · · · · · · ·	S:	Equipm	OH DIGHK			np Diaim				
· · · · · · · · · · · · · · · · · · ·	s:	Equipm	OR DIGIN			TIP DIGITAL				
Overall Comments				wah	e cia		Haw	l. ·W		
· · · · · · · · · · · · · · · · · · ·				N Col	e cia		Haw	) . (N		
Overall Comments				wah	e cra	ldi,	than			

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					<u></u>			
Station ID: LOA	Date:2	A1904	Time (	local): 1207	Projec	t#: G0	0500 (, G005002, G0	04974
Recorder:	tardin	· · · · · · · · · · · · · · · · · · ·	Sampl	ing Location (circle	one): BSI	MP / N	orthstar / Liberty / C	)ther
Latitude (WGS84)	70° 16.	5705		Longitude (WGS	849 #44	900	27.2041	
Field Observations	and Measuren	nents			147	70	,	
Wind Speed (kts): 4	3-5	Wind Direction:			Sea	s/ice: *	-1ft/spanela	eflow
Water Depth (ft):	19,7	Conduc	ctivity, Te	emperature, Depth	(CTD):			
Doppler Current:		Turbidi	ty:	Ins	trument To	w:		
Comments:								
Sediment Samples								
Device: Van Veen				No. of Rep	licates	/		
Organics	Metals	Grain S	Size	тос	_	13C	Methyl Hg	Other
04-209-01-146-	5 /		<					
Sediment Texture (d		oly): <>50% silt/c	lay)	(Fine) Coa	rse Sand C	Gravel	Shell Hash	Mixed
Indications of Anoxi	a: Yes 🔨	<u>(0)</u>		H <sub>2</sub> S Odor: Y	es (No	)		·
Sediment Comment	s: 5/LT/ch	AY/Five sa	nd +	on 1-Lam,	fine	Sano	1 pucked 72	an
Water/Suspended		• •	rface	Mid-V			•	Other
Large Volume Wat	er Samples:	Replicate 1	R	Replicate 2				
Volume filtered/prod	essed (liters)		XAD (	Cartridge		Pleated	Filter	TSS
LV Water Comment	is:			10F2 +2	Lof 2		_	
Biota	04-609-0	1-PHC/MET	7-45	-64-60	1-02-	PHC/	MET-AS DI	4
Amphipods	Traps Deploye			Retrieved:		A	nonyx:	
Clams	Number of Gra		Astart	te: 23 per 1	5 pep 2	C	yrtodaria:	
Mussels/SPMD	Moorings Dep	loyed:	Moori	ngs Retrieved:	Mussel	s:	SPMD:	
Biota Comments:	•							
Quality Control Sa	mples							
Field Blank	E	Equipment Blank		Trip BI	ank		Other	
Overali Comments	5:							
	·							
Field Personnel:	Mertz	, Trefr	Y1 -	Trocine,	leas	) 1, 1	Hardin	
						•	100 = 200	
Signature:	- huh			D	ate: O	LA	1904	
	J							

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Station ID: LOS	Date: 2Au	104	Time (local): 1248   Project(#: G00500			G00500 G005	002, G00497	74
Recorder:	ardin "	/	Sampli	ng Location (circle o	ne): BSMP	/ Northstar / Li	 berty∤ Other	r
Latitude (WGS84)	70° 16.7	2007		Longitude (WGS84	, 147	°30,34	26	
Field Observations	and Measurements	····		<u> </u>			, <u>.</u>	
Wind Speed (kts):		d Direction:			Seas/Ice	: <1f+/	phulce	
Water Depth (ft):	192	Conduc	tivity, Te	mperature, Depth (C	CTD):			
Doppler Current:		Turbidit	<u>y:</u>	Instru	ment Tow:	<u> </u>		
Comments:								
Sediment Samples								
Device: (Van Veen	Grab Other-			No. of Replica	ates (			
Organics	S Metals	Grain S	ize	TOC	13	C Methyl	Hg C	Other
04-61-101-101		0						
Sediment Texture (a	ircle all that apply): (	>50% silt/cl	lay	Fine Coarse	e Sand Grave	el Shell H	ash N	/lixed
Indications of Anoxia	a: Yes (No)			H₂S Odor: Yes	(NO)			
Sediment Comment	S:							
Water/Suspended	Sediment Samples:	Sur	face	Mid-Wa	ter	Bottom	Othe	er
Large Volume Wat	er Samples:	Replicate 1	R	eplicate 2				
Volume filtered/proc	essed (liters)		XADC	Cartridge	Plea	ted Filter		TSS
LV Water Comment	s:							
Biota	04-208-01-	PHC/ME	7-AS	10f2 ×	2012			
Amphipods	Traps Deployed:		1	Retrieved:		Anonyx:		
Clams	Number of Grabs:	13	Astart	4	z jars)	Cyrtodaria:		
Mussels/SPMD	Moorings Deployed		Moori	ngs Retrieved:	Mussels:	S	PMD:	
Biota Comments:				•				
Quality Control Sa	mples							
Field Blank	Equipr	nent Blank		Trip Blan	nk	C	Other	
Overall Comments	<b>3:</b>							
			······································					
Field Personnel:	Hardy, To	cfry;	Troc	che, Mer	+8, c	Vals G		<del>,</del>
	// /	· ·						
Signature:	n the			Date	e: 214	y 02	<del> </del>	

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Station ID: LO7	·	Date: 2	Aug	04	Time (	ocal):	140	d	Project #(	G00500), G	005002, G	004974
Recorder: Ha	.pdir	<u> </u>			Sampli	ng Loc	ation (d	circle one	): BSMP /	Northstar	Liberty	Other
Latitude (WGS84)	70°	16.7	760	)		Longi	tude (V	VGS84)	147	32.0	x16	
Field Observations					+				т	1.4.6		••••
Wind Speed (kts):		<del></del>	Wind Dir	i	E				Seas/Ice	: 2111	- Pla	v /ce
	20,0	<i>t</i>		Conduc	tivity, Te	mperat	ure, D	epth (CTI	D):			
Doppler Current:				Turbidit	<u>y:</u>	·		Instrum	ent Tow:			
Comments:								<del></del>				
Sediment Samples						<del></del> 1		·				
Device: (Van Veen	Grab	Other-					No. of	Replicate	s B	htt (		
Organics AH		Vietals		Grain Si	ze		Т	OC	13(	C Met	hyl Hg	Other
04-107-01295-	AHC-2	$\nu$		V			ı					
Sediment Texture (d	circle all	that apply	<i>(</i> ): (>5	60% silt/cl	ay )	(Fine)		Coarse S	and Grave	l She	ll Hash	Mixed
Indications of Anoxi	a: Ye	es No				H₂S C	dor:	Yes (	(No)			
Sediment Comment	s:											
Water/Suspended	Sedime	nt Sampl	es:	Surf	ace		N	1id-Water		Bottom		Other
Large Volume Wat	er Sam	oles:	Repl	icate 1	R	eplicate	2					
Volume filtered/proc	essed (	liters)			XAD (	Cartridg	е		Pleat	ed Filter		TSS
LV Water Comment	s:											
Biota												-
Amphipods	Trans	Deployed	:		Traps	Retriev	ed:			Anonyx:		
Clams		er of Grab			Astart					Cyrtodaria	• .	
Mussels/SPMD		ngs Deplo			†"	ngs Ref	rieved	: N	lussels:		SPMD:	
Biota Comments:	·				<u> </u>	-						
Quality Control Sa	mples							. ,				
Field Blank		Ea	uipment	Blank			Tr	ip Blank			Other	
Overall Comments	 S:					••			•		<del>-1</del>	-
Field Personnel:	Her	deh	M	ertz,	Tr	efr	γ,	Troci	he, C	vals 4	1	
		,					, '		•			
1	, ]	1							$\gamma_{A}$	. 14		<del></del>
Signature: ///	<u>'\'</u>	/ j w		<u> </u>				Date:	11M	<del>907</del>		

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Station ID: 406	Date: 2 Au	404	Time (le	ocal): (420	Project #:	G005001)G00	)5002, G00	04974
Recorder: H	adin		Sampli	ng Location (circle o	ne): BSMP	/ Northstar /	Liberty / O	ther
Latitude (WGS84)	70° 16.97	242		Longitude (WGS84	14	7°34.	083'	7
	and Measurements		_				/	
Wind Speed (kts): (		Direction: 1	_		Seas/Ice	e: <i>&lt;1f+/</i>	Sparse	Havice
Water Depth (ft):	20.8	Conduct	tivity, Te	mperature, Depth (C	CTD):	······································		
Doppler Current:		Turbidity	<u>/:</u>	Instru	ument Tow:			
Comments:								
Sediment Samples								
Device: (Van Veen	Grab Other-			No. of Replic	ates 3			
Organics	Metals	Grain Si	ze	TOC	13	C Methy	/l Hg	Other
04-66-01,2,3-	oac-s V	V						
Sediment Texture (d	ircle all that apply): (	>50% silt/cla	ay (	Fine Coarse	e Sand Grave	el Shell	Hash	Mixed
Indications of Anoxia	a: Yes (No)			H₂S Odor: Yes	(No)			
Sediment Comment	s: 3 REPU	CALES	col	lected (		2) 1430 (	3)/440	2
Water/Suspended	Sediment Samples:	Surf	ace	Mid-Wa	ter	Bottom		Other
Large Volume Wat	er Samples: R	eplicate 1	Re	eplicate 2		=		
Volume filtered/proc	essed (liters)		XAD C	artridge	Plea	ted Filter		TSS
LV Water Comment	S:							
Biota			-					
Amphipods	Traps Deployed:		Traps	Retrieved:		Anonyx:	4.	
Clams	Number of Grabs:	· · · · · · · · · · · · · · · · · · ·	Astarte			Cyrtodaria:	,	
Mussels/SPMD	Moorings Deployed:		Moorin	gs Retrieved:	Mussels:		SPMD:	
Biota Comments:		,						·
Quality Control Sa	mples							
Field Blank	Equipm	ent Blank		Trip Blan	 nk		Other	
Overall Comments	:					•		
					•			_
Field Personnel:	Frefry, to	cine, N	1ert	z, walst	1, Ha	din		
	·	····						
Signature:	1 that			Date	e: 2 Au	204		,

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	Station ID: 5H	Date: 2 Au	904	Time (	local): 1550	Project	F: G00	5001 G005002, G	004974				
	Recorder: £	trudin			ling Location (circle or	ne BSM	P / No	orthstar / Liberty /	Other				
	Latitude (WGS84)	70022.2	280		Longitude (WGS84)	14	70	47.8581					
	Field Observations	and Measurements			•								
	Wind Speed (kts): C	y-5 Wind	Direction:	٤		Seas/I	ce: ∠	(F4/NU 10	<u></u>				
	Water Depth (ft):	22.0	Conduc	tivity, T	emperature, Depth (C	TD):							
	Doppler Current:	· · · · · · · · · · · · · · · · · · ·	Turbidit	y:	Instrui	ment Tow:	· ·						
	Comments:							·					
	Sediment Samples												
	Device: Van Veen Grab Other- No. of Replicates /												
	Organics	Metals	Grain S	ize	TOC		13C	Methyl Hg	Other				
4.	54-01-5HC-5		1										
·	Sediment Texture (d	ircle all that apply).(	>50% silt/cl	lay)	(Fine) Coarse	Sand Gra	vel	Shell Hash	Mixed				
	Indications of Anoxia	Indications of Anoxia: Yes (No) H <sub>2</sub> S Odor: Yes (No)											
	Sediment Comment	s: Light Brow	m - st	FF	silt clay sa	nd 7	2cv	deep					
	Water/Suspended	Sediment Samples:	Sur	face	Mid-Wate		1	Bottom	Other				
	Large Volume Wat	er Samples:	eplicate 1	F	Replicate 2								
	Volume filtered/proc	essed (liters)		XAD	Cartridge	Ple	eated I	Filter	TSS				
	LV Water Comment	s:											
	Biota	04-54-01	- PHC/1	WET-	AS			_					
	Amphipods	Traps Deployed:		Traps	Retrieved:	_	Ar	nonyx:					
	Clams	Number of Grabs:	41	Astar	te: \$150ml		Cy	/rtodaria:					
	Mussels/SPMD	Moorings Deployed:		Moor	ings Retrieved:	Mussels:		SPMD:					
	Biota Comments:	26.5 hrs	1 colle	of s	comple - off	-start	ion	2 1930 1	1730				
	Quality Control Sa	mples											
	Field Blank	Equipm	ent Blank	,	Trip Blant	k		Other					
	Overall Comments	<b>S</b> :						4-4 1-Fa					
				<del></del>									
	Field Personnel:	Mertz, T	refry,	Troc	ive Walst	'2, +	far	dis					
			•			,							
	Signature:	h Ha	1		Date	: 2A	160	4					
		· / / ·				<u> </u>	<u> </u>	<del></del>					

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Station ID: 60		Date: 2Au	904	Time (	local):	1810	Proje	ect#: C	6005001, <b>6</b> 005002,	G004974
Recorder: Hau	din			Sampl	ing Lo	cation (circle	one): B	SMP /	Northstar / Liberty	/ Other)
Latitude (WGS84)	70°	23,00	36		Long	itude (WGS	84) /	48	° 00.0271	
Field Observations	and Me	easurements								
Wind Speed (kts):	<u>6-5</u>	Wind	Direction:	Ł			Se	as/Ice:	4/f4 - no1	'CC
Water Depth (ft):	18:	2	Conduc	tivity, Te	empera	ature, Depth	(CTD):	1		
Doppler Current:	<u> </u>	V	Turbidit	ý:		Ins	trument T	ow:		
Comments:		-								
Sediment Samples	;									
Device: Van Veen	Grab	Other-				No. of Repl	icates			
Organics	ŀ	Metals	Grain Si	ize		TOC		13C	Methyl Hg	Other
						-				
Sediment Texture (	circle all	that apply):	>50% sili/cl	ay	Fine	Coa	rse Sand	Gravel	Shell Hash	Mixed
Indications of Anoxi					H <sub>2</sub> S (	Odor: Yo	es No	)		
Sediment Comment	ts:									
Water/Suspended		nt Samples:	Sur	ace		Mid-V	/ater		Bottom	Other 👉
Large Volume Wat			Replicate 1	$\overline{}$	eplica					
Volume filtered/prod				XAD (		•	Ţ	Pleate	ed Filter	TSS
LV Water Commen	ło.						•			•
Biota		<del></del>	<del></del>	<del></del> _			<u>.</u>			
Amphipods	Trans	Deployed:	<del>.</del>	Trans	Retrie	wed.			Anonyx:	
Clams	1	er of Grabs:		Astart		vcu.			Cyrtodaria:	
Mussels/SPMD	1	gs Deployed:				etrieved:	Musse	oje.	SPMD	
	1_111001111	.go zopiojou.		1110011	igo ra	Allovou.		<i>.</i>	1011110	
Biota Comments:									· · · · · · · · · · · · · · · · · · ·	
Quality Control Sa	impies		ant Dinat			T-i- DI			0"	
Field Blank  Overall Comments		Equipri	ent Blank			Trip Bl	ank		Other	
Overall Comments	5;	<del></del>								
	·····	٨								
Field Personnel:	Ha	why 1	Nortz.	To	cfr	4 Truc	che,	$(\nu)$	lal c b	
		, , , , , , , , , , , , , , , , , , ,		<u> </u>		11 550	<del>-/</del> -			
	<b></b>									
Signature:	1	Hul				D	ate: 2	Aio	04	
		<del> ,</del>							<del>/</del>	

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			Γ	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		
Station ID: 5(0)	Date:	3 Aug 04	Time (	local): OS20	Project # G	005001 G005002 G	004974
Recorder: Han	din		Sampl	ing Location (circle or	ne) BSMP)/	Northstar / Liberty-/	Other
1 -44-1- (MOOOA)	20 00	.7435			.,, 40	00.385	
Latitude (WGS84)				Longitude (WGS84)	710	00.	
Field Observations Wind Speed (kts): \$		Wind Direction:	E		Seas/Ice:	Uff/noic	<u>.                                    </u>
Water Depth (ft):	, , ,	· · · · · · · · · · · · · · · · · · ·		emperature, Depth (C	-	0177 1010	
Doppler Current:		Turbidi			ment Tow:		
		T tulbiai	9:	111000	mone row.	· · · · · · · · · · · · · · · · · · ·	
Comments:			<del></del>				
Sediment Samples							
Device: Van Veen	Grab Other-	<del></del>		No. of Replica			
Organics	Metals	Grain S	Size	TOC	13C	Methyl Hg	Other
-2(a)-01-14C			$\overline{}$		~	1	
Sediment Texture (ci	ircle all that app	oly): >50% silt/c	lay	Fine Coarse	Sand Gravel	Shell Hash	Mixed
Indications of Anoxia	: Yes 🚺	10)		H <sub>2</sub> S Odor: Yes	_(No)		
Sediment Comments	: Light	Brown -					
Water/Suspended S	U		rface	Mid-Wat	er	Bottom	Other
Large Volume Wate	er Samples:	Replicate 1	F	Replicate 2			
Volume filtered/proce	essed (liters)		XAD	Cartridge	Pleate	d Filter	TSS
LV Water Comments	S:						
Biota	<del>2</del>						
Amphipods	Traps Deploye	ed: 2	Traps	Retrieved: 2		Anonyx: 2 reps	
Clams	Number of Gra		Astar			Cyrtodaria:	
Mussels/SPMD	Moorings Dep	loyed:	Moori	ings Retrieved:	Mussels:	SPMD:	
Biota Comments:			unt -	AN; Sound Rep	n4-5(a)-	n-ouelen +-	-111
Quality Control Sa		abs refne			or boy-	L MANES	
Field Blank		Equipment Blank		Trip Blan	k	Other	
Overall Comments		es fr An	64.W				
Overall Comments	. 7-10/	0) 100 2110	uvoj (~	1	- Jorg -	·········	
	· <u>·</u> ·					/	
	1/5.	.1 ,	,	/ , .	- 1		
Field Personnel:	Dervisa	:, Hardin,	Lun	ley, Ment	3. Trefo	y, walsh	
		,		•	•	•	
Signature: Au	Hah			Date	: 3Aug	34	
Jigilataro. ////	V				<del></del>		

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	1	<del></del>	<del> </del>		T		
Station ID: 4B	Date: 3A	1904	Time (	local): 0948	Project #.	G005001,)G005	5002, G004974
Recorder: H	anlin	<del></del>		ing Location (circle o	ne) (BSMP)	/ Northstar / L	iberty / Other
Latitude (WGS84)	70 21-015	5	<del></del>	Longitude (WGS84	147	40.03	20
	s and Measurements	S					
Wind Speed (kts):		d Direction:	E		Seas/Ice	: 4ft -1	Flowice Sp
Water Depth (ft):	19.8	Conduc	tivity, Te	emperature, Depth (C			
Doppler Current:		Turbidit			ment Tow:		
Comments:			•				
Sediment Sample	\$						
Device: Van Veer				No. of Replica	ates /		
Organics	Metals	Grain S	ize	TOC	. 13(	C Methyl	Hg Othe
1-48-01-PHC	5	/			_		
Sediment Texture	circle all that apply):	>50% silt/c	lay	(Fine) Coarse	Sand Grave	el Shell H	lash Mixe
Indications of Anox	ia: Yes (No)			H₂S Odor: Yes	(No)		
Sediment Commer		oun - fo	ine so				
	Sediment Samples:		face	Mid-Wat	er	Bottom	Other
Large Volume Wa		Replicate 1		eplicate 2			
Volume filtered/pro		. tophodio i		Cartridge	Plea	ted Filter	TSS
			1,000		1 100	.00111101	1.00
LV Water Commer	IIS.					<del></del>	<del> </del>
Biota	I	······································	I				
Amphipods	Traps Deployed:	~	Traps	Retrieved:	_	Anonyx:	
Clams	Number of Grabs:		Astart	e:		Cyrtodaria:	
Mussels/SPMD	Moorings Deployed	• •	Moorii	ngs Retrieved:	Mussels:	8	SPMD:
Biota Comments:							
Quality Control S	amples						<del></del>
Field Blank	Equip	ment Blank		Trip Blan	k		Other
Overall Comment				1 THP DIGH			
	· · · · · · · · · · · · · · · · · · ·				···		
	10				P	<del>ll</del>	
Field Personnel:	Delfusse, }	turkin, l	Lawl	ey, Mertz	-tuci	n Trefry	walsh
						-	1
		····					
\ M	<i>l I</i>				21		
Signature:	www	·-· /		Date	: 3 p	my 04	

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		<del></del>	T		T		
Station ID: 4A	Date: 3A	1904	Time (k	ocal): 1017	Project # C	G005003, G005002	G004974
Recorder: $\lambda$	ardin		Sampli	ng Location (circle or	ne):(BSMP)/	Northstar / Liberty	/ Other
1 -44-4- (14/0004)	200 184	1539		ę.		° 40 037	2
Latitude (WGS84)	s and Measurements	100 1		Longitude (WGS84)	177	10.77	
Wind Speed (kts):		d Direction:	E		Seas/Ice:	4194 /81	W/CE
Water Depth (ft):	14.3			mperature, Depth (C			
Doppler Current:		Turbidit			ment Tow:		
		<u> </u>	y:				
Comments: Sediment Sample:					<del></del>		
Device: (Van Veer				No. of Replica	atos .	(Katham)	No Due
			·		ľ	( Yatterny	
Organics	Metals	Grain S	olze	TOC	13C	Methyl Hg	Other
	circle all that apply):	>50% silt/c	day	(Fine) Coarse	Sand Grave	L   Shell Hash	Mixed
		230 76 31100	lay		(No)	Sileii i lasii	INITAC
Indications of Anox	1. (1	• A	W_	H₂S Odor: Yes	m,		<u> </u>
Sediment Commen		weve the	- 1	e sound st	ittclay	ghbs-min	. penes
	Sediment Samples:		rface	Mid-Wat	er	Bottom	Other
Large Volume Wa		Replicate 1	1	eplicate 2	1		1
Volume filtered/pro	cessed (liters)		XADC	artridge	Pleate	ed Filter	TSS
LV Water Commer	ıts:						· · · · · · · · · · · · · · · · · · ·
Biota			η				
Amphipods	Traps Deployed:	1	Traps	Retrieved:		Anonyx: 320	) ml
Clams	Number of Grabs:		Astart	9: 		Cyrtodaria:	
Mussels/SPMD	Moorings Deployed	:	Moorin	ngs Retrieved:	Mussels:	SPMD	);
Biota Comments:	Trops retr	ievalo	18	02			
Quality Control S	amples						
Field Blank	Equipr	ment Blank		Trip Blan	k	Other	
Overall Comment	s: - Tew gr	abs u	sed,	are for m	efuls	one for	
	organi	c5 + To	<u>C.</u>	weigt added	l to m	exage pone	tratto
			<del></del>				
	DelCasso	11	54 I	anda da	12.	1111 -	· In
Field Personnel:	pertuse	, Hard	in C	auley, Neu	ME, L	valsy, in	Corp
1	1 1 1						
Signature:	h bw			Date	: 3 A	ug 04	
	•					7	

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rir	2	21		ı			T		~_		
Station ID: 5(5	<b>/</b>	Date: 3A	404	Time (I	ocal):	2.50	Projec	ct # G	005001,)G005	002, G0	04974
Recorder: #4	odin			Sampli	ng Loca	tion (circle o	ne):(BS	MP)/	Northstar / Li	berty / C	)ther
Latitude (WGS84)	70°	26.0	820		Lonaitu	ude (WGS84	14	70	18.08	5	
Field Observations	and Me	asurements				(	, <u> </u>				
Wind Speed (kts):	×5	Wind	Direction:	E			Sea	s/lce:	41 ft/N	nech 4	· Louri CA
Water Depth (ft):	681		Conduc	tivity, Te	mperati	re, Depth (C				<u> </u>	
Doppler Current:			Turbidit	y:	V	Instru	ment To	w:			
Comments:											
Sediment Samples	<del></del>					<del></del>			· · · · · · · · · · · · · · · · · · ·	_	
Device: Van Veen		Other-			N	lo. of Replica	ates	1			
Organics		Metals	Grain Si	76	I -	TOC		13C	Methyl I	———— На	Other
505)-01-PHG	5	V			-	100		1	ivicusy:	ı ıy	Oriei
Sediment Texture (	circle all t	that apply):	>50% silt/cl	a)	(Fine	Coarse	Sand	Gravel	) Shell H	ash	Mixed
Indications of Anoxi					H₂S Oc			7	01101111		IVIIAGU
				l							
Sediment Commen		ne stil			rave	•					
Water/Suspended			) Surf			Mid-Wat	er 🗸	•	Bottom ~		Other
Large Volume Wate Volume filtered/produce			Replicate 1		eplicate		Τ.	DI4-			T00
	<del></del>	iters)		XADC	artridge		11	Pleated	i Filter		TSS
LV Water Commen	ts:		· · · · · · · · · · · · · · · · · · ·								
Biota	T			r		<del></del>					
Amphipods		Deployed:			Retrieve	ed:		_ /	Anonyx:		<u> </u>
Clams		r of Grabs:		Astarte		···	<del></del>		Cyrtodaria:		
Mussels/SPMD	Mooring	gs Deployed:	· · · · · · · · · · · · · · · · · · ·	Moorir	igs Retr	ieved:	Mussel	s:	S	PMD:	
Biota Comments:											
Quality Control Sa	mples	···	·								
Field Blank		Equipm	ent Blank		·	Trip Blan	k		0	ther	
Overall Comments	s:										
								·			
	0.6	L	11 1.	1		. 11	1-				
Field Personnel:	50	14236	TUNIN	7	44/1	y, Ner	T*	le	try		<del></del>
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1	. //	,								<del></del>	
Signature:	h X					Date	<u>: 3</u>	Aug	04		
				-				J			

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Liberty / Other
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flow ice
Sparse
d Hg Other
Hash Mixed
e a calala
FINE EDITO
- Julier 1
TSS
1100
SPMD:
<u></u>
Other
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#### MMS Continuation of Arctic Nearshore Impact Monitoring in the Development Area (cANIMIDA)

Summer 2004 Station Log

	<u> </u>			/600	ī		*-	
Station ID: 417	Date: <b>3</b> /	ug 04	Time (	local) To Fey	Project #:	G005001), G0	105002, GO	04974
Recorder: H	eurdins .		Sampl	ling Location (circle or	ne): BSMP	/ Northstar /	Liberty C	Other
	1002	-00						
Latitude (WGS84)				Longitude (WGS84)	174	32.97	<u>₩</u>	
Field Observations			E		To #	116.1	o in	
Wind Speed (kts):	370 W	ind Direction:				e: 4f4/	Howlex	JAN
	7~2			emperature, Depth (C				
Doppler Current:		Turbidit	y:	instru	ment Tow:			
Comments:								
Sediment Samples					· · · · ·			
Device: Van Veen	Grab Other-			No. of Replica	ites /	<del> </del>		
Organics	Metals	Grain S	ize	TOC	13	C Meth	nyl Hg	Other
47-01-PHC-S								14
Sediment Texture (	circle all that apply):	>50%(silt/cl	ay)	(Fine) Coarse	Sand Grav	el Shel	ll Hash	Mixed
Indications of Anoxi	a: Yes (No)			H₂S Odor: Yes	(No)	(sill/clay	)	
Sediment Commen		Helay	Lu A	Brown = lm		f hue	nuteri	al
Water/Suspended		<i>_</i> ,	face	Mid-Wat		Bottom		Other
Large Volume Wat		Replicate 1		Replicate 2				
Volume filtered/prod		i tophodio 1		Cartridge	Plea	ited Filter	-	TSS
Water Commen		12.5	•	-6 m water				
Biota	is. July	11 000 /	1 -	6 m ways	- J 0m	y ics		
Amphipods	Traps Deployed:		Trans	Retrieved:		Anonyx:		
Clams	Number of Grabs:		Astar			Cyrtodaria:	~	
Mussels/SPMD	Moorings Deploye		<del> </del>	ings Retrieved:	Mussels:	Cyrtouana.	SPMD:	
	T Moonings Deploye	, u.	1 MOOII	ings removed.	Mussels.		J OI W.D.	
Biota Comments:		·						
Quality Control Sa							T	
Field Blank		pment Blank		Trip Blani	k		Other	
Overall Comments	s:							
	•							
Field Personnel:	No LEACSE	Hardin	10	wky, New	12 Tre	for u	ulsh	
i icia i cistilici.	4~F10)J	1	, w	1/ // 2/		177	<del>y = + = 1</del>	
\AI	1 0	,			<b>n</b> -			
Signature	The			Date	: 3AU	g 07		
( /	- /				•	J		

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Station ID: L18	Date	e: 3A	4904	Time (	local): 187-6	Project #	G005001), G005002, G	;004974
Recorder: Ha	din			Sampl	ling Location (circle o	ne): BSMP	Northstar (Liberty)	Other
Latitude (WGS84)	70° /8	9.37	238		Longitude (WGS84	1470	45.6664	
Field Observations	and Measu	rements						
Wind Speed (kts):	10-15	Wind	Direction:	6		Seas/Ice	: 1-3 ft /spars	efwhice
Water Depth (ft):	13		Conduc	ctivity, To	emperature, Depth (0	CTD):		
Doppler Current:			Turbidit	ty:	Instru	ment Tow:		
Comments:								
Sediment Samples	;							
Device: Van Veen	Grab) Oth	er-			No. of Replic	ates /	_	
Organics	Meta	ls	Grain S	ize	тос	13(	C Methyl Hg	Other
E-LIB-01- PHG								
Sediment Texture (		apply): (	>50% silt/c	lav	Fine Coars	e Sand Grave	el Shell Hash	Mixed
Indications of Anoxi		(No)			H <sub>2</sub> S Odor: Yes		•	
			- seff	l di	4/cloy			
Sediment Commen	•						Dotto	Othor
Water/Suspended				face	Mid-Wa	lei	Bottom	Other
Volume filtered/pro			Replicate 1		Replicate 2 Cartridge	Plea	ted Filter	TSS
	***************************************	1		ן אאט י	Cartilage	11100	ica i nici	
LV Water Commen	ts:				<del></del>			
Biota	Ι			Τ	5			
Amphipods	Traps Depl				Retrieved:		Anonyx:	
Clams	Number of			Astar			Cyrtodaria:	
Mussels/SPMD	Moorings [	Deployed:		Moor	ings Retrieved:	Mussels:	SPMD:	···
Biota Comments:	<del></del>							
Quality Control S	amples	Т			<del></del>		·	
Field Blank		Equipn	nent Blank		Trip Blar	nk	Other	
Overall Comment	s:							
····	···	<del> </del>						
Field Personnel:	Relfos.	jc, f	tardin	lu	wley, Mer A	Z, T1	cfry, wal	sh
		J	,		•	•	<b>y</b> /	
Signature:	1 4	1			Det	e: 3 Au	. 4	
Signature.	n_yw				Dat	· ///	<del>) \                                   </del>	

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#### MMS Continuation of Arctic Nearshore Impact Monitoring in the Development Area (cANIMIDA)

**Summer 2004 Station Log** 

	= 1								- <del></del>	
Station ID:	1 Date	e: 8-	5-04	Time (	local):290	)Ü	Project #	G005001	G005002, G	004974
Recorder:	J. TREF			Sampl	ing Location	n (circle o	ne): BSMP	/ Northsta	ar / (Liberty)	Other
Latitude (WGS84)	70° 2	13.9	972'		Longitude	(WGS84	148	00.	1264	
Field Observation					Longitude	(110004	,		7000	
Wind Speed (kts):	/8		Direction:	ESE	2		Seas/Ice	e: 4	<del>,</del>	
Water Depth (ft):	17.2				mperature	Depth (C		<u>, , , , , , , , , , , , , , , , , , , </u>		<u>-</u>
Doppler Current:		V	Turbidit				ment Tow:	XI/	<i>'0</i>	
Comments:				4		<u> </u>				
Sediment Sample	<del></del>	<del></del>						····	4 .	<del></del>
Device: Van Veer		er-			No	of Replica	ntes			
Organics	Metal		Grain S	i70	1 1101	TOC	13		Methyl Hg	Other
Organioo	Wicta		Olaii O	120		100			nearly rig	Other
Sediment Texture	circle all that	apply):	>50% silt/cl	lay	Fine	Coarse	Sand Grave	el S	Shell Hash	Mixed
Indications of Anox	ia: Yes	No			H₂S Odor	Yes	No			
Sediment Commer	ıte:			. 0						
Water/Suspended		amples:	Sur	face i	5, 2.5	. <del>Y</del> ~ Mid-Wat	 er	Bottoi		Other
Large Volume Wa			Replicate 1		eplicate 2	ma ma	<u> </u>			Othor
Volume filtered/pro				1	Cartridge		Plea	ted Filter		TSS
LV Water Commer	ıte.									•
Biota										
Amphipods	Traps Deple	oved:		Trans	Retrieved:	<del></del>	·	Anonyx		
Clams	Number of			Astart				Cyrtoda		
Mussels/SPMD	Moorings D			†	ngs Retriev	ed:	Mussels:		SPMD:	
Biota Comments:						•				
Quality Control S	amples									
Field Blank		Equipm	nent Blank		-	Trip Blan	 k		Other	
Overall Comment	s:	.111			L	THE STORY	· <b>·</b>		1 0 11101	
									. ,	
			-							
Field Personnel:										
,00 s	OT 2		<b></b>	200						
11.5	K14, 113	ETRY	TROONE	1771	1-(12)					
						1				
Signature:	RTZ, TR	/	HT	els		Date	. 5	du	at 200	مهار

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Station ID: 50	on ID: 5(1) Date: 5/w 04 Time (local): 0955 Project #: G005001) G005002, G004974										
Recorder: Ha	din					ng Location (c		e)(BSMP)	Northstar /	Liberty / 0	Other
Latitude (WGS84)				763		Longitude (W	/GS84)	1482	03.59	628	
Field Observation		easuren	nents						<del></del>	<u>.                                    </u>	[
Wind Speed (kts):	18		Wind	Direction:	Est		*	Seas/Ice:	f' seas		
Water Depth (ft):	18.7			Conduc	tivity, Te	mperature, De	epth (C	TD):			
Doppler Current:				Turbidit	y:		Instru	ment Tow:			
Comments:											
Sediment Sample	<u>s</u>										
Device: Van Vee	n Grab	Other-				No. of	Replica	tes /			
Organics		Metals		Grain Si	ze	To	OC	13C	Meth	yl Hg	Other
0454)-1	1-PH	<b>د-</b> ر	1	1		V					
Sediment Texture	(circle all	that app	oly):	>50% silt/cl	ay	Fine	Coarse	Sand Grave	l Shel	l Hash :	Mixed
Indications of Anox	ia: Y	es 1	lo			H₂S Odor:	Yes	No			
Sediment Commer	nts:										
Water/Suspended	l Sedime	ent Sam	ples:	Surl	face	М	id-Wate	er	Bottom		Other
Large Volume Wa	ter Sam	ples:	R	Replicate 1	R	eplicate 2					
Volume filtered/pro	cessed	(liters)			XAD C	artridge		Pleate	ed Filter		TSS
LV Water Commer	nts:										
Biota				<del></del>			<del></del>	·····			
Amphipods	Traps	Deploye	ed:	··	Traps	Retrieved:			Anonyx:		<del></del>
Clams		er of Gra			Astart				Cyrtodaria:		<del></del>
Mussels/SPMD	Moori	ngs Dep	loyed:		Moorir	ngs Retrieved:		Mussels:		SPMD:	
Blota Comments:											
Quality Control S	amples				•	•					
Field Blank		E	quipm	ent Blank		Tri	p Blank	(		Other	
Overall Commen	ts:				· · · · · · · · · · · · · · · · · · ·		•				
			·								
Field Personnel:	Me	142	1	refry,	Troc	cine, A	elfo:	ise			
				, ,	• —	,					
	<u>, /</u>	W						<b>Q</b> 1	17.4		
Signature:	y.	M					Date	: 8 Au	y UY		

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Station ID: 5 (	1) Date: 8 -	5-04	Time (	local): 103	O Pro	ject #.G	005001)G0	05002, G0	04974
Recorder:	TREFRY		Sampl	ing Location (circ	le offe) E	SMP	Northstar /	Liberty 1 C	Other
Latituda (MCC94)	70° 25	6762	1	Longitude (WG	C04)	148	03	TC.2	0,1
Latitude (WGS84)  Field Observations	and Measurements	.0 765		Longitude (VVG	304)	,,,,,		, 565	
Wind Speed (kts):	<b>6</b> 3 .05	d Direction:	23	<u>3</u>	S	eas/lce:	4	···	
Water Depth (ft):	18.2		tivity, Te	emperature, Dept					
Doppler Current:		Turbidit			strument	Tow:			
Comments:									
Sediment Samples	<u> </u>							•	
Device: (Van Veen				No. of Re	plicates				
Organics	Metals	Grain Si	ize	TOO	<del></del>	13C	Meth	yl Hg	Other
	~	V							
Sediment Texture (	circle all that apply):	>50% silt/cl	ay 🤇	Fine >> Co	arse Sano	d Gravel	Shel	l Hash	Mixed
Indications of Anoxi	a: Yes (No)			H <sub>2</sub> S Odor:	Yes N	6)			
Sediment Commen	ts: FINE	TO MED	um	SANO-	LITTLE	or	NO FO	NE FR	ACTION
Water/Suspended	Sediment Samples:	Sur			Water		Bottom		Other
Large Volume Wat	ter Samples: F	Replicate 1	R	Replicate 2					
Volume filtered/prod	cessed (liters)		XAD (	Cartridge		Pleate	d Filter		TSS
LV Water Commen	ts:								
Biota								_	
Amphipods	Traps Deployed:		Traps	Retrieved:			Anonyx:		
Clams	Number of Grabs:		Astart	te:			Cyrtodaria:	ı	
Mussels/SPMD	Moorings Deployed:		Moori	ngs Retrieved:	Muss	sels:		SPMD:	
Biota Comments:							~····		
Quality Control Sa	amples			· · ·					
Field Blank		nent Blank		Trip	<u>Blank</u>			Other	
Overall Comment	s:								
		<del></del>							<del>,</del>
Field Personnel:									
MERTZ	TREFRY, T	ROCINE)	DEL	FOSSE					
Signature:	94 11-	ref		Į.	Date:	5 A	ubusi	2004	u.
	/	[[]							
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Station ID: $\mathcal{E}_{i}$	2 Date	-5-04p	15	Time (	local): // 4`	5	Project #(	6005001, GO	05002, G0	04974
Recorder:	TREF	R-1		Sampl	ing Location (cir	cle one	e): BSMP /	Northstar /	Liberty (C	Other
Latitude (WGS84)	70	° 26.	005	7′	Longitude (WC	GS84)	148	3000.	680	,
Field Observations	s and Measu	rements							-	
Wind Speed (kts):	16		irection:	૧	SE.		Seas/Ice	3-4	1	
Water Depth (ft):	21,8	<u>್ರ</u>	Conduc	tivity, Te	emperature, Dep	oth (CT	'D): ~		-	
Doppler Current:			Turbidit	y:	1	instrum	ent Tow:	==		
Comments:										
Sediment Samples	3								•	
Device: Van Veer	Grab Othe	er-			No. of R	eplicate	es			
Organics	Meta	le l	Grain S	i70	ТО		130	Meth	yl Hg	Other
Organios	IVICIA		Oralli O	izc	. 10	<u>.                                    </u>		, ivicui	<u> </u>	Outo
Sediment Texture (	circle all that	apply): >	•50% silt/cl	av	Fine C	oarse S	Sand Grave	L Shel	l Hash	Mixed
Indications of Anoxi		No No		<u>-,</u>	H <sub>2</sub> S Odor:	Yes	No	<u> </u>		
			· · · · · · · · · · · · · · · · · · ·		1120 0401.					•
Sediment Commen Water/Suspended		amplee:	Sur	face L.	0,1.5, 2. Mid	Mata	.46,	n Rottom		Other
Large Volume Wa		···	olicate 1		teplicate 2	1-VVale	,, , , ,	C DOMONII		Outei
Volume filtered/pro	•		onoato 1	1	Cartridge		Pleat	ed Filter		TSS
				1.0.5	- Caranago		1			
LV Water Commen	ts.						<del></del>			
	Traps Depl			Tropo	Detrieved		1	Anoning		
Amphipods	1	•		1	Retrieved:			Anonyx:		
Clams	Number of			Astart				Cyrtodaria:	CDMD:	
Mussels/SPMD	Moorings D	epioyea:		MOOU	ngs Retrieved:		Mussels:		SPMD:	
Biota Comments:										
Quality Control Sa	amples	1			····					
Field Blank		Equipmer	nt Blank		Trip	Blank			Other	
Overall Comment	s:									
		·					<del></del>			
Field Personnel:										
MERTZ,	TREFRY	Truc	NE PE	L£as	SC					
	<u> </u>						Λ		2	
MERT2,	<u> </u>	- hag	•			Date:	5 A	16457	2004	
./		(%)								

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Station ID:	3 [	Date:	8-5	-04	Time (	local):	360	Project :	#: G0	05001(G0	05002) G0	04974
Recorder:	TREF	r7			Sampl	ing Locatio	n (circle or			Northstar /		
Latitude (WGS84)				7779			e (WGS84)			06.		
Field Observations			nents							- 0/		
Wind Speed (kts):	15		Wind D	irection:		جع		Seas/	lce:	٠ - الحق	SCATTER	eo SiA (
Water Depth (ft):	16	<del></del>		Conduc		emperature	, Depth (C	TD):	<u>/</u>			
Doppler Current:		<u>/</u>	•	Turbidity	y: ~	- 2	Instru	ment Tow	<u>.</u>			
Comments:									••			
Sediment Samples	5											
Device: Van Veen	Grab (	Other-				No.	of Replica	ites				
Organics	М	etals		Grain Si	ze		TOC	1	13C	Meth	yl Hg	Other
									,			
Sediment Texture (	circle all th	hat app	ly): >	50% silt/cl	ay	Fine	Coarse	Sand Gra	vel	Shell	Hash	Mixed
Indications of Anoxi	a: Yes	s N	lo			H₂S Odo	: Yes	No				
Sediment Commen	ts:					,	1 < r	~				
Water/Suspended		t Samı	oles:	✓ Surf	face 1	.0,1.5	Mid-Wat	er	4	Bottom	(	Other
Large Volume War	ter Sampl	les:	Rep	olicate 1	R	Replicate 2		_				
Volume filtered/prod	cessed (lit	ers)			XAD (	Cartridge		Pie	eated	l Filter		TSS
   LV Water Commen	ts:											
Biota								_				
Amphipods	Traps D	eplove	.d:		Traps	Retrieved:				Anonyx:		
Clams	Number				Astart				$\neg$	Cyrtodaria:		
Mussels/SPMD	Mooring					ngs Retriev	red:	Mussels:			SPMD:	-
Biota Comments:												
Quality Control Sa	amples		_									
Field Blank		Е	guipmer	nt Blank			Trip Blan	k			Other	
Overall Comment	s:		.,									
									_			
Field Personnel:							· · · · · · · · · · · · · · · · · · ·					
MIRTE TREF	FRY, T	ROG	3412	, DEL	FUS	35	·					
MERTETREF	9/	_ b	1 -1	ref			Date	: 5	A	u Gus,	, 200	7
,				[/]								

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Recorder: TREFRY Sampling Location (circle one): BSMP / Northstar / Liberty / Other Latitude (WGS84) 70° 26 . 5846   Longitude (WGS84) 148° 14 . 0977   Field Observations and Measurements  Wind Speed (Its): 20 Wind Direction: ESE   Seas/Ice: 3 4   Water Depth (It): 28 . 2   Conductivity, Temperature, Depth (CTD): Deppler Current: Turbidity: Instrument Tow:  Comments: Sediment Samples  Device: Van Veen Grab Other-   No. of Replicates  Organics   Metals   Grain Size   TOC   12°C   Methyl Hg   Other  Sediment Texture (circle all that apply): >50% sitt/clay   Fine   Coarse Sand Gravel   Shell Hash   Mixed   Indications of Anoxia: Yes   No   HyS Odor: Yes   No    Sediment Comments: Water/Suspended Sediment Samples:   Surface   Office   Surface   Office   Surface   Office   Pleated Filter   TSS    Water/Suspended Sediment Samples:   Replicate 2   Replicate 2   Pleated Filter   TSS    Water Comments:   Water Comments:   Mumber of Grabs:   Astarte:   Cyrtodaria:   Mussels/SPMD   Moorings Deployed:   Moorings Retrieved:   Mussels:   SPMD:   Blota Comments:   SPMD:   Blota Comments:   SPMD:   Blota Comments:   SPMD:   Blota Comments:   SPMD:	Station ID: 55	Date:	929	5-04	Time (	local): 14	10	Project #	G005001, G0	05002, G0	04974	
Latitude (WGS84) 70° 26 SE46' Longitude (WGS84) 148° 14.0971'  Field Observations and Measurements  Wind Speed (kts): 20 Wind Direction: ESE Seas/Ice: 3 4  Water Depth (ft): 28 25 Conductivity, Temperature, Depth (CTD):  Doppler Current: Turbidity: Instrument Tow:  Comments:  Sediment Samples  Device: Van Veen Grab Other- No. of Replicates  Organics Metals Grain Size TOC 12C Methyl Hg Other  Sediment Texture (circle all that apply): >50% slit/clay Fine Coarse Sand Gravel Shell Hash Mixed Indications of Anoxia: Yes No H <sub>2</sub> S Odor: Yes No  Sediment Comments:  Water/Suspended Sediment Samples: Surface 1 Replicate 2  Volume filtered/processed (liters) XAD Cartridge Pleated Filter TSS  LV Water Comments:  Blota  Amphipods Traps Deployed: Traps Retrieved: Anonyx:  Clams Number of Grabs: Astarte: Oyrtodaria:  Mussels/SPMD Moorings Deployed: Moorings Retrieved: Mussels: SPMD:  Blota Comments:  Quality Control Samples  Field Personnel:  Field Personnel:	Recorder:	TREFA					ircle on					
Field Observations and Measurements  Wind Speed (kts): 20 Wind Direction: ESE Seas/loe: 3 - 4  Water Depth (ft): 28 2 Conductivity, Temperature, Depth (CTD):  Doppler Current: Turbidity: Instrument Tow:  Comments:  Sediment Samples  Device: Van Veen Grab Other-Organics Metals Grain Size TOC 13C Methyl Hg Other  Sediment Texture (circle all that apply): >50% slit/clay Fine Coarse Sand Gravel Shell Hash Mixed Indications of Anoxia: Yes No Sediment Comments:  Water/Suspended Sediment Samples: Surface 1 O				Sou							,//	
Wind Speed (kts): 2C   Wind Direction: ESE   Seas/floe: 3 * 4   Water Depth (ft): 28 3 \$   Conductivity, Temperature, Depth (CTD):   Doppler Current:   Turbidity:   Instrument Tow:			<del></del>	. 307	<u> </u>	Longitude (W	/GS84)	170	) 17.	0 / //		
Water Depth (ft): 28 2 S Conductivity, Temperature, Depth (CTD): Deppler Current: Turbidity: Instrument Tow:  Comments:  Sediment Samples  Device: Van Veen Grab Other- No. of Replicates  Organics Metals Grain Size TOC 12C Methyl Hg Other  Sediment Texture (circle all that apply): >50% silt/clay Fine Coarse Sand Gravel Shell Hash Mixed Indications of Anoxia: Yes No H <sub>2</sub> S Odor: Yes No  Sediment Comments:  Water/Suspended Sediment Samples: Surface 1 Replicate 2  Volume filtered/processed (liters) XAD Cartridge Pleated Filter TSS  LV Water Comments:  Biota  Amphipods Traps Deployed: Traps Retrieved: Anonyx:  Clams Number of Grabs: Astarte: Cyrtodaria:  Mussels/SPMD Moorings Deployed: Moorings Retrieved: Mussels: SPMD:  Biota Comments:  Quality Control Samples  Field Blank Equipment Blank Trip Blank Other  Other  Field Personnel:				Directions	<u></u>	22		Sacollos	. 7 - (	1		
Doppler Current:  Comments:  Sediment Samples  Device: Van Veen Grab Other- Organics Metals Grain Size TOC 13C Methyl Hg Other  Sediment Texture (circle all that apply): >50% sitt/clay Fine Coarse Sand Gravel Shell Hash Mixed Indications of Anoxia: Yes No H <sub>2</sub> S Odor: Yes No  Sediment Comments:  Water/Suspended Sediment Samples: Surface Of Sediment Comments:  Water/Suspended Sediment Samples: Replicate 1 Replicate 2  Volume filtered/processed (liters) XAD Cartridge Pleated Filter TSS  LV Water Comments:  Biota  Amphipods Traps Deployed: Traps Retrieved: Anonyx: Clams Number of Grabs: Astarte: Cyrtodaria:  Mussels/SPMD Moorings Deployed: Moorings Retrieved: Musseis: SPMD:  Biota Comments:  Quality Control Samples  Field Blank Equipment Blank Trip Blank Other  Overall Comments:				· I			onth (C			<u> </u>		
Comments:  Sediment Samples  Device: Van Veen Grab Other- Organics Metals Grain Size TOC 13C Methyl Hg Other  Sediment Texture (circle all that apply): >50% sitt/clay Fine Coarse Sand Gravel Shell Hash Mixed Indications of Anoxia: Yes No H <sub>2</sub> S Odor: Yes No  Sediment Comments:  Water/Suspended Sediment Samples: Surface Of Mid-Water Samples: Replicate 1 Replicate 2  Volume filtered/processed (liters) XAD Cartridge Pleated Filter TSS  LV Water Comments:  Biota  Amphipods Traps Deployed: Traps Retrieved: Anonyx: Clams Number of Grabs: Astarte: Cyrtodaria:  Mussels/SPMD Moorings Deployed: Moorings Retrieved: Mussels: SPMD:  Biota Comments:  Quality Control Samples  Field Blank Equipment Blank Trip Blank Other  Overall Comments:	······································		<u>u                                    </u>			inperature, De		-		·		
Device: Van Veen Grab Other- Organics Metals Grain Size TOC 13C Methyl Hg Other  Sediment Texture (circle all that apply): >50% sitt/clay Fine Coarse Sand Gravel Shell Hash Mixed Indications of Anoxia: Yes No H2S Odor: Yes No  Sediment Comments:  Water/Suspended Sediment Samples: Surface 1 Replicate 2  Volume Water Samples: Replicate 1 Replicate 2  Volume filtered/processed (liters) XAD Cartridge Pleated Filter TSS  LV Water Comments:  Biota  Amphipods Traps Deployed: Traps Retrieved: Anonyx:  Clams Number of Grabs: Astarte: Cyrtodaria:  Mussels/SPMD Moorings Deployed: Moorings Retrieved: Mussels: SPMD:  Biota Comments:  Quality Control Samples  Field Blank Equipment Blank Trip Blank Other  Overall Comments:				Turbian	J·	!	moud	HOHE TOW.	<del></del>			
Device: Van Veen Grab Other- Organics Metals Grain Size TOC 13C Methyl Hg Other  Sediment Texture (circle all that apply): >50% sitt/clay Fine Coarse Sand Gravel Shell Hash Mixed Indications of Anoxia: Yes No H <sub>2</sub> S Odor: Yes No  Sediment Comments:  Water/Suspended Sediment Samples: Surface Mid-Water Samples: Replicate 1 Replicate 2  Volume Water Samples: Replicate 1 Replicate 2  Volume Biltered/processed (liters) XAD Cartridge Pleated Filter TSS  LV Water Comments:  Biota  Amphipods Traps Deployed: Traps Retrieved: Anonyx:  Clams Number of Grabs: Astarte: Cyrtodaria:  Mussels/SPMD Moorings Deployed: Moorings Retrieved: Mussels: SPMD:  Biota Comments:  Quality Control Samples  Field Blank Equipment Blank Trip Blank Other  Overall Comments:												
Organics Metals Grain Size TOC 13C Methyl Hg Other  Sediment Texture (circle all that apply): >50% silt/clay Fine Coarse Sand Gravel Shell Hash Mixed Indications of Anoxia: Yes No H <sub>2</sub> S Odor: Yes No  Sediment Comments:  Water/Suspended Sediment Samples: Surface 1 Replicate 1 Replicate 2  Volume filtered/processed (liters) XAD Cartridge Pleated Filter TSS  LV Water Comments:  Biota  Amphipods Traps Deployed: Traps Retrieved: Anonyx:  Clams Number of Grabs: Astarte: Cyrtodaria:  Mussels/SPMD Moorings Deployed: Moorings Retrieved: Mussels: SPMD:  Biota Comments:  Quality Control Samples  Field Blank Equipment Blank Trip Blank Other  Overall Comments:						No of I		foc	<del></del>			
Sediment Texture (circle all that apply): >50% silt/clay Fine Coarse Sand Gravel Shell Hash Mixed Indications of Anoxia: Yes No H <sub>2</sub> S Odor: Yes No Sediment Comments:  Water/Suspended Sediment Samples: Surface Surfa			<u>.                                    </u>	0 : 0	·				34-4		04	
Indications of Anoxia: Yes No H <sub>2</sub> S Odor: Yes No  Sediment Comments:  Water/Suspended Sediment Samples: Surface 1	Organics	Metals		Grain S	ize	<u> </u>	UC	13(	J Meti	iyi Hg	Other	
Indications of Anoxia: Yes No H <sub>2</sub> S Odor: Yes No  Sediment Comments:  Water/Suspended Sediment Samples: Surface 1 Replicate 2  Volume filtered/processed (liters) XAD Cartridge Pleated Filter TSS  LV Water Comments:  Biota Amphipods Traps Deployed: Traps Retrieved: Anonyx:  Clams Number of Grabs: Astarte: Cyrtodaria:  Mussels/SPMD Moorings Deployed: Moorings Retrieved: Mussels: SPMD:  Biota Comments:  Quality Control Samples  Field Blank Equipment Blank Trip Blank Other  Overall Comments:	Sediment Texture (d	circle all that ap	l. pply):	>50% silt/c	lay	Fine (	Coarse	Sand Grave	el She	II Hash	Mixed	
Sediment Comments:  Water/Suspended Sediment Samples: Surface				· · · · · · · · · · · · · · · · · · ·		H <sub>2</sub> S Odor:	Yes	No			1	
Water/Suspended Sediment Samples:  Surface Of Mid-Water Debtor Other  Large Volume Water Samples: Replicate 1 Replicate 2  Volume filtered/processed (liters) XAD Cartridge Pleated Filter TSS  LV Water Comments:  Biota Amphipods Traps Deployed: Traps Retrieved: Anonyx: Clams Number of Grabs: Astarte: Cyrtodaria:  Mussels/SPMD Moorings Deployed: Moorings Retrieved: Mussels: SPMD:  Biota Comments:  Quality Control Samples  Field Blank Equipment Blank Trip Blank Other  Overall Comments:	Sediment Comments:											
Volume Water Samples:   Replicate 1   Replicate 2												
Volume filtered/processed (liters) XAD Cartridge Pleated Filter TSS  LV Water Comments:  Biota  Amphipods Traps Deployed: Traps Retrieved: Anonyx:  Clams Number of Grabs: Astarte: Cyrtodaria:  Mussels/SPMD Moorings Deployed: Moorings Retrieved: Mussels: SPMD:  Biota Comments:  Quality Control Samples  Field Blank Equipment Blank Trip Blank Other  Overall Comments:									Colloni	<u>′                                     </u>		
Biota  Amphipods Traps Deployed: Traps Retrieved: Anonyx: Clams Number of Grabs: Astarte: Cyrtodaria:  Mussels/SPMD Moorings Deployed: Moorings Retrieved: Mussels: SPMD:  Biota Comments:  Quality Control Samples  Field Blank Equipment Blank Trip Blank Other  Overall Comments:					ł			Plea	ted Filter		TSS	
Amphipods Traps Deployed: Traps Retrieved: Anonyx:  Clams Number of Grabs: Astarte: Cyrtodaria:  Mussels/SPMD Moorings Deployed: Moorings Retrieved: Mussels: SPMD:  Biota Comments:  Quality Control Samples  Field Blank Equipment Blank Trip Blank Other  Overall Comments:  Field Personnel:	LV Water Commen	ho.		•								
Amphipods Traps Deployed: Traps Retrieved: Anonyx:  Clams Number of Grabs: Astarte: Cyrtodaria:  Mussels/SPMD Moorings Deployed: Moorings Retrieved: Mussels: SPMD:  Biota Comments:  Quality Control Samples  Field Blank Equipment Blank Trip Blank Other  Overall Comments:  Field Personnel:			<del></del>		<del></del>							
Clams Number of Grabs: Astarte: Cyrtodaria:  Mussels/SPMD Moorings Deployed: Moorings Retrieved: Mussels: SPMD:  Biota Comments:  Quality Control Samples  Field Blank Equipment Blank Trip Blank Other  Overall Comments:		Traps Deploy	/ed:		Traps	Retrieved:		<del></del>	Anonyx:			
Biota Comments:  Quality Control Samples  Field Blank Equipment Blank Trip Blank Other  Overall Comments:  Field Personnel:	Clams	f			1							
Field Blank Equipment Blank Trip Blank Other  Overall Comments:  Field Personnel:	Mussels/SPMD	Moorings De	ployed:		Moori	ngs Retrieved:		Mussels:		SPMD:		
Field Blank Equipment Blank Trip Blank Other  Overall Comments:  Field Personnel:	Biota Comments:											
Field Blank Equipment Blank Trip Blank Other  Overall Comments:  Field Personnel:		amples	•••									
Field Personnel:			Equipme	ent Blank		Tri	ip Blan	k		Other		
Field Personnel:	Overall Comments	s:							the state of the s			
										*******		
MERTZ TREFRY TRUE INE DELFUSS E	Field Personnel:											
	MERTZ	TREFA	LY T	RUC IN	£, 0	ELFUSS S						
Signature: Date: 5 August 2004	Signature:	11	41-	1 seks			Date	; 5/	Anous	7 200	y	

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Station ID: 5	4 [	Date: 8-	5-04	Time (	local): / 4	45	Project #:	G005001, &	005002, G	004974
Recorder:	TREF	RY		Sampl	ing Location	(circle or	ne): BSMP	Northstar	/ Liberty /	Other
Latitude (WGS84)	70	25	7947	, /	Longitude	(WGS84)	148	14,11	01'	<i>&gt;</i>
Field Observations	and Mea	surements								
Wind Speed (kts):	25	Win	d Direction:	3	32		Seas/Ice	: 4-	5'	
Water Depth (ft):	20	<u>و</u> ر	Conduc		emperature,	Depth (C	TD):	- V	÷, ···	
Doppler Current:	し		Turbidit	y:	-3c	Instru	ment Tow:			
Comments:										
Sediment Samples	3									
Device: Van Veen	Grab C	other-			No. o	f Replica	tes			-
Organics	Me	etals	Grain S	ize		TOC	13(	Met	hyl Hg	Other
Sediment Texture (	circle all th	at apply):	>50% silt/cl	ay	Fine	Coarse	Sand Grave	l She	ell Hash	Mixed
Indications of Anoxi	a: Yes	No			H₂S Odor:	Yes	No			
Sediment Commen	ts:		/			~ 1£				
Water/Suspended	Sediment	Samples:	Sur	face	· 0, 1. 3	Mid-Wate	er ) 4.c	Bottom	,)	Other
Large Volume Wat			Replicate 1		eplicate 2					
Volume filtered/prod	cessed (lite	ers)			Cartridge		Pleat	ed Filter		TSS
LV Water Comment	ts:									
Biota										
Amphipods	Traps De	eployed:		Traps	Retrieved:			Anonyx:		
Clams	Number	of Grabs:		Astart	e:			Cyrtodaria		
Mussels/SPMD	Moorings	Deployed:		Moori	ngs Retrieve	d:	Mussels:		SPMD:	
Biota Comments:						•				
Quality Control Sa	mples									
Field Blank		Equipn	nent Blank	-	Т	rip Blank			Other	
Overall Comments	S:									
					·					
Field Personnel										
Field Personnel:								<del></del>		
MERT.	Z, Ta	28,727	TROC	· 1/4	DEL	FOS	5{		·	
Signature:	0 (	H.	Troc		,	Date	5 A	ufue	- 200	+
	<del>/                                    </del>	, ,	17			Date.	<u> </u>	00-37	·	!
D = 44 = 4			LV							

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		<del></del>								
Station ID: S	2 Da	ate: 8 - :	5-04	Time (	ocal): / 5	50	Project #: (	G005001, G0	005002, G	004974
Recorder:	TREFR	27		Sampli	ng Location	(circle or	ne): BSMP /	Northstar /	Liberty /	Other
Latitude (WGS84)	70°	24.	3032	<u> </u>	Longitude (	WGS84	148	° 14. 1	992	T
Field Observations	and Meas	urements					<u>.</u>			
Wind Speed (kts):	25	Wind	Direction:	ES	<u>E</u>		Seas/Ice	: <del>4</del> -	5'	
Water Depth (ft):		<u> </u>	Conduc	tivity, Te	emperature, [	Depth (C	TD):	<u></u>		
Doppler Current:	1/	<u> </u>	Turbidit	y: ~	-50	Instru	ment Tow:			
Comments:										
Sediment Samples										
Device: Van Veen	Grab Ot	her-			No. o	f Replica	ites			
Organics	Met	als	Grain S	ize		TOC	13(	Meti	nyl Hg	Other
Sediment Texture (d	circle all tha	t apply):	>50% silt/cl	ay	Fine	Coarse	Sand Grave	l She	ll Hash	Mixed
Indications of Anoxi		No			H <sub>2</sub> S Odor:	Yes	No			
Sediment Comment										
Water/Suspended		Samples:	Sur	face 1.	0 1-5	Mid-Wat	$e^{\lambda}$	Bottom		Other
Large Volume Wat			Replicate 1		eplicate 2	- Vilu-VVal	<u> </u>	3 DOCCOLL	)	Outer
Volume filtered/prod			iophoato i	f	Cartridge		Pleat	ed Filter		TSS
		1	· · · · · · · · · · · · · · · · · · ·	1 / 7	- Aid and a second					1,00
LV Water Comment	S.		<del> </del>							
	Trans Day	olovod:		Tropo	Dotriound			Anonina	·	
Amphipods Clams	Traps Dep				Retrieved:			Anonyx:		
Mussels/SPMD				Astart	•	۵.	Musseler	Cyrtodaria:		<del> </del>
	I Wootings	Deployed:		INOOH	ngs Retrieve	<u>u:                                      </u>	Mussels:		SPMD:	
Biota Comments:								· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·
Quality Control Sa	mples				<del></del>				Γ	
Field Blank		Equipm	ent Blank			rip Blan	<u>k</u>		Other	
Overall Comments	s:				<del></del>				<del></del>	··
						· .				
						<del></del>				····
   Field Personnel:										
			-						<del></del>	
MERTZ	IRET	RY IR	OCINE,	DELI	3 C20=					
Signature:	)(	45	ref			Date	: 4	5 Au	bwi	200 y
	/		(1				,			•

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		Der	oy Tall			
Station ID: N 18 Date: 6 A	tug 04	Time (I	ocal): 824	Project #	G005001)G005002,	G004974
Recorder: Mike Walsh	7	Sampli	ng Location (circle on	e): BSMP /	Northstar Liberty	/ Other
Latitude (WGS84) 70° 29 . 09 0	8		Longitude (WGS84)	148	42.2610	
Field Observations and Measurements	<u> </u>					
Wind Speed (kts): 6-5 kw Wind	d Direction:	SE		Seas/Ice	: 71 ft	<1ft
Water Depth (ft): 37.8	Conduc		mperature, Depth (C1	ΓD):		
Doppler Current:	Turbidit	y: 🔽	∠ ww Instrum	nent Tow:		
Comments:						
Sediment Samples						
Device: Van Veen Grab Other-			No. of Replicat	es /		
Organics Metals	Grain S	ize	TOC	130	Methyl Hg	Other
04-N18-01-PHC-5			<b>V</b>			
Sediment Texture (circle all that apply):	>50% silt/cl	ay )	Fine Coarse	Sand Grave	Shell Hash	Mixed
Indications of Anoxia: Yes No			H₂S Odor: Yes	(No)		
Sediment Comments:						
Water/Suspended Sediment Samples:	Suri	face	Mid-Wate		Bottom	Other
	Replicate 1		eplicate 2		Dottom	Outoi
Volume filtered/processed (liters)	tophodto !	1	artridge	Pleate	ed Filter	TSS
LV Water Comments:				1		1,55
Biota 04 - N19 - 01 - PAC,	MET - A	11)			<del></del>	•
Amphipods Traps Deployed:	2	T	Retrieved:		Anonyx: 215	) m(
Clams Number of Grabs:		Astarte			Cyrtodaria:	
Mussels/SPMD Moorings Deployed:		<u> </u>		Mussels:	SPMD	:
Biota Comments:			<del></del>			
Quality Control Samples			-			
	nent Blank		Trip Blank		Other	
		16 53-	·····	_	8.5 hrs-mai	Anabiaals
7 Mag oy Retrieved			<del> </del>			y myrapas
minimal Amphipods hu			7 3.4			
		d				
Field Personnel:						
Mertz, Walsh, Tr Signature: Michael Walch	refry	Delf	osse	* .		
m. M.	, ,	•			ng 04	

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				r		1			
Station ID: N 19	Date	e: 6 Aug	9 04	Time (	local): 9:45	Project #	:G005	001) G005002, G	004974
Recorder: Mik			,	Sampl	ing Location (circle o	ne): BSMF	Nor	thstar Liberty /	Other
Latitude (WGS84)	70° :	29 12	ર કા		Longitude (WGS84	) 14	x° 4	10.5610	
Field Observations					Longitude (VVCCC)	/·	<u> </u>	10.0010	
Wind Speed (kts):	0-5kts	<del></del>	Direction:	SE		Seas/I	ce: <	f+	
Water Depth (ft):	34				emperature, Depth (C	TD):			
Doppler Current:			Turbidit			ment Tow:			
Comments:									
Sediment Samples	·								
Device: Van Veer		 er-			No. of Replica	ates /			
Organics	Meta	ls	Grain S	ize	TOC		13C	Methyl Hg	Other
34-N19-01-9HC-	<del></del>	V	0,0,11	7	V				1
Sediment Texture (		. <del></del>	>50% silt/c	lay	Fine Coarse	Sand Gra	vel	Shell Hash	Mixed
Indications of Anox		(No)			H₂S Odor: Yes	(No)			
					1				
Sediment Commen			C.,,	face	Mid-Wa			ottom	Other
Water/Suspended Large Volume Wa			eplicate 1		Replicate 2	iei		Ollotti	Oulei
Volume filtered/pro			spiloale i	1	Cartridge	Ple	eated F	ilter	TSS
		L	_	17010	Januago				
LV Water Commen	is:							- 11 - 12 - 12 - 12 - 12 - 12 - 12 - 12	
Amphipods	Traps Depl	ovod:		Trans	Retrieved:		And	 onyx:	
Clams	Number of			Astan				todaria:	
Mussels/SPMD	Moorings D		<del> </del>	+	ings Retrieved:	Mussels:	100	SPMD:	
	1 Woonings E	ropio y cu.		1110011	ingo i toulovou.	Widooolo.			
Biota Comments:									
Quality Control S	ampies	Equipm	ent Blank		Trip Blar			Other	
Overall Comment	·c•	_ Equipme	EIIL DIAIIK		1 Hp blai	ir.		Other	
Overall Colline								· · · · · · · ·	
								****	
Field Personnel:	walsh	Mu	rts, Tr	etry	, Delfosse				
Signature:	Michael	1 W.	lala		Dat	a. <i>(</i> .	Aug	04	
oignature. /	· v·v/YM	~ *, *	WV		Date	·. <i>(</i>	-1-7		<del></del>

AIA	-1						·
Station ID: N2	Date: 6 A	ug 04	Time (I	ocal): 10:10	Project #:	6005001), G005002, G	004974
Recorder: MAN		<b>V</b>	Sampli	ng Location (circle or	ne): BSMP (	Northstar Liberty /	Other
Latitude (WGS84)	70° 27. 9	697		Longitude (WGS84)	148	41.6865	
Field Observations	and Measurements						
Wind Speed (kts):	0-5 KB Win	d Direction:	SE		3 Seas/ice	L Ift	
Water Depth (ft):	21 H	Conduc	tivity, Te	mperature, Depth (C	TD):	·	
Doppler Current:		Turbidit	у:	Instru	ment Tow:		
Comments:							
Sediment Samples	}	<del>-</del>	<del></del>				
Device: Van Veen			<del>-</del> · · · ·	No. of Replica	ntes 1		
Organics	Metals	Grain S	ize	TOC	13C	Methyl Hg	Other
54-N20-01-PHC		Orain O		V		Modifilia	Other
Sediment Texture (		>50% silt/cl	av	Fine Coarse	Sand Grave	Shell Hash	Mixed
Indications of Anoxi				H <sub>2</sub> S Odor: Yes	(No	0.10.1.10.1.	- Wilde
		1			$\overline{\cdot \cdot \cdot}$	· · · · · · · · · · · · · · · · · · ·	
Sediment Commen			•	•		D-44	O#
Large Volume Wat	Sediment Samples:	Replicate 1	face D	Mid-Wate 2	er	Bottom	Other
Volume filtered/prod		rehilicate i	1	artridge	Pleate	ed Filter	TSS
			1 70 10 0	armage	Ticau	ou i mei	1 100
LV Water Commen	<u>is:</u>						
Biota			1				
Amphipods	Traps Deployed:		1	Retrieved:		Anonyx:	
Clams	Number of Grabs:		Astarte			Cyrtodaria:	
Mussels/SPMD	Moorings Deployed:		Moorin	gs Retrieved:	Mussels:	SPMD:	
Biota Comments:							
Quality Control Sa	mples	<del></del>				·	
Field Blank		nent Blank		Trip Blanl	ζ	Other	
Overall Comments	s:	·					<del></del>
	<u> </u>	<del></del>					
Field Personnel:	walsh, n	1112. 7	Ce Co	. DalCacca			
Ticia i cisoiniei.	00 0000-( ) 10	$w(o_{j})$		9, 42170970			<del></del>
_							
100	. 10	W.1.5-01-1			<u>.</u> .		
Signature: //w	chael Wald	·	-	Date	: 6 An	9 04	
						<b>'</b> 1	

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Station ID: NI	2 Date:	G AU	604	Time (k	ocal). (G	540	Project #	:(G005001)C	005002 G0	04974
	e Walsh		· · · ·			/airala ar			\	
Recorder: //w k	C S	L		Samplii	ng Location	Circle of	iej. BSIVIP	/ Northstar	Y Liberty / C	unei
Latitude (WGS84)	70 2:	1.35	03		Longitude	(WGS84)	12	- 1061		
Field Observations	and Measure	ments		····						
Wind Speed (kts):	CALM	Wind Di	rection:	-			Seas/lo	e: FLA	1	
Water Depth (ft):	17		Conduc	tivity, Te	mperature,	Depth (C	TD):			·
Doppler Current:			Turbidit	y:		Instru	ment Tow:			
Comments:										
Sediment Samples		, -			<del> </del>					
Device: Van Veen		·			No. c	of Replica	ites /			
Organics	Metals		Grain Si	ize		TOC	1	₃c Me	thyl Hg	Other
04-M3-01-PHC	5		MO			<b>V</b>				
Sediment Texture (d	ircle all that a	oply): (>	50% sjit/cl	ay)	Fine	Coarse	Sand Grav	rel Sh	ell Hash	Mixed
Indications of Anoxia	a: Yes (	No	7		H <sub>2</sub> S Odor:	Yes	No			
Sediment Comment		CI	AY OV	THIN IER (	2 RAVE	a fe		) FLOCK	CF	
Water/Suspended	Sediment Sa	nples:	Sur	face		Mid-Wat	er	Bottom	(	Other
Large Volume Wat	er Samples:	Rep	licate 1	Re	eplicate 2					
Volume filtered/prod	essed (liters)			XAD C	artridge		Ple	ated Filter		TSS
LV Water Comment	s:									1
Biota										
Amphipods	Traps Deplo	yed:		Traps	Retrieved:		·	Anonyx:		
Clams	Number of G	<del></del>		Astarte				Cyrtodaria	<del>2</del> :	
Mussels/SPMD	Moorings De	ployed:	-	Moorin	gs Retrieve	ed:	Mussels:	<u></u>	SPMD:	
Biota Comments:										
Quality Control Sa	mnles					·			···	<del> </del>
Field Blank	p.ioo	Equipmen	t Blank		Ţ.	Trip Blani	k		Other	<del> </del>
Overall Comments	<u>'</u> S:	_q=.poii			I				1	
		70 S	AMPL	٤ ٦	IN F	LUCK	: As	BEST	LIKEC	. 4
R	DECIDES	INPUT	D OF	CL	AY OV	IER (	GRAVE	(		
Field Personnel:										
Signature: $M$	uhal	Wal	eh	······································		Date	: 6 F	any or	4	

Station ID: N	1	Date:	6 Aug	оч	Time (k	ocal):	0	Project #1	G005001) G	005002, G	004974
Recorder: Mi	u Wo	ush			Sampli	ng Location (d	ircle or	ie): BSMP /	Northstar	/ Liberty /	Other
Latitude (WGS84)			3 46	50		Longitude (V	VGS84)	1480	42 0	12a	
Field Observations	·····			<del></del> ,				<del></del>		,	
Wind Speed (kts):	Calm		Wind Di	Υ	SE	· · · · · -		Seas/Ice	: Fla	ł	
Water Depth (ft):	24.6	2	·			mperature, Do				-	
Doppler Current:	<del>.</del>			Turbidit	y:		Instrui	ment Tow:			
Comments:										·	
Sediment Samples										\$	
Device: Van Veen	Grab (	Other-				No. of	Replica	tes /			
Organics	M	letals		Grain S	ize	Ţ	ОС	130	) Met	thyl Hg	Other
04-N11-01-PHC-	S	V		V		,	/_				
Sediment Texture (d	circle all t	hat app	ıly): >:	50% silt/cl	ay	Fine C	Coarse	Sand Grave	She	ell Hash	Mixed
Indications of Anoxi	a: Yes	s (N	b			H₂S Odor:	Yes	(No)			
Sediment Comments: frew mm thin silt/clay over coarse sand Gravel											
Water/Suspended	Sedimen	t Samp	oles:	Sur	face	<u>.</u> M	id-Wate	er	Bottom		Other
Large Volume Wat	er Samp	les:	Repl	icate 1	Re	plicate 2					<del></del>
Volume filtered/prod	essed (lit	ters)			XAD C	artridge		Pleat	ed Filter		TSS
LV Water Comment	s:										
Biota											
Amphipods	Traps D	eploye	d:		Traps	Retrieved:			Anonyx:		
Clams	Number	r of Gra	ıbs:		Astarte	:			Cyrtodaria	:	4
Mussels/SPMD	Mooring	gs Depl	oyed:		Moorin	gs Retrieved:		Mussels:		SPMD:	
Biota Comments:											
Quality Control Sa	mples		-		-,-						
Field Blank		E	quipment	Blank		Tri	p Blank	······································		Other	
Overall Comments	: Bia				raul	1 at 70			<u>-,</u>	1 0 0.101	
	J	,		· · · · · · · · · · · · · · · · · · ·	<u>, , , , , , , , , , , , , , , , , , , </u>	148	0 4	1 9559			
		we	dto	Record	ted 1	ocation					
Field Personnel:						ry, De	) fos	50		~~	
Signature: M	ishael	W.	nlsh				Date	: 6 A	ng og	•	

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Station ID: N I	Date:	6 Aug	04	Time (I	ocal):	1120	Project #	#: <b>G</b> 00	05001) G00	5002, G0	04974
Recorder: Mike		Û	<i>⊸.</i> .	Sampli	ng Locat	ion (circle or	ne): BSMF	N	orthstar	Liberty / C	Other
Latitude (WGS84)	78° 29	, 01	87		Longitu	de (WGS84)	149	° 4	1.76	16	
Field Observations		1					<del></del>		^		
Wind Speed (kts):	Calm	Wind Dir		SE			Seas/	ce:	flat	<del></del> -	
Water Depth (ft):	32.5				mperatu	re, Depth (C					
Doppler Current:	<del> </del>		Turbidit	<b>y</b> :		Instru	ment Tow:				
Comments:											
Sediment Samples											
Device: Van Veen	Grab Other-		•		N	o. of Replica	ites /				
Organics	Metals		Grain Si	ize		TOC		13C	Methy	/l Ha	Other
04-N10-01-PHC			V			1/					
Sediment Texture (d		plv): <>5	0% silt/cl	av	Fine	Coarse	Sand Gra	vel	Shell	Hash	Mixed
Indications of Anoxi		No			H₂S Od		(NO)				
Sediment Comment	s: Scem;	s like	Noti	nal	Back	caround	sedim	enf	Compar	ed to 1	NU
Water/Suspended	Sediment Sam	ples:	Surl	face		J Mid-Wat	er		Bottom		Other
Large Volume Wat	er Samples:	Repl	icate 1	R	eplicate	2					
Volume filtered/proc	essed (liters)	-		XAD	Cartridge		Ple	eated	Filter		TSS
LV Water Comment	·c.										
Biota										•	
Amphipods	Traps Deploy	ed:		Trans	Retrieve	d:		A	nonyx:	······································	
Clams	Number of Gr	•		Astart		<del></del>	<del></del>		yrtodaria:	<u> </u>	
Mussels/SPMD	Moorings Der			<b></b>	ngs Retri	eved:	Mussels:			SPMD:	
	, <u>g</u>			,	.g						
Biota Comments:											
Quality Control Sa		Equipment	Dlank			Trin Plan				Other	·
Field Blank		Equipmeni	Віапк			Trip Blan	<u> </u>			Outer	
Overall Comments	).		-								
Field Personnel:	Walsh	, Mer	tz, 1	refr	y, ¢	elfoss.	c				
Signature: 7	Michael	Wal	<u>th</u>			Date	: 6	Av	g 04		

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Station ID: N 2	3	Date:	6 Aug	04	Time (	local):	1137	Project #	:(G00500	<b>)</b> G005002, G0	)04974
Recorder: Mul					Sampl	ing Loca	tion (circle or	ne): BSMP	/ Norths	tar / Liberty /	Other
Latitude (WGS84)			9.3	749		Longit	ude (WGS84)	148	° 41.	9297	
Field Observations Wind Speed (kts):	and Me		Mind Di	roetion	98	<del></del>		Casalla	- <i>[</i>	ulm	
Water Depth (ft):	36		yvina Di	T			re, Depth (C	Seas/lo	e. C	LIPUL	
Doppler Current:	76	217	e)	Turbidit		emperau		וטו. ment Tow:		· · · · · · · · · · · · · · · · · · ·	
				1 Turbian	· · · · · · · · · · · · · · · · · · ·		เมอแน	IIICIIL TOW.			
Comments:	··	<del></del>									
Sediment Samples					<del></del>	<del>- T.</del>				9.	
Device: Van Veen		Other-				<u>  N</u>	lo. of Replica	ites /			<del></del>
Organics		Metals		Grain S	ize		TOC	1	3C	Methyl Hg	Other
04-N23-01-PHC		<u> </u>					~~				1
Sediment Texture (	circle all	that app	oly): 🔇	50% silt/cl	ay	Fine	Coarse	Sand Grav	rel	Shell Hash	Mixed
Indications of Anoxi	a: Ye	es (	<u>10</u>			H <sub>2</sub> S Oc	lor: Yes	No			
Sediment Commen	s: fo	ne th	hun la	yu of	floa	k or	rn stil	f gray	Clay		
Water/Suspended	Sedime	nt Sam	ples:	Sur	ace);	*	Mid-Wat	er	Botto	om	Other
Large Volume Wat	er Samp	oles:	Rep	icate 1	R	eplicate	2				
Volume filtered/prod	essed (I	iters)	·		XAD (	Cartridge		Ple	ated Filter		TSS
LV Water Commen	s:										
Biota											
Amphipods	Traps I	Deploye	ed:		Traps	Retrieve	<del></del> ed:		Anony	x:	
Clams		er of Gra			Astart				Cyrtod		
Mussels/SPMD		gs Dep			<del>                                     </del>	ngs Retr	ieved:	Mussels:		SPMD:	
Biota Comments:	•						•			<del>-</del>	
Quality Control Sa	mnles					-					
Field Blank	inhies	T	guipmen	Rlank			Trip Blanl	,		Other	
Overall Comments	·* \				منه.	, <		from	n//h	star Isla	
Overall Comment	, · · · · · · · · · · · · · · · · · · ·	<u> </u>	Prom	·	· conac	ر. يا	00 11	FACME	140414	rial + S(a)	<u>ra</u>
											A.F.L.
Field Personnel:	wal	(sh,	Mer	12,7	ref	ry, (	Zelfoss	e			
Signature: N	richa	ul'	Wal	eh			Date	: 6	Aug	oy	

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					<del></del>		
Station ID: NO9	Date:	Ang 04	Time (I	ocal): 1238	Project #	005001, G005002, G	004974
Recorder: /hk	e Walsh	•	Sampli	ing Location (circle on	e): BSMP /	Northstar \ Liberty /	Other
		142 21			_	26 111011	
Latitude (WGS84)	70° 29.	· · · · · · · · · · · · · · · · · · ·	105	Longitude (WGS84)	148	35.1494	
Field Observations					T	<u> </u>	
Wind Speed (kts):		Wind Direction:			Seas/ice:	Calm	
Water Depth (ft):	31.7 fr			emperature, Depth (C)			
Doppler Current:		Turbidit	<u>/:</u>	Instrur	nent Tow:		
Comments:							
Sediment Samples				······			
Device: Van Veen	Grab Other-			No. of Replicat	tes /		
Organics	Metals	Grain Si	ze	TOC	13C	Methyl Hg	Other
04-N9-01-PHC	s 🗸	V		✓			
Sediment Texture (d	circle all that apply	/): >50% silt/cl	ay	(Fine) Coarse	Sand Gravel	Shell Hash	Mixed
Indications of Anoxi	a: Yes No			H₂S Odor: Yes	<b>(10)</b>		
Sediment Comment							
Water/Suspended	Sediment Sampl	<b>'es:</b> Surf	ace	Mid-Wate	er	Bottom	Other
Large Volume Wat	er Samples:	Replicate 1	R	Replicate 2			
Volume filtered/prod	essed (liters)		XAD (	Cartridge	Pleate	ed Filter	TSS
LV Water Comment	s:						
Biota					<del>,</del>		
Amphipods	Traps Deployed	:	Traps	Retrieved:		Anonyx:	
Clams	Number of Grab		Astart	· · · · · · · · · · · · · · · · · · ·		Cyrtodaria:	
Mussels/SPMD	Moorings Deplo		1		Mussels:	SPMD:	•
	M. i. i. f. i. i.						
Biota Comments:  Quality Control Sa	ımnlas						
Field Blank		uipment Blank		Trip Blank	,	Other	
Overall Comments		mhmenr nigny		1 Hilp Diagric	·	Otilei	
Overall Comments	<i>*</i> 1						· · ·
				<del></del>			
Field Personnel:	Infale)	mada Ta	, Co.	D. 1 Carr			
rielu rei soffilel:	walsh	mertz, Tr	vi'y	<u> </u>			
Simulation 1/2	hichael 7	Dec 1.1		5-4-	. / A	KU	
Signature:	umu !	INVIN		Date	: 6 A	ug 07	

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Station ID: NOB	Date:	6 Aug	64	Time (	local):	1255	Project #	G0050013 G0	05002, G0	04974
Recorder: Mike	s Walsh		,	Sampli	ing Loca	ition (circle or	ne): BSMP	Northstar	Liberty / (	Other
Latitude (WGS84)	70' 29	. 4a	81			ude (WGS84)		° 38. 3		
Field Observations							- •			. ,
Wind Speed (kts):	Calm	Wind Di	rection:				Seas/Ice	: Calm		
Water Depth (ft):	35.4		Conduc	tivity, Te	emperat	ure, Depth (C	TD):			
Doppler Current:			Turbidit			1	ment Tow:			
Comments:										
Sediment Samples										
Device: Van Veen	Grab Other-				1	No. of Replica	tes 1			
Organics	Metals		Grain S	ize	•	TOC	13(	C Meth	ıyl Hg	Other
04-N8-01-PHG			<u> </u>	7		<u> </u>		10000	., <u>.</u>	
Sediment Texture (		oly): 65	50% silt/c	lav	Fine	Coarse	Sand Grave	el Shell	l Hash	Mixed
Indications of Anoxi		(i)			H₂S O		No			
Sediment Commen	ts: Stiff	clay bul	inu sur	free		<del>-</del>				
Water/Suspended	Sediment Sam	ples:	Sur	face		Mid-Wat		Bottom	•	Other
Large Volume Wa	ter Samples:	Repl	icate 1	R	eplicate	2				
Volume filtered/prod	cessed (liters)			XAD	Cartridge	)	Plea	ted Filter		TSS
LV Water Commen	ts:									
Biota										-
Amphipods	Traps Deploye			Traps	Retriev	ed:		Anonyx:	<del>,</del>	
Clams	Number of Gr			Astart				Cyrtodaria:	<u> </u>	
Mussels/SPMD	Moorings Dep		<del></del>	+	ngs Ret	rieved:	Mussels:		SPMD:	
Biota Comments:		•			<b>—</b>	•				
Quality Control Sa	amnles	<del></del>	<del>,</del>						<del></del>	
Field Blank		Equipment	Rlank			Trip Blanl	·		Other	
Overall Comment		<u>-quipinent</u>	Dialik	<del></del>		Trip Diani	`		Other	
Overall Comment	V 8		÷							
	. /41-e					44				
Field Personnel:	WAISH,	mut	2,71	retry	<u>, D</u>	140556				
				,						
1	2	1.//								
Signature: 7	hichnel	W Ne	n	-		Date	: 6 A	ng 04		<del> </del>

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Station ID: NO	Date: 6 A	ug 04	Time (	local): 1315	Project #:	3005001) G005002, C	004974
Recorder: /wild	Walsh	7					
Necolder. /valc	Parion		Sampi	ing Location (circle on	e). BOIVIP I	Northstar / Liberty	Otner
Latitude (WGS84)	70° 29 .	5703		Longitude (WGS84)	148°	40.0925	
Field Observations	and Measurements			, , <u>, , , , , , , , , , , , , , , , , </u>	· • · · · · · · · · · · · · · · · · · ·		
Wind Speed (kts):	Calm Wind	Direction:			Seas/Ice	: Calm	
Water Depth (ft):	36.4 Ft	Conduc	tivity, Te	emperature, Depth (C	TD):	· .	
Doppler Current:		Turbidit	y:	Instrur	nent Tow:	<del> </del>	
Comments:							}
Sediment Samples							
Device: Van Veen			:	No. of Replicat	tes 1		
Organics	Metals	Grain S	ize	TOC	130	Methyl Hg	Other
04-NB-01-PHC	<u>-s /</u>	<b>/</b>					
Sediment Texture (d	circle all that apply):	>50% silt/cl	ay	(Fine) Coarse	Sand Grave	Shell Hash	Mixed
Indications of Anoxia	a: Yes (No)			H₂S Odor: Yes	No		
Sediment Comment	s: Fine Flo	ek over	Fo	ne sand			
Water/Suspended	Sediment Samples:	Sur	face	Mid-Wate	er	Bottom	Other
Large Volume Wat	er Samples: F	Replicate 1	R	eplicate 2			
Volume filtered/prod	essed (liters)		XAD	Cartridge	Pleat	ed Filter	TSS
LV Water Comment	s:						
Biota		.,					
Amphipods	Traps Deployed:		Traps	Retrieved:		Anonyx:	
Clams	Number of Grabs:		Astart			Cyrtodaria:	
Mussels/SPMD	Moorings Deployed:		Moorii	ngs Retrieved:	Mussels:	SPMD:	
Biota Comments:							
Quality Control Sa	mnles						
Field Blank		nent Blank		Trip Blank		Other	
Overall Comments		ion Biann			1	Culor	
		****					
Field Personnel:	Walsh, Mert	z, Tref	vy, I	Mossi			
Signature: M	ishal Wal	sh		Date:	6 A	lug 04	

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Station ID: N	17	Date: 6 A	ng 04	Time (I	ocal): 1332	Project #:	G005001) G005002, G	004974
Recorder: M	lu W		7	Sampli	ng Location (circle o	ne): BSMP /	Northstar / Liberty /	Other
Latitude (WGS84)		0° 29 . 8	177		Longitude (WGS84	) 148°	40.3584	
Field Observation						<del></del>		
Wind Speed (kts):			d Direction:		·	Seas/Ice	: calm	
Water Depth (ft):	38	·3ff	Conduc	tivity, Te	mperature, Depth (C	TD):		
Doppler Current:			Turbidit	y:	Instru	ment Tow:		
Comments:								
Sediment Sample	es	<u></u>						
Device: Van Ve	n Grab	Other-			No. of Replica	ates /		
Organics		Metals	Grain S	ize	TOC	130	Methyl Hg	Other
04-N17-01-P	he-s	<b>✓</b>	/					
Sediment Texture	(circle all	that apply):	>50% silt/cl	ay)	Fine Coarse	Sand Grave	Shell Hash	Mixed
Indications of Ano	xia: Y	es (Ño)			H₂S Odor: Yes	<b>(No</b>		
Sediment Comme	nts: 4	ine floc	k over	Stif	fclay			
Water/Suspende			Surl		Mid-Wat	er	Bottom	Other
Large Volume W	ater Sam	ples:	Replicate 1	Re	eplicate 2			
Volume filtered/pr			1		artridge	Pleat	ed Filter	TSS
LV Water Comme	nte:		<u>-</u>	•		•		•
Biota	IIIĢ.							
Amphipods	Trans	Deployed:		Trans	Retrieved:		Апопух:	
Clams		er of Grabs:		Astarte			Cyrtodaria:	<del></del>
Mussels/SPMD		ngs Deployed:	<del></del>	† <del></del>	ngs Retrieved:	Mussels:	SPMD:	· .,
		.go Dopioyeu.		LINOOIII	igo i touleveu.	เขเนออธิเอ.	J OF MID.	
Biota Comments:						·		
Quality Control	Samples							
Field Blank		Equipr	nent Blank		Trip Blan	<u>k</u>	Other	
Overall Commer	its:							
				<u>.</u>				
Field Demonstrate	v. L	le 1	و مای	T., (	0.16.	_		
Field Personnel:	Wa	IDM, M	472,	11011	ry, Dulfossi	<u></u>	<del></del>	
					-			
	 J							
Signature:	hich	al Wa	Ish		Date	: <i>4 )</i>	Any 04	
						- ·		

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Station ID: K	Date:	6 Aug	64	Time (	ocal): 1402	Project	# <b>G</b> 0	05001) G005002, G	004974
Recorder: /wik	ic Walsh	<u> </u>		Sampli	ing Location (circle	one): BSM	P /(N	orthstar Liberty	Other
Latitude (WGS84)	70° 27		7		Longitude (WGS		7		
Field Observations		T		-1-1				4.1	
Wind Speed (kts):	0-5	Wind Dir		<u> NW</u>		Seas/		calm	
Water Depth (ft):	<u> 31.4</u>				emperature, Depth				
Doppler Current:			Turbidit	<u>y: 12</u>	Swface Inst	trument Tow	:		
Comments:									
Sediment Samples	;								
Device: Van Veen	Grab Other-				No. of Repl	icates			
Organics	Metals		Grain S	ize	TOC		13C	Methyl Hg	Other
Sediment Texture (	circle all that app	oly): >5	0% silt/cl	ay	Fine Coar	se Sand Gr	avel	Shell Hash	Mixed
Indications of Anoxi	a: Yes M	No			H₂S Odor: Ye	es No			
Sediment Commen	te·								
Water/Suspended		nlos:	/ Sur	face 1.	- 15-2.SmMid-W	lator		Bottom 6m	Other
Large Volume Wa			cate 1		eplicate 2	alci		DOMOIN GPA	Outer
Volume filtered/pro		r (opii	cate i	1	Cartridge	PI	eated	Filter	TSS
		-		7000	- Cararago			1 11(0)	
LV Water Commen	ts:								
Biota	T D		•	T	Dational		1		
Amphipods	Traps Deploye			1	Retrieved:			nonyx:	
Clams	Number of Gra			Astart		Name		yrtodaria:	<del> </del>
Mussels/SPMD	Moorings Dep	ioyea:	<del></del>	Moon	ngs Retrieved:	Mussels:		SPMD:	<del></del>
Biota Comments:									
Quality Control Sa	amples								
Field Blank		Equipment	Blank		Trip Bl	ank		Other	
Overall Comment	s:								
Field Personnel:	WALGE	Mest	7. TJ	itr.	Delfares				
i icia i ci soiniei.	ward M		· , 10	47	, Delfouse				
n <sub>a</sub>	. , , ,	<i>^</i>							
Signature: //	ichael n	/NON	<u> </u>		Da	ate: 6	Au	9 04	

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Station ID: K 2	Da	ate: 6 A	ug oy	Time (	local):	1507	Project #C	G005001)G	005002, G0	04974		
Recorder: Mik	a Walsh		7	Sampl	ing Loca	ntion (circle o	one): BSMP	/ Northstar	Liberty / C	ther)		
Latitude (WGS84)	70°	28.30	053			ude (WGS84		40.110	•			
Field Observation			<del> </del>									
Wind Speed (kts):	0-5	Wind	Direction:	NN			Seas/Ice	: calm	n			
Water Depth (ft):	274	····	1		emperat	ure, Depth (	CTD):	·				
Doppler Current:	<u> </u>		Turbidit	y: ✓		Instr	ument Tow:	···········				
Comments:												
Sediment Samples												
<b>Device:</b> Van Veer	Grab Ot	her-	·		1	lo. of Replic	ates					
Organics	Met	als	Grain S	ize		TOC	13(	C Met	hyl Hg	Other		
Sediment Texture (	circle all tha	t apply):	>50% silt/cl	ay	Fine	Coars	e Sand Grave	el She	ell Hash	Mixed		
Indications of Anox	ndications of Anoxia: Yes No H₂S Odor: Yes No											
Sediment Commen	ts <sup>.</sup>		<u></u>									
Water/Suspended		Samnles:	Surf	face 🗸	/	Mid-Wa	ter 1-1.5-2.	<b>SM</b> Rottom	6m (	Other		
Large Volume Wa			eplicate 1		eplicate		ICI P NO -	DOMOIN		Juici		
Volume filtered/pro			opiloato I		Cartridge		Plea	ted Filter	<del></del>	TSS		
LV Water Commen		<u>-,</u>		17410	zararage	•		ica i ilici		100		
Biota	lS			, . <u></u>					-			
Amphipods	Traps Dep	oloved.		Trans	Retrieve	74·		Anonyx:				
Clams	Number o			Astart			<del>.</del>	Cyrtodaria:				
Mussels/SPMD		Deployed:		1	ngs Retr	iovod:	Mussels:	Cyrtouana	SPMD:			
	1 Wooningo	Deployeu.		I INIOOIII	igo ricu	icveu.	Mussels.	<u> </u>	OF WID.			
Biota Comments:												
Quality Control Sa	amples	ΤΞ .							1	<del></del>		
Field Blank		Equipm	ent Blank		· · · · ·	Trip Blar	ık		Other	<del></del>		
Overall Comment	<u>s:</u>											
										***,*		
	·					<del>_</del> .						
Field Personnel:	Walst	h Me	1/2, Tr	etn	Del	Logar						
			<del> </del>	<del>~~</del>	7 40	4****			. '			
1	, .	1 4 7	,									
Signature:	Signature: Minimul Walsh Date: 6 Aug 04											

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Station ID: K3	Date	6 Au	<u>4 04</u>	Time (	local): 16	04	Project #	G005001), G0	05002, G	004974
Recorder: Mike	Walsh		<b>V</b>	Sampl	ing Location	(circle on	e): BSMP	/ Northstar /	Liberty(	Other
Latitude (WGS84)	•	8.996	8		Longitude	(WGS84)	148°	38.80	59	
Field Observations	and Measure	ements								
Wind Speed (kts):	0-5	Wind D	irection:	NM			Seas/!ce	: Calm		
Water Depth (ft):	33.3H		Conduc	tivity, Te	emperature	Depth (C	TD):	mw /		
Doppler Current:	<u> </u>		Turbidit	y: 🗸		Instrur	ment Tow:			
Comments:										
Sediment Samples										
Device: Van Veen		ŗ <b>-</b>			No.	of Replica	tes			
Organics	Metals	,	Grain S	ize		TOC	13(	C Met	nyl Hg	Other
Sediment Texture (d	circle all that a	pply): >	·50% silt/cl	lay	Fine	Coarse	Sand Grave	el She	Il Hash	Mixed
Indications of Anoxi	a: Yes	No			H₂S Odor	: Yes	No	•		
					, <b>.</b>					
Sediment Comment			6	?		Mid-Wate	<b>)</b>	Bottom	)	Other
Water/Suspended				face	Continuto 2	(IVIIO-VVai	51	BOHOIII		Other
Large Volume Wat Volume filtered/prod		Ret	olicate 1	ł	Replicate 2 Cartridge		Plea	ted Filter		TSS
				1 7/10 (	Jaruruge		<u> </u>	ted i iitei		
LV Water Comment	s:									
Biota	Γ			Τ_				Τ		
Amphipods	Traps Deplo			1	Retrieved:			Anonyx:		
Clams	Number of C			Astan		T		Cyrtodaria:	1	<del></del>
Mussels/SPMD	Moorings De	eployed:		Moori	ngs Retriev	ed:	Mussels:		SPMD:	
Biota Comments:		·								
Quality Control Sa	mples								· · · · ·	
Field Blank	· · · · ·	Equipmer	nt Blank			Trip Blanl	ζ		Other	
Overall Comments	s:									
	****								<u></u>	
Field Personnel:	walsh	, mut	2, Tre	fry,	Dufos	50				
Signature: MA	than 7	Walet				Date	: <b>(</b> , A	lug oy		

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Station ID: NO6	Date:	1 Aug	04	Time (	local): ; 340	Project #1	G005001) G0050	02, G004974
Recorder: Mik	e WAKh			Sampl	ing Location (circle o	ne): BSMP	Northstar Y Lib	erty / Other
Latitude (WGS84)	70 2	9 .55	91		Longitude (WGS84	1) 148	43. 2685	-
Field Observations	and Measuren	nents				<u> </u>		
Wind Speed (kts):	5KK	Wind Dir	ection:		E	Seas/lo	e: <1 <b>f</b> t	
Water Depth (ft):	37.194		Conduc	tivity, Te	emperature, Depth (0	CTD):		
Doppler Current:			Turbidit	<u>y:</u>	Instr	ument Tow:		
Comments:								
Sediment Samples	}	<u> </u>						
Device: Van Veen	Grab Other-				No. of Replic	ates 3		
Organics	Metals		Grain Si	ize	тос	13	C Methyl H	la Other
64- NG-012,3-PH	C-5 /		<b>V</b>		<b>V</b>			
Sediment Texture (	circle all that app	oly): (>5	0% silt/cl	ay \	Fine Coars	e Sand Grav	el Sheli Ha	sh Mixed
Indications of Anoxi	TAP	NO (AMEL			H₂S Odor: Yes			
Sediment Comment	ts: 3 Rep	litales	collec	ted	(1340 x	2) 1347	(3) 1357	
Water/Suspended	Sediment Sam	ples:	Surl	face	Mid-Wa	ter	Bottom	Other
Large Volume Wat	er Samples:	Repl	icate 1	R	Replicate 2			
Volume filtered/prod	cessed (liters)			XAD (	Cartridge	Plea	ted Filter	TSS
LV Water Comment	ts:							
Biota								
Amphipods	Traps Deploye	ed:		Traps	Retrieved:	***************************************	Anonyx:	
Clams	Number of Gra			Astart			Cyrtodaria:	
Mussels/SPMD	Moorings Dep			† <del></del>	ngs Retrieved:	Mussels:	1	PMD:
Biota Comments:								
Quality Control Sa	omnles	-71	747					
Field Blank		guipment	Blank		Trip Blar		Ot	her
Overall Comments				Marc		IIV	1 00	HE
O TOTAL OUTINICITY	or a corporation	7 4/7	* un	····	u (TES/			· .
				•			<del></del>	
Field Personnel:	WAISH,	Merte	,10	fry				
Signature: M	inhael 2	Vals	_		Dat	e: 7	Aug 04	

	· · · · · · · · · · · · · · · · · · ·				<del></del>						
Station ID: N 16	Date: 7 P	tua 04	Time (	local): 14 20	Project #:	9005001)G005002, G	004974				
Recorder: Ilúlu	WAKH	<u> </u>	Sampli	ing Location (circle or	ne): BSMP /	Northstar Liberty /	Other				
1 - Childre (MOCOA)	71 9a 9	A e/a		1: (MOCOA)	11.0	U2 7967					
Latitude (WGS84)	70 29.9	087		Longitude (WGS84)	148	42.3907	——— <u> </u>				
Field Observations Wind Speed (kts):		d Direction:	E		Seas/Ice:	c Ift					
Water Depth (ft):	39.2 ft			emperature, Depth (C							
Doppler Current:	<u> </u>	Turbidit			ment Tow:						
Comments:			<u></u>	1							
Sediment Samples											
Device: (Van Veen	Grab Other-			No. of Replica	ites						
Organics	Metals	Grain S	i <del>7</del> 0	TOC	13C	Methyl Hg	Other				
SU-NIC OI-PHCS V VICENTIA COLLECTION OF MELITY IN COLL											
Sediment Texture (circle all that apply): 50% silt/clay Fine Coarse Sand Gravel Shell Hash Mixed											
ndications of Anoxia: Yes (No) H <sub>2</sub> S Odor: Yes (No)											
		1	ſı.								
	s: Thm layer				iff cl		Other				
	Sediment Samples:	<del></del>	face	Mid-Wat deplicate 2	er	Bottom	Outei				
Large Volume Wat Volume filtered/prod	•	Replicate 1		Cartridge	Pleate	ed Filter	TSS				
		,	17012	Sararago	111000	00 1 1101					
LV Water Comment	S.		-								
Biota  Amphipods	Traps Deployed:		Trans	Retrieved:		Anonyx:					
Clams	Number of Grabs:		Astart	· · · · · · · · · · · · · · · · · · ·		Cyrtodaria:	<del></del>				
Mussels/SPMD	Moorings Deployed:			ngs Retrieved:	Mussels:	SPMD:	•				
			1 1110011	1.90 ( 0.1.10 ( 0.1.1							
Biota Comments:							<del> </del>				
Quality Control Sa Field Blank	<u> </u>	nent Blank		Trip Blan		Other					
			10.								
Ł	: 5 mall 5a Lvailabil, ty	of ve	rent	L deposites	10 0	were port					
	1			20/05/10							
Field Description	\11/1c1 b	ا دارای	Tal	<u> </u>							
rieiu Personnei:	WAISH, M	(112)	IICI	7							
Signature M	ichnel Wal	ah		Date	: 7 A	ua ou					
-1911414141			··· ·· · · ·	Jun							

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Station ID: N 03 Date: 7 Aug 04 Time (local): 14 35 Project # G005001) G005002, G004974											
Recorder: M	ku walsh	L		Sampli	ng Loca	ation (circle or	ne): BSMP /	Northstar	Liberty /	Other	
Latitude (WGS84)	70° :	30.02	07		Longit	ude (WGS84	148	41.49	101		
Field Observations	and Measuren	nents									
Wind Speed (kts):	0-5 KB	Wind Dire	ection:	E			Seas/Ice	: Calı	n 🖟		
Water Depth (ft):	40.2ft		Conduc	tivity, Te	mperat	ure, Depth (C	TD): .				
Doppler Current:			Turbidit	<b>y</b> :		Instru	ment Tow:				
Comments:											
Sediment Samples	}								•		
Device: Van Veen	Grab Other-					No. of Replica	ites	····			
Organics	Metals		Grain Si	ze		TOC	13(	Meth	nyl Hg	Other	
04-N03-01-PHC	<b>%</b> \(		<b>4</b>			<u> </u>					
Sediment Texture (	-	oly): >50	0% silt/cl	ay	Fine	Coarse	Sand Grave	l She	ll Hash	Mixed	
ndications of Anoxia: Yes No H <sub>2</sub> S Odor: Yes No											
Sediment Commen	ts: Thick	laver	of P	lock	1840	stilf a	your c	lan			
Water/Suspended			OSurf			Mid-Wat	1.1	Bottom		Other	
Large Volume War	ter Samples:	Replic	cate 1	R	eplicate	2					
Volume filtered/prod	cessed (liters)			XAD C	artridge	9	Pleat	ed Filter		TSS	
LV Water Commen	ts:										
Biota											
Amphipods	Traps Deploye	ed:		Traps	Retriev	ed:		Anonyx:			
Clams	Number of Gra			Astarte		<u> </u>		Cyrtodaria:			
Mussels/SPMD	Moorings Dep			1	ngs Ret	rieved:	Mussels:		SPMD:		
Biota Comments:	· <del>V</del> · · · · · · · · · · · · · · · · · · ·			•		L				:	
Quality Control Sa	amples							·		<del></del>	
Field Blank		Equipment I	Blank			Trip Blan	·—····································		Other		
Overall Comment		-чартын і	DIGI IN			i inpoian			Culci		
	<b></b>						· · · · · · · · · · · · · · · · · · ·				
FLUD.	1.44111.	MA - 1	L9 +								
Field Personnel:	walsh	, ivices	4) 11	MM.	/						
					<del> </del>				<u> </u>		
Signature: 10	ishael T	hlala	h			Date	. 7 h	tuy o	น		
Olymatule.		y we ca				Date	. /	ing -	_ <b>L</b>		

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Station ID: N	No a <sub>Date:</sub>	7 Am	404	Time (lo	cal): <i>[</i>	520	Project #:0	G005001) G0	05002, G00	)4974
Recorder: Mike	e Walsh	(		Samplin	g Location	on (circle or	ie): BSMP .	Northstår	Liberty / O	ther
Latitude (WGS84)	70° 30		0		Longitud	e (WGS84)	148	41 . 3	394	
Field Observations	and Measurer	wind Di	izaction				Seas/Ice	: coli		
Wind Speed (kts): Water Depth (ft):	42.7 ft	Wind Di		E tivity Tor	nnorotur	e, Depth (C		. Cher	<u>~ι</u>	
Doppler Current:	42.611		Turbidit		nperatur	······································	ment Tow:			
			Turbian	<u>,</u>		insuui	HOIL TOW.			
Comments:						· · · · · · · · · · · · · · · · · · ·				<del></del>
Sediment Samples										
Device: Van Veen	Grab Other-	·····	<del></del>	Т	No	. of Replica				<u> </u>
Organics	Metals		Grain S	ize		TOC	13	C Meti	nyl Hg	Other
04-N04-01-PH										
Sediment Texture (d	ircle all that ap	oly): >	50% silt/cl	ay (Very	Fine	Coarse	Sand Grave	el She	Il Hash	Mixed
Indications of Anoxia	a: Yes (	<b>1</b> 6/			H <sub>2</sub> S Odo	r: Yes	(No)			
Sediment Comment	s: Fine :	sandy	Flock	over	stiff	day	· · · · · · · · · · · · · · · · · · ·			
Water/Suspended	Sediment Sam	ples:	Sur	face		Mid-Wat	er	Bottom	(	Other
Large Volume Wat	er Samples:	Rep	licate 1	Re	plicate 2	_				<del></del>
Volume filtered/proc	essed (liters)			XAD C	artridge		Plea	ted Filter	<u></u>	TSS
LV Water Comment	s:									
Biota										····
Amphipods	Traps Deploy	ed:		Traps F	Retrieved	:	<u> </u>	Anonyx:		
Clams	Number of Gr	abs:		Astarte	;	···		Cyrtodaria:		_
Mussels/SPMD	Moorings Dep	loyed:		Moorin	gs Retrie	ved:	Mussels:		SPMD:	
Biota Comments:										
Quality Control Sa	mples					•				
Field Blank		Equipmer	nt Blank			Trip Blan	k		Other	
Overall Comments	s:									
Field Personnel:	WAISH,	Met	2, TV	efry						
			F,			· • · · · · · · · · · · · · · · · · · ·				
Signature: M	mehael	Waln	- As			Date	: 7Aı	u ou		
Cignataro: 7	<del>/</del>		<u> </u>		<del></del>	, Date		T		

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Station ID: No5 Date: 7 Aug 04 Time (local): 1545 Project #: G005001 G005002, G004974											
Recorder: Mul	ce walsh	V	_	Sampl	ing Location (circle o	ne): BSMP	/(Northstar ) Libert	y / Other			
Latitude (WGS84)	70°2		37		Longitude (WGS84	) 148°	44.6996				
Field Observations		nents				· <b>,</b>					
Wind Speed (kts):	05 Kts	Wind Di	rection:	£		Seas/Ice	: Calm				
Water Depth (ft):	36.8 Ft		Conduc	tivity, Te	emperature, Depth (C	CTD):					
Doppler Current:			Turbidit	<b>y</b> :	Instru	ment Tow:					
Comments:											
Sediment Samples	<b>.</b>										
Device: Van Veen	Grab Other-				No. of Replica	ates /					
Organics Metals Grain Size TOC 13C Methyl Hg Other											
04-NOS-01-PHC-5	<b>\</b>		<b>V</b>		<b>V</b>						
Sediment Texture (	circle all that app	oly): 🔄	0% silt/cl	ay	(Fine) Coarse	e Sand Grave	el Shell Hash	Mixed			
Indications of Anoxi	a: Yes	VO)			H₂S Odor: Yes	(No)					
Sediment Commen	ls: Fine s	andu	Flock	sun	stiff clay						
Water/Suspended				face	Mid-Wa	ter	Bottom	Other			
Large Volume Wat			icate 1	F	Replicate 2						
Volume filtered/prod		•		T	Cartridge	Plea	ted Filter	TSS			
LV Water Commen	łe:		,								
Biota	· · · · · · · · · · · · · · · · · · ·										
Amphipods	Traps Deploye	eq.		Trans	Retrieved:		Anonyx:				
Clams	Number of Gr			Astart			Cyrtodaria:				
Mussels/SPMD	Moorings Dep			1	ngs Retrieved:	Mussels:	SPMI	):			
Biota Comments:	<del></del>		<del></del>		<b>.</b>						
Quality Control Sa	mnlas	<del></del> .				474.					
Field Blank		Equipment	Blank		Trip Blan	k	Other				
Overall Comments		<u> </u>	Diarin		T TTP Dial	IIX	Touter	<del> </del>			
	<u> </u>					·····	·				
			• • • • • • • • • • • • • • • • • • • •					·			
								***************************************			
Field Personnel:	Walsh	mest.	z, Fr.	ifry	,						
	·			,							
10	.1. 1	1./ 1.	,			n 1					
Signature:	nehael '	ivals	<u> </u>		Date	: 7A	4 04				

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Station ID: KO		Date: 7	Ang or	4	Time (local)	: 163	35	Project #/	G005001, G00	05002, GC	04974
Recorder: /w/k	WAY	5h			Sampling L	ocation (c	ircle on	e): BSMP	/ Northstar /	Liberty (	Other
Latitude (WGS84)	70	0 26.3	3959		Lor	gitude (W	(GS84)	148°	41.85	00	
Field Observations								<del></del>			
Wind Speed (kts):	0-5		nd Direction		E			Seas/Ice	: calm		
Water Depth (ft):	9.5.	17			ivity, Tempe	rature, De			· · · · · · · · · · · · · · · · · · ·		
Doppler Current:			Tu	ırbidity	r: 🗸		Instrur	nent Tow:			
Comments:		<del></del>		<sub>1</sub> .							
Sediment Samples	3										
Device: Van Veen	Grab	Other-	<del></del>		<b>-</b>	No. of F	Replica	tes	<u> </u>		
Organics		Metals	Gra	ain Siz	ze	TO	OC	13(	C Methy	yl Hg	Other
Sediment Texture (	circle all	that apply):	>50%	silt/cla	ay Fir	е (	Coarse	Sand Grave	el Shell	Hash	Mixed
Indications of Anoxi	a: Y	es No			H <sub>2</sub> S	Odor:	Yes	No			
Sediment Commen	ts:										
Water/Suspended		ent Samples	•	Surfa	ace <b>√</b>	M	id-Wate	er 1, 1.5, z	. ≤ Bottom	<u> </u>	Other
Large Volume Wat		-	Replicate		Replic			· · · / · /			
Volume filtered/prod					XAD Cartri			Plea	ted Filter		TSS
LV Water Commen	fe <sup>,</sup>										
Biota									<u>.</u>		
Amphipods	Traps	Deployed:			Traps Retr	eved:			Anonyx:	· · · · · · · · · · · · · · · · · · ·	
Clams		er of Grabs:			Astarte:				Cyrtodaria:		<del> </del>
Mussels/SPMD		ngs Deploye	d:		Moorings f	Retrieved:		Mussels:	, -y,	SPMD:	
Biota Comments:		J 1 7-		I			<b>-</b>				· · · · ·
Quality Control Sa	amplee										<u></u>
Field Blank	mpies	Equi	ment Blar	nk		Tei	p Blank	·		Other	
Overall Comment		i Equi	micrit Dial	u IIX		Į IN	p Diailk		k	Ouici	
Orcian Comment	J.							· · · · · · · · · · · · · · · · · · ·			
					<del>1</del>					·	
								· · · · · ·			
Field Personnel:	WA	1sh, Me	12, T	Tref	7y						
		,	·		,						
Signature: M		1 2/	· /a 4						A		
oignature: ///	wn	al 116	NUN	<u> </u>			Date	. //	tug of	<u> 1</u>	

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Station ID: µ03	Date:	SAy04	Time	(local): 0824	in Project#	: G005001 G005002	)G004974				
Recorder: Hau	din	····	Samp	ling Location (circ	le one): BSMP	/ Northstar ( Libert	y)/ Other				
Latitude (WGS84)	70° 30.0	NIZ		Longitude (WG	S84) 148	1480 46.	· 0 H				
Field Observations	s and Measuren	nents			148	1° 41.4656					
Wind Speed (kts): a	0-5	Wind Direction:	SE				no ice				
Water Depth (ft):	40.2	Condu	ctivity. T	emperature, Dept		-					
Doppler Current:		Turbid		,	strument Tow:						
Comments:											
Sediment Samples	3										
Device: Van Veer	Grab Other-			No. of Re	plicates						
Organics	Metals	Grain	Size	ТОС		C Methyl Hg	Other				
ox- M	HIOGGIO	Grain	JIZO	100	<u></u>	O Wearly 11g	Outer				
Sediment Texture (	circle all that and	oly): >50% silt/		Fine Co	arse Sand Grav	rel Shell Hash	Mixed				
Sediment Commen											
Water/Suspended	<del></del>	nlos Cu	rface	A.S.J.	Water	De#	O#				
Large Volume Wa		Replicate 1			vvalei	Bottom	Other				
Volume filtered/pro		Replicate 1	Т	Replicate 2 Cartridge	Plac	ated Filter	TSS				
LV Water Commen		····	XAD I	Jarunuye	140213		100				
Biota Lish (mir		2 peployal	1	2 rewerd		Texado -					
Amphipods	Traps Deploye			Retrieved: 2	······································	Anonyx: 2 600	- Aud				
Clams	Number of Gra		Astan	· · · · · · · · · · · · · · · · · · ·	<u> </u>	Cyrtodaria:					
Mussels/SPMD	Moorings Depl		1	ngs Retrieved:	Mussels:	SPMI	)·				
Biota Comments:	<u>,</u>				maccoic.	10.11					
Quality Control Sa	emnlae					****					
Field Blank		quipment Blank		Trip E	Plank	Other					
Overall Comments			- <i>N</i>			- NW corner					
	COLOMB R	ALG NO NITE	~ 115	di	win of	- NW Carre	~ 05				
	JUMANA D	THE THE TOTAL	/ / W C !	21/1							
Field Personnel:	Trefry,	Prentki,	Hanl	n Thick	e. Alkin	West ?					
	('	· -	, T. —	/	7						
		·				<del></del>					
Signature:	1 6/1			1,	Date: BALL	4					
Signature: 1/1/	L yw				vate: UPU	201	<del></del>				
ι /					-						

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Station ID: NO	Date: 8	Aug 04	Time (local): 0855 Project#: G005001, G005002, G0								
Recorder: Have		<i>J</i> .	i	ng Location (circle or	ne): BSMP(	Northstar ) Liberty /	Other				
Latitude (WGS84)	700 31.0			Longitude (WGS84)	1480	41.4653					
Field Observations			<del>~</del>			/ /					
Wind Speed (kts):	<u>کی</u>	Wind Direction:				calm/ no 1CA					
	34.7			emperature, Depth (C		•					
Doppler Current:		Turbidit	ty: $\checkmark$	Instru	ment Tow:						
Comments:											
Sediment Samples											
Device: Van Veen	Grab Other-			No. of Replica	ites	···					
Organics the Metals Grain Size TOC 13C Methyl Hg Other											
OY-NOI-PHOOLPHC-S V											
Sediment Texture (circle all that apply): >50% silt/clay (Fine) Coarse Sand Gravel Shell Hash Mixed											
Indications of Anoxia: Yes (No) H <sub>2</sub> S Odor: Yes (No)											
Sediment Comment	s: Sure fl	sckentop,	Prino	wily five same	d						
Water/Suspended			face	Mid-Wat		Bottom	Other				
Large Volume Wat	er Samples:	Replicate 1	R	eplicate 2							
Volume filtered/prod	cessed (liters)		XAD	Cartridge	Pleate	ed Filter	TSS				
Water Comment	ts: Sap	ne b	1.5,	2.5,4,6	9.1	2 M					
Biota											
Amphipods	Traps Deploye	<del></del> d:	Traps	Retrieved:		Anonyx:					
Clams	Number of Gra		Astart			Cyrtodaria:					
Mussels/SPMD	Moorings Depl		Moori	ngs Retrieved:	Mussels:	SPMD:					
Biota Comments:											
Quality Control Sa	amples										
Field Blank	E	quipment Blank		Trip Blan	k	Other					
Overall Comments	s:		•								
Field Personnel:	Field Personnel: Prentti, Tretry, Hurch, Trocine, Alkine, Westz										
	,			ŧ	, ,	•					
Simulation A	1.616			D-4-	: 8 Aug	<i>«</i> 4					
Signature:	m m			Date	: Uning	0 /	<u>.</u>				

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Station ID: N24/	ID: N24A Date: 8 Aug 04 Time (local): 1102 Project # (6005001) G005002, G004974									
Recorder: H	adi	^		Sampli	ng Location (	circle on	BSMP)	Northstar /	Liberty / G	Other
Latitude (WGS84)		38.66	16		Longitude (	WGS84)	1480	34.184	49	
Field Observations		asurements								
Wind Speed (kts): C		Wind	Direction:	SER	1.1/6		Seas/Ice	: Calon Sea	1-Flor	128
Water Depth (ft):	70 <u>'</u>		Conduc	tivity, Te	mperature, D	epth (C	TD):			
Doppler Current:			Turbidit	y:		Instrur	ment Tow:			
Comments:										
Sediment Samples										
Device: Van Veen	Grab	Other-			No. of	Replica	tes			
Organics		Vietals	Grain S	ize		roc	130	: Meth	nyl Hg	Other
•					·				<u>s</u>	1
Sediment Texture (c.	ircle all	that apply):	>50% silt/cl	ay	Fine	Coarse	Sand Grave	I Shel	ll Hash	Mixed
Indications of Anoxia					H₂S Odor:	Yes	No			
Sediment Comments	<b>S</b> :									
Water/Suspended S	Sedime	nt Samples:	Surf	face	N	/lid-Wate	er er	Bottom		Other
Large Volume Wate	er Samp	oles: R	eplicate 1	Re	eplicate 2					
Volume filtered/proce	essed (i	iters)			artridge		Pleat	ed Filter		TSS
LX Water Comments	5: <b>L</b> u	fuce, 1	45	2.5.	4, 6	9	12,			
Biota			7			,			·	
Amphipods	Traps I	Deployed:		Traps	Retrieved:			Anonyx:		
Clams		er of Grabs:		Astarte	••••			Cyrtodaria:		
Mussels/SPMD	Moorin	gs Deployed:		T ·	gs Retrieved	:	Mussels:		SPMD:	
Biota Comments:										
Quality Control Sai	mples									
Field Blank		Equipm	ent Blank		T	rip Blank	(		Other	
Overall Comments	:				•					
Field Personnel:	Alki	ive, Hon	lin, Me	W12,	Prent	5,71	refry,	Train	ıl	
Signature:	. The					Date:	: BAug	<i>H</i>		

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Station ID: 5(W) Date: 8Aug 84 Time (local): 1350 Project # G005001 G005002, G004974											
Recorder: #20	elin		,	Sampl	ing Loc	ation (circle o	ne):( BSMP	)/ No	rthstar /	Liberty / C	)ther
Latitude (WGS84)	700%	27. 323	8			tude (WGS84	1,110		<b>ે, ૦</b> ૯		
Field Observations								., ,			
Wind Speed (kts): C		Wind D	irection:	SE		······································	Seas/lo	ce: Ca	ilen -	MICE	
	<u> 25</u>				empera	ture, Depth (0		_			
Doppler Current:	V		Turbidit	<b>y</b> :	<u> </u>	Instru	ument Tow:				
Comments:	<u> </u>										
Sediment Samples										···	
Device: Van Veen	Grab O	ther-			<u>,</u>	No. of Replic	ates				
Organics Metals Grain Size TOC 13C Methyl Hg Other											
04-5(W)-OL-P	45/wet	=5 V	V				7				
Sediment Texture (c	ircle all th	at apply):	>50% silt/cl		Fine	Coars	e Sand Gra	vel	Shell	Hash	Mixed
Indications of Anoxia	a: Yes	(No)	Sittle	WY)	H <sub>2</sub> S C	Odor: Yes	(No)				
Sediment Comment	s: Light	+Buun_	Fine !	Surfu	ela	yer/fla	k out	op a	t + 4 x	r San	d
Water/Suspended	Sediment	Samples:	Sur	face		Mid-Wa	ter	E	ottom		Other
Large Volume Wat	er Sample	es: Re	olicate 1	R	eplicat	e 2					
Volume filtered/prod	essed (lite	ers)		XAD (	Cartridg	е	Ple	ated F	ilter		TSS
Water Comment	s: <u>S</u>	urface_	-4	1.5	, 2	5,4,0	6 M				<del></del>
Amphipods	Traps De	anloved:		Trans	Retriev	ioq.		Δn	onyx:		
Clams	•	of Grabs:		Astart		icu.	<del> </del>		rtodaria:		
Mussels/SPMD		s Deployed:		1		trieved:	Mussels:	<u> </u>	Todana.	SPMD:	
Biota Comments:				1 1110011	iigo i to		1111000101		I		
Quality Control Sa	mples	·····	<del></del>								
Field Blank		Equipme	nt Blank			Trip Blar	 nk			Other	
Overall Comments	s:	1									
Field Personnel:	Alkipp	, Hawle	z Nes	43,	Tr	fry Tr	ycine,	Pra	utk;		
Signature:	Sh					Dat	e: SAy	90	4		

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Station ID: 505	u) Date	e:BAUGO	4	Time (	local): 1505	Project	(#: G(	005001,)G005002,	G004974
Recorder:	udin				ing Location (circle				
Latitude (WGS84)	70° 26				Longitude (WGS8		G/G	18.8205	
Field Observations					·	<del></del> ,			
Wind Speed (kts):		Wind Dir	ection:	<u>5E</u>		Seas	/lce:	Culin - M.	ke
Water Depth (ft):	21		Conduc	tivity, Te	emperature, Depth	(CTD):			
Doppler Current:	· · · · · · · · · · · · · · · · · · ·		Turbidit	у:	Inst	rument Tov	N:		
Comments:									
Sediment Samples	3						_		
Device: Van Veen	Grab Othe	er-			No. of Repli	cates /			
Organics	Metal	ls .	Grain S	ize	TOC		13C	Methyl Hg	Other
04-5(5A)-OF	1HC-S		/		/				
Sediment Texture (	•	apply): (>5	0% silt/cl	ay)	(Fine) Coan	se Sand G	ravel	Shell Hash	Mixed
Indications of Anoxi	a: Yes	(No)			H <sub>2</sub> S Odor: Ye	s (No)	6	75cm	
Sediment Comment	s: Light	+ Brown-	sHlde	y ty	0.3-1cm-				175cm
Water/Suspended	~		Surf	•	Mid-W			Bottom	Other
Large Volume Wat	er Samples:	Repli	cate 1	R	eplicate 2			-	
Volume filtered/prod	essed (liters)	)		1	Cartridge	P	leated	Filter	TSS
LV Water Comment	·c·								
Biota									
Amphipods	Traps Deplo	oyed:		Traps	Retrieved:		A	nonyx:	
Clams	Number of (			Astart				Cyrtodaria:	
Mussels/SPMD	Moorings D			1	ngs Retrieved:	Mussels		SPMD:	
Biota Comments:	<u> </u>			1	.go vioaiovoa.		•	T OF THIE.	<u> </u>
Quality Control Sa	mnles								
Field Blank	inpies	Equipment	Rlank		Trip Bla	nk		Other	<del></del> .
Overall Comments	<u> </u>	Lquipinion	Dialik		Thip bid	u ik	<del></del>	Other	
	·•					·,			- <u>-</u> .
	***						<del></del>	****	
	444	19 1:		1 1	n 17	-t: 1	·	11	
Field Personnel:	/XIKING	teren	h, //	ertz	g Preutti	, we	5M)	- Jaw M	eine
			•		1	•	• •		
$\cap$	1/1	<del></del>				. ــــــــــــــــــــــــــــــــــــ			
Signature:	1 The	-			Dat	te: 8A	00	4	

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Station ID: 52	Date:	8 Augo7	Time (	local): (60	)	Project #(: (	6005001)G00	5002, G00	)4974
Recorder: Hu	din		Sampl	ing Location (	circle of	9): B8MP)/	Northstar /	Liberty (O	ther
Latitude (WGS84)	70° 24			Longitude (\	NGS84)	148°	14.0371	,	
Field Observations	and Measurem	ents				<del></del>			
Wind Speed (kts):	0-5	Wind Direction	on: $\nu$			Seas/Ice	Calyn -	MICE	
Water Depth (ft):	12.9	Co	nductivity, Te	emperature, D	epth (C	TD):	<u> </u>	· · · · · · · · · · · · · · · · · · ·	
Doppler Current:	V	Tu	rbidity: $ u$		Instrur	ment Tow:			
Comments:					·				
Sediment Samples	•						· · · · · · · · · · · · · · · · · · ·		
Device: Van Veen	Grab Other-			No. of	Replica	tes			
Organics	Metals	Gra	ain Size	7	OC	130	Methy	d Hg	Other
Sediment Texture (c	ircle all that app	ly): >50%	silt/clay	Fine	Coarse	Sand Grave	She <b>i</b> l	Hash	Mixed
Indications of Anoxia	a: Yes N	lo		H₂S Odor:	Yes	No			
Sediment Comment	s:								
Water/Suspended	Sediment Sam <sub>l</sub>	oles:	Surface	٨	/lid-Wate	er	Bottom	(	Other
Large Volume Water	er Samples:	Replicate	1 F	Replicate 2					
Volume filtered/proc	essed (liters)		XAD (	Cartridge		Pleate	ed Filter		TSS
LV Water Comment	s: Surf	uce, l,	45,2	5 Het	<i>{</i>				
Biota									
Amphipods	Traps Deploye	d:	Traps	Retrieved:			Anonyx:		
Clams	Number of Gra	ıbs:	Astan				Cyrtodaria:		
Mussels/SPMD	Moorings Depl	oyed:	Moori	ngs Retrieved	:	Mussels:		SPMD:	
Biota Comments:									
Quality Control Sa	mples								
Field Blank		quipment Blar	nk	Tı	rip Blank	ζ		Other	
Overall Comments	:		-				· · · · · · · · · · · · · · · · · · ·		
							•		
Field Personnel:	Ative, -	Ludin	Prend	ki, Me	WE;	Trefny	Truci	ine	
	<del> </del>	-	<del></del> .		1				
Signature: A	· the				Date	: 8 Aug	104		

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Station ID: 50	Date	8 Aug	04	Time (	ocal): /707	F	Project #: G	005001,)G005002	2, G004974		
Recorder: Hu	<i>relia</i>	J	v	Sampli	ing Location (circ	le one)	(BSMP)	Northstar / Liber	ty / Other		
Latitude (WGS84)	か029	<del></del>	ઇ		Longitude (WG		148		576		
Field Observations	and Measur	ements									
Wind Speed (kts): C		Wind Di	rection:	<u> </u>			Seas/Ice:	Calin-No	ICE		
Water Depth (ft):	5.3		Conduc	tivity, Te	emperature, Dept	h (CTD	D):				
Doppler Current:	<u></u>		Turbidit	<b>y</b> :	In	strume	ent Tow:				
Comments:											
Sediment Samples											
Device: (Van Veen	Grab Other	<u>-</u>			No. of Re	plicates	s /				
Organics	Metals	<u> </u>	Grain S	ize	TOC	)	13C	Methyl Hg	Other		
04-5D-01-P	HC-5	V			L	_					
Sediment Texture (c	circle all that a	pply): ( >:	50% silt/cl	ay	Fine Co	arse S	and Gravel	Shell Hash	Par Mixed		
Indications of Anoxi	a: Yes (	No			H <sub>2</sub> S Odor:	Yes (	No				
Sediment Comments: Fire sand jiH-clay top o.Scm- Peat o.Scm->/5cm											
Water/Suspended	Sediment Sa	mples:	Surf	•	•	Water		Bottom	Other		
Large Volume Wat	er Samples:	Rep	licate 1	R	eplicate 2						
Volume filtered/prod	essed (liters)			XAD C	artridge		Pleate	d Filter	TSS		
LV Water Comment	s:										
Biota											
Amphipods	Traps Deplo	 yed:	····	Traps	Retrieved:			Anonyx:			
Clams	Number of G	Frabs:		Astart				Cyrtodaria:			
Mussels/SPMD	Moorings De	ployed:		Moorie	ngs Retrieved:	M	ussels:	SPM	D:		
Biota Comments:							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Quality Control Sa	mples				<del></del>			<del>,</del>			
Field Blank		Equipment	t Blank		Trip E	Blank		Othe	r		
Overall Comments	<del></del> -				المراك المراكب			——————————————————————————————————————			
		*									
	118:00	o the		11.	4-2 0.	44	· My	Carl The			
Field Personnel:	HILL	1 100	1	Iver	I, Tren	MF	19 110	fry, Tree	INM		
1.	1 1						01.				
Signature:	C DAM			·- ·· ·· · · · · · · · · · · · · · · ·	1	Date:	<u>BAng</u>	37			

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#### MMS Continuation of Arctic Nearshore Impact Monitoring in the Development Area (cANIMIDA)

**Summer 2004 Station Log** Time (local): 091/ Date: 9 Aug 04 Station ID: NOT Project #(G005001/G005002(G004974 Recorder: Sampling Location (circle one): BSMP (Northstan / Liberty / Other Latitude (WGS84) Longitude (WGS84) Field Observations and Measurements Seas/Ice: Culm sus, no ICE Wind Speed (kts): 0-5 Wind Direction: Water Depth (ft): Conductivity, Temperature, Depth (CTD): **Doppler Current:** Turbidity: Instrument Tow: Comments: Sediment Samples Device: Van Veen Grab Other-No. of Replicates **Organics** Metals 13C **Grain Size** TOC Methyl Hg Other 04-104-01-PHC-5 Sediment Texture (circle all that apply): >50% silt/clay Fine) **Coarse Sand Gravel** Shell Hash Mixed Yes (No) Indications of Anoxia: H<sub>2</sub>S Odor: Yes No. Sediment Comments: Llyht brown & Helay top 5 mm, sund >8cx-soud growel curder Water/Suspended Sediment Samples: Surface Mid-Water **Bottom** Other Large Volume Water Samples: Replicate 1 Replicate 2 Volume filtered/processed (liters) XAD Cartridge **Pleated Filter** TSS LV Water Comments: **Biota** Anonyx: 2/00M **Amphipods** Traps Deployed: Traps Retrieved: Clams Number of Grabs: Astarte: Cvrtodaria: Mussels/SPMD Moorings Deployed: **Moorings Retrieved:** Mussels: SPMD: Traps received 2 1300 **Biota Comments: Quality Control Samples** Field Blank **Equipment Blank** Trip Blank Other **Overall Comments:** Hardin, New Az, Prent Ki, Trefry Field Personnel: Date: 9 Aug 04 Signature:

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Station ID: 5B	Date: 4Au	904	Time (	local): 925	Proje	ct #: G0	005001) G005002	2)G004974
Recorder: Have	din	ob)	Sampl	ing Location (circle	e one(: BS	SMP)	Northstar / Liber	ty / Other
Latitude (WGS84)	70° 34.981	98749	Ó	Longitude (WGS	84)	190	55.1429	,
Field Observations	and Measurements							ice flow
Wind Speed (kts): 4	0-5 Wind	Direction:	5		Se	as/lce:	Calusus-	ASICE
Water Depth (ft):	45	Conduc	tivity, Te	emperature, Depth	(CTD):			
Doppler Current:		Turbidit			trument T	ow:		
Comments:								
Sediment Samples							ē	
Device: Van Veen	Grab Other-			No. of Rep	licates	l		
Organics	Metals	Grain S	ize	TOC		13C	Methyl Hg	Other
04-58-01-PH		2		<i>V</i>			Wichiying	Oulei
Sediment Texture (d	ircle all that apply):	>50% silt/cl	ay	(Fine) Coa	rse Sand	Gravel	Shell Hash	Mixed
Indications of Anoxia	a: Yes (No)			H₂S Odor: Y	es (No	)		
Sediment Comment	s: Five sav	d-no	5 f/		face			
Water/Suspended	Sediment Samples:	Sur	face	Mid-V	Vater		Bottom	Other
Large Volume Wat	er Samples: F	Replicate 1	R	teplicate 2				
Volume filtered/proc	essed (liters)			Cartridge		Pleated	Filter	TSS
LV Water Comment	s·							•
Biota	<b>y.</b>			<u>.</u>	<del></del>			
Amphipods	Traps Deployed:	2	Traps	Retrieved: 2		1	HONTYX: 27	ml-Dif Caren
Clams	Number of Grabs:		Astart		<u> </u>	~~~	Cyrtodaria:	71000
Mussels/SPMD	Moorings Deployed:		1	ngs Retrieved:	Musse		SPM	D'
Riota Comments: 1	cups @ 70°	38-24		***			Photo te	tor
Quality Control Sa		<i>2017</i> (1	00/	110 2	). <u> </u>	( -	P103034	-
Field Blank		ent Blank		Trip BI	ank		Othe	
Overall Comments		1 1 1	- 18	overeda :	30 76	4 011	/ <b>9</b>	
	remember 18	7	14	009 00 2	ing the	- 10a	64	
	Sak time	2:32			<u>u 5.</u>	· 20	<b>V</b> (	
Field Personnel:	Hardin, No	w12,	fre	nthi, to	éfy	,		
Signature:	the			D	ate: 9/	ligo	4	

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Station ID: 5E		Date: PAU	904	Time (	local): <b>/ 0</b> 3	5	Projec	t#: G0	05001), G0	05002, G0	04974
Recorder:	tardi	'n		Sampl	ing Location	(circle or	ne)(BSN	AD I	Northstar /	Liberty / C	Other
Latitude (WGS84)		38-36	52(		Longitude	(WGS84)	140	7°	16.3	576	
Field Observations		<del></del>							<del></del>		
Wind Speed (kts): (		<del></del>	Direction:	<u>5</u>			Seas	s/Ice:	Calcy s	eest - 511	veflow 10
	58.3	)	Conduc	tivity, Te	emperature,		ID):				rear
Doppler Current:			Turbidit	y:		Instru	ment To	w:			
Comments:											
Sediment Samples											
Device: Van Veen	Grab (	Other-			No.	of Replica	ites /	/		-	
Organics	M	letals	Grain Si	ize		TOC		13C	Meth	ıyl Hg	Other
04-56-01-	PHC -:	s V	V		/						
Sediment Texture (d	circle all th	hat apply):	>50% silt/cl	ay	Fine	Coarse	Sand G	ravel	Shel	l Hash	Mixed
Indications of Anoxi	a: Yes	s (No)			H₂S Odor:	Yes	(No)				
Sediment Comment	s: 1/0 -	uttain la	varet 5	ilstole	•			COAL	al cla	1 bud	andelas
Sediment Comment Water/Suspended	Sedimen	of Samples	Sur	face be	low 2er	Mid-Wat	er '	you	Rottom	i v r ilua vi	Other
Large Volume Wat			eplicate 1		Replicate 2	ma ma	<u> </u>		DOROIN		<u>Suloi</u>
Volume filtered/prod				1	Cartridge		F	Pleated	l Filter		TSS
LV Water Comment	···		•		•	•	•				
Biota			· · ·								
Amphipods	Trans D	eployed:	<del></del>	Trans	Retrieved:				Anonyx:	· · · · · ·	
Clams		r of Grabs:		Astari					Cyrtodaria:		-
Mussels/SPMD		gs Deployed:		<u> </u>	ngs Retrieve	54·	Mussels		syrtouuria.	SPMD:	
	THOOTING	30 Deployeu.		INOON	ngo redieve	, u	Mussel	<del>),</del>		OI MD.	
Biota Comments:							•				
Quality Control Sa	mples										
Field Blank		Equipm	ent Blank			Trip Blan	K			Other	
Overall Comments	S:										
					<u>.</u>						
					- 1						
Field Personnel:	Han	lin Ne	WB,	Pre	n7ki,	The	fn	,			
		7		<del></del>			7				
A		1 6				γ					
Simple //	h 4	Lul.				5-4	<b>a</b> /	1100	24		
Signature:	V 1	VV				Date	17	W/	71		

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-										
	Station ID: 5A	Date	e: 9/A	4904	Time (	local): /230	Projec	t #: G0	05001 G005002, G	6004974
	Recorder: Hav	din			Sampl	ing Location (circl	e one)( BSI	NB) I	Northstar / Liberty /	Other
	Latitude (WGS84)	700	29.0	5986	•	Longitude (WGS	384) 14	80	46.0600	
Ì	Field Observations			<u> </u>		Longitude (110)	<del>504) 1                                   </del>		70,000	<del>-</del>
	Wind Speed (kts): C			Direction:	5		Seas	s/lce:	calmses, 10	ICE
	Water Depth (ft):	35.8			tivity, Te	emperature, Depti				
	Doppler Current:			Turbidit			strument To	w:		
	Comments:									
	Sediment Samples					<u> </u>				,
	Device: Van Veen	Grab Othe	Pr			No. of Rep	licates			
	Organics	Metal	S ,	Grain S	ize	TOC		13C	Methyl Hg	Other
0	4-5A-01-PHC	-5 1		_ ~		V	,			
	Sediment Texture (d	circle all that a	apply):	>50% silt/cl	ay	(Fine Coa	rse Sand G	ravel	Shell Hash	Mixed
	Indications of Anoxid	a: Yes	(No)			H <sub>2</sub> S Odor:	es (No)			
	Sediment Comment	s:							,	
Ī	Water/Suspended		mples:	Sur	face	Mid-\	Vater		Bottom	Other
	Large Volume Wat			Replicate 1		eplicate 2		•		04.01
	Volume filtered/prod	essed (liters)				Cartridge	F	Pleated	Filter	TSS
İ	LV Water Comment	s:								·
Ì	Biota					· · · · · · · · · · · · · · · · · · ·				
	Amphipods	Traps Deplo	yed:		Traps	Retrieved:		A	nonyx:	
	Clams	Number of (	Grabs:		Astart				cyrtodaria:	
	Mussels/SPMD	Moorings D	eployed:		Moori	ngs Retrieved:	Mussels	s:	SPMD:	
	Biota Comments:									
	Quality Control Sa	mples					·····		***************************************	
	Field Blank		Equipm	ent Blank		Trip B	lank		Other	
	Overall Comments	);								
						<del></del>	<del></del> -			
				<del></del>						
	Field Personnel:	Hopkin	11.	12 0	went.	ti Trefo	~			
	Tiola i ciocimei.	1 1000 100	1 10/04	$(r) \leq (r)$	1000		<del>/</del>			-
	-									
	Signature:	1/6					11			
	O!	/ , PN . Y				Į.	ate: 9 Ac		1 🔀	

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Station ID: µ06	Date: 9 Au	yor	Time (k	ocal): 1340	Project #: 0	3005001, G0050	002,G004974)
Recorder: Hand	ln		Samplii	ng Location (circle or	ne): BSMP (	Northstar Lit	perty / Other
Latitude (WGS84)	70° 29.5313			Longitude (WGS84)			2_
	and Measurements						
	<del></del>	Direction:				Calm - No	168
Water Depth (ft):	37.4			mperature, Depth (C			
Doppler Current:	<del> </del>	Turbidit	<b>y</b> :	Instru	ment Tow:		
Comments:							
Sediment Samples				:			
Device: Van Veen	Grab Other			No. of Replica	ites		
Organics	Metals	Grain S	ize	TOC	13C	Methyl H	la Other
Sediment Texture (	circle all that apply):	>50% silt/ci	 lay	Fine Coarse	Sand Grave	Shell Ha	ash Mixed
Indications of Anoxi				H₂S Odor: Yes	No		
			i	1.20 00011 1.00			
Sediment Comment						D. #	Other
	Sediment Samples:		face	Mid-Wat	er	Bottom	Other
Large Volume Wat		Replicate 3	· · · · · · · · · · · · · · · · · · ·	eplicate 2	Disat	- J Tilks -	TOO
Volume filtered/prod			_	artridge BAT-001		ed Filter	TSS
LV Water Commen	is: Skurt: 20:3	0 5	top:	23 55	-uscol (	1) laknov	1 9 <del>11</del>
Biota	<b>T</b>		1				
Amphipods	Traps Deployed:		Traps	Retrieved:		Anonyx:	•
Clams	Number of Grabs:		Astart	<b>9</b> :		Cyrtodaria:	·
Mussels/SPMD	Moorings Deployed:		Moorir	ngs Retrieved:	Mussels:	S	PMD:
Biota Comments:							
Quality Control Sa	amples						
Field Blank	Equipn	nent Blank		Trip Blan	k	0	ther
Overall Comments			N-40			,	
		(	04-1	106-01-PHC NO6-01-PHC	-6FF		
Field Personnel:	Hardon, Me	rtz, A	ente	i, trety			
Lab- W	ush / Hard	'n					
Signature: A	the			Date	9:		

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Station ID: 11/3	Dat	te: 9 Au	404	Time (	local): 143	7	Project	#. G0	005001) GO	05002, G(	04974
Recorder: Hou	din		<i>)</i>	Sampl	ing Location (ci	ircle on	e): BSM	1P /(1	Northstar)/	Liberty / 0	Other
Latitude (WGS84)	70° /	26.98	32		Longitude (W	'GS84)	148	30 9	43.57	149	
Field Observations	and Measu	rements									
Wind Speed (kts):	<u>U-3</u>	Wind	Direction:	CALI	n-		Seas	/lce:	Calan	-nois	
Water Depth (ft):	12.5		Conduc	tivity, To	emperature, De	pth (C	TD):				
Doppler Current:			Turbidit	у:	<u></u> : l	Instrur	nent Tov	v:			
Comments:		•									
Sediment Samples		<del> </del>									
Device: (Van Veen	Grab Oth	er-			No. of F	Replica	tes	1			
Organics	Meta	ıls ,	Grain S	ize	TC	OC		13C	Meth	yl Hg	Other
04-N13-01-	PHC-S				·		-	_		, <u></u>	
Sediment Texture (d	circle all that	apply):	>50% silt/cl	ay)	Fine C	Coarse	Sand Gr	avel	Shel	l Hash	Mixed
Indications of Anoxi	a: Yes	(No)			H <sub>2</sub> S Odor:	Yes	(No)				
Sediment Comment	s: Piff (	try.	(inh+R	44.0	top2an			Bau	. \2	> but	the such
Water/Suspended				face	•	d-Wate		JW	Bottom		Other
Large Volume Wat			eplicate 1		Replicate 2	u-maic	<u> </u>		Dottom		Outer
Volume filtered/prod				T	Cartridge		P	leated	l Filter		TSS
LV Water Comment	···			1						-	
Biota		***									
Amphipods	Traps Dep	loved:		Trans	Retrieved:				nonyx:		
Clams	Number of			Astart				$\neg$	yrtodaria:		
Mussels/SPMD	Moorings [			† · · · · ·	ngs Retrieved:		Mussels		yriodana.	SPMD:	
Biota Comments:	<u> </u>		<del></del>	1		<u>_</u>				01 11101	
Quality Control Sa	moles	<u></u>									
Field Blank	inipies	Fauinm	ent Blank		Trin	Dlank				Othor	
Overall Comments		Lyuipiii	CIT DIGITY		1 1116	Blank				Other	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		·a.								
) · · · · · · · · · · · · · · · · · · ·		<del></del>	·								
Field Personnel:	Hardy	, M	ert2	, P.	rentki	, (	Tref	y	/		
				-			· · ·	<del></del>	<del></del>	<del></del>	
Signature:	hxl					Date:	9	Au	90%		

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Station ID: WW	Date	9 Au	104	Time (	local): /447	Proje	ect(#: G	005001 3005002, 0	9004974
Recorder: Have	din		,	Sampli	ing Location (circle	one): BS	SMP (	Northstan / Liberty	Other
Latitude (WGS84)	70° 261	3124	 		Longitude (WGS8	34) /2	4° 4	41.7302	
Field Observations	and Measure	ments				· · · · · · · · · · · · · · · · · · ·			
Wind Speed (kts):	o-5	Wind	Direction:	ser		Se	as/lce:	Calm-Mic	.e
Water Depth (ft):	13.6_	·	Conduc	tivity, Te	emperature, Depth	(CTD):		·	
Doppler Current:		<u></u> .	Turbidit	y:	Inst	rument T	ow:		
Comments:								· · · · · · · · · · · · · · · · · · ·	
Sediment Samples									
Device: Van Veen	Grab Other	•			No. of Repli	cates			
Organics	Metals		Grain S	ize	TOC		13C	Methyl Hg	Other
64-N21-01-PHC	.5 V		1/-	,	V_				
Sediment Texture (d		oply): (	>50% silt/cl	ay ) (	Fine Coar	se Sand	Gravel	Shell Hash	Mixed
Indications of Anoxi	a: Yes /	No)			H₂S Odor: Ye	s No	)		
Sediment Comment	s: Gol	A Brow	مراس کمار	H/cla	y Cseff)				
Water/Suspended		_	Sur	face	Mid-W	ater		Bottom	Other
Large Volume Wat	er Samples:	R	eplicate 1	R	eplicate 2				
Volume filtered/prod	essed (liters)			XAD	Cartridge		Pleate	d Filter	TSS
LV Water Comment	s:								•
Biota									
Amphipods	Traps Deplo	/ed:	· · · · · · · · · · · · · · · · · · ·	Traps	Retrieved:			Anonyx:	
Clams	Number of G			Astart		······································		Cyrtodaria:	
Mussels/SPMD	Moorings De	ployed:		Moorie	ngs Retrieved:	Musse		SPMD:	
Biota Comments:								• •	,
Quality Control Sa	mples		·						
Field Blank		Equipm	ent Blank		Trip Bla	ank		Other	
Overall Comments	s:								
		,							
Field Personnel:	An Hu		Mes	42,	Prevoti	, tr	efr	. 4	
	/ ",		•				1	·	
Signature:	in that				Da	ite: 9/	Aun (	54	
	V- VJ							-t	

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11,5	_	0.1	-11		1572	T			
Station ID: N 15		Date: 9A	404	Time (	local): 1520	Project	F: G0	05001 G005002, G	004974
Recorder: Hai	elin			Sampl	ing Location (circle o	ne): BSMI	PMN	orthstar / Liberty /	Other
Latitude (WGS84)	700	26.	7197		Longitude (WGS84	1200	<u> </u>	1400 445	9 EQ
Field Observation	s and Mea	surements	1 0 0 7		Longitude (VVGS04	) NOW	7	110 17.0	0.50
Wind Speed (kts):			Direction:	SW	<del></del>	Seas/	ce. (	Jalu- no ice	-
Water Depth (ft):					emperature, Depth (C		.,		
Doppler Current:			Turbidit			ment Tow			
Comments:									
Sediment Sample	5								
Device: Van Veer	n Grab (	Other-			No. of Replica	ates			
Organics	M	etals	Grain Si	ze	TOC		13C	Methyl Hg	Other
04-M5-01-P	HC-5	V		•	V	٨.			
Sediment Texture	circle all th	nat apply):	>50% silt/cl	ау	(Fine Coarse	Sand Gra	vel	Shell Hash	Mixed
Indications of Anox	ia: Yes	SW2			H₂S Odor: Yes	(No)			
Sediment Commen	its: Su	nd tav	ack						
Water/Suspended	Sedimen	t Samples:	Surf	ace	Mid-Wat	ег		Bottom	Other
Large Volume Wa	ter Sampl	es: R	eplicate 1	R	eplicate 2				
Volume filtered/pro	cessed (lite	ers)		XAD (	Cartridge	Ple	ated	Filter	TSS
LV Water Commen	ıts:								
Biota						·			
Amphipods	Traps D	eployed:		Traps	Retrieved:		Ai	попух:	
Clams	Number	of Grabs:		Astart	e:		C	/rtodaria:	
Mussels/SPMD	Mooring	s Deployed:	·	Moorii	ngs Retrieved:	Mussels:		SPMD:	
Biota Comments:									
Quality Control S	amples								
Field Blank		Equipm	ent Blank		Trip Blan	k		Other	
Overall Comment	s:	<del></del>	<del></del>						
		<del></del>							
						·			
Field Personnel:	Heurli	in. Mer	ta P	ent	ki, trefry				١
	1,	1-1-1-1-		- 47					
	, /		<u>.</u>				····	<del></del>	·
Signature:	12 4	1			Data	: 9A	1/4	4	
Oignature.	W W				Date	: 4710	90	<i>L</i>	<del></del>

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Station ID: 5F	Date:	9 July	14	Time (	local): 1545	Project	: G0	0500 G005002	G004974
Recorder: Hau	des			Sampli	ing Location (circle o	ne): BSMF	1 (	Northstar / Liberty	/ Other
Latitude (WGS84)	700 20	5.499	16		Longitude (WGS84	1480	9	9.53%	
Field Observations		nents				<del></del>			
Wind Speed (kts):	0-5	Wind Di	rection:	Sev		Seas/I	ce: (	Geling NO CO	L
Water Depth (ft):	4.4		Conduc	tivity, Te	emperature, Depth (C	CTD):		U	·
Doppler Current:			Turbidit	<b>/</b> :	Instru	ment Tow:			
Comments:						·····			· · · · · · · · · · · · · · · · · · ·
Sediment Samples									·
Device: Van Veen	Grab Other-	<del></del>	·		No. of Replica	ates			
Organics	Metals		Grain Si	ze	TOC		13C	Methyl Hg	Other
04-5F-01-PH	c-s u		_ ~						
Sediment Texture (d	circle all that ap	oly): (>	50% silt/cl	ay)	(Fine Coarse	e Sand Gra	vel	Shell Hash	Mixed
Indications of Anoxi	a: Yes (I	No)			H₂S Odor: Yes	(No)			
Sediment Comment	s: Light =	> Part	& Bear	Sil	4/Clay Fines	sand-s	d'M	defritus (	rest)
Water/Suspended	Sediment Sam	ples:	Surf	ace	Mid-Wat	ter		Bottom	Other
Large Volume Wat	er Samples:	Rep	licate 1	R	eplicate 2				
Volume filtered/prod	essed (liters)			XAD (	Cartridge	Ple	ated	Filter	TSS
LV Water Comment	ks.				•	<del>-</del> -			
Biota						7			
Amphipods	Traps Deploye			Trans	Retrieved:			nonyx:	
Clams	Number of Gr		40	Astart	1			Cyrtodaria: 7	
Mussels/SPMD	Moorings Dep			-	ngs Retrieved:	Mussels:		SPMD	<del></del>
Biota Comments:	Small rate	20c 5	lane	-					
Quality Control Sa		700	car eg				_		
Field Blank		Equipmen	t Blank		Trip Blan	ık		Other	
Overall Comments			<u> </u>		1 11 5 5 5 5 5	<u></u>		1. 5.1151	<u> </u>
						. 7- %			
Field Personnel:	Hardin	Mer	12,	fron	Hti, Ta	fry			
Signature: A	1. Had					91.		-\ \ \	
Signature: 1/10	V				Date	: 9 Au	9	J/*	

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Station ID: NY	Date: 9 Aug	04	Time (	local): 1820	Project #: (	G005001, G005002,	G004974				
Recorder: Hun	lin		Sampli	ing Location (circle o	one): BSMP /	(Northstar) Liberty	/ Other				
Latitude (WGS84)	70° 25.982	9		Longitude (WGS84	10.010	\$6.3584					
	and Measurements	<del></del>	~ .	1	<del></del>	····	-				
Wind Speed (kts):		Direction:	SW		Seas/Ice	: Calun-10	ece				
	9-1			emperature, Depth (0	CTD):						
Doppler Current:		Turbidit	y:	Instr	ument Tow:						
Comments:											
Sediment Samples	}										
Device: Van Veen	Grab Other-			No. of Replic	ates		****				
Organics	Metals	Grain Si	ze	TOC	13(	Methyl Hg	Other				
04-14-01-14	R-5	V		V							
Sediment Texture (	circle all that apply):	>50% silt/cl	<b>a</b> y	(Fine) Coars	e Sand Grave	Shell Hash	Mixed				
Indications of Anoxi	a: Yes (No)			H₂S Odor: Yes	Ng						
Sediment Comments:											
Water/Suspended	Sediment Samples:	Surf	ace	Mid-Wa	ter	Bottom	Other				
Large Volume Wat	ter Samples: Re	plicate 1	R	eplicate 2	· · · · · ·						
Volume filtered/prod	cessed (liters)		XAD C	Cartridge	Pleat	ed Filter	TSS				
LV Water Commen	ts:						*******				
Biota											
Amphipods	Traps Deployed:	<del>_</del> -	Traps	Retrieved:		Anonyx:					
Clams	Number of Grabs:		Astart			Cyrtodaria:					
Mussels/SPMD	Moorings Deployed:	····	Moorin	ngs Retrieved:	Mussels:	SPMD	 ):				
Biota Comments:			<del></del>	<del></del>	•	1					
Quality Control Sa	mples					<del></del>					
Field Blank	Equipme	nt Blank		Trip Blar	nk	Other	······································				
Overall Comments				1 2001		1 00101	· · · · · · · · · · · · · · · · · · ·				
						***************************************					
Field Personnel:	Hardely,	Uert:	<del>2</del> ,	Prentti,	Trefry	,					
	1		•	/	7						
Signature:	) <sub>v</sub> /1				di	x4					
Signature:	N WW			Date	= 9 Aug	) (					

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Station ID: NUS	Date: /0/	fug 0 4	Time (l	ocal): 144/	Project #:	G005001, G	005002/G	004974
Recorder: Wals		J	[	ng Location (circle o	ne): BSMP	/(Northstar	Liberty /	Other
Latitude (WGS84)	70° 29.	<del></del>		Longitude (WGS&	4) 148°	44.7	105	
Field Observations						<del></del>		
Wind Speed (kts):		nd Direction:		<u> </u>		e: calca.	-M/Cl	
Water Depth (ft):	40.4	Conduc	tivity, Te	mperature, Depth (	CTD):			
Doppler Current:		Turbidit	<b>y</b> :	Instr	ument Tow:			
Comments:								
Sediment Samples	<u> </u>	· · · · · · · · · · · · · · · · · · ·						
Device: Van Veen	Grab Other-			No. of Replic	ates			
Organics	Metals	Grain S	ize	TOC	13	C Met	hyl Hg	Other
Sediment Texture (	circle all that apply):	>50% silt/c	lay	Fine Coars	e Sand Grav	el She	ell Hash	Mixed
Indications of Anoxi	a: Yes No			H₂S Odor: Yes	s No			
Sediment Commen	ts:							
Water/Suspended	Sediment Samples	: Sur	face	Mid-Wa	ter	Bottom		Other
Large Volume War	ter Samples:	Replicate 1	R	eplicate 2				
Volume filtered/prod	cessed (liters)	10.042H	XAD C	artridge V	Plea	ted Filter	~	TSŞ
LV Water Commen	ts: Sturd @ 1	640 Fi	rishs	2 2007				
Biota				_ 000 /				
Amphipods	Traps Deployed:	·	Traps	Retrieved:		Anonyx:		
Clams	Number of Grabs:		Astarte			Cyrtodaria	•	
Mussels/SPMD	Moorings Deploye	d:	Moorin	ngs Retrieved:	Mussels:	, , , ,	SPMD:	
Biota Comments:								
Quality Control Sa	amples					· · · · · · · · · · · · · · · · · · ·		
Field Blank	Equi	ment Blank		Trip Bla	nk		Other	
Overall Comment	s:			, l l				
		<del>-</del> ,						
Field Personnel:	Ment Z,	ealsh,	Alt	ere, Hardi	^			
	,							
Signature: A	, b/J			D-4	. /A A	1004		
orginature. //	~ (/ <b>v</b>			Dat	e. 1071	4904		

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Station ID: 5H	Date: // A	ug 04	Time (	local): // 25	Project #:	G005001, G0	05002 G004	974
Recorder: WA	15h		Sampl	ing Location (circle o	one) BSMP	/ Northstar /	Liberty / Oth	er
Latitude (WGS84)		2210		Longitude (WGS&	4) 147	47.8	581	
Field Observations	and Measurements				•			
Wind Speed (kts):	· Calu. Wind	Direction:	W		Seas/Ice	calr	n Ins sci	
Water Depth (ft):	22.0ft	Conduc	tivity, Te	emperature, Depth (	CTD):			
Doppler Current:		Turbidit			ument Tow:	<del></del>		_
Comments:								
Sediment Samples	<b>3</b>							
Device: Van Veen	Grab Other-			No. of Replic	ates			
Organics	Metals	Grain Si	7 <b>0</b>	TOC	13(	C Meth	vi Ha	Other
-	•	314111 01		100		, wicui	71119	Ouloi
Sediment Texture (	circle all that apply):	>50% silt/cl	av	Fine Coars	e Sand Grave	el Shell	Hash	Mixed
Indications of Anoxi			•	H₂S Odor: Yes		·		
Sediment Commen	ts:				· · · · · · · · · · · · · · · · · · ·			
Water/Suspended	Sediment Samples:	Surf	ace	Mid-Wa	nter	Bottom	Ott	er
Large Volume Wat		eplicate 1		eplicate 2		. 1	<u> </u>	101
Volume filtered/prod		0025		Cartridge		ed Filter		TSS
LV Water Comment				vi3h - 15 45		out not		100
Biota	71001 112	/	1 (0	u 301 - 13 - 45	)			·
Amphipods	Traps Deployed:		Tropo	Dotriovod:		Anonia		
Clams	Number of Grabs:			Retrieved:		Anonyx:		
Mussels/SPMD	Moorings Deployed:	<del></del>	Astart		1.4	Cyrtodaria:	00110	·
	ividorings Deployed.		INOON	ngs Retrieved:	Mussels:		SPMD:	
Biota Comments:	· · · · · · · · · · · · · · · · · · ·							·- · · · · · · · · · · · · · · · · · ·
Quality Control Sa	mples							
Field Blank		ent Blank		Trip Blar	nk		Other	
Overall Comments	: 04-5H-	Ol-PHC-	XAD	. =	AXYS	- BAT	7-004	
	GY-54-	J - PH	C-6	FE	7-7-			
	04-2H-	-01-pt	1C - F	12				
Field Personnel:	Hardm, w	Alsh,	Lau	stey, Mc	tr			
	1			•				
Signature: A	121			Date	e: 11Au	004		
	V			שמו	c. 1 17 M	<del>') ' '                                </del>		~

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Station ID: LOLA	Date	: IIAu	904	Time (	local): /3/c	•	Project #	G0	05001) G00500	2, G00	4974
Recorder:	din				ing Location (ci		e): BSMP	11	lorthstar (Libe	rty Ot	her
Latitude (WGS84)	70° 18	.9281			Longitude (W	GS84)	147	ں س	33.9044	4	
Field Observations		ements	_	,							,
Wind Speed (kts):	)- <u>5</u>	Wind Di	rection:	Call	h		Seas/lo	ce: C	alm sus	-1	, ice
Water Depth (ft):	21.9	· · · · · · · · · · · · · · · · · · ·	Conduc	tivity, To	emperature, De	pth (C	ΓD):				
Doppler Current:	<del></del>		Turbidit	<b>y</b> :		Instrur	nent Tow:				
Comments:											1
Sediment Samples											
Device: Van Veen	Grab Othe				No. of F	Replica	tes	1			
Organics	Metal	s ·	Grain S	ize	TO	C	.	13C	Methyl Ho		Other
04-2011-01-P4			<u> </u>								
Sediment Texture (d		apply):	50% silt/c	lay	Fine (	Coarse	Sand Gra	vel	Sheli Has	:h	Mixed
Indications of Anoxi		NO)		<i></i>	H₂S Odor:	Yes	(NO)				
			e. (1	//	/ .			1 . /	. 0	•	0
Sediment Comment	•				•			Dev	on 2 cm		
Water/Suspended				face '		d-Wate	er		Bottom		ther
Large Volume Wat			licate 1	Т	Replicate 2		Dia	otod	Filter		TSS
Volume filtered/prod			:		Cartridge		PIE	aleu	riilei		100
LV Water Comment	is:	• :			•	•					
Biota	<u> </u>	· · · · · · · · · · · · · · · · · · ·						-			<del></del>
Amphipods	Traps Deple	oyed:		Traps	Retrieved:			1	nonyx:		<del> </del>
Clams	Number of	Grabs:		Astar	te:			(	yrtodaria:	<del></del> -	
Mussels/SPMD	Moorings D	eployed:		Moor	ings Retrieved:		Mussels:		SPI	MD:	
Blota Comments:											
Quality Control Sa	mples					·					
Field Blank		Equipmen	it Blank	ν	Tri	p Blanl	<		Oth	er	
Overall Comments	<b>5</b> ;			•							
	,										
Field Personnel:	Hard	in, L	ewley	, <i>1</i>	lutz,	W	alsh				
		, 		,						<u> </u>	
Signature: A	1 Hd					Date	: [A	U	04		
		, , , , , , , , , , , , , , , , , , , ,					p	1	1		

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Station ID: 3A	Date:	( Aug	104	Time (I	ocal):	1742	Proje	ct#: G(	005001, G(	005002 G	004974
Recorder: Hay	din			Sampli	ng Loca	tion (circle o	ne): <b>(</b> BS	MP )	Northstar /	Liberty / 0	Other
Latitude (WGS84)	<del></del>	943	7			de (WGS84	11		05.5		
Field Observation				4 )							
Wind Speed (kts):		Wind Dir		N				as/Ice:	<1f4 <sub>1</sub>	16 106	
Water Depth (ft):	19.1				mperatu	re, Depth (0		· · ·	·	····	
Doppler Current:	<del></del> · ,		Turbidit	<b>y</b> :		Instru	ument To	OW:			
Comments:						· · · · · · · · · · · · · · · · · · ·					
Sediment Sample	5									• •	<u>.</u>
Device: Van Veer	Grab Other-				N	o. of Replic	ates				
Organics	Metals		Grain S	ize		TOC		13C	Meti	nyl Hg	Other
							•			<u> </u>	
Sediment Texture (	circle all that app	<i>ly)</i> : >5	0% silt/cl	lay	Fine	Coars	e Sand (	Gravel	She	II Hash	Mixed
Indications of Anox	ia: Yes N	lo			H₂S Oc	or: Yes	. No				
Sediment Commen	ts:										
Water/Suspended	Sediment Samp	oles:	Sur	face		Mid-Wa	ter		Bottom		Other
Large Volume Wa	ter Samples:	Repli	cate 1)	R	eplicate	2		Che	e Black		· · · · · · · · · · · · · · · · · · ·
Volume filtered/pro	cessed (liters)	/40.3		XAD C	artridge	~		Pleated	Filter		TSS
LV Water Commen	ts: Start	•	_	Fini	54 z	21:27					
Biota				11001		71 42 4					
Amphipods	Traps Deploye	d:		Traps	Retrieve	d:			Anonyx:	<del> </del>	
Clams	Number of Gra			Astarte	•			1	Cyrtodaria:		
Mussels/SPMD	Moorings Depl	oyed:		Moorin	igs Retri	eved:	Musse			SPMD:	
Biota Comments:										· · · · · · · · · · · · · · · · · · ·	
Quality Control S	amples		<del></del>								
Field Blank		quipment	Blank		<del></del>	Trip Blan	nk			Other	
Overall Comment	- 14 -			40			005		(Axy)	ZD)	<del></del>
	04-34	r-al-1	OHC-	GFF		1.707	2-1	4	CAXY	CZD)	
		f-01-				<u> </u>	<b>4</b>	4	1777	·	
Field Personnel:	Hardin	Mer	12,		ey, (	wash		_			
	·	-			٠.	<b>.</b>					
Signature:	lu Kl					Date	e: //	Aug	64		
	W					- Juli	'	<del>''</del>	•	<del></del>	

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								<del></del> -
Station ID: 3A	Date: (2A	404	Time (	ocal): 1413	Project #:	G005001, G0	05002, G	004974
Recorder: Her	Date: (2A)	<i></i>	ł	ng Location (circle o	ne BSMP	Northstar /	Liberty /	Other
4	70°16. 93			Longitude (WGS84	147	05.52	2	
Field Observations	and Measurements	<u> </u>			. <b>.</b>			
Wind Speed (kts):		d Direction:	NE	<u> </u>	Seas/Ice	12F+,	NO C	ce
Water Depth (ft):	18.7	Conduc	tivity, Te	emperature, Depth (C	TD):			
Doppler Current:		Turbidit	. <b>y</b> :	Instru	ment Tow:			
Comments:								
Sediment Samples	•							
Device: Van Veen	Grab Other-			No. of Replica	etes			
Organics	Metals	Grain S	ize	TOC	13(	C Meth	nyl Hg	Other
							, ,	
Sediment Texture (	circle all that apply):	>50% silt/c	lay	Fine Coarse	e Sand Grave	el Shel	ll Hash	Mixed
Indications of Anoxi	a: Yes No			H₂S Odor: Yes	No			
Sediment Commen		.,						
	Sediment Samples:		face	Mid-Wat	har	Bottom		Other
Large Volume Wat		Replicate 1		leplicate 2	iei	DOLLOIN		Omei
Volume filtered/prod		replicate i	T	Cartridge	.Pieai	ted Filter		TSS
					) I ICU	iou i iitoi	<u></u>	
LV Water Commen	IS:	11 15		· ·		·		
Biota	Tana Danlaud		T	Datie and		A		
Amphipods	Traps Deployed:	20		Retrieved:		Anonyx:		
Clams Clams	Number of Grabs:	···		e: <i>217</i>	M	Cyrtodaria:	CDMD.	
Mussels/SPMD	Moorings Deployed:		ј мооп	ngs Retrieved:	Mussels:		SPMD:	
Biota Comments:	Finish @ 15	565			<del></del>			····
Quality Control Sa	amples							
Field Blank	Equipn	nent Blank		Trip Blan	k		Other	
Overall Comments	S:	<del></del>					***	
	*	· · · · · ·						
	<del></del>						<del></del>	
Field Personnel:	Hardin, C	awley	M	ertz, Colos	-4	·		
	,	• •		,				
Signature:	es XX			Date	. 17 Au	904		
oignature.	U y			บสต	· 10/14	157		

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	<del></del>									
Station ID: 17		13 Acto	104	Time (	local): /305	5	Project #:	G005001, G	05002	6004974
Recorder: #4	<i>din</i>			Sampl	ing Location (c	ircle on	e): BSMP	/ Northstar /	Liberty/	Other
Latitude (WGS84)	700 23	.6090	)		Longitude (W	(GS84)	147°	32.92	80	
Field Observations	and Measure	ments								
Wind Speed (kts):	x 5-10	Wind Di	rection:	5			Seas/Ice	: 144	sone	flow ice
Water Depth (ft):	23:1		Conduc	tivity, Te	emperature, De	epth (C1	ΓD):			
Doppler Current:			Turbidit				nent Tow:			
Comments:				-						
Sediment Samples	;									
Device: Van Veen	Grab Other-				No. of F	Replicat	tes		<del></del>	
Organics	Metals		Grain S	i76	1	OC .	13(	Moth	nyl Hg	Other
0.ga <b>00</b>	motaro		Oralli O	120			<b>\</b>	3 NICH	iyi i iy	Outer
Sediment Texture (	circle all that an	n/v): >!	50% silt/cl	av	Fine (	`റമ്മെ	Sand Grave	l Shol	l Hash	Mixed
Indications of Anoxi			50 /0 31100	uy .		<del></del>			1110011	IAIIVEG
		No			H <sub>2</sub> S Odor:	Yes	<u>No</u>		<del></del>	
Sediment Commen									<del></del> ,	
Water/Suspended		ples:	Sur	face	Mi	id-Wate	er	Bottom		Other
Large Volume Wat		Repl	icate 1	T	teplicate 2		<del></del>			<del></del>
Volume filtered/prod	cessed (liters)	<del> </del>		XAD (	Cartridge		Pleat	ted Filter		TSS
LV Water Commen	ts:									
Biota									-	
Amphipods	Traps Deploy	ed: /		Traps	Retrieved:	ı		Anonyx:		
Clams	Number of Gr	abs:		Astart	e:			Cyrtodaria:		
Mussels/SPMD	Moorings Dep	oloyed:		Moori	ngs Retrieved:		Mussels:		SPMD:	• • • • • • • • • • • • • • • • • • • •
Biota Comments:	- 6	freu	ed or		4 Aug-	ver	y few	cunstr	reds	
Quality Control Sa	- 8			Q V	0:48		1		,	
Field Blank		Equipment	Blank		- 1	Blank		•••	Other	
Overall Comments		<del></del>	,							<del></del>
					·					
Field Personnel:	Healin	Land	les.	110	12 1	. 4. 1	<i>(</i>			
- ioia i diddillioli	17.4 (1)	/	·-//_	7010	rity C	WI	<u> </u>			
A /	1 1									
Signature:	7 +	<b>,</b>				Date:	13A.	19 04		···
( /	· ·									

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Station ID: 4/8	Date: 13A	ig 04	Time (ocal):	1355	Project #: (	3005001, G0	05002 G0	)4974
Recorder: Ha	ndin	J	•		one): BSMP /	Northstar	Liberty / O	ther
Latitude (WGS84)	70° 19.38	29	Long	itude (WGS84	4) 147	45.6	601	
	and Measurements	· · · · · · ·			· · · · · · · · · · · · · · · · · · ·	·		
Wind Speed (kts):	>1010-20   Wind	Direction:	IS IW		Seas/Ice	1-54	WICE	
Water Depth (ft):	14,1 +4	Conduc	tivity, Tempera	ture, Depth (0	CTD):	······································	<del></del>	
Doppler Current:		Turbidit	<i>y</i> :	Instr	ument Town:			
Comments:					<del>-</del>			
Sediment Samples		· <del>·</del>	<b>-</b>			· · · · · · · · · · · · · · · · · · ·		
Device: Van Veen	Grab Other-			No. of Replic	ates			
Organics	Metals	Grain Si	ze	TOC	13(	Meth	yl Hg	Other
Sediment Texture (	circle all that apply):	>50% silt/cl	ay Fine	Coars	e Sand Grave	l Shel	l Hash	Mixed
Indications of Anoxi	a: Yes No	• • •	H₂S	Odor: Yes	s No			
Sediment Commen	s:							
Water/Suspended	Sediment Samples:	Surf	ace	Mid-Wa	iter	Bottom	(	Other
Large Volume Wat	er Samples: R	eplicate 1	Replica	e 2				
Volume filtered/prod	essed (liters)		XAD Cartrid	je	Pleat	ed Filter		TSS
LV Water Commen	s:							
Biota								
Amphipods	Traps Deployed:	1	Traps Retrie	ved:		Anonyx: 🎜	: 20ml	
Clams	Number of Grabs:		Astarte:			Cyrtodaria:		
Mussels/SPMD	Moorings Deployed:		Moorings Re	trieved:	Mussels:		SPMD:	
Biota Comments:	Retrievedo	1905 h	vs					
Quality Control Sa	mples							
Field Blank	Equipm	ent Blank		Trip Blar	nk		Other	
Overall Comments	: Return for	sendic	off to	filterc	ater-	- wind	picke	40
10 15-	20 fts, seas	2-3-8	+. Two	rough f	ar traw	- wind	anha	
neo	aerx				·			
Field Personnel:	Hardin, Co	wley,	Ments	z, celuls	6			
Signature:	AL.			Date	e: 13A	404		

Station ID: ∠ひく	Date: (3)	Aug 04	Time (	ocal): <b>180</b>	Project #:	G005001) G005002(	G004974		
Recorder: Hay		<del></del>				Northstar Liberty			
			Campi	ng Location (circle of			Oulei		
Latitude (WGS84)	fo 16.91	55		Longitude (WGS84	147	34.08%			
	s and Measuremen								
Wind Speed (kts):		find Direction:				: 2-3ft/MCC	•		
Water Depth (ft):	V.Ø			mperature, Depth (C	TD):	<u> </u>			
Doppler Current:		Turbidit	y:	Instru	ment Tow:				
Comments:									
Sediment Samples	s								
Device: Van Veer	Grab Other-			No. of Replica	ites				
Organics	Metals	Grain S	ize	TOC	13(	Methyl Hg	Other		
Sediment Texture (	circle all that apply):	>50% silt/c	lay	Fine Coarse	Sand Grave	el Shell Hash	Mixed		
Indications of Anox	ia: Yes No			H₂S Odor: Yes	No				
Sediment Comments:									
Water/Suspended Sediment Samples: Surface Mid-Water Bottom Other									
Large Volume Wa	ter Samples:	Replicate 1		eplicate 2					
Volume filtered/pro	cessed (liters) 96			artridge BAT-00	7 Pleat	Fiber ed Filter 27072-	/5 TSS		
LV Water Commen				e 1150, 23					
Biota				H					
Amphipods	Traps Deployed:		Traps	Retrieved:		Anonyx:			
Clams	Number of Grabs:		Astart		,	Cyrtodaria:			
Mussels/SPMD	Moorings Deploye	ed:	Moorir	ngs Retrieved:	Mussels:	SPMD			
Dieta Communita	-		•		•				
Biota Comments:	•								
Biota Comments:  Quality Control Sa	amples								
Quality Control Sa Field Blank		pment Blank		Trio Blan	· · · · · · · · · · · · · · · · · · ·	Other			
Quality Control Sa	Equi	pment Blank		Trip Blanl	ζ	Other			
Quality Control Sa Field Blank	Equi	pment Blank		Trip Blanl	(	Other			
Quality Control Sa Field Blank	Equi	pment Blank		Trip Blanl	ζ	Other			
Quality Control Sa Field Blank	Equi		, Ne			Other			
Quality Control Sa Field Blank Overall Comments	Equi		, Ne	Trip Bland		Other			
Quality Control Sa Field Blank Overall Comments	Equi		, Ne		4	Other			

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Station ID: No4	Do	4 15 A	11.04	Time (	Innelly /Eds	Decided #1 C	-00E004 C00	E002 C00	407
		te: 15 A	ug O i		local): /500	<u> </u>	6005001, G00		
Recorder: Hard				Sampl	ing Location (circle on	e): BSMP (	Northstar 1	Liberty / Ot	ner
Latitude (WGS84)	700	29.	67%		Longitude (WGS84)	1480	48.12	298	
Field Observations					<del></del>			- //-	
Wind Speed (kts):	0-5	Wind	Direction: 🚜	<u> </u>	·	Seas/Ice:	21,5	ne fa	1100
Water Depth (ft): 4	<i>K</i> U'		Conduc	tivity, Te	emperature, Depth (C			<del></del>	
Doppler Current:			Turbidit	<u>y:</u>	Instrur	ment Tow:			
Comments:									
Sediment Samples	<b>.</b>								
Device: Van Veen	Grab Oti	ner-			No. of Replica	tes			
Organics	Met	als	Grain Si	ize	TOC	13C	Methy	/I Ha	Other
		<del></del>							
Sediment Texture (d	circle all tha	t apply):	>50% silt/cl	ay	Fine Coarse	Sand Grave	Shell	Hash	Mixed
Indications of Anoxi		No			H₂S Odor: Yes	No	· · · · · · · · · · · · · · · · · · ·		
			<del></del>		1120 00011 100				
Sediment Comment			0		B 41:4 \ A 4-4.	· · · · · · · · · · · · · · · · · · ·	Detter		that
Water/Suspended				face	Mid-Wate	<u>er</u>	Bottom		ther
Large Volume Wat Volume filtered/prod			Replicate 1	1	Replicate 2 Cartridge <b>BAT-00</b> 6	GF Bloom	ed Filter L70	27 16	TSS
	<b>.</b>					i i rigali	EU I HIGH GIVE	12 10	100
LV Water Commen	is: Steer	17:1	9 15 Aug	, F.	aigh: LOTA		· · · · · · · · · · · · · · · · · · ·	a l Atla	<del>-,,</del>
Biota			1-01 - P40		· 04-104-01-	PHC - 61		-01-hac-1	-70
Amphipods	Traps Der		· · · · · · · · · · · · · · · · · · ·		Retrieved:		Anonyx:		
Clams	Number o		· <del></del>	Astar			Cyrtodaria:		
Mussels/SPMD	Moorings	Deployed:	<del></del>	Moori	ngs Retrieved:	Mussels:		SPMD:	<del></del>
Biota Comments:								,	
Quality Control Sa	mples				<u> </u>				
Field Blank	·	Equipn	nent Blank		Trip Blank	(		Other	
Overall Comment	s: 6	Culti	ainers	col	lected				
Blank - Unf	ilfaced	_	=04-1	NO4-	U1-14C-X4	D-EB	@ 2335	5 (BA	(2027
44	••	GFF	= 04-	144.	OI- PHC - 6A	F-EB	Q 2735	( 47	072-17
	11 1.	•	ł	1100	المارات أسا				
Field Personnel:	HENTON	N, Lou	Ney, 1	wer	12, wash				
		-							
	,	1				1.4-	. 1		
Signature:	<u>へ</u> 出	and			Date	: 151	tug 07	6 	
71		1					,		

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80 80 Page 78 of 78 94 Attachment 3: 2002 Fish Sampling Logs



Station ID: PBS	Date: 06	ug 04	Time (loc	1920 17	20	Project #: G00	5002
Recorder: Hard				Location (circle on	_	MP/ Northstar	/ Liberty / Other
Latitude (WGS84)	(see date	(bye)	L	ongitude (WGS84)	Gee	datubas	e)
Field Observations ar	nd Measurements	<u>,                                      </u>					_
Wind Speed (kts): Ca	In Wind	Direction:		Seas/Ice: Cal	n	Water I	Depth (ft): 3
Comments:				1.			
Device: Fyke Net	Otter Trawl	Other	-	No. of Replica	tes		
Organics/Metals	Bile (FACS)			les ) Gilla Gub	Kidne	(iver)	Other
Fish Species: Accho	Cir(n Fish	04-PBS ength (cm):		<i>P-7</i>	·	Number of fish	h in sample: /
	sex observe	_	.0.0			1 1141111111111111111111111111111111111	i iii ouiiipio. 💰
Organics/Metals	Bile (FACS)		circle samr	les ) Gills Gut	Kidno	ev Liver	Other
Organics/Metals				- CIP-T	Mune	y LIVEL	Outer
Fish Species: Brad Chik fish Fish Length (cm): 9-8 Number of fish in sample: /							
Fish Comments: (N	mature						
Organics/Metals	<del>,                                      </del>			oles) <u>Gills</u> Gut	Kidne	ey Liver	Other
04-PBS-03-PHCA	Wet-1	04-	P85-0	3- OP-T			
Fish Species: Least	Cisco Fish	Length (cm):	(8.8			Number of fis	h in sample:
Fish Comments: $\mathcal{I}_{a}$	matire						
Organics/Metals	Bile (FACS)	CYP1A	(circle sam	oles ) Gills Gut	Kidne	ey Liver	Other
	0	04.	pBS-G	4-CYP-T			
Fish Species: Archic	Cisco Fish	Length (cm):	19.8			Number of fis	sh in sample:
Fish Comments:	enabe						
Overall Comments:							
Field Personnel:	faith, La	w ley,	Wa l	:4			
	11.	-,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
Signature: M	1 1/4		· · · · · · · · · · · · · · · · · · ·	Date	61	Jug 04	
1/	V						

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#### MMS Continuation of Arctic Nearshore Impact Monitoring in the Development Area (cANIMIDA)

Summer 2004 Fish Sample Log

Station ID: PBS	Date: 6 Ju	904 T	ime (local): All 7:5	JA90	Project #: G00	5002
Recorder: Hardin	<u>^</u>		Sampling Location (circ	le one): BSN	Northstar	/ Liberty / Other
Latitude (WGS84)	See dotube	ye	Longitude (WG	S84) Se	e dutab	age
Field Observations an	d Measurements			- · · · · · · · · · · · · · · · · · · ·		
Wind Speed (kts): CC	Rlm Wind I	Direction:	Seas/Ice: C	alm	Water [	Depth (ft): 3
Comments:						
Device: Tyke Net	Otter Trawl	Other-	No. of Re	plicates	<del></del>	
Organics/Metals	Bile (FACS)	CYP1A (cir	cle samples ) Gills	Gut Kidne	y Liver	Other
0	V		5-cyp-7			
Fish Species: (Lust		ength (cm): 24	2.3		Number of fish	n in sample:
Fish Comments:	inale_					
Organics/Metals	Bile (FACS)	CYP1A (cir	cle samples ) Gills	Gut kidne	(Liver	Other
V	V		-06-CXP-T			
Fish Species: Least (	isco Fish L	ength (cm): 2			Number of fisl	n in sample: 7
Fish Comments: Fe	male					
Organics/Metals	Bile (FACS)		rcle samples ) Gills		(iver)	Other
V		04-PB	5-05-07-C	7P-7		
Fish Species: Browle	hitefish Fish 1	ength (cm):	6.2		Number of fis	h in sample: /
Fish Comments: ${\cal B}$	ile lost -:	Cunatur	<u>e</u> -			
Organics/Metals	Bile (FACS)	CYP1A (ci	rcle samples ) Gills	Gut Kidne	ey Liver	Other
V	V	<del>1</del>	5-08-CYP-			
Fish Species A CT	C CUGO Fish I	ength (cm): 2	3.5		Number of fis	sh in sample:
Fish Comments:	Sex indet	er minat	e			
Overall Comments:	,	i				
Field Personnel:	fundin, L	ew ley,	Walsh			
						****
Signature:	and the	(		Date: 6 A	regay	
/	<del>'</del>		l.		<del>/                                    </del>	······································

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Station ID: PBS	Date	06 A	404	Time (k	ocal): 1843			Project #: G0	05002
Recorder: Hardi						cle one	e): (BSN	\	r / Liberty / Other
Latitude (WGS84)	Sex	datu	-bux		Longitude (WC			e datab	
Field Observations a	nd Measure	ements							
Wind Speed (kts): C	alm	Wind [	Direction:		Seas/Ice: 6	edn	^	Water	Depth (ft): プ
Comments:					<del></del>		·,- · ·		
Device: Fyke Net	Otte	r Trawl	Other-		No. of Re	eplicate	es	<del></del>	
Organics/Metals	Bile (FA	.CS)			nples ) Gills	Gut	Kidne	Liver >	Other
	$\nu$		04-PB	5-09-	CYP-7				
Fish Species: Brade	histoh	Fish Le	ength (cm):	20.8				Number of fig	sh in sample:
Fish Comments: Sex	indefer	nina	le	Bile	contamin	a feo	1 4	bland b	ut allected)
Organics/Metals	Bile (FA	CS)	CYP1A (	circle sar	nples ) Gills	Gut	Kidne	y Liver	Other
<b>V</b>	V (smal	(unj)	04- PB	5-10-	CYP-T				
Fish Species: Braduli fetish Fish Length (cm): 15.5 Number of fish in sample:									
Fish Comments:	_		eternin	•					
Organics/Metals	Bile (FA	CS)	CYP1A (	circle sa	nples ) Gills	Gut	Kidne	y Liver	Other
	$\nu$		04-F	<u> 185-1</u>	1-C4P-7				
Fish Species: Brade	Uhite fish	Fish L	ength (cm):	(5.3				Number of fi	sh in sample: /
Fish Comments: S	exinde	form	vinete	·					
Organics/Metals	Bile (FA	(CS)	CYP1A (	circle sa	nples Gills	Gut	Kidne	y Liver	Other
V	V		04- F	BS-	12-cyp.	-7			
Fish Species (east	Ciko	Fish L	ength (cm):	21.3	·			Number of fi	sh in sample: /
Fish Comments:	Femal	و			·				
Overall Comments:			···		····				
		·			, 1				
Field Personnel: Harry Lawley, Walsh									
	,	•	7	′					
Signature:	M	<u> </u>				Date:	<u>6</u> A	ue 04	
(1)	1							7	

The Business of Innovation

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Station ID: PBS	Date: 6 Aug	Time	(local)! 8947 M4	<i>l</i> F	Project #: G00	5002	
Recorder: Have	din	Samp	oling Location (circle on	e BSMP	) / Northstar	/ Liberty / Other	
Latitude (WGS84)	see datables	<b>L</b>	Longitude (WGS84)	Sec	datak	use	
Field Observations a	nd Measurements						
	- 1	Direction:	Seas/Ice: G	alm	Water	Depth (ft): 3	
Comments:							
Devicex Fyke Net	Otter Trawl	Other-	No. of Replica	tes			
Organics/Metals	Bile (FACS)	CYP1A (circle s	amples) Gills Gut	Kidney	Liver	Other	
V	V	04-PBS-1	3-CYP-7				
Fish Species: Broad	Whatefish Fish Le	ength (cm): 15-	5		Number of fisl	h in sample:	
Fish Comments:	tex indefer	minate					
Organics/Metals	Bile (FACS)	CYP1A (circle s	samples ) Gills Gut	Kidney	Liver	Other	
V	V	04-PBS-1					
Fish Species: Broad Chat Fish Length (cm): 16-1 Number of fish in sample:							
Fish Comments: 5	exchdetemi	nate					
Organics/Metals	Bile (FACS)	CYP1A (circle s	samples ) Gills Gut	Kidney	Liver	Other	
V		04-PB	5-15-CYP-	-7			
Fish Species: Broad	Whiteful Fish L	ength (cm): 15.	2		Number of fis	h in sample: /	
Fish Comments:	sex incletern	rivate					
Organics/Metals	Bile (FACS)	CYP1A (circle	samples ) Gills Gut	Kidney	Live	Other	
		04-PBS-)	5-CYP-T				
Fish Species: Brood	Uniteristy Fish L	ength (cm): 4	5		Number of fis	sh in sample: /	
Fish Comments: Z	to small f	or tissue or	bife				
Overall Comments:							
				<del></del>			
Field Personnel:	Hardh	, Lawley	, Walsh	···			
	,	(					
	71				- 1 1		
Signature:	, M		Date	: 6A	ug 04		
					/	•	

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Station ID: PBS	Date: Aug	104	Time (lo	(local): 19:55		P	Project #: G005002	
Recorder: Hand	· · · · · · · · · · · · · · · · · · ·		Sampli	ng Location (ci	rcle one	BSMP	Northstar	/ Liberty / Other
Latitude (WGS84)	sex data la	use		Longitude (W	GS84)	Su	e datal	Dase
Field Observations a	nd Measurements							
Wind Speed (kts): C	wind I	Direction:		Seas/Ice:	Cal	m	Water	Depth (ft): 3
Comments:		<u>.                                    </u>						
Device Fyke Net	Otter Trawl	Other	-	No. of R	eplicate	es		
Organics/Metals	Bile (FACS)	CYP1A (	circle sa	mples ) Gills	Gut	Kidnev	Liver	Other
V				CYP-T				
Fish Species: 8 Max	Whiteful Fish L					N	Number of fis	h in sample: /
Fish Comments: Se	× indeter	ninate						
Organics/Metals	Bile (FACS)	CYP1A	(circle sa	mples ) Gills	Gut	Kidnev	Liver	Other
V	1			5-18-CY		,		
Fish Species: Broad Live Fish Length (cm): 13-8  Number of fish in sample: 1								
Fish Comments: 5	Fish Comments: Sex indeterminate							
Organics/Metals	Bile (FACS)	CYP1A	(circle sa	mples ) Gills	Gut	Kidney	Liver	Other
		04-	PBS-	19-CYP-	7			
Fish Species: Fully	aupin Fish L	ength (cm):	22.0	3			Number of fis	sh in sample: (
Fish Comments:	emale gu	ien egys						
Organics/Metals	Bile (FACS)	CYP1A	(circle sa	mples ) Gills	Gut	Kidney	Liver	Other
				20-cyp				
Fish Species: Fow	Hava, Fish I	ength (cm):		-			Number of fis	sh in sample: /
Fish Comments:	sculpin No	BUE						
Overall Comments:			·					
Field Personnel: Hardin, Lawley, Walsh								
	7	1	,					
	1	·		1				
Signature:	d All				Date:	6 Au	764	
( )	,					V	/	

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Station ID: PBS	Date: 7	August	Time (local):	1846	Project #: G00	05002	
Recorder: Hzu	ndin '		Sampling Loca	tion (circle one)	BSMP / Northstar	/ Liberty / Other	
Latitude (WGS84)	•	utabuse/	Longitu	ıde (WGS84)	(see datab	ase)	
Field Observations ar	<del></del>		- 0	Ice: Calu	14/-4	D = 4 (6) 7	
Wind Speed (kts): Cu	YVEY   VVII	nd Direction:	Seasi	ice: Cam	•   Water	Depth (ft): 3	
Comments:							
Device: Fyke Net	Otter Tra	wl Other	- N	o. of Replicate	<u> </u>		
Organics/Metals	Bile (FACS)		circle samples )		Kidney Liver	Other	
$\mathcal{C}$		04-	PBS-25-1	CYP-7			
Fish Species: Least	Cisco Fis	h Length (cm):	M.3	<u></u>	Number of fis	h in sample:	
Fish Comments:	sex in	defemi	rate				
Organics/Metals	Bile (FACS)	CYP1A	(circle samples )	Gills Gut	Kidney Liver	Other	
.0			PBS-26-				
Fish Species: Arctic	Char Fis	•	12.2		Number of fis	sh in sample: /	
Fish Comments: Se	ex Indefe	rminate	- Very	small an	neutof bile		
Organics/Metals	Bile (FACS)		(circle samples		Kidney Liver	Other	
	V	04-F	1BS-27-1	CYP-T			
Fish Species: 4/hura		sh Length (cm):	14.5		Number of fis	sh in sample: /	
Fish Comments: F	enale						
Organics/Metals	Bile (FACS)	CYP1A	(circle samples	Gills Gut	Kidney Liver	Other	
V	V	04-	PBS-28-	CYP-7			
Fish Species: 4 Hyvn	Sculpin Fi	sh Length (cm):	13.8		Number of fi	sh in sample: /	
Fish Comments:	Female	- Su	nall amo	at of	bile		
Overall Comments:							
Field Personnel: Hurdy, Carly							
Signature: A	Had			Date	724g54		
Olynature.	V			Date.	·/ Vy - 1		

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Station ID: PBS	Date: 7 Au	y 08 T	ime (local): /9:10	Project #: G0	05002		
Recorder: Hard		<b>'</b>	Sampling Location (circle on	BSMP) Northstar	/ Liberty / Other		
Latitude (WGS84)	Credutabu	ne)	Longitude (WGS84)	(see dutab	215C)		
Field Observations ar	1			,	··-		
Wind Speed (kts): Co	wind E	Direction: —	Seas/Ice:	Water   Water	Depth (ft): 3		
Comments:							
Device: Fyke Net	Otter Trawl	Other-	No. of Replicat	es			
Organics/Metals	Bile (FACS)		cle samples ) Gills Gut	Kidney Liver	Other		
		04-PB	S-29- CYP-7				
Fish Species: 4 Hova	Scalpin Fish L		<b>▼</b> *	Number of fis	sh in sample: 1		
Fish Comments: 5	x indeter	minate					
Organics/Metals	Bile (FACS)	CYP1A (cir	cle samples ) Gills Gut	Kidney Liver	Other		
			5-3U-CYP-7				
Fish Species: 4 hom Sculpin Fish Length (cm): 11.3 Number of fish in sample: 1							
Fish Comments:	rex inde	comina	fe				
Organics/Metals	Bile (FACS)	CYP1A (cir	rcle samples ) Gills Gut	Kidney Liver	Other		
Fish Species:	Fish L	ength (cm):		Number of fi	sh in sample:		
Fish Comments:							
Organics/Metals	Bile (FACS)	CYP1A (ci	rcle samples ) Gills Gut	Kidney Liver	Other		
Fish Species:	Fish L	ength (cm):		Number of fi	sh in sample:		
Fish Comments:	,						
Overall Comments:		<del></del>			<del></del>		
Field Personnel:	Hardon, C	auley					
	,	/					
		············					
Signature:	1 Hull		Date:	7 Aug 04			

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Station ID: SIS	Date: 🎖 🖡	tug oy	Time (local):	MW 1047	Project #: G00	05002
Recorder: Mike		0	Sampling Location (circl	le one): BSN	MP ( Northstar	\( \text{Liberty / Other} \)
Latitude (WGS84)	(in dutat	sase)	Longitude (WG	S84) (ii	n dartabo	ye)
Field Observations a						
Wind Speed (kts):	alm Wind [	Direction: -	Seas/Ice:	<u>calm</u>	Water	Depth (ft): 7
Comments:						
Device: Fyke Net	Otter Trawl	Other-	No. of Rep	olicates		
Organics/Metals	Bile (FACS)	CYP1A (c	circle samples Gills	Gut Kidne	y Liver	Other
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	~	04 - SI	- 30- CYP-T			
Fish Species: last	Cisco Fish L	ength (cm):			Number of fis	h in sample: 【
Fish Comments:	Emale	T				
Organics/Metals	Bile (FACS)	CYP1A (	circle samples ) Gills	Gut Kidne	y Liver	Other
1	1	04-53	F-320- CYP-	T		
Fish Species: Avc	TC (igo Fish L	ength (cm):	25,5°		Number of fis	h in sample: /
Fish Comments: 1	lale	_				
Organics/Metals	Bile (FACS)	CYP1A (	circle samples ) Gills	Gut Kidne	y Liver	Other
<u> </u>		04-5	I-83, CYP-	- T		
Fish Species: A	Fish L	ength (cm):			Number of fis	sh in sample:
Fish Comments: F	iemale					
Organics/Metals	Bile (FACS)	CYP1A (	circle samples)Gills	Gut Kidne	ey Liver	Other
<u> </u>	<u> </u>	04-	-ST-3291C	YP-T		
Fish Species: Archic	Cisco Fish L	_ength (cm):	26.8 mor		Number of fis	sh in sample:
Fish Comments: 5	ex indute	rmonal	le.			_
Overall Comments:			<u> </u>			
	•					,,
Field Personnel:	Walch Lan	uleu T	21 Faces			
ricia i cisolilici.	VICE C TO	V CY , V	0110000			
			·····	····		
Signature: Mu	chael Wals	eh_		Date: 8	Aug ou	1

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Station ID: 5T5	Date: 8 A	4 04	Time (local):	116	Project #: G00	05002
Recorder: Myke h			Sampling Location	n (circle one): BSI	MP / Northstar	) Liberty / Other
Latitude (WGS84)	(in datub	we)	Longitude	(WGS84) (	in data	buse)
Field Observations ar Wind Speed (kts):		Direction: -	- Seas/Ice	e: Calm	Water	Depth (ft): 3
	Water And F	nrection: -	Seas/ice	e. Cacitor	i vvalei	Deput (it).
Comments:			Т			
Device: Fyke Net	Otter Trawl	Other		of Replicates		
Organics/Metals	Bile (FACS)	CYP1A	(circle samples )		ey Liver	Other
		04-3	4 7 7	S-CYP-T	<u> </u>	
Fish Species: (cast	Cisco Fish L	ength (cm):	25.9	Sour	Number of fis	h in sample: /
Fish Comments: Fc	male					
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) 🔇	Gills Gut Kidn	ey Liver	Other
\ \	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	04-5	1-36-CYP	-T		· · · · · · · · · · · · · · · · · · ·
Fish Species: Arc Fiz Cisco Fish Length (cm): 29.5 Number of fish in sample: 1						
Fish Comments: 5	ex indeter	rumal	e			
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) 🥨	Gills Gut Kidn	ev Liver>	Other
<b>'</b>	<u> </u>	04-5	I-37-CY1	P-T	l	
Fish Species: Kast	Cisco Fish L	ength (cm):	27.70#		Number of fis	sh in sample: /
Fish Comments: 10	ale					
Organics/Metals	Bile (FACS)	CYP1A	(circle samples )	Gills Gut Kidn	ey Liver	Other
<b>~</b>	~		- 36 - CYP -			
Fish Species: Arctic	CSCO Fish L	.ength (cm)	32.3		Number of fi	sh in sample: /
Fish Comments: Fe	male.	/ Blood	mixed with	bile		
Overall Comments:					· · · - · · · · · · · · · · · · · · · ·	
Field Demands 1	الماس (مال		D-1 (			
Field Personnel:	vaish, L	awiey	, VCI tosse			
				·····-1		
Signature: My	dan 1 Wa	ماما		Date: 8	L. O	La.
orginature.	mu " w	w		Date.	muy U	<del></del>

Station ID: Sエグ	Date: 8 A	ug 04	Time (local): [140	Project #: G0	05002	
Recorder: Www.		7	Sampling Location (circle one	e): BSMP Northsta	\( \) Liberty / Other	
Latitude (WGS84)	(in databa	ve)	Longitude (WGS84)	Cin date	ibase)	
Field Observations ar	nd Measurements	·		·-·-		
Wind Speed (kts): C	alm Wind [	Direction:	- Seas/Ice: Cou	Water Water	Depth (ft): 3	
Comments:			_			
Device: Eyke Net	Otter Trawl	Other	No. of Replicate	es		
Organics/Metals	Bile (FACS)	CYP1A (	circle samples ) Gills Gut	Kidney Liver	Other	
<b>/</b>	~		-38-CYP-T			
Fish Species: Arctic	Cisco Fish L			Number of fis	sh in sample: /	
Fish Comments: M	ale		· · · · · · · · · · · · · · · · · · ·			
Organics/Metals	Bile (FACS)	CYP1A	circle samples ) Gills Gut	Kidney Liver	Other	
<b>V</b>	<u> </u>		I-40-CYP-T			
Fish Species: Arctic Cicco Fish Length (cm): 31.2 Number of fish in sample:						
Fish Comments: Fe	male					
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills Gut	Kidney Liver	Other	
<u> </u>		04-5	I-YY-CYP-T			
Fish Species: Avc -ic	Cisco Fish L	ength (cm):	25.7	Number of fi	sh in sample:	
1	ex Indetern					
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills Gut	Kidney Live	Other	
	~		- 42 - CYP-T		!	
Fish Species: Arch	C Czco Fish L	ength (cm):	27.200	Number of f	ish in sample:	
Fish Comments: 5	ux Indete	crmmat	<u>ک</u>			
Overall Comments:	-					
		······································		Appr -		
Field Personnel:	Nalsh 10	wley	Delfosse			
Signature: 1/1/10	100.02.6	- la		or Me. or of	st i	
oignature: / ////	MALL WAL	un_	Date:	8 Aug C	۲٦	

Station ID: SI5	Date:	8 Ang ou	Time (local):	157	1	Project #: G00	05002
Recorder: Mule	Walsh		Sampling Location	n (circle one	): BSMF	Northstar	Liberty / Other
Latitude (WGS84)	(in dat	<del></del>	Longitude	(WGS84)	Ci.	datat	Page)
Field Observations ar				A . C			
Wind Speed (kts): Co	1m~>   W	/ind Direction:	- Seas/Ice	: casi	M	Water	Depth (ft): 3
Comments:						<del>,</del>	
Device: Eyke Net	Otter Tr	rawl Other-	No.	of Replicate	es		
Organics/Metals	Bile (FACS)	) CYP1A (	circle samples )	Gills Gut	Kidney	Liver	Other
~		04-	5I-43,-CYP	?-T			
Fish Species: Jeast (	Cisco Fi	ish Length (cm):	23.8			Number of fis	h in sample: /
Fish Comments:	emate						Α'
Organics/Metals	Bile (FACS	CYP1A (	circle <u>samples</u> ) (	Gills Gut	Kidney	Liver	Other
	-	04-5	F-48 CYP	-T	-		
Fish Species: Scul	pin Fi	ish Length (cm):	15.5			Number of fis	sh in sample: /
Fish Comments: Fe	male -	- no bile r	etrieved	-		<del>-</del> -	
Organics/Metals	Bile (FACS		(circle samples ) (		Kidney	Liver	Other
<b>/</b>		04-5	I - 42 - CA	P-T			
Fish Species: Scul	pin f	ish Length (cm):	14.3	<del>-</del>		Number of fis	sh in sample: /
Fish Comments:	emale	- no bil	e retrieved	}			_
Organics/Metals	Bile (FACS	S) CYP1A	(circle samples )	Gills Gut	Kidney	Liver	Other
Fish Species:	F	Fish Length (cm):				Number of fi	sh in sample:
Fish Comments:							
Overall Comments:	· ·						
Field Personnel: Walsh, Lawley, Delfosse							
	<del>7 -</del>	9-					
Signature: 1/1-	hall W	Calsh		Date:	8	Ang oy	
				•		- 1	······································

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Station ID: SIS	Date: &	Aug 04	Time (local)	1921	Project #: G0	005002	
Recorder: Hardin		<i>J</i>		, ,	BSMP / Northsta	/ Liberty / Other	
Latitude (WGS84)	See de	ata base	Lon	gitude (WGS84)	see do	fubuse	
Field Observations and	d Measurem	ents					
Wind Speed (kts): 🗢	5 V	Vind Direction: ン	5 se	eas/Ice: Cal	m Wate	r Depth (ft): 3	
Comments:				· · · · · · · · · · · · · · · · · · ·			
Device: Fyke Net	Otter T	rawi Other-	·	No. of Replicate	es		
Organics/Metals	Bile (FACS	S) CYP1A (	circle sample	s) Gills Gut	Kidney Liver	Other	
V	V		-46-C				
Fish Species: (Less)	ÒO F	ish Length (cm):	101		Number of f	ish in sample: 🖊	
Fish Comments:	ile Sam	ple minis	ral, se	s indeten	nihate		
Organics/Metals	Bile (FAC	S) CYP1A (	circle sample	s ) Gills Gut	Kidney Liver	Other	
V			- 4A-C				
Fish Species: Arcic	Cod F	ish Length (cm):	13.2 170	<i>H</i>	Number of t	ish in sample: /	
Fish Comments: No pile collected, sex indeterminate							
Organics/Metals	Bile (FAC			es Gills Gut	Kidney Liver	Other	
		U4-5	1- 48-	CYP-7		<u> </u>	
Fish Species: Cart		Fish Length (cm):	14.0 18			fish in sample:	
Fish Comments: $\mu$	bile o	wherfed,	Sex	indeferm	inute		
Organics/Metals	Bile (FAC	S) CYP1A	(circle sample	es) Gills Gut	Kidney Liver	Other	
<u> </u>							
Fish Species:		Fish Length (cm):			Number of	fish in sample:	
Fish Comments:		<del></del> .			<u> </u>		
Overall Comments:							
			<del></del>				
Field Personnel: Walsh, Country, Delfisse, Howard (in lab)							
			,	(	- ,		
<b>1</b>	1/1				5 Aug 04	· · · · · · · · · · · · · · · · · · ·	
Signature:	JMN.	al.	·····	Date:	~/Mg 07		

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Station ID: 5 I Date: 9 Aug ou Time (local): 118 137 Project #: G005002  Recorder: White WAISh Sampling Location (circle one): BSMP / Northstar / Liberty / Ott  Latitude (WGS84) See data base Longitude (WGS84) See database  Field Observations and Measurements  Wind Speed (kts): Culm Wind Direction: Sw Seas/Ice: Colm Water Depth (ft):  Comments:  Device: Eyke Net Otter Trawl Other- No. of Replicates  Organics/Metals Bile (FACS) CYP1A (circle samples ) Gills Gut Kidney Liver Other	her
Field Observations and Measurements  Wind Speed (kts): Culm Wind Direction: Sw Seas/Ice: Culm Water Depth (ft):  Comments:  Device: Eyke Net Otter Trawl Other- No. of Replicates	
Wind Speed (kts): Calm Wind Direction: Sw Seas/Ice: Colm Water Depth (ft):  Comments:  Device: Eyke Net Otter Trawl Other- No. of Replicates	
Comments:  Device: Eyke Net Otter Trawl Other- No. of Replicates	
Device: Eyke Net Otter Trawl Other- No. of Replicates	
Organics/Metals Bile (FACS) CYP1A (circle samples ) Gills Gut Kidney Liver Other	
The following the state of the	<u></u>
V 04-5I-49-CYP-T	
Fish Species: Arc+7 C3co Fish Length (cm): 76.5 Number of fish in sample:	t
Fish Comments: Sex Indeterminate	
Organics/Metals Bile (FACS) CYP1A (circle samples ) Gills Gut Kidney Liver Other	r
V 04-5I-50-CYP-T	
Fish Species: Cast C3(0) Fish Length (cm): 27.6 Number of fish in sample:	1
Fish Comments: Female	
Organics/Metals Bile (FACS) CYP1A (circle samples ) Gills Gut Kidney Liver) Other	r
Organics/Metals Bile (FACS) CYP1A (circle samples ) Gills Gut Kidney Liver Other	<u>.</u>
Fish Species: Arctic Cisco Fish Length (cm): 29.1 Number of fish in sample:	1
Fish Comments: Male	
Organics/Metals Bile (FACS) CYP1A (circle samples ) Gills Gut Kidney Liver Othe	er
~ 04-SI-50-CYP-T	
Fish Species: Arctic Ci3co Fish Length (cm): 27.5 Number of fish in sample:	
Fish Comments: SUX Indeterminate	
Overall Comments:	
Field Personnel: WAISH, Lawley Delfosse	
Signature: Michael Wulsh Date: 9 Ang 04	

Station ID: SIS	Date: 9 Au	ng 04	Time (local): 4 39 339 Project #: G005002
Recorder: Mike W	lakh	· · · · · · · · · · · · · · · · · · ·	Sampling Location (circle one): BSMP / Northstar Liberty / Other
Latitude (WGS84)	see data	buse	Longitude (WGS84) See data buse
Field Observations ar	4		
Wind Speed (kts): Co	elm   Wind [	Direction:	Seas/Ice: Colum Water Depth (ft):
Comments:			
Device: Fyke Net	Otter Trawl	Other	er- No. of Replicates
Organics/Metals	Bile (FACS)	CYP1A (	(circle samples ) Gills Gut Kidney Liver Other
<b>\</b>	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	04-SE	F-53-CYP-T
Fish Species: Arctic	. Cisco   Fish L	ength (cm):	
Fish Comments: F	emake		
Organics/Metals	Bile (FACS)	CYP1A	A (circle samples ) Gills Gut Kidney Liver Other
<b>&gt;</b>	~	04-5	SI - CYP-T
Fish Species: Artic	CZCO Fish L	ength (cm):	: 2.6 26.9 Number of fish in sample:
Fish Comments: 5	ex Indetern	unate	
Organics/Metals	Bile (FACS)		A (circle samples ) Gills Gut Kidney Liver Other
<u> </u>		04-	SI -55-CYP-T
Fish Species: leas.	+ Ci3co Fish L	.ength (cm):	: 26.0 Number of fish in sample: /
Fish Comments: Fo	male	·	
Organics/Metals	Bile (FACS)	CYP1A	A (circle samples ) Gills Gut Kidney Liver Other
~	~		SI-862 CYP-T
Fish Species: least	Cisco Fish L		
Fish Comments: F.	emale		
Overall Comments:			
   Field Personnel:	WAGE Law	len Out	. 11 044 .
TION TOTOURIES	WAISH, Law	7, 10	V-PV-PV
Signature: Min	charl Wab	<u>h</u>	Date: 9 Aug 04

Station ID: 575	Date: 9 #	ug oy	Time (local): 1402	Project #: G00	5002
Recorder: Mike	Walsh	)	Sampling Location (circle one):	BSMP (Northstar	/ Liberty / Other
Latitude (WGS84)	see do	labase			
Field Observations an				· · · · · · · · · · · · · · · · · · ·	
Wind Speed (kts): C	alm Wind [	Direction:	Sw Seas/Ice: Calv	<u> </u>	Depth (ft):
Comments:			<del></del>		
Device: Eyke Net	Otter Trawl	Other	No. of Replicates		
Organics/Metals	Bile (FACS)	CYP1A	circle samples ) Gills Gut	Kidney Liver	Other
<b>L</b>		04-5	SI-SY-CYP-T		
Fish Species: Arctic	Cisco Fish L	ength (cm):	25.7	Number of fis	
Fish Comments: 50	x Indeteri	minate	I needle end of syring	e dropped into	1-Bm bile vial
Organics/Metals	Bile (FACS)		(circle samples ) Gills Gut		Other
1	<u> </u>	04-	SI-SE-CYP-T		
Fish Species: Arc	ir Cisco Fish L	ength (cm):	20.0	Number of fis	h in sample: [
Fish Comments: 5	ex indefer	mate			
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills Gut	Kidney Liver	Other
mw	mw	04-	5I-59-CYP-T		
Fish Species: Arctic	Cod Fish 1	ength (cm):	7.3 29 AH	Number of fis	sh in sample: 1
Fish Comments: 50x	Indefermin	nte 1	whole fish or	<i>formalin</i>	
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills Gut	Kidney Liver	Other
- mw	mu	04-	SI - BY CYP-T		
Fish Species: Aref	in Cool Fish	ength (cm):	11.0 9430	Number of fi	sh in sample: 1
Fish Comments: Se	x Indeter	rminut	e / whole fish	in formal	in
Overall Comments:					
			,		
Field Personnel:	Walsh, L	awley	, Delforse		
Signature: Min	unal Wa	bh	Date:	9 Aug ou	!

Station ID: 5I5	Date: 9	fug oy	Time (local): 14 2		Project #: G0	05002
Recorder: Muke !		<u>ا</u>	Sampling Location (circl	e one): BSM	IP (Northstar	Liberty / Other
Latitude (WGS84)	see data	abuse	Longitude (WGS	ج <sub>684)</sub> رو	e dat	abase
Field Observations an						
Wind Speed (kts): C	alm Wind [	Direction:	5ข Seas/Ice: C	alm	Water	Depth (ft):
Comments:						
Device: (Fyke Net)	Otter Trawl	Other	- No. of Rep	olicates		
Organics/Metals	Bile (FACS)	CYP1A	circle samples ) Gills	Gut Kidne	y Liver	Other
		04 - 4	SI-61-CYP-T			
Fish Species: Archit	Cod Fish L				Number of fis	sh in sample: /
Fish Comments: S	ex Indeter	monate	/ Whole fiz	h m	formal	M
Organics/Metals	Bile (FACS)	]		Gut Kidne	y Liver	Other
Fish Species:	Fish L	ength (cm):			Number of fi	sh in sample:
Fish Comments:						
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills	Gut Kidne	ey Liver	Other
Fish Species:	Fish L	_ength (cm):		<u></u>	Number of fi	sh in sample:
Fish Comments:						. "
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills	Gut Kidne	ey Liver	Other
Fish Species:	Fish I	Length (cm):			Number of f	ish in sample:
Fish Comments:		·		-	•	
Overall Comments:	· · · · · · · · · · · · · · · · · · ·					
Field Personnel:	Walsh, L	awley	, Mysse			
Signature: Mi	chael Wa	Ush		Date: 9	Aug ol	4

Station ID: 76V	Date: /2	Aug 04	Time (local):	1105	Pi	roject#: G00	05002
Recorder: Havel	in				e): BSMP	/ Northstar	/ Liberty / Other
Latitude (WGS84)	see da	labuse	Long	itude (WGS84)	SC	e dat	abase
Field Observations an	d Measuremen	ts					
Wind Speed (kts): 5	Wir	d Direction:	Sea	is/Ice: ELFA	MIKR	Water	Depth (ft): ダ
Comments:	· · · · · · · · · · · · · · · · · · ·		·····				
Device: Fyke Net	Otter Tra	vl Other		No. of Replicate	es	/	
Organics/Metals	Bile (FACS)	CYP1A	(circle samples	) Gills Gut	Kidney	Liver	Other
	V	. 04-75	V-01- CZ	P-T			
Fish Species: Acchic	Char Fisi	Length (cm):	22.1		N	lumber of fis	h in sample: /
Fish Comments:	ale .						
Organics/Metals	Bile (FACS)	CYP1A	(circle samples	Gills Gut	Kidney	Liver	Other
V	v		BU-02-				
Fish Species: Lew +	Cisco Fis	h Length (cm):	32.4			lumber of fis	sh in sample: /
Fish Comments:	nale						
Organics/Metals	Bile (FACS)	CYP1A	(circle samples	Gills Gut	Kidney	Liver	Other
✓	<u> </u>	104-7	6V-03-1	<u>CYP-7</u>			
Fish Species: Las	Cisco Fis	h Length (cm):	31.2			Number of fis	sh in sample: 1
Fish Comments:	cuale						
Organics/Metals	Bile (FACS)	CYP1A	(circle samples	Gills Gut	Kidney	Liver	Other
			160-04-		-		
Fish Species: Afetic	Flounder Fis	h Length (cm):	19.5		1	Number of fi	sh in sample: \
Fish Comments:	Female						
Overall Comments:						,	
Field Personnel:	tardon, [	Nalsh 1	anley,	Mertz			
				<del>-</del>			
1	1				12 /	1.	
Signature:	MM.			Date:	12 Au	904	

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Station ID: 76 V	Date: 12,4	904	Time (local): 1/3	5(	Project #: G00	05002		
Recorder: Have	· .		Sampling Location		SMP / Northstar	/ Liberty / Other		
Latitude (WGS84)	see data	base	Longitude	WGS84)	suda	to base		
Field Observations a	nd Measurements		<del></del>					
Wind Speed (kts): 5	-CO Wind D	irection: 🕹	Seas/Ice:	cam	Water	Depth (ft): 3		
Comments:								
Device Fyke Net	Otter Trawl	Other	- No. o	f Replicates				
Organics/Metals	Bile (FACS)	CYP1A (	circle samples ) Gi	ls Gut Kidr	ney Liver	Other		
/		04-11	5U-U5-CY	P-T		•		
Fish Species: Arc	ic found Fish Le	ength (cm):	16.0	·	Number of fis	h in sample:		
Fish Comments:	einele							
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) G	Ils <del>Gut Kid</del> r	ey Liver	Other		
V	V(rimma)		76V-06-CY/					
Fish Species: Archa	Flaunder Fish Le	ength (cm):	11.4	· · · · · · · · · · · · · · · · · · ·	Number of fis	h in sample:		
Fish Comments: Se	x indeten	ningf	<u>e</u>					
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) G	ills Gut Kid	ney Liver	Other		
V	V .	04-	-76V-07-C	YP-7				
Fish Species: 4 hum	Sculpin Fish La	ength (cm):	18.2		Number of fis	sh in sample:		
Fish Comments:	Female- 150	iped in	naut					
Organics/Metals	Bile (FAÇS)	CYP1A	(circle samples ) G	ills Gut Kid	ney Liver	Other		
	V.	G4-	76V-08-CX	PT				
Fish Species: 4 Kurv	Sculpin Fish L	ength (cm):	12.8		Number of fis	sh in sample:		
Fish Comments:	Va(e							
Overall Comments:								
Field Personnel:	Harlin Co	wley	Mertz,	Walch				
	V 1 00 0 0 1	/			***			
^1	1 1				1 4			
Signature:	a Hul	- Lander - Lander	<del>.</del>	Date:	2 Augo Y			

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Station ID: 76V	Date: / 2Au	904	Time (lo	cal): 123 (	/		Project #: G00	05002	
Recorder: Hardin	Λ		Samplin	g Location (cire	cle one	): BSM	P / Northstar	/ Liberty Oth	er
Latitude (WGS84)	see datas	ase		Longitude (WG	SS84)	S	re data	base	
Field Observations ar				<del></del>					
Wind Speed (kts): 5	15 0-5 Wind D	irection: (	<u> </u>	Seas/Ice: C	aln	`	Water	Depth (ft): 3	
Comments:	(Mr.)		_					<u> </u>	
Device: Fyke Net	Otter Trawl	Other	<u>-</u>	No. of Re	eplicate	es	·		
Organics/Metals	Bile (FACS)	CYP1A (	circle sar	nples Gills	Gut	Kidney	Liver	Other	
	Nune			1-CYP-7	-				
Fish Species: 4 hurr	17	. /	7.2				Number of fis	sh in sample:	/
Fish Comments:	enute int	state 1	Enal	e stre	kely	suck!	singut	, 2 Archicum	sculpi
Organics/Metals	Bile (FACS)	CYP1A	(circle sar	nples ) Gills	Gut	Kidney	y Liver	Other	
U.	None	04-	TGV-	10-CYP	-7				
Fish Species: 4 mm Sculper Fish Length (cm): 14.2 Number of fish in sample: /									
Fish Comments:	Male - So	sulpin	ingo	wt					
Organics/Metals	Bile (FACS)		(circle sa	mples ) Gills	_Gut	- Kidne	y Liver	Other	
	Mone	04-7	SV-	11-CYP	<u>-7</u>			<u> </u>	
Fish Species: 4 hur	n Sculpin Fish L	ength (cm):	12-8	_				sh in sample:	(
Fish Comments:	Wholefish	in fou	rnali	n. Sox	ind	etern	nnafe	<b></b>	
Organics/Metals	Bile (FACS)	CYP1A	(circle sa	mples ) Gills	Gut	Kidne	y Liver	Other	
	Mune	04-	15U4	2 CYP-	7				
Fish Species: Yuw	A School Fish L	ength (cm):	13.5	12-1			Number of f	ish in sample:	
	while figh				ex	ind	eternin	ate	
Overall Comments:									
						·			
	- / -				•				
Field Personnel:	An the	Lo	wey	, Wals	h, ,	Mer	17		
/ Just of Granding		7		/	<del></del>	-,-	-		
Signature:	1 Hal				Date:	12.	Augoy		,
Januaro.	, , , , ,						<del></del>		

Station ID: 760	Date: 12A	1964	Time (loc	al): 1250	Project #: G0	05002		
Recorder: Have	din		Sampling	Location (circle one	e): BSMP / Northstar	r / Liberty/Other		
Latitude (WGS84)	see da	abuse		ongitude (WGS84)	sec data	ibase		
Field Observations ar		··-···	<del></del>		· · · · · · · · · · · · · · · · · · ·			
Wind Speed (kts): 0	-5 Wind [	Direction:	5	Seas/Ice: Galu	N Water	Depth (ft): 3		
Comments:				<del> </del>				
Device: (Fyke Net)	Otter Trawl	Other	-	No. of Replicat	es	<u> </u>		
Organics/Metals	Bile (FACS)	CYP1A	circle sam	ples) Gills Gut	Kidney Liver)	Other		
		04-76	N-13.	-cyp-7				
Fish Species: 4 Kuya	Sculpin Fish L	ength (cm):	11.8		Number of fis	sh in sample:		
Fish Comments: 4	hele fish in	n tamo	ulin-	sex indefen	minute			
Organics/Metals	Bile (FACS)	CYP1A	(circle sam	ples ) Gills Gut	Kidney Liver	Other		
		04-7						
Fish Species: 4/4/			,			sh in sample: /		
Fish Comments: W	whe fish in	tung	lin -	Sex indu	ferminate			
Organics/Metals	Bile (FACS)	CYP1A	(circle san	ples ) Gills Gut	Kidney Liver	Other		
-		104-7	80-13	-CYP-7				
Fish Species: 4Www	Eulin Fish 1	ength (cm):	11-6	<del></del>		ish in sample:		
Fish Comments: C	whole fish	(n -	Juna	lih - sex	indetermin	rafe		
Organics/Metals	Bile (FACS)	CYP1A	(circle san	nples ) Gills Gut	Kidney Liver	Other		
		04-	_ · · · V	6-CYP-7				
Fish Species: 4 Nu	m Sculpin Fish	Length (cm):	10	.6	Number of f	fish in sample:		
Fish Species: 4Na Fish Comments: Ca	Male Fish	in f	omd l	in -sex	inde-termi	nate		
Overall Comments:			<del></del>					
Field Personnel:	Hundry,	lan le	1, W	rakh, Me	42			
Signature	HIL			Dato	: 12 Ang 04			
Signature:	· vm		•	Date	···			

Station ID: 790 Date: 12Ay 64 Time (local): 125	7 Project #: G005002						
11 101	one): BSMP / Northstar / Liberty (Other						
Latitude (WGS84) See database Longitude (WGS8	4) seedatabase						
Field Observations and Measurements							
Wind Speed (kts): 0-5   Wind Direction: E   Seas/Ice:	Water Depth (ft): 3						
Comments:	•						
Device: Fyke Net Otter Trawl Other- No. of Replie	cates						
Organics/Metals Bile (FACS) CYP1A (circle samples ) Gills Gi	ut Kidney Liver Other						
- 04-7GU-17-CYP-	7						
Fish Species: 4 Hours Sculpin Fish Length (cm): 11.1	Number of fish in sample: (						
Fish Comments: While Formalin.							
Organics/Metals Bile (FACS) CYP1A (circle samples ) Gills G	ut Kidney Liver Other						
- 04-TGV-18-CYP.	-7						
Fish Species! havn Sculpin   Fish Length (cm): +5 10.0	Number of fish in sample:						
Fish Comments: While Fish in Famalin							
Organics/Metals Bile (FACS) CYP1A (circle samples ) Gills G	ut Kidney Liver Other						
- 04-TGV-19-CYP-7							
Fish Species: 4 Houn Sculpin Fish Length (cm): 441 6.	Number of fish in sample:						
Fish Comments: While Fish in Formalin							
Organics/Metals Bile (FACS) CYP1A (circle samples ) Gills G	out Kidney Liver Other						
- 04-76V-20-CYP-	7						
Fish Species: 4 Hun Sulpin Fish Length (cm): 7-9	Number of fish in sample: (						
Fish Comments: Whilefish in formally							
Overall Comments:							
Field Personnel: Hurdin, Cowley, Mertz, Walsh							
Signature: Da	ite: 12/4904						

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Station ID: 75V	Date: / 24	ky GY	Time (local): [840	Project #: G0	05002
Recorder: Hand	<i>i</i> .	<i></i>	Sampling Location (circle one	): BSMP / Northstar	/ Liberty Other
Latitude (WGS84)	see date	rbye	Longitude (WGS84)	seedatab	ase
Field Observations a	nd Measurements	;	,	,	
Wind Speed (kts):	-5 Wind	Direction: €	Seas/Ice:	Water	Depth (ft): 3
Comments:					
Device: Fyke Net	Otter Trawl	Other	- No. of Replicate	es	
Organics/Metals	Bile (FACS)	CYP1A	(circle samples Gills Gut	Kidney Liver	Other
	· Com	04-	7GU-21-CYP-7		
Fish Species: Auch	char Fish	Length (cm):	25.1	Number of fis	sh in sample:
Fish Comments:	ex indefi	erning	fe		
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills Gut	Kidney Liver	Other
		04-	-76V-22-CY	0-7	
Fish Species: (east	Cisca Fish	Length (cm):	27.8	Number of fis	sh in sample:
Fish Comments:	Ima fuse	fema	le Bile C	45+	
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills Gut	Kidney Liver	Other
V		04.	-76V-23-CYP-	7	
Fish Species Leas	Cisco Fish	Length (cm):	26.4	Number of fi	sh in sample: 1
Fish Comments:	Female				
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills Gut	Kidney Liver	Other
V		04-	76U-24-CYP- ·	7	
Fish Species: Cus	Cisco Fish	Length (cm):	27.4	Number of fi	sh in sample:
Fish Comments:	Female	whi	te eggs		
Overall Comments:					
		_			
   Field Personnel:	Hardin, C	auley,	Mertz, Walsh	1	·
		•			
1					
Signature:	Hu _		Date:	12 Aug 04	
[ ]	, -				

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- 1611	124	110.4		1076			
Station ID: 701	Date: 14	707	Time (loc	al): 1356		Project #: G00	05002
Recorder: Hard	un		Sampling	Location (circle one	e): BSM	MP / Northstar	/ Liberty Other
Latitude (WGS84)	see dat	ubase	L	ongitude (WGS84)	ری	ee data	base
Field Observations and	d Measurements						
Wind Speed (kts): 👌-	5 Wind D	نے :irection		Seas/Ice: Colu	<u> </u>	Water	Depth (ft): 3
Comments:							
Device: Fyke Net	Otter Trawl	Other-		No. of Replicate	es		
Organics/Metals	Bile (FACS)	CYP1A (	circle sam	oles Gills Gut	Kidne	y Liver	Other
	Bilelost	04-16	U-25	-CYP-T			
Fish Species. Ceust	isco Fish Le	ength (cm):	27.3			Number of fis	h in sample: \
Fish Comments: 1/	in fish.	Male	,				
Organics/Metals	Bile (FACS)	CYP1A (	circle sam	oles ) Gills Gut	Kidne	y Liver	Other
	BelgistV.	04-	7GV -	26-CYP-	7		
Fish Species: (Cash	_ (/ ~ )	ength (cm):	27.5	<u> </u>		Number of fis	h in sample:
Fish Comments: M	ale						
Organics/Metals	Bile (FACS)		circle sam		Kidne	ey Liver	Other
$\nu$		04-	TGU-	17-CYP-7		<u> </u>	
Fish Species: 4 Hove	Sculpin Fish L	ength (cm):	17.0	· · · · · · · · · · · · · · · · · · ·	<del> </del>	Number of fis	sh in sample:
Fish Comments:	enale						
Organics/Metals	Bile (FACS)	CYP1A	(circle sam	ples ) Gills Gut	Kidne	ey Liver	Other
	NUBILE		TGV-				
Fish Species: 4 Huvo	Scalpin Fish L	ength (cm):	14.5			Number of fi	sh in sample:
Fish Comments: N	W/e		•				
Overall Comments:							
		<del></del>					
   Field Personnel: +	tarding (	ew ley,	Mer	12, wash			
	1						
1.	1/1						
Signature:	- XW/_			Date:	(2	LAugor	<del></del>

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#### MMS Continuation of Arctic Nearshore Impact Monitoring in the Development Area (cANIMIDA)

**Summer 2004 Fish Sample Log** 

76 V		Summe	er 2004 Fish Sample	Log		
Station ID: 12 Augo	9 Date: 12 A	1404	Time (local): 1918	Р	roject #: G005	5002
Recorder: Hard	in	<i></i>	Sampling Location (circle	e one): BSMP	/ Northstar	Liberty / Other
Latitude (WGS84)	see datal	)ase	Longitude (WG	S84) <b>5</b> 4	e datab	ase
Field Observations ar	nd Measurements			_ /		
Wind Speed (kts):	9-5   Wind	Direction:	Seas/Ice: C	Calin	Water D	Depth (ft): 3
Comments:						
Device: Fyke Net	Otter Trawl	Other	- No. of Re	olicates	····	
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills	Gut Kidney	Liver	Other
		04-70	5V-29-CYP-7			
Fish Species: 4 Horn's	Scupin Fish L	ength (cm):	20.0		lumber of fish	in sample: [
Fish Comments: Fe	nale	·1 · · · · · · · · · · · · · · · · · ·				
Organics/Metals	Bile (FACS)	CYP1A	(circle samples Gills	Gut Kidney	Liver	Other
	V.	945	79V-30-CY1	0-7		
Fish Species: 4 Have	Sculpin Fish 1	ength (cm):	23.3	1	Number of fish	n in sample: /
	endle					
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills_	Gut Kidney	Liver	Other
Fish Species:	Fish	Length (cm):			Number of fisl	h in sample:
Fish Comments:						
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills	Gut Kidney	Liver	Other
		1	· · · · · · · · · · · · · · · · · · ·			
Fish Species:	Fish	Length (cm):			Number of fis	h in sample:
Fish Comments:						
Overall Comments:						
Field Personnel:	Hardin,	Lauley	Mertz, C	ualsh		
	L		• 			
Signature:	the			Date: 12/	hg04	

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Station ID: 414	Date: 13Ac	y 04 Tir	ne (local):	1559	Project #: G0	05002
Recorder: Hardin	•	<b>-</b>	mpling Loca	ation (circle one	): BSMP / Northsta	r (Liberty) Other
Latitude (WGS84)	iec below		Longit	ude (WGS84)	see below	
Field Observations an	d Measurements	M				
Wind Speed (kts): 5	Wind D	irection: 8	Seas Seas	/lce: 1-2ft/	M /CE   Water	r Depth (ft): 2/
Comments:			<del></del>			
Device: Fyke Net	Otter Trawl	Other-		No. of Replicate	es	
Organics/Metals	Bile (FACS)			Gills Gut	Kidney Liver	Other
		04-L14-	- CL-CA	P-7		
Fish Species: Ati	Cod Fish Le	ength (cm):	3.8		Number of fi	sh in sample: /
Fish Comments: 5	exindetern	ina/e	(1:	+ froul	) / supids in	net (20)
Organics/Metals	Bile (FACS)	CYP1A (circ	le samples	Gills Gut	Kidney Liver	Other
-		04-614-	-02-CY	p-7		
Fish Species: Avct	ic Cod Fish Le	ength (cm): 6	.4		Number of fi	ish in sample: 1
Fish Comments: 5	ex indet	mina	e (	1st tran	()	
Organics/Metals	Bile (FACS)	CYP1A (circ	le samples	) Gills Gut	Kidney Liver	Other
W			****		1	adeland =
Fish Species: Acchi	cad Fish L	ength (cm): 6.	5,6,7	& 94 G.	Number of f	ish in sample: 3
Fish Comments:	NO DILE NOC	1P-sex	inde to	minate	(2nd trav	1) Tupuls (3)
Organics/Metals	Bile (FACS)	CYP1A (circ	cle samples	) Gills Gut	Kidney Liver	Other
		04-41	4-04-0	SYP-T		
Fish Species: Arch	Cad Fish L	ength (cm): 6	.4		Number of	fish in sample:
Fish Comments:	(1725)		treal)			
Overall Comments:	3 Trav15 - (	11 700 16.9	3871	70°16:	2952 B°	
1470 34 1682 1470 23.3880 1327-1547						
(2) 70° 16.3871 70° 17.00°5 280° M						
Field Personnel: Heady, Mertz, Lauley, Walsh						
			<del>1/</del>			
1.	1/1				nh. cl	
Signature:	you			Date:	BAIG 64	

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Station ID: 4	Date: 13/	leg 04	Time (local): 1746	Project #:	G005002
Recorder: Hard	in .		Sampling Location (circle or	e): BSMP / North	nstar ( Liberty / Other
Latitude (WGS84)	(in du	wond where)	Sampling Location (circle on Longitude (WGS84)	(in dut	alxye)
Field Observations ar	<del></del>		( ) 12	Car I	
Wind Speed (kts): /ひ	-7.5   Wind [	Direction: N	Seas/Ice: 1-2	77 W	ater Depth (ft): 21
Comments:			<del></del>		
Device: Fyke Net	Otter Tray	Other-	No. of Replica	tes	
Organics/Metals	Bile (FACS)	CYP1A (c	circle samples ) Gills Gut	Kidney Liver	Other
04-614-05-PAG	Net-7 -				
Fish Species: Avct	Cad Fish L	ength (cm): 6	54,6.4, 7:1,8.2	Number	of fish in sample: #
Fish Comments:	(54) Traw				
Organics/Metals	Bile (FACS)	CYP1A (c	circle samples ) Gills Gut	Kidney Liver	Other
Fish Species:	Fish L	ength (cm):		Number	of fish in sample:
Fish Comments:					
Organics/Metals	Bile (FACS)	CYP1A (c	circle samples ) Gills Gut	Kidney Liver	Other
Fish Species:	Fish L	.ength (cm):		Number	of fish in sample:
Fish Comments:					
Organics/Metals	Bile (FACS)	CYP1A (	circle samples ) Gills Gut	Kidney Liver	Other
		<u>                                     </u>			
Fish Species:	Fish I	ength (cm):	_	Number	of fish in sample:
Fish Comments:		70.613	70° 16.5175 7 1470 33.2412	130° man : 16	191-1710 1624-1648
Overall Comments:	7,	16.5702	-147-70%585 70°	17.1585	· · · · · · · · · · · · · · · · · · ·
	147	33.1268	1470 34.5387		1650-1710, 2.5KH
Ţ,	aul 5) 7001	7.1760 -	-> 70° 16.57/5		Ţ,
Field Personnel:	Hardy La	uley, 1	Vertz, Walsh		
	\ · · · · · · · · · · · · · · · · · · ·	- '/		1120	
	1				
Signature:	Hh.		Date	: 13 Aug	) <del>Y</del>
	<b>∀</b> <i>y</i>		<del></del>		

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Station ID: A25	Date: 15/	rug 04	Time (local): 127	Project #: G0	05002
Recorder: Han	•	) ————————————————————————————————————	Sampling Location (circle one): BS	SMP Northsta	Liberty / Other
Latitude (WGS84)	(see dutable	se)	Longitude (WGS84)	ee duta	lase)
Field Observations ar	nd Measurements	/		Harice	·
Wind Speed (kts): 0 -	<b>W</b> ind	Direction: ¿	Seas/Ice: Luft Ar	Water	r Depth (ft): 35-37"
Comments:				<i>J</i> 7	
Device: Fyke Net	Otter Trawl	Other	r- No. of Replicates		· · · · · · · · · · · · · · · · · · ·
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills Gut Kidr	ey Liver	Other
$\checkmark$					1St Treel
Fish Species: Apco	(CGV) Fish L	ength (cm):	5.0, 7.4, 6.8	Number of fi	sh in sample: 🗲
Fish Comments: 3A	reta Cop		(1) 4 Hun Sculpin	- then	(150pd sinner)
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills Gut Kidi	ey Liver	Other
		14-N	25-02-CYP-T		Znel travel.
Fish Species: Archi	cad Fish L	ength (cm):	41,25	Number of fi	ish in sample: 2
Fish Comments: /5	apply in ne	+	(1145=fine)		
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills Gut Kid	ney Liver	Other
0x425-03-P4C	met-7	-UY-A	125-03-cyp-7	Obt	3strawl
Fish Species: Arc	Fic Cell Fish 1	_ength (cm):	9.7 4.2, 4.6 2.43.9	Number of f	ish in sample: 5
Fish Comments: 2			domaged Isapodiin		ing=1305)
Organics/Metals	Bile (FACS)	CYP1A	(circle samples ) Gills Gut Kid	ney Liver	Other
		CY-N29	3-04-cyp-1		844 Trow - 1382
Fish Species: Averic	Gd Fish	Length (cm):	4.0, 2.5, 2.5, 2.0	Number of t	fish in sample: 🖌
Fish Comments:			,		
Overall Comments:					·
Field Personnel: Hardy Lawley, Mertz, Walsh					
		•			
Signature:	the		Date: 1	Aug 14	

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Station ID: N25	Date	15A	404	Time (I	ocal): <i>(37</i> 2			Project #: G0	005002
Recorder: Hustin	)		/	Sampli	ng Location (cir	cle one	): BSM	P / Northsta	r / Liberty / Other
Latitude (WGS84)	see dest	alase	**********		Longitude (Wo	GS84)	ح	ce desta	buse
Field Observations an	d Measur	<del>,</del>			· <b>.</b>		١٩٧	ne	
Wind Speed (kts): O	5	Wind D	irection: E		Seas/Ice: <	1. FH	Floo	CC Wate	r Depth (ft): 36-77
Comments:									
Device: Fyke Net	Qtte	r Trawl	) Other		No. of R	eplicate	es		· · · · · · · · · · · · · · · · · · ·
Organics/Metals	Bile (FA	CS)	CYP1A (	circle sa	mples ) Gills	Gut	Kidney	Liver	Other
04-N25-05-PA	K/MET-	7-				_			474focal
Fish Species: Andre	•		ength (cm):	70	2-2.5 c	m		Number of fi	sh in sample.#1-7
Fish Comments: (	ime:	= 133	<u>٦</u>				·		,
Organics/Metals	Bile (FA	- 1	CYP1A	circle sa	mples ) Gills	Gut	Kidney	/ Liver	Other
Fish Species:		Fish Le	ength (cm):			··-		Number of f	ish in sample:
Fish Comments:	oth to	owl	- ØF	ish					
Organics/Metals	Bile (FA	ACS)	CYP1A	(circle sa	amples ) Gills	Gut	Kidne	y Liver	Other
		1						<del>.</del>	
Fish Species:			ength (cm):	· · · · · · · · · · · · · · · · · · ·				Number of t	ish in sample:
Fish Comments:	644	Traul	- Sta	56					
Organics/Metals	Bile (F	ACS)	CYP1A	(circle sa	amples ) Gills	Gut	Kidne	y Liver	Other
	<u></u>	T	<u> </u>	···· -					
Fish Species:		Fish L	ength (cm):					Number of	fish in sample:
Fish Comments:									
Overall Comments:	<del></del>						····		
1	h. 11				1				
Field Personnel:	- avoy	n, L	awley,	Me	42,0	val	54		
			, ,		•				
A.	41					5 .	12	Augo	4
Signature:	WW.					Date:	10	TNO	

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Attachment 4: 2002 Collection Permit and Fish Transfer Permit





#### STATE OF ALASKA DEPARTMENT OF FISH AND GAME

P.O. Box 25526 JUNEAU, ALASKA 99802-5526 Permit No. CF-04-080

Expires <u>12/31/2004</u>

#### FISH RESOURCE PERMIT

(For Scientific/Educational Purposes)

This permit authorizes <u>John Hardin (whose signature is required on page 2 for permit validation)</u>
person

of <u>Battelle Memorial Institute</u> at <u>703 Palomar Airport Rd, Suite 350, Carlsbad, CA 92009</u>
agency or organization address

to conduct the following activities from <u>July 25, 2004</u> to <u>December 31, 2004</u> in accordance with AS 16.05.930 and AS 16.05.340(b).

Purpose:

To collect target species of shellfish and amphipods for tissue analysis of petroleum hydrocarbons and trace metals in order to evaluate concentration levels of hydrocarbons in the near-shore biota of the Beaufort Sea; to examine the potential bioaccumulation of organic compounds in the water column by deploying caged mussels and SPMDs, and analyzing them for organics, and to collect target species of fish for tissue analysis of petroleum hydrocarbons, trace metals, biomarker CYP1A, and biomarker bile FAC in order to evaluate contaminant exposure of fish in the near-shore Beaufort Sea.

Location:

Nearshore Beaufort Sea, 12-20 stations from Stockton Island to Jones Island, concentrating around the

Northstar Production Island.

**Species Collected:** 

Collect & Sacrifice: 300 Astarte clams, 600 Cyrtodaria clams, 5000 amphipods, 40 Dolly Varden, 40 Arctic cisco, 40 hympback whitefish, 40 four horn sculpin, 40 Arctic cod, 40 Arctic flounder

Collect, transport, caged release & sacrifice: 300 blue mussels (see Contingencies).

#### -Continued on Back-

**REPORT DUE** <u>January 31, 2005</u>. The report shall include species, numbers, dates, and locations of collection and disposition, and if applicable, sex, age, and breeding condition, and lengths and weights of fish. The report shall also include other information as may be required under the contingencies section. **GENERAL CONDITIONS, EXCEPTIONS AND RESTRICTIONS** 

- This permit must be carried by person(s) specified during approved activities who shall show it on request to persons authorized to enforce Alaska's fish and game laws. This permit is nontransferable and will be revoked or renewal denied by the Commissioner of Fish and Game if the permittee violates any of its conditions, exceptions or restrictions. No redelegation of authority may be allowed under this permit unless specifically noted.
- 2. No specimens taken under authority hereof may be sold or bartered. All specimens must be deposited in a public museum or a public scientific or educational institution unless otherwise stated herein. Subpermittees shall not retain possession of live animals or other specimens.
- 3. The permittee shall keep records of all activities conducted under authority of this permit, available for inspection at all reasonable hours upon request of any authorized state enforcement officer.
- 4. Permits will not be renewed until detailed reports, as specified above, have been received by the department.
- 5. UNLESS SPECIFICALLY STATED HEREIN, THIS PERMIT DOES NOT AUTHORIZE the exportation of specimens or the taking of specimens in areas otherwise closed to hunting and fishing; without appropriate licenses required by state regulations; during closed seasons; or in any manner, by any means, at any time not permitted by those regulations.

Division of Commercial Figheries

Deputy Director

**Division of Commercial Fisheries** 

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#### <u>CF-04-080</u> continued (page 2 of 2)

Authorized Personnel: The following personnel may participate in collecting activities under terms of this permit:

John Hardin; Chris Gagon; Dick Prentki; John Brown; John Trefry; Mark Savioe; Alex Mansfield; Bob Trocine; Gary Lawley; Matt Fitzpatrick; Rob Rember; Other KLI field personnel (TBA).

#### **Contingencies:**

- 1) Fred Bue (Division of Commercial Fisheries, Fairbanks, 907-459-7217) must be contacted **prior** to you engaging in collecting activities. Division of Commercial Fish Area Management Biologists have the right to specify methods for collecting, as well as limiting the collections of any species, and the number of specimens collected by time and area.
- 2) All unattended collecting gear must be labeled with the permittee's name, telephone number, and permit number.
- 3) Invertebrates, especially sessile invertebrates, should be collected over a broad geographical area to avoid local depletion and disruption of local ecosystems.
- 4) Permits will indicate the number of specimens that may be taken, by species and life stage. Sampling or collecting activities must stop when the maximum allowable number of specimens is obtained. All live fish, shellfish, and aquatic plants collected in excess of the number specified on the permit must be released immediately and unharmed at the capture location, unless otherwise specified in the permit.
- 5) All bycatch incidentally captured during sampling will be identified, recorded and released unharmed if possible. Bycatch data should be included in the collection report.
- 6) This permit will fulfill the requirements of 5AAC 41.005 41.060 pertaining to fish transport permits (FTP's), with the condition that the transported species BE DESTROYED AND NOT BE RELEASED.
- 7) A copy of this permit, including any amendments, must be made available at all field collection sites and project sites for inspection upon request by a representative of the department or a law enforcement officer.
- 8) Issuance of this permit does not absolve the permittee from compliance in full with any and all other applicable federal, state, or local laws regulations, or ordinances.
- 9) A report of activities, referenced to this fish resource permit number, must be submitted to the Alaska Department of Fish and Game, Division of Commercial Fish, PO Box 25526, Juneau, AK 99802-5526, attention Sheila Martin(465-6149; sheila\_martin@fishgame.state.ak.us), within 30 days after the expiration of this permit. This report must summarize the number of fish captured by location and by species, and the fate of those fish. A report is required whether or not collecting activities were undertaken. A report must also be sent to the Biologist(s) listed under number 1 in this Contingencies section.

10) PERMIT VALIDATION requires permittee's signature agreeing to abide by permit conditions before beginning collecting activities:

Signature of

Permittee

cc: Bonnie Borba Fred Bue Ted Meyers Fish & Wildlife Enforcement CF Division Files

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