

Annexe 2

In Situ Pumps



In Situ Pumps – Sampling –

Made by

Anne-Julie CAVAGNA

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 1

N° de palanquée : ISP 1

Operators : Cavagna-Dehairs

Date (UTC) : 20/2/2008

Heure debut (UTC): 07:00 am

Heure fin (UTC): 11:30 am

PUMPING = 01:30

1 punch = diameter of 25.3 mm

Microcat maximum depth is 3500m. Maximum target depth for microcat is 3300m.

Latitude (° ') : 36°31.258'

Longitude (° ') : 13°07.139'

Bottom Depth (m) : -

Total wire out (m)	750
Wire out, when microcat is attached (740m)	

(≥ total wire out -3300)

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter fraction	Parameters to be measured	persons in charge	prefilter %	filter fraction
1	50	<i>Challenger 4</i>	693	petex 53μ	QMA 142mm 1μm	-	Po Pb210	Verdeny	25%	10 punches	14, 13, 12 C POC	Tisnerat	25%	5 punches
2	75	<i>Challenger 3</i>	668	petex 53μ	QMA 142mm 1μm	-	Po Pb210	Verdeny	25%	10 punches	14, 13, 12 C POC	Tisnerat	25%	6 punches
3	125	<i>Challenger 2</i>	618	petex 53μ	QMA 142mm 1μm	-	Po Pb210	Verdeny	25%	10 punches	14, 13, 12 C POC	Tisnerat	25%	6 punches
4	175	<i>Challenger 1</i>	568	petex 53μ	QMA 142mm 1μm	-	Po Pb210	Verdeny	33%	10 punches	14, 13, 12 C POC	Tisnerat	33%	6 punches
5	250	<i>McLane 3</i>	493	petex 53μ	QMA 142mm 1μm	-	Po Pb210	Verdeny	33%	10 punches	14, 13, 12 C POC	Tisnerat	33%	6 punches
6	500	<i>McLane 2</i>	243	petex 53μ	QMA 142mm 1μm	-	Po Pb210	Verdeny	33%	10 punches	14, 13, 12 C POC	Tisnerat	33%	6 punches
7	750	<i>McLane 1</i>	0	petex 53μ	QMA 142mm 1μm	-	Po Pb210	Verdeny	33%	10 punches	14, 13, 12 C POC	Tisnerat	33%	6 punches

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Station : SUPER 1

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Operators : Cavagna-Dehairs

Date (UTC) : 20/2/2008

Heure debut (UTC): 07:00 am

Heure fin (UTC): 11:30 am

Latitude (° ') : 36°31.258'

Longitude (° ') : 13°07.139'

Bottom Depth (m) : -

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter fraction	Parameters to be measured	persons in charge	prefilter %	filter fraction
1	50	<i>Challenger 4</i>	693	petex 53µ	QMA 142mm 1µm	-	compound specifics 234Th	Cavagna Planchon	50%	all the rest	alkenones	Ezzat	-	1 punch
2	75	<i>Challenger 3</i>	668	petex 53µ	QMA 142mm 1µm	-	compound specifics 234Th	Cavagna Planchon	50%	all the rest	-	-	-	-
3	125	<i>Challenger 2</i>	618	petex 53µ	QMA 142mm 1µm	-	compound specifics 234Th	Cavagna Planchon	50%	all the rest	-	-	-	-
4	175	<i>Challenger 1</i>	568	petex 53µ	QMA 142mm 1µm	-	compound specifics 234Th	Cavagna Planchon	33%	all the rest	-	-	-	-
5	250	<i>McLane 3</i>	493	petex 53µ	QMA 142mm 1µm	-	compound specifics 234Th	Cavagna Planchon	33%	all the rest	-	-	-	-
6	500	<i>McLane 2</i>	243	petex 53µ	QMA 142mm 1µm	-	compound specifics 234Th	Cavagna Planchon	33%	all the rest	-	-	-	-
7	750	<i>McLane 1</i>	0	petex 53µ	QMA 142mm 1µm	-	compound specifics 234Th	Cavagna Planchon	33%	all the rest	-	-	-	-

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 1

N° de palanquée : ISP 1

Operators : Cavagna-Dehairs

Date (UTC) : 20/2/2008

Heure debut (UTC): 07:00 am

Heure fin (UTC): 11:30 am

Latitude (° ') : 36°31.258'

Longitude (° ') : 13°07.139'

Bottom Depth (m) : -

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Filtered volume (L) read on the pump	pumping duration (min)	Effective depth (m) calculated from microcat data	comments
1	50	Challenger 4	693	petex 53µ	QMA 142mm 1µm	-	1084	Set to 1h30min	50	ok
2	75	Challenger 3	668	petex 53µ	QMA 142mm 1µm	-	693	Set to 1h30min	76	ok
3	125	Challenger 2	618	petex 53µ	QMA 142mm 1µm	-	1316	Set to 1h30min	126	ok
4	175	Challenger 1	568	petex 53µ	QMA 142mm 1µm	-	1008	Set to 1h30min	176	no particulate matter on the filter: no filtration or water mass different at this depth
5	250	McLane 3	493	petex 53µ	QMA 142mm 1µm	-	603	Set to 1h30min	252	ok
6	500	McLane 2	243	petex 53µ	QMA 142mm 1µm	-	612	Set to 1h30min	504	ok
7	750	McLane 1	0	petex 53µ	QMA 142mm 1µm	-	612	Set to 1h30min	748	ok

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :

go down to

750 m

profondeur du microcat:

755,55 m

on suppose poulie compteuse a zero quanf microcat at seasurface

alpha: angle entre verticale et cable (si cable rectiligne)

cos (alpha) = pinger or microcat depth / cable length

alpha= 6,95 °

NAME : SUPER station 1 / ISP 1

QMA

date : 20/2/2008

start time (TU): 07:30 am

start lat: 36° 31.258' S

start lon: 13°07.139' E

site : S1

stop time: 11:30 am

Pump		depth (m)	P. CorrD	volume (l)	fract (μ)	SSM #	comments	cartridge
Challenger 4	1	50		1084	53	M1	yellow, well charged with presence of zooplankton (pteropods ?)	no
					1	M2	nice coverage, yellow	no
Challenger 3	2	75		693	53	M3	compared with M1, very clear (no more big particles)	no
					1	M4	nice coverage, yellow	no
Challenger 2	3	125		1316	53	M5	ok	no
					1	M6	nice coverage, yellow brown	no
Challenger 1	4	175		1008	53	M7	seems to be a blank even if pump fonctionned	no
					1	M8	seems to be a blank even if pump fonctionned	no
McLane 3	5	250		603	53	M9	ok, very very clear	no
					1	M10	clear color, homogenous	no
McLane 2	6	500		612	53	M11	very clear	no
					1	M12	clear color, (same color than M10)	no
McLane 1	7	750		612	53	M13	again very clear	no
					1	M14	clear color, homogenous (a little more colored than M10 and M12)	no

Prefilter 53 μ : pumps 1, 2, 3 = 25% 234Th, CS, 14C, Po each / pumps 4, 5, 6, 7 = 33,3% 234Th, 14C, Po each

filter QMA 1 μ : 10 punches for Po-210Pb, 1 punch for 234Th, 6 punches 14C (sauf pour le point de max chloro à 50m = 5 pour Nadine + 1 pour Ula), rest for compound specifics

Note: M1 and M3, resuspension and filtration on Ag filter for 234Th-POC are not complet because Ag filters were colmated and Petex not full rinsed (particules collantes..)

GLOBAL NOTE

Filter diameter=142mm

Total area= 158,37 cm²

Active filtered diameter=136mm

Active area= 145,27 cm²

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 1

N° de palanquée : ISP 2

Operators : Tisnerat-Lacan-Cavagna

Date (UTC) : 21 / 2 / 2008

Heure debut (UTC): 10:25 pm

Heure fin (UTC): 00:30 am

Latitude (° ') : 36°31.800'

Longitude (° ') : 13°07.330'

Bottom Depth (m) : 4929m

RESET Poulie when line at the sea surface

Total wire out (m)	4807
Wire out, when microcat is attached (m)	-

(≥ total wire out -3300)
microcat depth #VALEUR!

PUMPING = 02:00

PINGER = 145m

1 punch = diameter of 25.3 mm

Microcat maximum depth is 3500m. Maximum target depth for micropumps are attached 7m above sea surface

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	Parameters to be measured	persons in charge	prefilter %	filter %
1	4700	McLane 1	100	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	50%	50%	compound specifics 234Th	Cavagna Planchon	50%	50%
2	4650	Challenger INSU 5	150	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	83%	Bsi, 30Si	Cardinal	-	17%
3	2750	McLane 2	2050	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	50%	50%	compound specifics 234Th	Cavagna Planchon	50%	50%
4	2700	Challenger INSU 6	2100	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	50%	Bsi, 30Si	Cardinal	-	50%
5	1250	McLane 1	3550	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	50%	50%	compound specifics 234Th	Cavagna Planchon	50%	50%
6	1200	Challenger INSU 7	3600	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	83%	Bsi, 30Si	Cardinal	-	17%
7	760	Challenger ULB 1	4040	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	83%	Bsi, 30Si	Cardinal	-	17%
8	200	Challenger ULB 2	4600	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	83%	Bsi, 30Si	Cardinal	-	17%
9	30	Challenger Elisabet	4770	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 7 / 8	Bsi, 30Si	Cardinal	-	» 1 / 8

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 1

N° de palanquée : ISP 2

Operators : Tisnerat-Lacan-Cavagna

Date (UTC) : 21 / 2 / 2008

Heure debut (UTC): 10:25 pm

Heure fin (UTC): 00:30 am

Latitude (° ') : 36°31.800'

Longitude (° ') : 13°07.330'

Bottom Depth (m) : 4929m

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	initial volume	final volume	Filtered volume (L) read on the pump	pumping duration (min)	Effective depth (m) calculated from pinger data	Comments
1	4700	McLane 1	100	petex 53µ	QMA 142mm 1µm	-	7781	8775	994	Set to 2h	4678	ok
2	4650	Challenger INSU 5	150	-	SUPOR 293mm 0.45µm	-	114842	115585	743	Set to 2h	4628	ok
3	2750	McLane 2	2050	petex 53µ	QMA 142mm 1µm	-	6805	7783	978	Set to 2h	2737	ok
4	2700	Challenger INSU 6	2100	-	SUPOR 293mm 0.45µm	-	118435	118711	276	Set to 2h	2687	only 276 L because 2 membranes loaded by mistake
5	1250	McLane 1	3550	petex 53µ	QMA 142mm 1µm	-	2400	3427	1027	Set to 2h	1244	ok
6	1200	Challenger INSU 7	3600	-	SUPOR 293mm 0.45µm	-	63509	63510	1	Set to 2h	1194	no pumping BLANK IN SITU
7	760	Challenger ULB 1	4040	-	SUPOR 293mm 0.45µm	-	91052	91050	-2	Set to 2h	756	no pumping BLANK IN SITU
8	200	Challenger ULB 2	4600	-	SUPOR 293mm 0.45µm	-	85362	86319	957	Set to 2h	199	ok
9	30	Challenger Elisabet	4770	-	SUPOR 293mm 0.45µm	-	51140	51541	401	Set to 2h	30	ok

Microcat data at the maximum microcat depth

P (dbar) : S : T (° C) :

go down to

4807 m

pumps were set to start at 1h00 UTC.

at 1h00 UTC, the wire out was 4772 instead of 4807

at 1h02 UTC, the last pump was attached

at 1h06 UTC, the wire out was at the right position, 4807.

depth of the bottom of the line

4784 m

alpha: angle entre verticale et cable (si cable rectiligne)

cos (alpha) = pinger depth / cable length = 4784/4807

alpha= 5,61 °

NAME : SUPER station 1 / ISP 2

QMA

date : 21/2/2008

start time (TU): 10:25 pm

start lat: 36° 31.80' S

start lon: 13°08' E

site : S1

stop time: 05:25 am

Pump		depth (m)	P. CorrD	volume (l)	fract (μ)	SSM #	comments	cartridge
McLane	1	1250		1027,5	53	M15	something on it, great !!	no
					1	M16	colored and homogenous	no
McLane	2	2750		978	53	M17	very clear, like M15	no
					1	M18	colored and homogenous	no
McLane	3	4700		994	53	M19	very clear	no
					1	M20	browner than M16 and M18 (nepheloids ?)	no

Prefilter 53 μ : 50% = 14C and 234Th each (no compound specifics sampling on this fraction)

filter QMA 1 μ : 1 punch for 234Th, 50% for 14C and (50% - 1) punch for CS

Note 1: M1 and M3, resuspension and filtration on Ag filter for 234Th-POC are not complet because Ag filters were colmated and Petex not full rinsed (particules collantes..)

Note 2: no sampling for Elisabet, because didn't discussed about that together, it will be done next super stations.

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 1

N° de palanquée : ISP 3

Operators : Tisnerat-Lacan-Cavagna

Date (UTC) : 22 / 2 / 2008

Heure debut (UTC): 05:07 pm

Heure fin (UTC): 00:30 am

Latitude (° ') : 36°29.799'

Longitude (° ') : 13°06.705'

Bottom Depth (m) : 4862m

RESET Poulie when line at the sea surface

Total wire out (m)		2857
Wire out, when microcat is attached (m)	1	(≥ total wire out -3300)
microcat depth		2856

PUMPING = 02:00

1 punch = diameter of 25.3 mm

Microcat maximum depth is 3500m. Maximum target depth for microcat is 330

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	Parameters to be measured	persons in charge	prefilter %	filter %
1	2750	Challenger INSU 5	100	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
2	2700	McLane 3	150	petex 53µ	QMA 142mm 1µm	Y	Radium	Verdeny	-	-	14, 13, 12 C POC	Tisnerat	50%	50%
3	1250	Challenger INSU 6	1600	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
4	1200	McLane 1	1650	petex 53µ	QMA 142mm 1µm	Y	radium	Verdeny	-	-	14, 13, 12 C POC	Tisnerat	50%	50%
5	775	Challenger INSU 2 adapté	2075	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
6	725	McLane 2	2125	petex 53µ	QMA 142mm 1µm	Y	radium	Verdeny	-	-	-	-	-	-
7	500	Challenger INSU 3	2350	petex 53µ	QMA 142mm 1µm	Y	radium	Verdeny	-	-	14, 13, 12 C POC	Tisnerat	33%	50%
8	250	Challenger INSU 4	2600	petex 53µ	QMA 142mm 1µm	Y	radium	Verdeny	-	-	14, 13, 12 C POC	Tisnerat	33%	50%
9	75	Challenger INSU 1	2775	petex 53µ	QMA 142mm 1µm	Y	radium	Verdeny	-	-	14, 13, 12 C POC	Tisnerat	33%	50%

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 1

N° de palanquée : ISP 3

Date (UTC) : 22 / 2 / 2008

Heure debut (UTC): 05:07 pm

Latitude (° ') : 36°29.799'

Longitude (° ') : 13°06.705'

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	initial volume	final volume	Filtered volume (L) read on the pump	pumping duration (min)
1	2750	Challenger INSU 5	100	-	SUPOR 293mm 0.45µm	-	-	-	-	-	115587	116955	1368	Set to 2h
2	2700	McLane 3	150	petex 53µ	QMA 142mm 1µm	Y	compound specifics 234Th	Cavagna	50%	50%	7785	8698	913	Set to 2h
3	1250	Challenger INSU 6	1600	-	SUPOR 293mm 0.45µm	-	-	-	-	-	118711	119868	1157	Set to 2h
4	1200	McLane 1	1650	petex 53µ	QMA 142mm 1µm	Y	compound specifics 234Th	Cavagna	50%	50%	3428	4402	974	Set to 2h
5	775	Challenger INSU 2 adapté	2075	-	SUPOR 293mm 0.45µm	-	-	-	-	-	33233	33225	-8	Set to 2h
6	725	McLane 2	2125	petex 53µ	QMA 142mm 1µm	Y	-	-	-	-	8776	8776	0	Set to 2h
7	500	Challenger INSU 3	2350	petex 53µ	QMA 142mm 1µm	Y	compound specifics 234Th	Cavagna	66%	50%	46325	46363	38	Set to 2h
8	250	Challenger INSU 4	2600	petex 53µ	QMA 142mm 1µm	Y	compound specifics 234Th	Cavagna	66%	50%	54631	56326	1695	Set to 2h
9	75	Challenger INSU 1	2775	petex 53µ	QMA 142mm 1µm	Y	compound specifics 234Th	Cavagna	66%	50%	81450	82402	952	Set to 2h

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 1

N° de palanquée : ISP 3

Date (UTC) : 22 / 2 / 2008

Heure debut (UTC): 05:07 pm

Latitude (° ') : 36°29.799'

Longitude (° ') : 13°06.705'

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Effective depth (m) calculated from microcat data	comments
1	2750	Challenger INSU 5	100	-	SUPOR 293mm 0.45µm	-	2734	ok
2	2700	McLane 3	150	petex 53µ	QMA 142mm 1µm	Y	2684	ok
3	1250	Challenger INSU 6	1600	-	SUPOR 293mm 0.45µm	-	1243	ok
4	1200	McLane 1	1650	petex 53µ	QMA 142mm 1µm	Y	1193	ok
5	775	Challenger INSU 2 adapté	2075	-	SUPOR 293mm 0.45µm	-	770	head filter lost at sea
6	725	McLane 2	2125	petex 53µ	QMA 142mm 1µm	Y	721	no pumping QMA NOT USED AS BLANK
7	500	Challenger INSU 3	2350	petex 53µ	QMA 142mm 1µm	Y	497	no pumping BLANK IN SITU
8	250	Challenger INSU 4	2600	petex 53µ	QMA 142mm 1µm	Y	249	ok
9	75	Challenger INSU 1	2775	petex 53µ	QMA 142mm 1µm	Y	75	ok

Microcat data at the maximum microcat depth

P (dbar) : S : T (° C) :

go down to

2857 m

profondeur du microcat:

2840 m

alpha: angle entre verticale et cable (si cable rectiligne)

cos (alpha) = pinger or microcat depth / cable length

alpha= 6,25 °

NAME : SUPER station 1 / ISP 3

QMA

date : 22/2/2008

start time (TU): 05:07 pm

start lat: 36° 30' S

start lon: 13°7' E

site : S1

stop time: 00:30 am

Pump		depth (m)	P. CorrD	volume (l)	fract (μ)	SSM #	comments	cartridge
Challenger 1	1	75		952	53	M21	nice coverage (more charged than M3)	yes
					1	M22	nice coverage but less charged than M4	yes
Challenger 4	2	250		1695	53	M23	nice coverage so, no leak observed	yes
					1	M24	well colored (brown) - large volume filtered	yes
McLane 1	3	725		0	53	-	Blank (50% pour anju et 50% pour Nadine)	yes
					1	-	Blank (50% pour anju et 50% pour Nadine)	yes
McLane 2	4	1200		974	53	M25	very clear	yes
					1	M26	nice relatively clear coverage	yes
McLane 3	5	2700		913	53	M27	very clear, almost nothing	yes
					1	M28	a little bit more clear than M18	yes

Prefilter 53μ: pumps 1, 2 = 33.3% for 234Th, CS and 14C each - pumps 5, 6 =50% for CS and 14C each (no 234Th sampling)

filter QMA 1μ: 50% for 14C and CS each + 1 punch for 234Th sampled on the CS fraction

Note: hey sorry Elisabet.. Don't worry, you will have samples everywhere next super stations !

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 2

N° de palanquée : ISP 4

Operators : Tisnerat-Lacan-Cavagna

Date (UTC) : 27/02/ 2008

Heure debut (UTC) : 05:00 AM

Heure fin (UTC): 12:04

Latitude (° ') : 42°28.146'

Longitude (° ') : 08° 55.726 '

RESET Pulley when line at the sea surface

Total wire out (m)	4027
Wire out, when microcat is attached (m)	1000

microcat depth

(≥ total wire out -3300)

3027

PUMPING = 02:00

1 punch = diameter of 25.3 mm

Microcat maximum depth is 3500m. Maximum target depth for microcat is 3300m.

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 2

N° de palanquée : ISP 4

Date (UTC) : 27/02/ 2008

Heure debut (UTC) : 05:00 AM

Latitude (° ') : 42°28.146'

Longitude (° ') : 08° 55.726 '

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	Parameters to be measured	persons in charge	prefilter %	filter %
1	75	Challenger INSU 6	3945	petex 53µ	QMA 142mm 1µm	Y	14, 13, 12 C POC	Tisnerat	25%	5 punches	compound specifics 234Th	Cavagna Planchon	50%	all the rest
2	608	Challenger INSU 4	3412	petex 53µ	QMA 142mm 1µm	Y	14, 13, 12 C POC	Tisnerat	25%	6 punches	compound specifics 234Th	Cavagna Planchon	50%	all the rest
3	980	ULB 1	3040	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
4	1440	Challenger INSU 5	2580	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
5	1450	McLane 1	2570	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
6	1460	Challenger INSU 1	2560	petex 53µ	QMA 142mm 1µm	Y	-	-	-	-	-	-	-	-
7	1960	Challenger INSU 7	2060	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
8	2890	Challenger Elisabet	1130	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
9	2900	McLane 2	1120	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
10	2910	Challenger INSU 3	1110	petex 53µ	QMA 142mm 1µm	Y	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
11	3940	McLane 3	80	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 2

N° de palanquée : ISP 4

Date (UTC) : 27/02/ 2008

Heure debut (UTC) : 05:00 AM

Latitude (° ') : 42°28.146'

Longitude (° ') : 08° 55.726 '

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porisity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	Parameters to be measured	persons in charge	prefilter %	filter %
1	75	Challenger INSU 6	3945	petex 53µ	QMA 142mm 1µm	Y	Radium	Verdeny	-	-	alkenones 210Pb / Po	Ezzat Verdeny	no 25%	1 punch 10 punches
2	608	Challenger INSU 4	3412	petex 53µ	QMA 142mm 1µm	Y	Radium	Verdeny	-	-	Po Pb210	Verdeny	25%	10 punches
3	980	ULB 1	3040	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
4	1440	Challenger INSU 5	2580	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
5	1450	McLane 1	2570	petex 53µ	QMA 142mm 1µm	-	-	-	-	-	Po Pb210	Verdeny	33%	10 punches
6	1460	Challenger INSU 1	2560	petex 53µ	QMA 142mm 1µm	Y	Radium	Verdeny	-	-	-	-	-	-
7	1960	Challenger INSU 7	2060	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
8	2890	Challenger Elisabet	1130	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
9	2900	McLane 2	1120	petex 53µ	QMA 142mm 1µm	-	-	-	-	-	Po Pb210	Verdeny	33%	10 punches
10	2910	Challenger INSU 3	1110	petex 53µ	QMA 142mm 1µm	Y	Radium	Verdeny	-	-	Po Pb210	Verdeny	33%	10 punches
11	3940	McLane 3	80	petex 53µ	QMA 142mm 1µm	-	-	-	-	-	Po Pb210	Verdeny	33%	10 punches
12	3950	ULB 2	70	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
13	3960	Challenger INSU 2	60	-	-	Y	Radium	Verdeny	-	-	-	-	-	-

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 2

N° de palanquée : ISP 4

Date (UTC) : 27/02/ 2008

Heure debut (UTC) : 05:00 AM

Latitude (° ') : 42°28.146'

Longitude (° ') : 08° 55.726 '

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	initial volume	final volume	Filtered volume (L) read on the pump	pumping duration (min)	Effective depth (m) calculated from microcat data	Comments
1	75	Challenger INSU 6	3945	petex 53µ	QMA 142mm 1µm	Y	119848	120580	732	set 2h	0,0	ok
2	608	Challenger INSU 4	3412	petex 53µ	QMA 142mm 1µm	Y	56327	57054	727	set 2h	0,0	ok
3	980	ULB 1	3040	-	SUPOR 293mm 0.45µm	-	91050	91050	0	set 2h	0,0	no pumping BLANK IN SITU
4	1440	Challenger INSU 5	2580	-	SUPOR 293mm 0.45µm	-	116955	118255	1300	set 2h	0,0	<i>don't remember which one but one INSU was</i>
5	1450	McLane 1	2570	petex 53µ	QMA 142mm 1µm	-	4402	5324	922	set 2h	0,0	<i>disconnected at the recovery...</i>
6	1460	Challenger INSU 1	2560	petex 53µ	QMA 142mm 1µm	Y	82402	82375	-27	set 2h	0,0	inverse pumping QMA NOT USED AS BLANK
7	1960	Challenger INSU 7	2060	-	SUPOR 293mm 0.45µm	-	63510	64174	664	set 2h	0,0	ok
8	2890	Challenger Elisabet	1130	-	SUPOR 293mm 0.45µm	-	51541	51554	13	set 2h	0,0	no pumping: check on / off BLANK IN SITU
9	2900	McLane 2	1120	petex 53µ	QMA 142mm 1µm	-	8778	9789	1011	set 2h	0,0	ok
10	2910	Challenger INSU 3	1110	petex 53µ	QMA 142mm 1µm	Y	46364	47805	1441	set 2h	0,0	ok
11	3940	McLane 3	80	petex 53µ	QMA 142mm 1µm	-	8698	9638	940	set 2h	0,0	ok
12	3950	ULB 2	70	-	SUPOR 293mm 0.45µm	-	86320	87572	1252	set 2h	0,0	pump and head filter connected after clamping..
13	3960	Challenger INSU 2	60	-	-	Y	33226	35493	2267	set 2h	0,0	ok

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 2

N° de palanquée : ISP 4

Date (UTC) : 27/02/ 2008

Heure debut (UTC) : 05:00 AM

Latitude (° ') : 42°28.146'

Longitude (° ') : 08° 55.726 '

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :

go down to

4027 m

profondeur du microcat:

m

alpha: angle entre verticale et cable (si cable rectiligne)

cos (alpha) = pinger or microcat depth / cable length

alpha= 90,00 °

1	75	Ra	
2	250	Ra	
3	620	Ra	
4	1400	Nd	293
5	1400	Ra	
6	1400	C14	
7	2700	Nd	293
8	2700	Ra	
9	2700	C14	
10	4000	Nd	293
11	4000	Ra	
12	4000	C14	
13			

1	30	Nd	293
2	30	C14	
3	75	C14	
4	80	Nd	142
5	130	C14	
6	130	Nd	293
7	175	C14	
8	200	Nd	293
9	250	C14	
10	400	Nd	293
11	620	Nd	293
12	620	C14	
13			

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 2

N° de palanquée : ISP 4

Date (UTC) : 27/02/ 2008

Heure debut (UTC) : 05:00 AM

Latitude (° ') : 42°28.146'

Longitude (° ') : 08° 55.726 '

	filtre	diametre	pompe	
1	75	QMA-Mn	142	Chal insu6
2	620	SUPOR	293	Chal ULB1
3	620	QMA-Mn	142	Chal insu4
4	1400	SUPOR	293	Chal insu5
5	1400	QMA-Mn	142	Chal insu1
6	1400	QMA	142	McLane
7	2000	SUPOR	293	Chal insu7
8	2700	SUPOR	293	Chal Elisabet
9	2700	QMA-Mn	142	Chal insu3
10	2700	QMA	142	McLane
11	4000	SUPOR	293	Chal ULB2
12	4000	QMA-Mn	142	Chal insu2
13	4000	QMA	142	McLane

1	30	SUPOR	293	Chal ULB1
2	30	QMA	142	McLane
3	75	QMA	142	McLane
4	80	SUPOR	293	Chal insu5
5	130	QMA	142	McLane
6	130	SUPOR	293	Chal insu6
7	175	QMA	142	Chal insu1
8	200	SUPOR	293	Chal Elisabet
9	250	QMA	142	Chal insu2
#	400	SUPOR	293	Chal ULB2
#	500	QMA	142	Chal insu3
#	620	QMA	142	Chal insu4

insu1	x	142
insu2	x	142
insu3	x	142
insu4	x	142
insu5	x	142-293
insu6	x	142
insu7	x	142-293
ulb1	x	293
ulb2	x	293
Elisabet	x	293

NAME : SUPER station 2 / ISP 4

QMA

date : 27/2/2008 start time (TU): 05:00 am start lat: 42° 22.146' S start lon: 08°55.726' E
 site : S2 stop time (TU): 12:04 am stop lat: 42° 28.134' S stop lon: 08°55.72" E

Pump		depth (m)	P. CorrD	volume (l)	fract (μ)	SSM #	comments	cartridge
INSU 6	1	75		732	53	M29	well charged + 1 krill (problem when refiltration, so not so much matter on Ag filter)	yes
					1	M30	very nice coverage, yellow / green	yes
INSU 4	2	608		727	53	M31	a few specimens of funny zooplankton, very slightly charger	yes
					1	M32	colored: yellow / brown	yes
McLane 1	3	1450		922	53	M33	nothing on it (no visible particules)	no
					1	M34	slightly colored homogenous	no
INSU 1	4	1460		-27	53	-	inverse pumping, dirty so throw it away..	yes
					1	-	inverse pumping, dirty so throw it away..	yes
McLane 2	5	2900		1011	53	M35	clear really.	no
					1	M36	again slightly colored	no
INSU 3	6	2910		1441	53	M37	clear really.	yes
					1	M38	again a little bit colored	yes
McLane 3	7	3940		940	53	M39	nothing	no
					1	M40	again colored + black rubber particles (from head filter?) like on SAZ-SENSE	no

Prefilter 53μ: pumps 1, 2 = 25% 234Th, CS, 14C, Po each / pumps 3, 5, 6, 7 = 33,3% 234Th, 14C, Po each

filter QMA 1μ: 10 punches for Po-210Pb, 1 punch for 234Th, 6 punches 14C (sauf pour le point de max chloro à 75m = 5 pour Nadine + 1 pour Ula), rest for compound specifics

Note: next time i will take inverse pumping to mesure potential pump contamination (just potential because no inverse flux when pumping)

Campagne : BONUS GOODHOPE 2008
Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 2
N° de palanquée : ISP 5
Operators : Tisnerat-Lacan-Cavagna

Date (UTC) : 28 / 02 / 2008
Heure debut (UTC) : 00:38
Heure fin (UTC): 07:30

Latitude (° ') : 42°28 'S
Longitude (° ') : 08°56'E
Bottom Depth (m) : m

RESET Pulley when line at the sea surface

Total wire out (m)	4000
Wire out, when microcat is attached (m)	1000

microcat depth **3000** (\geq total wire out -3300)

PUMPING = 02:00

1 punch = diameter of 25.3 mm

Microcat maximum depth is 3500m. Maximum target depth for microcat is 3300m.

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 2

N° de palanquée : ISP 5

Date (UTC) : 28 / 02 / 2008

Heure debut (UTC) : 00:38

Latitude (° ') : 42°28 'S

Longitude (° ') : 08°56'E

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	Parameters to be measured	persons in charge	prefilter %	filter %
1	20	Challenger Elisabeth	3973	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
2	30	McLane 1	3963	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	25%	5 punches	compound specifics 234Th	Cavagna Planchon	50%	all the rest
3	75	Challenger INSU 4	3918	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	25%	5 punches	compound specifics 234Th	Cavagna Planchon	50%	all the rest
4	130	McLane 2	3863	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
5	175	Challenger INSU 1	3818	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	50%	50%	compound specifics 234Th	Cavagna Planchon	66%	50%
6	250	Challenger INSU 2	3743	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
7	260	Challenger ULB 2	3733	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
8	590	McLane 3	3403	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
9	608	Challenger INSU 3	3385	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
10	1450	Challenger INSU 7	2543	petex 53µ	QMA 142mm 1µm	Y	14, 13, 12 C POC	Tisnerat	50%	50%	compound specifics 234Th	Cavagna Planchon	66%	50%
11	2890	Challenger INSU 6	1103	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 2

N° de palanquée : ISP 5

Date (UTC) : 28 / 02 / 2008

Heure debut (UTC) : 00:38

Latitude (° ') : 42°28 'S

Longitude (° ') : 08°56'E

12	3900	Challenger INSU 5	93	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
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Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameter s to be measured	persons in charge	prefilter %	filter %	initial volume	final volume	Filtered volume (L) read on the pump	pumping duration (min)
1	20	Challenger Elisabeth	3973	-	SUPOR 293mm 0.45µm	-	-	-	-	-	51554	51937	383	set 2h
2	30	McLane 1	3963	petex 53µ	QMA 142mm 1µm	-	alkenones 210Pb / Po	Ezzat Verdeny	no 25%	1 punch 10 punches	5324	5815	491	set 2h
3	75	Challenger INSU 4	3918	petex 53µ	QMA 142mm 1µm	-	alkenones 210Pb / Po	Ezzat Verdeny	no 25%	1 punch 10 punches	57054	58423	1369	set 2h
4	130	McLane 2	3863	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	10 punches	9789	10830	1041	set 2h
5	175	Challenger INSU 1	3818	petex 53µ	QMA 142mm 1µm	-	-	-	-	-	82375	82345	-30	set 2h
6	250	Challenger INSU 2	3743	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	10 punches	35493	37058	1565	set 2h
7	260	Challenger ULB 2	3733	-	SUPOR 293mm 0.45µm	-	-	-	-	-	87571	88586,5	1015,5	set 2h
8	590	McLane 3	3403	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	8 punches	8630	10613	1983	set 2h
9	608	Challenger INSU 3	3385	-	SUPOR 293mm 0.45µm	-	-	-	-	-	47805	48999	1194	set 2h
10	1450	Challenger INSU 7	2543	petex 53µ	QMA 142mm 1µm	Y	-	-	-	-	164174	164171,5	-2,5	set 2h
11	2890	Challenger INSU 6	1103	-	SUPOR 293mm 0.45µm	-	-	-	-	-	120589	121174	585	set 2h
12	3900	Challenger INSU 5	93	-	SUPOR 293mm 0.45µm	-	-	-	-	-	118255	118878	623	set 2h

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 2

N° de palanquée : ISP 5

Date (UTC) : 28 / 02 / 2008

Heure debut (UTC) : 00:38

Latitude (° ') : 42°28 'S

Longitude (° ') : 08°56'E

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Effective depth (m) calculated from microcat data	Comments
1	20	Challenger Elisabeth	3973	-	SUPOR 293mm 0.45µm	-	0	ok
2	30	McLane 1	3963	petex 53µ	QMA 142mm 1µm	-	0	ok
3	75	Challenger INSU 4	3918	petex 53µ	QMA 142mm 1µm	-	0	ok
4	130	McLane 2	3863	petex 53µ	QMA 142mm 1µm	-	0	ok
5	175	Challenger INSU 1	3818	petex 53µ	QMA 142mm 1µm	-	0	inverse pumping BLANK IN SITU
6	250	Challenger INSU 2	3743	petex 53µ	QMA 142mm 1µm	-	0	ok
7	260	Challenger ULB 2	3733	-	SUPOR 293mm 0.45µm	-	0	ok
8	590	McLane 3	3403	petex 53µ	QMA 142mm 1µm	-	0	ok
9	608	Challenger INSU 3	3385	-	SUPOR 293mm 0.45µm	-	0	ok
10	1450	Challenger INSU 7	2543	petex 53µ	QMA 142mm 1µm	Y	0	no pumping BLANK IN SITU
11	2890	Challenger INSU 6	1103	-	SUPOR 293mm 0.45µm	-	0	ok
12	3900	Challenger INSU 5	93	-	SUPOR 293mm 0.45µm	-	0	no connection between head filter and pump at the recovery: not well

Campagne : BONUS GOODHOPE 2008
 Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 2
N° de palanquée : ISP 5

Date (UTC) : 28 / 02 / 2008
 Heure debut (UTC) : 00:38

Latitude (° ') : 42°28 'S
 Longitude (° ') : 08°56'E

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :

go down to 4000 m

profondeur du microcat: m

alpha: angle entre verticale et cable (si cable rectiligne)
 cos (alpha) = pinger or microcat depth / cable length
 alpha= 90,00 °

1	75	Ra	
2	250	Ra	
3	620	Ra	
4	1400	Nd	293
5	1400	Ra	
6	1400	C14	
7	2700	Nd	293
8	2700	Ra	
9	2700	C14	
10	4000	Nd	293
11	4000	Ra	
12	4000	C14	
13			

1	30	Nd	293
2	30	C14	
3	75	C14	
4	80	Nd	142
5	130	C14	
6	130	Nd	293
7	175	C14	
8	200	Nd	293
9	250	C14	
10	400	Nd	293
11	620	Nd	293
12	620	C14	
13			

	filtre	diametre	pompe
1	75 QMA-Mn	142	Chal insu6
2	620 SUPOR	293	Chal ULB1
3	620 QMA-Mn	142	Chal insu4
4	1400 SUPOR	293	Chal insu5
5	1400 QMA-Mn	142	Chal insu1
6	1400 QMA	142	McLane
7	2000 SUPOR	293	Chal insu7
8	2700 SUPOR	293	Chal Elisabet
9	2700 QMA-Mn	142	Chal insu3
10	2700 QMA	142	McLane
11	4000 SUPOR	293	Chal ULB2
12	4000 QMA-Mn	142	Chal insu2
13	4000 QMA	142	McLane

1	30 SUPOR	293	Chal ULB1
2	30 QMA	142	McLane
3	75 QMA	142	McLane
4	80 SUPOR	293	Chal insu5
5	130 QMA	142	McLane
6	130 SUPOR	293	Chal insu6
7	175 QMA	142	Chal insu1
8	200 SUPOR	293	Chal Elisabet
9	250 QMA	142	Chal insu2
10	400 SUPOR	293	Chal ULB2
11	500 QMA	142	Chal insu3
12	620 QMA	142	Chal insu4

NAME : SUPER station 2 / ISP 5

QMA

date : 28/2/2008 start time (TU): 00:38 am start lat: 42° 28.' S start lon: 08°56' E
 site : S2 stop time: 09:30 am

Pump		depth (m)	P. CorrD	volume (l)	fract (μ)	SSM #	comments	cartridge
McLane 1	1	30		491	53	M 41	well charged yellow	no
					1	M 42	the same and homogenous	no
INSU 4	2	75		1369	53	M 43	again well charged + 1 krill	no
					1	M 44	yellow brown, well charged	no
McLane 2	3	130		1041	53	M 45	very sligthly charged (but something sure)	no
					1	M 46	again well charged (clear yellow)	no
INSU 1	4	175		-30	53	-	Blank 1 (50% Nadine et 50% anju CS)	no
					1	-	Blank 1 (50% Nadine et 50% anju+234Th / POC)	no
INSU 2	5	250		1565	53	M 47	ok colored	no
					1	M 48	yellow too	no
McLane 3	6	590		1983	53	M 49	nothing	no
					1	M 50	again colored yellow clear (8 punch for Eli)	no
INSU 7	7	1450		-2,5	53	-	Blank 2 (50% Nadine et 50% anju CS)	yes
					1	-	Blank 2 (50% Nadine et 50% anju+234Th / POC)	yes

Prefilter 53μ: pumps 1, 2 = 25% 234Th, CS, 14C, Po each / pumps 3, 5, 6 = 33,3% 234Th, 14C, Po each

filter QMA 1μ: 10 punches for Po-210Pb, 1 punch for 234Th, 6 punches 14C (sauf pour les points 30 et 75 m = 5 pour Nadine + 1 pour Ula), rest for compound specifics

Elisabet !! I am improving sampling for you: next super station, Po samples on each filters **and blanks !!**

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 3

N° de palanquée : ISP 6

Operators : Tisnerat-Lacan-Cavagna

Date (UTC) : 05 / 03 / 2008

Heure debut (UTC) : 11:30 pm

Heure fin (UTC) : 06:50 am

Latitude (° ') : 47°33.16'

Longitude (° ') : 04°22.34'

Bottom Depth (m) : m

RESET Pulley when line at the sea surface

Total wire out (m)	4400
Wire out, when microcat is attached (m)	1400

(≥ total wire out -3300)

microcat depth

3000

PUMPING = 02:00

1 punch = diameter of 25.3 mm

Microcat maximum depth is 3500m. Maximum target depth for microcat is 3300m.

Sample #	Target depth (m)	Pump # (e.g. McLane-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	Parameters to be measured	persons in charge	prefilter %	filter %
1	1038	INSU 7	3355	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
2	1048	INSU 1	3345	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
3	1068	INSU 3	3325	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	> 5 / 6	Bsi, 30Si	Cardinal	-	> 1 / 6
4	1088	INSU 2	3305	petex 53µ	QMA 142mm 1µm	Y	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
5	1482	Elisabet	2911	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	> 5 / 6	Bsi, 30Si	Cardinal	-	> 1 / 6
6	2003	INSU 5	2390	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	> 5 / 6	Bsi, 30Si	Cardinal	-	> 1 / 6
7	2023	McLane 3	2370	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
8	2043	INSU 6	2350	petex 53µ	QMA 142mm 1µm	Y	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 3

N° de palanquée : ISP 6

Date (UTC) : 05 / 03 / 2008

Heure debut (UTC) : 11:30 pm

Latitude (° ') : 47°33.16'

Longitude (° ') : 04°22.34'

9	3052	INSU 4	1341	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
10	4300	ULB 2	93	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
11	4320	McLane 2	73	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
12	4340	McLane 1	53	petex 53µ	QMA 142mm 1µm	Y	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	Parameters to be measured	persons in charge	prefilter %	filter %
1	1038	INSU 7	3355	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	8 punches	-	-	-	-
2	1048	INSU 1	3345	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	8 punches	-	-	-	-
3	1068	INSU 3	3325	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
4	1088	INSU 2	3305	petex 53µ	QMA 142mm 1µm	Y	Po Pb210	Verdeny	33%	8 punches	Radium	Verdeny	-	-
5	1482	Elisabet	2911	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
6	2003	INSU 5	2390	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
7	2023	McLane 3	2370	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	8 punches	-	-	-	-
8	2043	INSU 6	2350	petex 53µ	QMA 142mm 1µm	Y	Po Pb210	Verdeny	33%	8 punches	Radium	Verdeny	-	-
9	3052	INSU 4	1341	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
10	4300	ULB 2	93	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
11	4320	McLane 2	73	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	8 punches	-	-	-	-
12	4340	McLane 1	53	petex 53µ	QMA 142mm 1µm	Y	Po Pb210	Verdeny	33%	8 punches	Radium	Verdeny	-	-

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 3

N° de palanquée : ISP 6

Date (UTC) : 05 / 03 / 2008

Heure debut (UTC) : 11:30 pm

Latitude (° ') : 47°33.16'

Longitude (° ') : 04°22.34'

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	initial volume	final volume	Filtered volume (L) read on the pump	pumping duration (min)	Effective depth (m) calculated from microcat data	Comments
1	1038	INSU 7	3355	petex 53µ	QMA 142mm 1µm	-	164162	164158	-4	set 2h	0,0	no pumping
2	1048	INSU 1	3345	petex 53µ	QMA 142mm 1µm	-	82350	83410	1060	set 2h	0,0	ok
3	1068	INSU 3	3325	-	SUPOR 293mm 0.45µm	-	48990	50130	1140	set 2h	0,0	ok
4	1088	INSU 2	3305	petex 53µ	QMA 142mm 1µm	Y	37058	37896	838	set 2h	0,0	copper line (from XBT) on the pump: comes from boat ?
5	1482	Elisabet	2911	-	SUPOR 293mm 0.45µm	-	51937	51942	5	set 2h	0,0	no pumping, head filter and pump non connected at recovery (crew attach ok but colson out)
6	2003	INSU 5	2390	-	SUPOR 293mm 0.45µm	-	118878	120342	1464	set 2h	0,0	ok
7	2023	McLane 3	2370	petex 53µ	QMA 142mm 1µm	-	10613	11563	950	set 2h	0,0	ok
8	2043	INSU 6	2350	petex 53µ	QMA 142mm 1µm	Y	121165	122395	1230	set 2h	0,0	ok
9	3052	INSU 4	1341	-	SUPOR 293mm 0.45µm	-	58424	58686	262	set 2h	0,0	ok, even if it is not a big volume (battery problem? Filter problem ?)
10	4300	ULB 2	93	-	SUPOR 293mm 0.45µm	-	88587	90532	1945	set 2h	0,0	head filter and pump not connected at recovery. Connection disappeared.. Volume counter not well screwed but always here
11	4320	McLane 2	73	petex 53µ	QMA 142mm 1µm	-	10831	11816	985	set 2h	0,0	ok
12	4340	McLane 1	53	petex 53µ	QMA 142mm 1µm	Y	5815	5824	9	set 2h	0,0	no pumping

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 3

N° de palanquée : ISP 6

Date (UTC) : 05 / 03 / 2008

Heure debut (UTC) : 11:30 pm

Latitude (° ') : 47°33.16'

Longitude (° ') : 04°22.34'

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :

go down to

4400 m

profondeur du microcat:

m

alpha: angle entre verticale et cable (si cable rectiligne)

cos (alpha) = pinger or microcat depth / cable length

alpha= 90,00 °

1	75	Ra	
2	250	Ra	
3	620	Ra	
4	1400	Nd	293
5	1400	Ra	
6	1400	C14	
7	2700	Nd	293
8	2700	Ra	
9	2700	C14	
10	4000	Nd	293
11	4000	Ra	
12	4000	C14	
13			

1	30	Nd	293
2	30	C14	
3	75	C14	
4	80	Nd	142
5	130	C14	
6	130	Nd	293
7	175	C14	
8	200	Nd	293
9	250	C14	
10	400	Nd	293
11	620	Nd	293
12	620	C14	
13			

	filtre	diametre	pompe
1	75 QMA-Mn	142	Chal insu6
2	620 SUPOR	293	Chal ULB1
3	620 QMA-Mn	142	Chal insu4
4	1400 SUPOR	293	Chal insu5
5	1400 QMA-Mn	142	Chal insu1
6	1400 QMA	142	McLane
7	2000 SUPOR	293	Chal insu7
8	2700 SUPOR	293	Chal Elisabet
9	2700 QMA-Mn	142	Chal insu3
10	2700 QMA	142	McLane
11	4000 SUPOR	293	Chal ULB2
12	4000 QMA-Mn	142	Chal insu2
13	4000 QMA	142	McLane

1	30	SUPOR	293	Chal ULB1
2	30	QMA	142	McLane
3	75	QMA	142	McLane
4	80	SUPOR	293	Chal insu5
5	130	QMA	142	McLane
6	130	SUPOR	293	Chal insu6
7	175	QMA	142	Chal insu1
8	200	SUPOR	293	Chal Elisabet
9	250	QMA	142	Chal insu2
10	400	SUPOR	293	Chal ULB2
11	500	QMA	142	Chal insu3
12	620	QMA	142	Chal insu4

NAME : SUPER station 3 / ISP 6

QMA

date : 5/3/2008

start time (TU): 11:30pm

lat: 47°33.16' S

lon: 04°34' E

site : S3

stop time (TU): 06:50am

Pump		depth (m)	P. CorrD	volume (l)	fract (μ)	SSM #	comments	cartridge
McLane 2	1	4320		985	53	M 51	clear, almost nothing (two particles of back rubber)	no
					1	M52	colored (clear brown)	no
McLane 3	2	2023		950	53	M 53	clear, nothing (something gelatinous throwed away)	no
					1	M 54	colored (clear green)	no
INSU 6	3	2043		1230	53	M 55	nothing	yes
					1	M 56	yellow-brown again homogenous	yes
INSU 2	4	1088		848	53	M 57	very dirty and non homogenous (XBT on the pump)	yes
					1	M 58	non homogenous, colored + brown dust on it	yes
INSU 1	5	1048		1060	53	M 59	homogenous, particles (several on the filter)	no
					1	M 60	well charged	no
INSU 7	6	1038		-4	53	M 61	blank (1/3 each Po, 14C, 234Th)	no
					1	M 62	blank (Po, 14C, 234Th and CS)	no
McLane 1	7	4340		19	53	-	no treatment because of 19 L filtered (not operation blank)	yes
					1	-	no treatment because of 19 L filtered (not operation blank)	yes

Prefilter 53μ: all pumps pumps = 33,3% 234Th, 14C, Po each

filter QMA 1μ: 8 punches for Po-210Pb, 1 punch for 234Th, 6 punches 14C, rest for compound specifics

Campagne : BONUS GOODHOPE 2008

Station :

TREUIL

N° de palanquée : ISP 6

Operators :

RESET Poulie when line at the sea surface

Total wire out (m)	4400
Wire out, when microcat is attached (m)	1400

(≥ total wire out -3300)

microcat depth 3000

Sample #	Target depth (m)	Pump #	filter holder	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	initial volume	final volume	filtered volume	pump comments	filter comments
1	1038	INSU 7	INSU 142	3355	petex	QMA 142				-	-4	
2	1048	INSU 1	INSU 142	3345	petex	QMA 142				1060		
3	1068	INSU 3	ULB1	3325		SUPOR 293				1130		
4	1088	INSU 2	INSU 142	3305	petex	QMA 142	Y			848		
5	1482	Elisabet	ELI	2911		SUPOR 293				-	5	
6	2003	INSU 5	INSU 293	2390		SUPOR 293				1464		
7	2023	McLane3	Mc Lane	2370	petex	QMA 142				950		
8	2043	INSU 6	INSU 142	2350	petex	QMA 142	Y			1230		
	microcat			1400								
9	3052	INSU 4	INSU 293	1341		SUPOR 293				262		
10	4300	ULB 2	ULB2	93		SUPOR 293				-	2000	
11	4320	McLane2	Mc Lane	73	petex	QMA 142				985		
12	4340	McLane1	Mc Lane	53	petex	QMA 142	Y			-	19	

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :
go down to		4400

	Eli	F&D	Nadine	AnJu
UCDW	1088	1068	1048	1048
NADW	2043	2003	2023	2023
		3052		
AABW			4320	4320

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

Station : SUPER 3

N° de palanquée : ISP 7

Operators : Tisnerat-Lacan-Cavagna

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Date (UTC) : 06 /03/ 2008

Latitude (° ') : 47°33' (start: 47°33.047', stop: 47°33.05')

Heure debut (UTC) : 07:30 pm

Longitude (° ') : 04 °22 ' (start: 04°22.96', stop: 04°22.84')

Heure fin (UTC): 03:07 am Bottom Depth (m) : m

RESET Pulley when line at the sea surface

PUMPING = 02:00

1 punch = diameter of 25.3 mm

Microcat maximum depth is 3500m. Maximum target depth for microcat is 3300m.

Total wire out (m)	4400
Wire out, when microcat is attached (m)	1593

(≥ total wire out -3300)
microcat depth **2807**

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger- INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	Parameters to be measured	persons in charge	prefilter %	filter %
1	20	McLane 3	4373	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	5 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
2	40	ULB 2	4353	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
3	50	McLane 1	4343	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	5 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
4	80	INSU 1	4313	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
5	150	INSU 6	4243	petex 53µ	QMA 142mm 1µm	Y	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
6	230	McLane 2	4163	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
7	250	INSU 2	4143	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
8	450	INSU 7	3943	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 3

N° de palanquée : ISP 7

Date (UTC) : 06 /03/ 2008

Latitude (° ') : 47°33' (start: 47°33.047', stop: 47°33.05')

Heure debut (UTC) : 07:30 pm

Longitude (° ') : 04 °22 ' (start: 04°22.96', stop: 04°22.84')

12	4300	INSU 4	93	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
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Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger- INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porisity, or cartridge	cartridge	initial volume	final volume	Filtered volume (L) read on the pump	pumping duration (min)	Effective depth (m) calculated from microcat data	Comments
1	20	McLane 3	4373	petex 53µ	QMA 142mm 1µm	-	11563	11715	152	set 2h	0,0	ok
2	40	ULB 2	4353	-	SUPOR 293mm 0.45µm	-	120344	120425	81	set 2h	0,0	ok
3	50	McLane 1	4343	petex 53µ	QMA 142mm 1µm	-	5825	6032	207	set 2h	0,0	ok
4	80	INSU 1	4313	petex 53µ	QMA 142mm 1µm	-	83417	83362	-55	set 2h	0,0	blank
5	150	INSU 6	4243	petex 53µ	QMA 142mm 1µm	Y	37896	39072	1176	set 2h	0,0	ok
6	230	McLane 2	4163	petex 53µ	QMA 142mm 1µm	-	11811	12819	1008	set 2h	0,0	ok
7	250	INSU 2	4143	-	SUPOR 293mm 0.45µm	-	122395	122403	8	set 2h	0,0	blank
8	450	INSU 7	3943	petex 53µ	QMA 142mm 1µm	-	164150	165734	1584	set 2h	0,0	ok
9	550	INSU 3	3843	petex 53µ	QMA 142mm 1µm	Y	50130	51473	1343	set 2h	0,0	ok
10	600	INSU 5	3793	-	SUPOR 293mm 0.45µm	-	90532	91147	615	set 2h	0,0	ok
11	3052	Elisabet	1593	-	SUPOR 293mm 0.45µm	-	51942	52623	681	set 2h	0,0	ok
12	4300	INSU 4	93	-	SUPOR 293mm 0.45µm	-	58686	58940	254	set 2h	0,0	ok

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 3

N° de palanquée : ISP 7

Date (UTC) : 06 /03/ 2008

Latitude (° ') : 47°33' (start: 47°33.047', stop: 47°33.05')

Heure debut (UTC) : 07:30 pm

Longitude (° ') : 04 °22 ' (start: 04°22.96', stop: 04°22.84')

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :

go down to

4400 m

profondeur du microcat:

m

alpha: angle entre verticale et cable (si cable rectiligne)

cos (alpha) = pinger or microcat depth / cable length

alpha= 90,00 °

1	75	Ra	
2	250	Ra	
3	620	Ra	
4	1400	Nd	293
5	1400	Ra	
6	1400	C14	
7	2700	Nd	293
8	2700	Ra	
9	2700	C14	
10	4000	Nd	293
11	4000	Ra	
12	4000	C14	
13			

1	30	Nd	293
2	30	C14	
3	75	C14	
4	80	Nd	142
5	130	C14	
6	130	Nd	293
7	175	C14	
8	200	Nd	293
9	250	C14	
10	400	Nd	293
11	620	Nd	293
12	620	C14	
13			

	filtre	diametre	pompe	
1	75	QMA-Mn	142	Chal insu6
2	620	SUPOR	293	Chal ULB1
3	620	QMA-Mn	142	Chal insu4
4	1400	SUPOR	293	Chal insu5
5	1400	QMA-Mn	142	Chal insu1
6	1400	QMA	142	McLane
7	2000	SUPOR	293	Chal insu7
8	2700	SUPOR	293	Chal Elisabet
9	2700	QMA-Mn	142	Chal insu3
10	2700	QMA	142	McLane
11	4000	SUPOR	293	Chal ULB2
12	4000	QMA-Mn	142	Chal insu2
13	4000	QMA	142	McLane

1	30	SUPOR	293	Chal ULB1
2	30	QMA	142	McLane
3	75	QMA	142	McLane
4	80	SUPOR	293	Chal insu5
5	130	QMA	142	McLane
6	130	SUPOR	293	Chal insu6
7	175	QMA	142	Chal insu1
8	200	SUPOR	293	Chal Elisabet
9	250	QMA	142	Chal insu2
10	400	SUPOR	293	Chal ULB2
11	500	QMA	142	Chal insu3
12	620	QMA	142	Chal insu4

NAME : SUPER station 3 / ISP 7

QMA

date : 6/3/2008

start time (TU): 19:30

start lat: 47°33'

start lon: 04°22'E

site : S3

stop time (TU): 03:07

Pump		depth (m)	P. CorrD	volume (l)	fract (μ)	SSM #	comments	cartridge
McLane 3	1	20		152	53	M 63	very clear and non homogenous	no
					1	M 64	well yellow, homogenous	no
McLane 1	2	50		207	53	M 65	very clear, with particles all around the filter	no
					1	M 66	well yellow, homogenous	no
McLane 2	3	230		1008	53	M 67	very clear	no
					1	M 68	yellow clear, good !	no
INSU 1	4	80		-55	53	M 69	operation blank	no
					1	M 70	operation blank	no
INSU 6	5	150		1176	53	M 71	well charged cool !!	yes
					1	M 72	less colored than M 64 and M 66	yes
INSU 7	6	450		1584	53	M 73	particles on it even if it is clear	yes
					1	M 74	again colored	no
INSU 3	7	550		1343	53	M 75	as M 74	yes
					1	M 76	clear colored	yes

Prefilter 53 μ : all pumps = 33,3% 234Th, 14C, Po each

filter QMA 1 μ : 8 punches for Po-210Pb, 1 punch for 234Th, 6 punches 14C (sauf pour les points 20 et 50 m = 5 pour Nadine + 1 pour Ula), rest for compound specifics

Campagne : BONUS GOODHOPE 2008

Station :

TREUIL

N° de palanquée : ISP 7

Operators :

RESET Poulie when line at the sea surface

Total wire out (m)	4400
Wire out, when microcat is attached (m)	1593

(≥ total wire out -3300)

microcat depth 2807

Sample #	Target depth (m)	Pump #	filter holder	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	initial volume	final volume	filtered volume	bag #	pump comments	filter comments
1	20	INSU 2	INSU 142	4373	petex	QMA 142							
2	40	Elisabet	ELI	4353		SUPOR 293							
3	50	McLane1	INSU 142	4343	petex	QMA 142							
4	80	McLane3	Mc Lane	4313	petex	QMA 142							
5	150	INSU 6	INSU 142	4243	petex	QMA 142	Y						
6	230	INSU 1	INSU 142	4163	petex	QMA 142							
7	250	ULB 2	ULB2	4143		SUPOR 293							
8	450	McLane2	Mc Lane	3943	petex	QMA 142							
9	550	INSU 3	INSU 142	3843	petex	QMA 142	Y						
10	600	INSU 5	INSU 293	3793		SUPOR 293							
	2800	microcat		1593									
11	3052	INSU 7	INSU 293	1341		SUPOR 293							
12	4300	INSU 4	INSU 293	93		SUPOR 293							

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :
go down to	4400	

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

Station : SUPER 4

N° de palanquée : ISP 8

Operators : Tisnerat-Lacan-Cavagna

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Date (UTC) : 10/03/ 2008 Latitude (° ') : 51°51'S

Heure debut (UTC) : 13:30 Longitude (° ') : 00°00'

Heure fin (UTC): 20:18 Bottom Depth (m) : m

RESET Pulley when line at the sea surface

Total wire out (m)	2535
Wire out, when microcat is attached (m)	0

(≥ total wire out -3300)

PUMPING = 02:00

1 punch = diameter of 25.3 mm
Microcat maximum depth is 3500m. Maximum target depth for microcat is 3300m.

pinger is attached to the lest, 0 wire out is done when microcat touch surface (microcat is 2m under the pinger)

microcat depth **2535**

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porisity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	Parameters to be measured	persons in charge	prefilter %	filter %
1	40	INSU 1	2488	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	25%	25% (prefilter)	compound specifics 234Th	Cavagna Planchon	50%	50% (prefilter)
2	80	INSU 2	2448	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	25%	6 punches	compound specifics 234Th	Cavagna Planchon	50%	all the rest
3	165	INSU 3	2363	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
4	400	McLane 3	2128	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
5	749	INSU 6	1779	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
6	1108	McLane 2	1420	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	5 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
7	1128	INSU 5	1400	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
8	1685	INSU 7	843	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	25%	6 punches	compound specifics 234Th	Cavagna Planchon	50%	all the rest

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 4

N° de palanquée : ISP 8

Date (UTC) : 10/03/ 2008

Latitude (° ') : 51°51'S

Heure debut (UTC) : 13:30

Longitude (° ') : 00°00'

9	1695	Eli	833	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
10	2290	INSU 4	238	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
11	2468	McLane 1	60	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	25%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
12	2488	ULB 2	40	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	initial volume	final volume	Filtered volume (L) read on the pump	pumping duration (min)
1	40	INSU 1	2488	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	25%	25% (prefilter)	83362	85517	2155	set 2h
2	80	INSU 2	2448	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	25%	8 punches	39072	39782	710	set 2h
3	165	INSU 3	2363	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	8 punches	51473	52286	813	set 2h
4	400	McLane 3	2128	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	8 punches	11715	12671	956	set 2h
5	749	INSU 6	1779	-	SUPOR 293mm 0.45µm	-	-	-	-	-	122413	123574	1161	set 2h
6	1108	McLane 2	1420	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	8 punches	12819	13836	1017	set 2h
7	1128	INSU 5	1400	-	SUPOR 293mm 0.45µm	-	-	-	-	-	120425	120798	373	set 2h
8	1685	INSU 7	843	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	25%	8 punches	165735	165672	-63	set 2h
9	1695	Eli	833	-	SUPOR 293mm 0.45µm	-	-	-	-	-	52623	53489	866	set 2h
10	2290	INSU 4	238	-	SUPOR 293mm 0.45µm	-	-	-	-	-	58941	60032	1091	set 2h
11	2468	McLane 1	60	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	25%	8 punches	6033	6038	5	set 2h

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 4

N° de palanquée : ISP 8

Date (UTC) : 10/03/ 2008

Latitude (° ') : 51°51'S

Heure debut (UTC) : 13:30

Longitude (° ') : 00°00'

12	2488	ULB 2	40	-	SUPOR 293mm 0.45µm	-	-	-	-	-	91147	91737	590	set 2h
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Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Effective depth (m) calculated from microcat data	Comments
1	40	INSU 1	2488	petex 53µ	QMA 142mm 1µm	-	0,0	well.. Forgot to put the QMA filter, result = to prefilters represent this
2	80	INSU 2	2448	petex 53µ	QMA 142mm 1µm	-	0,0	
3	165	INSU 3	2363	petex 53µ	QMA 142mm 1µm	-	0,0	
4	400	McLane 3	2128	petex 53µ	QMA 142mm 1µm	-	0,0	
5	749	INSU 6	1779	-	SUPOR 293mm 0.45µm	-	0,0	
6	1108	McLane 2	1420	petex 53µ	QMA 142mm 1µm	-	0,0	
7	1128	INSU 5	1400	-	SUPOR 293mm 0.45µm	-	0,0	
8	1685	INSU 7	843	petex 53µ	QMA 142mm 1µm	-	0,0	operation blank
9	1695	Eli	833	-	SUPOR 293mm 0.45µm	-	0,0	
10	2290	INSU 4	238	-	SUPOR 293mm 0.45µm	-	0,0	
11	2468	McLane 1	60	petex 53µ	QMA 142mm 1µm	-	0,0	operation blank
12	2488	ULB 2	40	-	SUPOR 293mm 0.45µm	-	0,0	

Campagne : BONUS GOODHOPE 2008
 Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 4
N° de palanquée : ISP 8

Date (UTC) : 10/03/ 2008 Latitude (° ') : 51°51'S
 Heure debut (UTC) : 13:30 Longitude (° ') : 00°00'

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :

go down to 2535 m

profondeur du microcat: m

alpha: angle entre verticale et cable (si cable rectiligne)
 cos (alpha) = pinger or microcat depth / cable length
 alpha= 90,00 °

1	75	Ra	
2	250	Ra	
3	620	Ra	
4	1400	Nd	293
5	1400	Ra	
6	1400	C14	
7	2700	Nd	293
8	2700	Ra	
9	2700	C14	
10	4000	Nd	293
11	4000	Ra	
12	4000	C14	
13			

1	30	Nd	293
2	30	C14	
3	75	C14	
4	80	Nd	142
5	130	C14	
6	130	Nd	293
7	175	C14	
8	200	Nd	293
9	250	C14	
10	400	Nd	293
11	620	Nd	293
12	620	C14	
13			

	filtre	diametre	pompe	
1	75	QMA-Mn	142	Chal insu6
2	620	SUPOR	293	Chal ULB1
3	620	QMA-Mn	142	Chal insu4
4	1400	SUPOR	293	Chal insu5
5	1400	QMA-Mn	142	Chal insu1
6	1400	QMA	142	McLane
7	2000	SUPOR	293	Chal insu7
8	2700	SUPOR	293	Chal Elisabet
9	2700	QMA-Mn	142	Chal insu3
10	2700	QMA	142	McLane
11	4000	SUPOR	293	Chal ULB2
12	4000	QMA-Mn	142	Chal insu2
13	4000	QMA	142	McLane

1	30	SUPOR	293	Chal ULB1
2	30	QMA	142	McLane
3	75	QMA	142	McLane
4	80	SUPOR	293	Chal insu5
5	130	QMA	142	McLane
6	130	SUPOR	293	Chal insu6
7	175	QMA	142	Chal insu1
8	200	SUPOR	293	Chal Elisabet
9	250	QMA	142	Chal insu2
10	400	SUPOR	293	Chal ULB2
11	500	QMA	142	Chal insu3
12	620	QMA	142	Chal insu4

NAME : SUPER station 4 / ISP 8

QMA

date : 10/3/2008

start time (TU): 01:30 pm

start lat: 51°51'

start lon: 00°00'

site : S4

stop time (TU): 08:18 pm

Pump		depth (m)	P. CorrD	volume (l)	fract (μ)	SSM #	comments	cartridge
McLane 3	1	400		1156	53	M 77	very clear	no
					1	M 78	clear yellow, homogenous	no
McLane 2	2	1108		1017	53	M 79	very clear too	no
					1	M 80	same than M 78, yellow very clear	no
McLane 1	3	2468		5	53	M 81	blank	no
					1	M 82	blank	no
INSU 1	4	40		2155	53	M 83	well charged, but just on the perimeter	no
					1	M 84	no QMA, just prefilter.. Well charged too	no
INSU 2	5	80		710	53	M 85	well yellow and charged	no
					1	M 86	well yellow and charged homogenous	no
INSU 3	6	165		1213	53	M 87	very clear with several particles	no
					1	M 88	charged, colored (clearly but colored)	no
INSU 7	7	1685		-60	53	M 89	blank	no
					1	M 90	blank	no

Prefilter 53μ: pumps 3, 4, 5, 7 = 25% 234Th, CS, 14C, Po each / pumps 1, 2, 6 = 33,3% 234Th, 14C, Po each

filter QMA 1μ: 8 punches for Po-210Pb, 1 punch for 234Th, 6 punches 14C, rest for compound specifics

Note: M 84 was not QMA filter because i forgot to put one, but however there was a prefilter (QMA support) part in 1/4 (for Elisabet, Nadine, anju, 234Th)

Campagne : BONUS GOODHOPE 2008

Station : SUPER 4

N° de palanquée : ISP 8

Operators :

SAMPLING

RESET Poulie when line at the sea surface

Total wire out (m)	2535
Wire out, when microcat is attached (m)	0

(≥ total wire out -3300)

microcat depth **2535**

Sample #	Target depth (m)	Pump #	filter holder	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity,	cartridge	initial volume	final volume	filtered volume	bag #	pump comments	filter comments
1	40	INSU 1		2488	petex	QMA 142							
2	80	INSU 2		2448	petex	QMA 142							
3	165	INSU 3		2363	petex	QMA 142							
4	400	McLane3		2128	petex	QMA 142							
5	749	INSU 6	insu 293	1779		SUPOR 293							
6	1108	McLane2		1420	petex	QMA 142							
7	1128	INSU 5	insu 293	1400		SUPOR 293							
8	1685	INSU 7		843	petex	QMA 142							
9	1695	Eli	Eli	833		SUPOR 293							
10	2290	INSU 4	ulb1	238		SUPOR 293							
11	2468	McLane1		60	petex	QMA 142							
12	2488	ULB 2	ulb2	40		SUPOR 293							
	2528	microcat		0									

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :
go down to	2535	

	Eli	F&D	Nadine	AnJu
UCDW	1088	1068	1048	1048
NADW	2043	2003	2023	2023
		3052		
AABW			4320	4320

Campagne : BONUS GOODHOPE 2008

Station : SUPER 4

N° de palanquée : ISP 8

Operators :

TREUIL

RESET Poulie when line at the sea surface

Total wire out (m)		2535
Wire out, when microcat is attached (m)		0

(≥ total wire out -3300)
microcat depth 2535

Sample #	Target depth (m)	Pump #	filter holder	Wire out, when pump attached (m)	Wire out, when pump attached (dBar)	Prefilter	Filter type, size and porosity, or cartridge	cartridge
1	40	INSU 1		2488		petex	QMA 142	
2	80	INSU 2		2448		petex	QMA 142	
3	165	INSU 3		2363		petex	QMA 142	
4	400	McLane3		2128		petex	QMA 142	
5	749	INSU 6	insu 293	1779			SUPOR 293	
6	1108	McLane2		1420		petex	QMA 142	
7	1128	INSU 5	insu 293	1400			SUPOR 293	
8	1685	INSU 7		843		petex	QMA 142	
9	1695	Eli	Eli	833			SUPOR 293	
10	2290	INSU 4	ulb1	238			SUPOR 293	
11	2468	McLane1		60		petex	QMA 142	
12	2488	ULB 2	ulb2	40			SUPOR 293	
	2528	microcat		0				
				Microcat data at the maximum microcat depth				
P (dbar) :			S :		T (° C) :			
go down to			2535					

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

Station : SUPER 4

N° de palanquée : ISP 9

Operators : Tisnerat-Lacan-Cavagna

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Date (UTC) : 11 / 03 / 2008

Latitude (° ') : 51°53' S

Heure debut (UTC) : 09:28 am

Longitude (° ') : 00°00 Greenwich !!!

Heure fin (UTC): 03:49 pm

Bottom Depth (m) : m

RESET Pulley when line at the sea surface

PUMPING = 02:00

1 punch = diameter of 25.3 mm

Microcat maximum depth is 3500m. Maximum target depth for microcat is 3300m.

Total wire out (m)	2535
Wire out, when microcat is attached (m)	0 ??

(≥ total wire out -3300)
microcat depth **#VALEUR!**

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	Parameters to be measured	persons in charge	prefilter %	filter %
1	30	INSU 1	2498	petex 53µ	QMA 142mm 1µm	-	-	-	-	-	-	-	-	-
2	60	INSU 6	2468	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
3	100	INSU 7	2428	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	25%	6 punches	compound specifics 234Th	Cavagna Planchon	50%	all the rest
4	125	INSU 2	2403	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	25%	6 punches	compound specifics 234Th	Cavagna Planchon	50%	all the rest
5	170	ULB 2	2358	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
6	240	McLane 1	2288	petex 53µ	QMA 142mm 1µm	-	-	-	-	-	-	-	-	-
7	260	Elisabet	2268	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
8	420	INSU 4	2108	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 4

N° de palanquée : ISP 9

Date (UTC) : 11 / 03 / 2008

Latitude (° ') : 51°53' S

Heure debut (UTC) : 09:28 am

Longitude (° ') : 00°00 Greenwich !!!

9	749	INSU 3	1779	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
10	1128	INSU 5	1400	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
11	1685	McLane 2	843	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
12	2468	McLane 3	60	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	initial volume	final volume	Filtered volume (L) read on the pump	pumping duration (min)
1	30	INSU 1	2498	petex 53µ	QMA 142mm 1µm	-	-	-	-	-	85517	85497	-20	set 2h
2	60	INSU 6	2468	-	SUPOR 293mm 0.45µm	-	-	-	-	-	123575	124032	457	set 2h
3	100	INSU 7	2428	petex 53µ	QMA 142mm 1µm	-	alkenones 210Pb / Po	Ezzat Verdeny	no 25%	1 punch 8 punches	165672	166301	629	set 2h
4	125	INSU 2	2403	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	25%	8 punches	39782	40547	765	set 2h
5	170	ULB 2	2358	-	SUPOR 293mm 0.45µm	-	-	-	-	-	91737	92549	812	set 2h
6	240	McLane 1	2288	petex 53µ	QMA 142mm 1µm	-	-	-	-	-	6038	6039	1	set 2h
7	260	Elisabet	2268	-	SUPOR 293mm 0.45µm	-	-	-	-	-	53489	54528	1039	set 2h
8	420	INSU 4	2108	-	SUPOR 293mm 0.45µm	-	-	-	-	-	60032	60485	453	set 2h
9	749	INSU 3	1779	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	8 punches	52286	53495	1209	set 2h
10	1128	INSU 5	1400	-	SUPOR 293mm 0.45µm	-	-	-	-	-	120798	122051	1253	set 2h

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 4

N° de palanquée : ISP 9

Date (UTC) : 11 / 03 / 2008

Latitude (° ') : 51°53' S

Heure debut (UTC) : 09:28 am

Longitude (° ') : 00°00 Greenwich !!!

11	1685	McLane 2	843	petex 53μ	QMA 142mm 1μm	-	Po	Pb210	Verdeny	33%	8 punches	13836	14848	1012	set 2h
12	2468	McLane 3	60	petex 53μ	QMA 142mm 1μm	-	Po	Pb210	Verdeny	33%	8 punches	12670	13612	942	set 2h

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Effective depth (m) calculated from microcat data	Comments
1	30	INSU 1	2498	petex 53μ	QMA 142mm 1μm	-	0,0	barbapapa no pumping
2	60	INSU 6	2468	-	SUPOR 293mm 0.45μm	-	0,0	
3	100	INSU 7	2428	petex 53μ	QMA 142mm 1μm	-	0,0	
4	125	INSU 2	2403	petex 53μ	QMA 142mm 1μm	-	0,0	
5	170	ULB 2	2358	-	SUPOR 293mm 0.45μm	-	0,0	
6	240	McLane 1	2288	petex 53μ	QMA 142mm 1μm	-	0,0	icecream.. NO PUMPING
7	260	Elisabet	2268	-	SUPOR 293mm 0.45μm	-	0,0	
8	420	INSU 4	2108	-	SUPOR 293mm 0.45μm	-	0,0	
9	749	INSU 3	1779	petex 53μ	QMA 142mm 1μm	-	0,0	
10	1128	INSU 5	1400	-	SUPOR 293mm 0.45μm	-	0,0	
11	1685	McLane 2	843	petex 53μ	QMA 142mm 1μm	-	0,0	
12	2468	McLane 3	60	petex 53μ	QMA 142mm 1μm	-	0,0	

Campagne : **BONUS GOODHOPE 2008**
 Navire : **R/V Marion Dufresne**

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 4
N° de palanquée : ISP 9

Date (UTC) : 11 / 03 / 2008 **Latitude (° ') : 51°53' S**
Heure debut (UTC) : 09:28 am **Longitude (° ') : 00°00 Greenwich !!!**

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :

go down to 2535 m

profondeur du microcat: m

alpha: angle entre verticale et cable (si cable rectiligne)
 cos (alpha) = pinger or microcat depth / cable length
 alpha= 90,00 °

1	75	Ra	
2	250	Ra	
3	620	Ra	
4	1400	Nd	293
5	1400	Ra	
6	1400	C14	
7	2700	Nd	293
8	2700	Ra	
9	2700	C14	
10	4000	Nd	293
11	4000	Ra	
12	4000	C14	
13			

1	30	N	293
2	30	C14	
3	75	C14	
4	80	N	142
5	130	C14	
6	130	N	293
7	175	C14	
8	200	N	293
9	250	C14	
10	400	N	293
11	620	N	293
12	620	C14	
13			

	filtre	diametre	pompe	
1	75	QMA-Mn	142	Chal insu6
2	620	SUPOR	293	Chal ULB1
3	620	QMA-Mn	142	Chal insu4
4	1400	SUPOR	293	Chal insu5
5	1400	QMA-Mn	142	Chal insu1
6	1400	QMA	142	McLane
7	2000	SUPOR	293	Chal insu7
8	2700	SUPOR	293	Chal Elisabet
9	2700	QMA-Mn	142	Chal insu3
10	2700	QMA	142	McLane
11	4000	SUPOR	293	Chal ULB2
12	4000	QMA-Mn	142	Chal insu2
13	4000	QMA	142	McLane

1	30	SUPOR	293	Chal ULB1
2	30	QMA	142	McLane
3	75	QMA	142	McLane
4	80	SUPOR	293	Chal insu5
5	130	QMA	142	McLane
6	130	SUPOR	293	Chal insu6
7	175	QMA	142	Chal insu1
8	200	SUPOR	293	Chal Elisabet
9	250	QMA	142	Chal insu2
10	400	SUPOR	293	Chal ULB2
11	500	QMA	142	Chal insu3
12	620	QMA	142	Chal insu4

NAME : SUPER station 4 / ISP 9

QMA

date : 11/3/2008

start time (TU): 09:28 am

start lat: 51°53'

start lon: 00°00'

site : S4

stop time (TU): 03:49 pm

Pump		depth (m)	P. CorrD	volume (l)	fract (μ)	SSM #	comments	cartridge
INSU 1	1	30		-20	53	-	no sampling	no
					1	-	no sampling	no
INSU 7	2	100		629	53	M 91	well colored, yellow	no
					1	M92	well colored, yellow homogenous	no
INSU 2	3	125		765	53	M 93	well colored, yellow	no
					1	M 94	charged and homogenous again	no
McLane 1	4	240		1	53	-	no sampling	no
					1	-	no sampling	no
INSU 3	5	749		1209	53	M 95	very clear	no
					1	M 96	clear yellow	no
McLane 2	6	1685		1012	53	M 97	very clear	no
					1	M 98	again colored !!	no
McLane 3	7	2468		942	53	M 99	very clear	no
					1	M 100	again colored !!	no

Prefilter 53μ: pumps 2, 3 = 25% 234Th, CS, 14C, Po each / pumps 5, 6, 7 = 33,3% 234Th, 14C, Po each

filter QMA 1μ: 8 punches for Po-210Pb, 1 punch for 234Th, 6 punches 14C (+ punch 1 pour Ula depth 100m), rest for compound specifics

Campagne : BONUS GOODHOPE 2008

Station :

N° de palanquée : ISP 9

Operators :

SAMPLING

RESET Poulie when line at the sea surface

Total wire out (m)	4400
Wire out, when microcat is attached (m)	1593

(≥ total wire out -3300)

microcat depth **2807**

Sample #	Target depth (m)	Pump #	filter holder	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity,	cartridge	initial volume	final volume	filtered volume	bag #	pump comments	filter comments
1	20	INSU 1		2508	petex	QMA 142							
2	30	INSU 6	insu 293	2498		SUPOR 293							
3	115	INSU 7		2413	petex	QMA 142							
4	140	INSU 2		2388	petex	QMA 142							
5	250	ULB 2	ulb2	2278		SUPOR 293							
6	300	McLane1		2228	petex	QMA 142							
7	400	Eli	Eli	2128		SUPOR 293							
8	500	INSU 4	ulb1	2028		SUPOR 293							
9	700	INSU 3		1828	petex	QMA 142							
10	1500	INSU 5	insu 293	1028		SUPOR 293							
11	2300	McLane2		228	petex	QMA 142							
12	2500	McLane3		28	petex	QMA 142							
	2550	microcat		-22									

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :
go down to		2535

1128	INSU 5	insu 293	1400		SUPOR 293	
400	McLane3		2128	petex	QMA 142	

Campagne : BONUS GOODHOPE 2008

Station : SUPER 4

N° de palanquée : ISP 9

Operators :

TREUIL

RESET Poulie when line at the sea surface

Total wire out (m)		2535
Wire out, when microcat is attached (m)		0

(≥ total wire out -3300)
microcat depth **2535**

Sample #	Target depth (m)	Pump #	filter holder	Wire out, when pump attached (m)	Wire out, when pump attached (dBar)	Prefilter	Filter type, size and porosity, or cartridge	cartridge
1	30	INSU 1		2498		petex	QMA 142	
2	60	INSU 6	insu 293	2468			SUPOR 293	
3	100	INSU 7		2428		petex	QMA 142	
4	125	INSU 2		2403		petex	QMA 142	
5	170	ULB2	ulb2	2358			SUPOR 293	
6	250	McLane 1		2278		petex	QMA 142	
7	250	Eli	eli	2278			SUPOR 293	
8	420	INSU 4	ulb1	2108			SUPOR 293	
9	749	INSU 3		1779		petex	QMA 142	
10	1128	INSU 5	insu 293	1400			SUPOR 293	
11	1685	McLane 2		843		petex	QMA 142	
12	2468	McLane 3		60		petex	QMA 142	
	2528	microcat		0				

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :
go down to		2535

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

Station : SUPER 5

N° de palanquée : ISP 10

Operators : Tisnerat-Lacan-Cavagna

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Date (UTC) : 16 / 03 / 2008

Heure debut (UTC) : 08:05 am

Heure fin (UTC) : 03:20 pm

Latitude (° ') : 57 ° 33.14' S

Longitude (° ') : 00 ° 02.19' E

Bottom Depth (m) : 3944 m

RESET Pulley when line at the sea surface

Total wire out (m)	3921
Wire out, when microcat is attached (m)	914

microcat depth

(≥ total wire out -3300)

3007

PUMPING = 02:00

1 punch = diameter of 25.3 mm

Microcat maximum depth is 3500m. Maximum target depth for microcat is 3300m.

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	Parameters to be measured	persons in charge	prefilter %	filter %
1	50	McLane 1	3864	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	25%	6 punches	compound specifics 234Th	Cavagna Planchon	50%	all the rest
2	90	McLane 2	3824	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	25%	6 punches	compound specifics 234Th	Cavagna Planchon	50%	all the rest
3	125	INSU 2	3789	petex 53µ	QMA 142mm 1µm	Y	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
4	650	INSU 5	3264	petex 53µ	QMA 142mm 1µm	Y	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
5	1200	INSU 7	2714	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
6	1800	INSU 6	2114	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
7	2000	INSU 1	1914	petex 53µ	QMA 142mm 1µm	Y	-	-	-	-	-	-	-	-
8	2500	INSU 3	1414	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 5

N° de palanquée : ISP 10

Date (UTC) : 16 / 03 / 2008

Latitude (° ') : 57 ° 33.14' S

Heure debut (UTC) : 08:05 am

Longitude (° ') : 00 ° 02.19' E

9	3200	Eli	714	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	> 5 / 6	Bsi, 30Si	Cardinal	-	> 1 / 6
10	3874	ULB 2	40	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	> 5 / 6	Bsi, 30Si	Cardinal	-	> 1 / 6
11	3884	McLane 3	30	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
12	3894	INSU 4	20	petex 53µ	QMA 142mm 1µm	Y	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	Parameters to be measured	persons in charge	prefilter %	filter %
1	50	McLane 1	3864	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	25%	8 punches	alkenones	Ezzat	-	1 punch
2	90	McLane 2	3824	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	25%	8 punches	-	-	-	-
3	125	INSU 2	3789	petex 53µ	QMA 142mm 1µm	Y	Po Pb210	Verdeny	33%	8 punches	Radium	Verdeny	-	-
4	650	INSU 5	3264	petex 53µ	QMA 142mm 1µm	Y	Po Pb210	Verdeny	33%	8 punches	Radium	Verdeny	-	-
5	1200	INSU 7	2714	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
6	1800	INSU 6	2114	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
7	2000	INSU 1	1914	petex 53µ	QMA 142mm 1µm	Y	-	-	-	-	Radium	Verdeny	-	-
8	2500	INSU 3	1414	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
9	3200	Eli	714	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
10	3874	ULB 2	40	-	SUPOR 293mm 0.45µm	-	-	-	-	-	-	-	-	-
11	3884	McLane 3	30	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	8 punches	-	-	-	-
12	3894	INSU 4	20	petex 53µ	QMA 142mm 1µm	Y	Po Pb210	Verdeny	33%	8 punches	Radium	Verdeny	-	-

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 5

N° de palanquée : ISP 10

Date (UTC) : 16 / 03 / 2008

Latitude (° ') : 57 ° 33.14' S

Heure debut (UTC) : 08:05 am

Longitude (° ') : 00 ° 02.19' E

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	initial volume	final volume	Filtered volume (L) read on the pump	pumping duration (min)	Effective depth (m) calculated from microcat data	Comments
1	50	McLane 1	3864	petex 53µ	QMA 142mm 1µm	-	6039	6697	658	set to 2h	0,0	
2	90	McLane 2	3824	petex 53µ	QMA 142mm 1µm	-	14848	15637	789	set to 2h	0,0	
3	125	INSU 2	3789	petex 53µ	QMA 142mm 1µm	Y	40547	41202	655	set to 2h	0,0	
4	650	INSU 5	3264	petex 53µ	QMA 142mm 1µm	Y	122051	122677	626	set to 2h	0,0	
5	1200	INSU 7	2714	-	SUPOR 293mm 0.45µm	-	66302	66291	-11	set to 2h	0,0	no puming
6	1800	INSU 6	2114	-	SUPOR 293mm 0.45µm	-	124032	124373	341	set to 2h	0,0	
7	2000	INSU 1	1914	petex 53µ	QMA 142mm 1µm	Y	85497	85434	-63	set to 2h	0,0	no puming
8	2500	INSU 3	1414	-	SUPOR 293mm 0.45µm	-	53495	54734	1239	set to 2h	0,0	
9	3200	Eli	714	-	SUPOR 293mm 0.45µm	-	54528	55620	1092	set to 2h	0,0	
10	3874	ULB 2	40	-	SUPOR 293mm 0.45µm	-	92550	93388	838	set to 2h	0,0	
11	3884	McLane 3	30	petex 53µ	QMA 142mm 1µm	-	13613	14532	919	set to 2h	0,0	
12	3894	INSU 4	20	petex 53µ	QMA 142mm 1µm	Y	60485	61950	1465	set to 2h	0,0	

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 5

N° de palanquée : ISP 10

Date (UTC) : 16 / 03 / 2008

Latitude (° ') : 57 ° 33.14' S

Heure debut (UTC) : 08:05 am

Longitude (° ') : 00 ° 02.19' E

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :

go down to

3921 m

profondeur du microcat:

3921 m

alpha: angle entre verticale et cable (si cable rectiligne)

cos (alpha) = pinger or microcat depth / cable length

alpha= 90,00 °

1	75	Ra	
2	250	Ra	
3	620	Ra	
4	1400	Nd	293
5	1400	Ra	
6	1400	C14	
7	2700	Nd	293
8	2700	Ra	
9	2700	C14	
10	4000	Nd	293
11	4000	Ra	
12	4000	C14	
13			

1	30	N	293
2	30	C14	
3	75	C14	
4	80	N	142
5	130	C14	
6	130	N	293
7	175	C14	
8	200	N	293
9	250	C14	
10	400	N	293
11	620	N	293
12	620	C14	
13			

	filtre	diametre	pompe	
1	75	QMA-Mn	142	Chal insu6
2	620	SUPOR	293	Chal ULB1
3	620	QMA-Mn	142	Chal insu4
4	1400	SUPOR	293	Chal insu5
5	1400	QMA-Mn	142	Chal insu1
6	1400	QMA	142	McLane
7	2000	SUPOR	293	Chal insu7
8	2700	SUPOR	293	Chal Elisabet
9	2700	QMA-Mn	142	Chal insu3
10	2700	QMA	142	McLane
11	4000	SUPOR	293	Chal ULB2
12	4000	QMA-Mn	142	Chal insu2
13	4000	QMA	142	McLane

1	30	SUPOR	293	Chal ULB1
2	30	QMA	142	McLane
3	75	QMA	142	McLane
4	80	SUPOR	293	Chal insu5
5	130	QMA	142	McLane
6	130	SUPOR	293	Chal insu6
7	175	QMA	142	Chal insu1
8	200	SUPOR	293	Chal Elisabet
9	250	QMA	142	Chal insu2
10	400	SUPOR	293	Chal ULB2
11	500	QMA	142	Chal insu3
12	620	QMA	142	Chal insu4

NAME : SUPER station 5 / ISP 10

QMA

date : 10/3/2008

start time (TU): 08:05 am start lat: 57°33.14'

start lon: 00°02.19'

site : S5

stop time (TU): 03:20 pm

Pump		depth (m)	P. CorrD	volume (l)	fract (μ)	SSM #	comments	cartridge
McLane 1	1	50		658	53	M 101	really well charged and yellow	no
					1	M 102	yellow	no
McLane 2	2	90		789	53	M 103	again well charged (but less than M 101)	no
					1	M 104	yellow	no
McLane 3	3	3884		919	53	M 105	very clear, like a blank	no
					1	M 106	yellow very clear	no
INSU 4	4	3894		1465	53	M 107	same than M 105	yes
					1	M 108	same than M 106	yes
INSU 5	5	650		629	53	M 109	very clear several foraminifers	yes
					1	M 110	tellow brown clear	yes
INSU 2	6	125		655	53	M 111	again well charged ! several foraminifers	yes
					1	M 112	yellow	yes
INSU 1	7	1200		-61	53	-	-	no
					1	-	-	no

Prefilter 53μ: pumps 1, 2 = 25% 234Th, CS, 14C, Po each / pumps 3, 5, 6 = 33,3% 234Th, 14C, Po each

filter QMA 1μ: 8 punches for Po-210Pb, 1 punch for 234Th, 6 punches 14C (sauf pour les points 30 et 75 m = 6 pour Nadine + 1 pour Ula), rest for compound specifics

Note 1 : M 109 forma' dried for belgian team, M 111 foram' for Nadine (to determine which specie it is)

Note 2: M 106 is less colored than precedent bottom points (nepheloids)

Campagne : BONUS GOODHOPE 2008

Station : SUPER 5

N° de palanquée : ISP 10

Operators :

SAMPLING

RESET Poulie when line at the sea surface

Total wire out (m)			3921
Wire out, when microcat is attached (m)			914

(≥ total wire out -3300)

microcat depth 3000

Sample #	Target depth (m)	Pump #	filter holder	Wire out, when pump attached (m)	Prefilter	Filter type, size and porisity,	cartridge	initial volume	final volume	filtered volume	bag #	pump comments	filter comments
1	50	McLane 1		3864	petex	QMA 142							
2	90	McLane 2		3824	petex	QMA 142							
3	125	INSU 2		3789		QMA 142	Y						
4	650	INSU 5		3264	petex	QMA 142	Y						
5	1200	INSU7	insu	2714		SUPOR 293							
6	1800	INSU6	insu	2114		SUPOR 293							
7	2000	INSU 1		1914	petex	QMA 142	Y						
8	2500	INSU3	insu	1414		SUPOR 293							
microcat	3000			914									
9	3200	Eli	Eli	714		SUPOR 293							
10	3874	ULB2	ULB2	40		SUPOR 293							
11	3884	McLane 3		30		QMA 142							
12	3894	INSU 4		20	petex	QMA 142	Y						

Microcat data at the maximum microcat depth

P (dbar) :	S :	T (° C) :
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go down to

3921

FOND: 3944 m

Campagne : BONUS GOODHOPE 2008

Station : SUPER 5
 N° de palanquée : ISP 10
 Operators :

TREUIL

RESET Poulie when line at the sea surface

Total wire out (m)	3927
Wire out, when microcat is attached (m)	920

(≥ total wire out -3300)
 microcat depth **3000**

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge
1	50	McLane 1	3870	petex	QMA 142	
2	90	McLane 2	3830	petex	QMA 142	
3	125	INSU 2	3795		QMA 142	Y
4	650	INSU 5	3270	petex	QMA 142	Y
5	1200	INSU7	2720		SUPOR 293	
6	1800	INSU6	2120		SUPOR 293	
7	2000	INSU 1	1920	petex	QMA 142	Y
8	2500	INSU3	1420		SUPOR 293	
microcat	3000		920			
9	3200	Eli	720		SUPOR 293	
10	3880	ULB2	40		SUPOR 293	
11	3890	McLane 3	30		QMA 142	
12	3900	INSU 4	20	petex	QMA 142	Y

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :

go down to

3927

3930
3940

FOND: 3950 m

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

Station : SUPER 5

N° de palanquée : ISP 11

Operators : Tisnerat-Lacan-Cavagna

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Date (UTC) : 17 / 03 / 2008

Heure debut (UTC) : 00:15 am

Heure fin (UTC): 07:55 am

Latitude (° ') : 57 ° 33.08 ' S

Longitude (° ') : 00 ° 03.03 ' E

Bottom Depth (m) : m

RESET Pulley when line at the sea surface

PUMPING = 02:00

1 punch = diameter of 25.3 mm

Microcat maximum depth is 3500m. Maximum target depth for microcat is 3300m.

Total wire out (m)	2607
Wire out, when microcat is attached (m)	50

(≥ total wire out -3300)
microcat depth **2557**

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	Parameters to be measured	persons in charge	prefilter %	filter %
1	20	INSU 1	2580	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	25%	6 punches	compound specifics 234Th	Cavagna Planchon	50%	all the rest
2	30	INSU 4	2570	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
3	115	McLane 1	2485	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	25%	6 punches	compound specifics 234Th	Cavagna Planchon	50%	all the rest
4	140	INSU 6	2460	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
5	250	Eli	2350	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
6	300	McLane 2	2300	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
7	400	INSU 3	2200	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
8	500	INSU 2	2100	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 5

N° de palanquée : ISP 11

Date (UTC) : 17 / 03 / 2008

Heure debut (UTC) : 00:15 am

Latitude (° ') : 57 ° 33.08 ' S

Longitude (° ') : 00 ° 03.03 ' E

9	700	ULB 2	1900	-	SUPOR 293mm 0.45µm	-	Nd, Pa, Th	Lacan	-	» 5 / 6	Bsi, 30Si	Cardinal	-	» 1 / 6
10	1500	McLane 3	1100	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
11	2300	INSU 5	300	petex 53µ	QMA 142mm 1µm	Y	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest
12	2500	INSU 7	100	petex 53µ	QMA 142mm 1µm	-	14, 13, 12 C POC	Tisnerat	33%	6 punches	compound specifics 234Th	Cavagna Planchon	33%	all the rest

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porisity, or cartridge	cartridge	Parameters to be measured	persons in charge	prefilter %	filter %	initial volume	final volume	Filtered volume (L) read on the pump	pumping duration (min)
1	20	INSU 1	2580	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	25%	8 punches	85434	85434	0	set to 2h
2	30	INSU 4	2570	-	SUPOR 293mm 0.45µm	-	-	-	-	-	61950	62364	414	set to 2h
3	115	McLane 1	2485	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	25%	8 punches	6697	6697	0	set to 2h
4	140	INSU 6	2460	-	SUPOR 293mm 0.45µm	-	-	-	-	-	124332	125351	1019	set to 2h
5	250	Eli	2350	-	SUPOR 293mm 0.45µm	-	-	-	-	-	55620	56703	1083	set to 2h
6	300	McLane 2	2300	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	8 punches	15637	16628	991	set to 2h
7	400	INSU 3	2200	-	SUPOR 293mm 0.45µm	-	-	-	-	-	54734	55403	669	set to 2h
8	500	INSU 2	2100	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	8 punches	41202	42724	1522	set to 2h
9	700	ULB 2	1900	-	SUPOR 293mm 0.45µm	-	-	-	-	-	93389	93532	143	set to 2h
10	1500	McLane 3	1100	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	8 punches	14232	15491	1259	set to 2h

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 5

N° de palanquée : ISP 11

Date (UTC) : 17 / 03 / 2008

Latitude (° ') : 57 ° 33.08 ' S

Heure debut (UTC) : 00:15 am

Longitude (° ') : 00 ° 03.03 ' E

11	2300	INSU 5	300	petex 53µ	QMA 142mm 1µm	Y	Po, Pb210, radium (cartidge)	Verdeny	33%	8 punches	122677	124414	1737	set to 2h
12	2500	INSU 7	100	petex 53µ	QMA 142mm 1µm	-	Po Pb210	Verdeny	33%	8 punches	166294	166208	-86	set to 2h

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-INSU-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porisity, or cartridge	cartridge	Effective depth (m) calculated from microcat data	Comments
1	20	INSU 1	2580	petex 53µ	QMA 142mm 1µm	-	0,0	no puming
2	30	INSU 4	2570	-	SUPOR 293mm 0.45µm	-	0,0	
3	115	McLane 1	2485	petex 53µ	QMA 142mm 1µm	-	0,0	no puming
4	140	INSU 6	2460	-	SUPOR 293mm 0.45µm	-	0,0	
5	250	Eli	2350	-	SUPOR 293mm 0.45µm	-	0,0	
6	300	McLane 2	2300	petex 53µ	QMA 142mm 1µm	-	0,0	
7	400	INSU 3	2200	-	SUPOR 293mm 0.45µm	-	0,0	
8	500	INSU 2	2100	petex 53µ	QMA 142mm 1µm	-	0,0	
9	700	ULB 2	1900	-	SUPOR 293mm 0.45µm	-	0,0	
10	1500	McLane 3	1100	petex 53µ	QMA 142mm 1µm	-	0,0	
11	2300	INSU 5	300	petex 53µ	QMA 142mm 1µm	Y	0,0	
12	2500	INSU 7	100	petex 53µ	QMA 142mm 1µm	-	0,0	no puming

Campagne : BONUS GOODHOPE 2008

Navire : R/V Marion Dufresne

FICHE PRELEVEMENT IN SITU PUMPS (ISP)

Station : SUPER 5

N° de palanquée : ISP 11

Date (UTC) : 17 / 03 / 2008

Heure debut (UTC) : 00:15 am

Latitude (° ') : 57 ° 33.08 ' S

Longitude (° ') : 00 ° 03.03 ' E

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :

go down to **2607 m**

profondeur du microcat: m

alpha: angle entre verticale et cable (si cable rectiligne)

cos (alpha) = pinger or microcat depth / cable length

alpha= 90,00 °

1	75	Ra	
2	250	Ra	
3	620	Ra	
4	1400	Nd	293
5	1400	Ra	
6	1400	C14	
7	2700	Nd	293
8	2700	Ra	
9	2700	C14	
10	4000	Nd	293
11	4000	Ra	
12	4000	C14	
13			

1	30	Nd	293
2	30	C14	
3	75	C14	
4	80	Nd	142
5	130	C14	
6	130	Nd	293
7	175	C14	
8	200	Nd	293
9	250	C14	
10	400	Nd	293
11	620	Nd	293
12	620	C14	
13			

	filtre	diametre	pompe	
1	75	QMA-Mn	142	Chal insu6
2	620	SUPOR	293	Chal ULB1
3	620	QMA-Mn	142	Chal insu4
4	1400	SUPOR	293	Chal insu5
5	1400	QMA-Mn	142	Chal insu1
6	1400	QMA	142	McLane
7	2000	SUPOR	293	Chal insu7
8	2700	SUPOR	293	Chal Elisabet
9	2700	QMA-Mn	142	Chal insu3
10	2700	QMA	142	McLane
11	4000	SUPOR	293	Chal ULB2
12	4000	QMA-Mn	142	Chal insu2
13	4000	QMA	142	McLane

1	30	SUPOR	293	Chal ULB1
2	30	QMA	142	McLane
3	75	QMA	142	McLane
4	80	SUPOR	293	Chal insu5
5	130	QMA	142	McLane
6	130	SUPOR	293	Chal insu6
7	175	QMA	142	Chal insu1
8	200	SUPOR	293	Chal Elisabet
9	250	QMA	142	Chal insu2
10	400	SUPOR	293	Chal ULB2
11	500	QMA	142	Chal insu3
12	620	QMA	142	Chal insu4

NAME : SUPER station 5 / ISP 11

QMA

date : 17/3/2008

start time (TU): 00:15 am

start lat: 57°33.08'

start lon: 00°03.03'

site : S5

stop time (TU): 07:55 am

Pump		depth (m)	P. CorrD	volume (l)	fract (μ)	SSM #	comments	cartridge
INSU 1	1	20		0	53	Bik INSU	blank	yes
					1	Bik INSU	blank	yes
McLane 1	2	115		0	53	Bik McLane	blank	yes
					1	Bik McLane	blank	yes
McLane 2	3	300		991	53	M 113	very clear	yes
					1	M 114	well yellow	yes
INSU 2	4	500		1522	53	M 115	very clear + 2 foraminifers	yes
					1	M 116	again well colored	yes
McLane 3	5	1500		1259	53	M 117	very clear nothing	yes
					1	M 118	clear yellow	yes
INSU 5	6	2300		1737	53	M 119	nothing	no
					1	M 120	very clear yellow	no
INSU 7	7	2500		-14	53	M 121	-	yes
					1	M 122	-	yes

Prefilter 53 μ : pumps 1, 2 = 25% 234Th, CS, 14C, Po each / pumps 3, 5, 6 = 33,3% 234Th, 14C, Po each

filter QMA 1 μ : 8 punches for Po-210Pb, 1 punch for 234Th, 6 punches 14C, rest for compound specifics

Campagne : BONUS GOODHOPE 2008

Station : SUPER 5

TREUIL

N° de palanquée : ISP 11

Operators :

RESET Poulie when line at the sea surface

Total wire out (m)	2607
Wire out, when microcat is attached (m)	50

(≥ total wire out -3300)
microcat depth **2550**

Sample #	Target depth (m)	Pump # (e.g. McLane-1, Challenger-2)	Wire out, when pump attached (m)	Prefilter	Filter type, size and porosity, or cartridge	cartridge
1	20	INSU 1	2580	petex	QMA 142	
2	30	INSU4	2570		SUPOR 293	
3	115	McLane1	2485	petex	QMA 142	
4	140	INSU6	2460		SUPOR 293	
5	250	Eli	2350		SUPOR 293	
6	300	McLane2	2300	petex	QMA 142	
7	400	INSU3	2200		SUPOR 293	
8	500	INSU 2	2100	petex	QMA 142	
9	700	ULB2	1900		SUPOR 293	
10	1500	McLane3	1100	petex	QMA 142	
11	2300	INSU5	300	petex	QMA 142	
12	2500	INSU 7	100	petex	QMA 142	
microcat	2550		50			

Microcat data at the maximum microcat depth		
P (dbar) :	S :	T (° C) :

go down to

2607

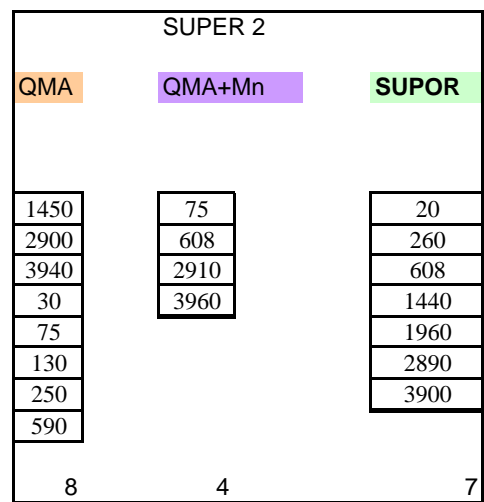
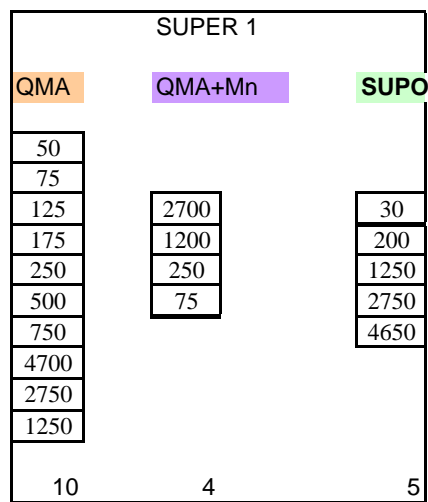
Campagne : BONUS GOODHOPE 2008

PERFORMANCE

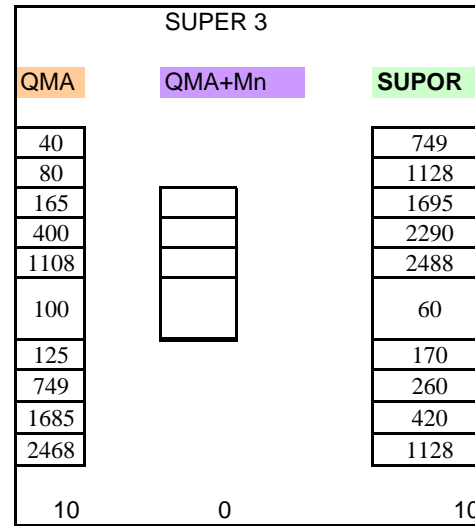
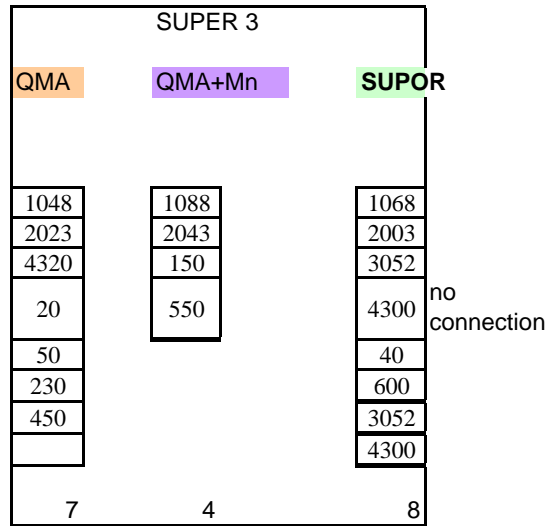
	IPS1	ISP2	ISP3	ISP4	ISP5	ISP6	ISP7	ISP8	ISP9	ISP10	ISP11
Challenger INSU 1	1		1	0	0	1	0	1	0	0	0
Challenger INSU 2	1		0	1	1	1	0	1	1	1	1
Challenger INSU 3	1		0	1	1	1	1	1	1	1	1
Challenger INSU 4	1		1	1	1	1	1	1	1	1	1
Challenger INSU 5		1	1	1	1	1	1	1	1	1	1
Challenger INSU 6		1	1	1	1	1	1	1	1	1	1
Challenger INSU 7		0		1	0	0	1	0	1	0	0
Challenger ULB 1		0		0							
Challenger ULB 2		1		1	1	1	1	1	1	1	1
Challenger Elisabet		1		0	1	0	1	1	1	1	1
McLane INSU 1	1	1	1	1	1	0	1	0	0	1	0
McLane INSU 2	1	1	0	1	1	1	1	1	1	1	1
McLane INSU 3	1	1	1	1	1	1	1	1	1	1	1

40% inverse pumping
 80% inverse pumping
 90%
 100% Chal
 100%
 100%
 33% no pumping
 0% no pumping
 100%
 78% pump 13L
 64% McLane
 91%
 100%

piles 82% supor 88% batteries : noir QMA+cartouche
 accu 75% QMA 93% piles : bleu Supor
 QMA+cartouche 77% QMA



Anju 14 12
 Nadine 10 et peut etre 14 8 et peut etre 12
 Eli 4 4
 Francois et Damien 5 7



Anju	11	
Nadine	7 et peut-etre	11
Eli	4	
Francois et Damien	7	

10
10
0
10