CRUISE MCAR 02028
(M1-02-NC)
MAR 1-6-2002

#105125

02028 Jmp

#105125 MCAR M1-01-NC
MCARTHUR 02028
Offshore San Francisco
February 28-March 6, 2002
I.Hartwell-NOAA/B.Edwards,M.tenBrink
SAMPLE LOG
(March 1-6, 2002)

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

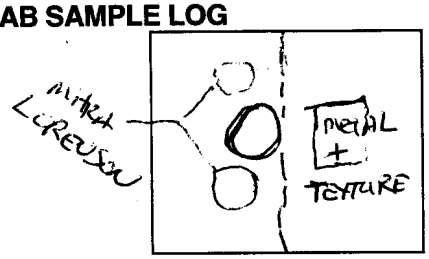
march 1-02

CHEM

STATION LOG page # 1

Recorded by	LUIGE TORRESAN		Station-cast ID	22G1
Processors			J Date and calendar date	
			Bottom Time (GMT or Local?)	@ 735pm
			Bottom Time (GMT or Local?)	~~[illegible]~~
Lon (GPS)	deg.	min.	Deck time (GMT or Local?)	
Lat (GPS)	deg.	min.	Wind/weather	very Low
Target Lon (GPS)	deg.	min.	Seas	Good - FLAT + SMOOTH
Target Lat (GPS)	deg.	min.	Time sub sampled	8-830pm
Water depth (m or ft)	~40m 50m		Salinity	

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 22G1 - FULL Box to Top

sed height (cm remaining)

Photo # 22G1

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)		(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	TENBRINK	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	EDWARDS	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	LORENSON	(0-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)	MITRA	(0-4 cm sample) glass/Tom	cold/freezer
Push Core	TENBRINK	8.8cm depth push core	cold/freezer

0-4cm - MITRA & Lorenson FREEZE

COMMENTS FOR ALL DEVICES:

Sample disturbance: Full Box. WORM visible minimal DISTURBANCE

Lithology: MUDDY SAND. VERY FINE SAND. TO DARK TO TELL COLOR

H2S odor: NO - NO SMEL

Biology: WORMS + WORM TUBES VISIBLE

Other: - WIRE READOUT ON WINCH NOT WORKING - 40m Depth 160m WIRE OUT

WIRE OUT ~~[illegible]~~ READOUT Repaired AFTER RECOVERY

NICE & EASY RECOVERY. NEED 3 people to SAMPLE MINIMUM.

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

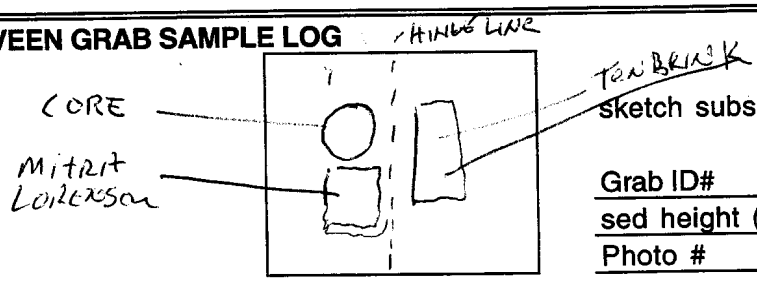
CHEM
STATION LOG page # 2

Station-cast ID 6161
J Date and calendar date 062 / 1030 LOCAL
Bottom Time (GMT or Local?) 062/1041 LOCAL
Bottom Time (GMT or Local?)
Deck time (GMT or Local?)
Wind/weather NO WIND FLAT SEAS, SUMMER!
Seas FLAT
Time sub sampled
Salinity

Recorded by M. KeT.
Processors Mike & DAN
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 65 m

Full Box

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 6161
sed height (cm remaining)
Photo # 6161

Subsample	Sample ID #
Organics/glass (250mL)	
Metals (spec vial)	Per cup
Texture (Ziploc)	6191
Organics (60mL)	61
Organics 2 (60mL)	61
Push Core 9.7 cm	

NO

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
9.7 cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:
Sample disturbance: NO
Lithology: MUDDY SAND
H2S odor: NO
Biology: WORMS; CLAMSHELL; TUBES
Other: NICE FULL GRAB

* SEA STATE: SMOOTH as a baby's ASS!
* MY TIMES are LOCAL - NO READOUT FOR GMT/JD IN LAB

* All Times Local All Depths in meters.

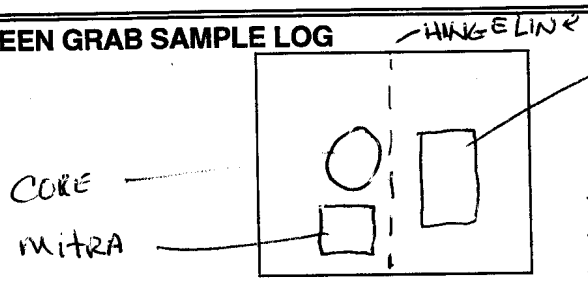
MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 3

Recorded by Mike Torresan
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 70m

Station-cast ID 60G1
J Date and calendar date 062 (March 3, 2002)
Bottom Time (GMT or Local?) 1214 Local
Bottom Time (GMT or Local?)
Deck time (GMT or Local?)
Wind/weather Warm & Sunny
Seas Flat
Time sub sampled 1220
Salinity yes

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 60G1
sed height (cm remaining)
Photo # 60G1 MCAR02020

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)		(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	1 Pet Cup	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	1 Whirlpak	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	1 Jar	(0-4 cm sample) glass/Sid M	cold/freezer
Organics 2 (60mL)	No	~~(2-4 cm sample) glass/Tom L~~	~~cold/freezer~~
Push Core	1 Core ~9.5cm long	9.5 cm depth push core	cold/freezer

Full Box -

COMMENTS FOR ALL DEVICES:
Sample disturbance: Minimal if any
Lithology: Muddy Fine Sand
H2S odor: No
Biology: Worms & Fish
Other: Gray Green Muddy Sand

Smooth seas; warm sunny day

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM

STATION LOG page # 4

Recorded by MIKE TORRESAN

Processors

Lon (GPS) -122 39.33 deg. min.

Lat (GPS) 37 26.86 deg. min.

Target Lon (GPS) deg. min.

Target Lat (GPS) deg. min.

Water depth (m or ft) 69.7m

Station-cast ID 4961

J Date and calendar date 062 / MARCH 3 2002

Bottom Time (GMT or Local?) ON STATION 1343

Bottom Time (GMT or Local?) 1346 LOCAL

Deck time (GMT or Local?)

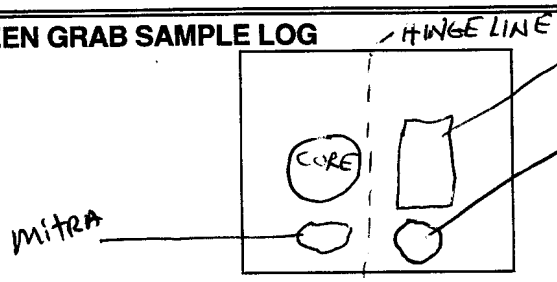
Wind/weather LIGHT WIND FROM WEST

Seas SMOOTH - MINIMAL SWELL

Time sub sampled

Salinity

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

MITRA

Grab ID# 4961

sed height (cm remaining)

Photo # 4961

Subsample	Sample ID #
Organics/glass (250mL)	
Metals (spec vial)	
Texture (Ziploc)	
Organics (60mL)	
Organics 2 (60mL)	
Push Core yes ~ 10.8cm	

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
~~(2-4 cm sample) glass/Tom~~	~~cold/freezer~~
10.8 cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:

Sample disturbance: NO

Lithology: FINE MUDDY SAND - DEEP OLIVE GREEN

H2S odor: NO

Biology: WORMS & TUBES

Other: Full Box

All Times LOCAL

All Depths in Meters

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

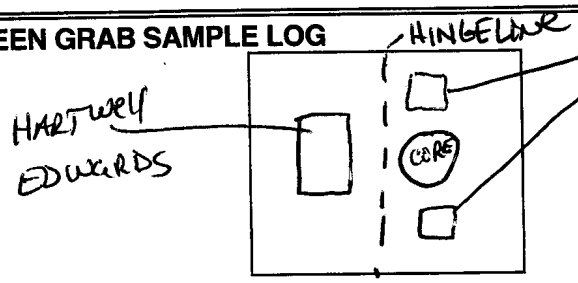
CHEM
STATION LOG page # 5

Recorded by			
Processors			
Lon (GPS)	deg.	min.	
Lat (GPS)	deg.	min.	
Target Lon (GPS)	deg.	min.	
Target Lat (GPS)	deg.	min.	
Water depth (m or ft)	62 m		

Station-cast ID	46G1
J Date and calendar date	MARCH 3 2002
Bottom Time (GMT or Local?)	
Bottom Time (GMT or Local?)	1424 LOCAL
Deck time (GMT or Local?)	
Wind/weather	LIGHT FROM WEST / WARM & SUNNY
Seas	SMOOTH
Time sub sampled	
Salinity	

ON STATION 1421 LOCAL

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 46G1
sed height (cm remaining)
Photo # 46G1

Subsample	Sample ID #
Organics/glass (250mL)	Y
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	Y
Organics 2 (60mL)	NO
Push Core	yes

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
~~(2-4 cm sample) glass/Tom~~	~~cold/freezer~~
9.7 cm depth push core	cold/freezer
*FORGOT EXACT	

COMMENTS FOR ALL DEVICES:

Sample disturbance:
Lithology: ~~SANDY~~ MUDDY FINE SAND DARK OLIVE GREEN - SAND VERY FIN
H2S odor: NO
Biology: WORMS + TUBES. CLAMSHELL
Other:

* LOCAL TIMES + DATES

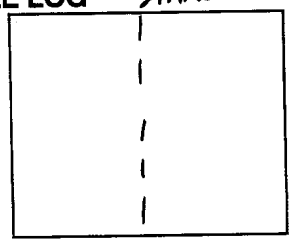
MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 6

Recorded by MIKE TORRESAN
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 67M

Station-cast ID 48G1
J Date and calendar date MARCH 3 2002
Bottom Time (GMT or Local?) ON STA 1639
Bottom Time (GMT or Local?)
Deck time (GMT or Local?)
Wind/weather WARM & SUNNY, MINIMAL WIND
Seas FLAT
Time sub sampled
Salinity

VAN VEEN GRAB SAMPLE LOG HINGE



sketch subsample placement

Grab ID# 48G1
sed height (cm remaining)
Photo # 48G1

Subsample	Sample ID #
Organics/glass (250mL)	Y
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	Y
Organics 2 (60mL)	N
Push Core	Y

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
~~(2-4 cm sample) glass/Tom~~	~~cold/freezer~~
~8 cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:
Sample disturbance:
Lithology:
H2S odor:
Biology:
Other:

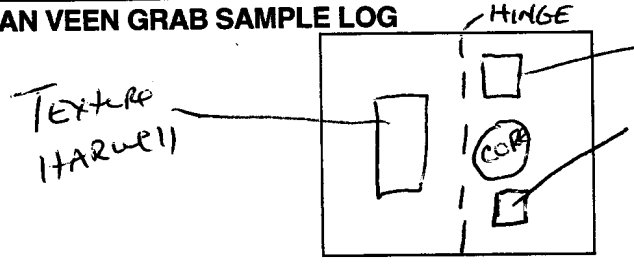
ALL TIMES LOCAL
* SKIP STATION 48 & GO TO 59 TO AVOID Whale Watchers.

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 7

Recorded by	MIKE TORRESAN		Station-cast ID	59G1
Processors			J Date and calendar date	
Lon (GPS)	deg.	min.	Bottom Time (GMT or Local?)	1604 ON STATION
Lat (GPS)	deg.	min.	Bottom Time (GMT or Local?)	1606 ON BOTTOM
Target Lon (GPS)	deg.	min.	Deck time (GMT or Local?)	
Target Lat (GPS)	deg.	min.	Wind/weather	LIGHT TO NIL. SUNNY & WARM
Water depth (m or ft)	72.5 m		Seas	FLAT
			Time sub sampled	
			Salinity	

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 59G1
sed height (cm remaining)
Photo # 59G1

Subsample	Sample ID #
Organics/glass (250mL)	
Metals (spec vial)	
Texture (Ziploc)	
Organics (60mL)	
Organics [redacted] (60mL)	
Push Core	yes 8.7 cm

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
~~([redacted]-4 cm sample) glass/Sid~~	cold/freezer
([redacted]-4 cm sample) glass/[redacted] SID	cold/freezer
8.7 cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:

Sample disturbance: MINIMAL,
Lithology: MUDDY U. FINE SAND DARK GREY
H2S odor: NO
Biology: WORM & STRANGE BRITTLE STAR TUBES
Other:

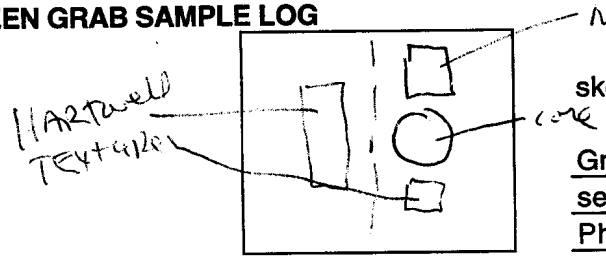
ALL DATES & TIME LOCAL

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 8

Recorded by	Mike Jonson		Station-cast ID	43G1
Processors			J Date and calendar date	March 3
Lon (GPS)	deg.	min.	~~Bottom~~ Time (GMT or Local?)	1845 ON STA
Lat (GPS)	deg.	min.	Bottom Time (GMT or Local?)	1846 ON Bottom
Target Lon (GPS)	deg.	min.	Deck time (GMT or Local?)	
Target Lat (GPS)	deg.	min.	Wind/weather	NIT
Water depth (m or ft)	55 M		Seas	FLAT
			Time sub sampled	
			Salinity	

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 43G1
sed height (cm remaining)
Photo # 43

Subsample	Sample ID #
Organics/glass (250mL)	Y
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	Y
Organics 2 (60mL)	N
Push Core	Y

8+ cm – IRREGULAR SURFACE

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(2-4 cm sample) glass/Sid	cold/freezer
~~(2-4 cm sample) glass/Tom~~	cold/freezer
8 cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:

Sample disturbance: Yes
Lithology: GREEN MUDDY FINE SAND
H2S odor: NO
Biology: WORMS OPITER.
Other:

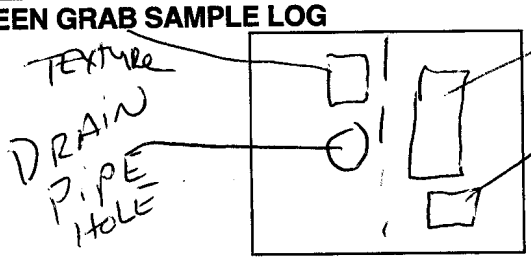
ALL TIMES & DATES LOCAL

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 9

Recorded by	M.T.		Station-cast ID	30 G1
Processors			J Date and calendar date	MAR 3 2002
Lon (GPS)	deg.	min.	Bottom Time (GMT or Local?)	
Lat (GPS)	deg.	min.	Bottom Time (GMT or Local?)	1919G1/1933G2
Target Lon (GPS)	deg.	min.	Deck time (GMT or Local?)	
Target Lat (GPS)	deg.	min.	Wind/weather	NiL
Water depth (m or ft)	46.8m		Seas	FLAT
			Time sub sampled	
			Salinity	

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 30G2

sed height (cm remaining)

Photo # 30G2 - POOR SHOT I'm A Lousy Photographer

Subsample	Sample ID #
Organics/glass (250mL)	Y
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	Y
Organics 2 (60mL)	Y
Push Core	~~Y~~ NO CORE

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
0-4 cm sample) glass/Sid	cold/freezer
0-4 cm sample) glass/Tom	cold/freezer
X cm depth push core	cold/freezer

Poor Recovery on 30G1
Re-deploy 30G2

COMMENTS FOR ALL DEVICES:

Sample disturbance: yes
Lithology: Green muddy SAND - 30G1 SANDIER THAN PRIOR STA
H2S odor: NO
Biology: yes WORMS
Other:

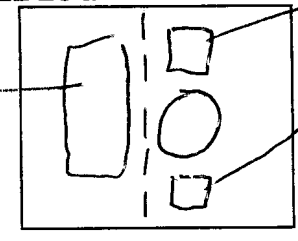
Dates & Times LOCAL

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 10

Station-cast ID	42 G1			
J Date and calendar date	3-3-02			
Recorded by	MT		STA[redacted]n Time (GMT or Local?)	2114
Processors			Bottom Time (GMT or Local?)	2115
Lon (GPS)	deg.	min.	Deck time (GMT or Local?)	
Lat (GPS)	deg.	min.	Wind/weather	NIL
Target Lon (GPS)	deg.	min.	Seas	FLAT
Target Lat (GPS)	deg.	min.	Time sub sampled	
Water depth (m or ft)	47.7m		Salinity	yes

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement
MITRA/LORENSON

Grab ID# 42G1
sed height (cm remaining)
Photo # 42

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	Y	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	Y	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	Y	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	Y	(2-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)	Y	(2-4 cm sample) glass/Tom	cold/freezer
Push Core		___ cm depth push core	cold/freezer

2/3 – 3/4 Full Box – SANDY LIKE 42
BOX HIGH IN CENTER; LOW ON SIDES

– PROFILE

COMMENTS FOR ALL DEVICES:
Sample disturbance: [redacted] DEFINITE
Lithology: GREEN SLIGHLY MUDDY SAND
H2S odor: NO
Biology: WORMS, STAR
Other:

ALL TIMES + DATES LOCAL

Push Core IRREGular

– 6.5cm
42cm

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

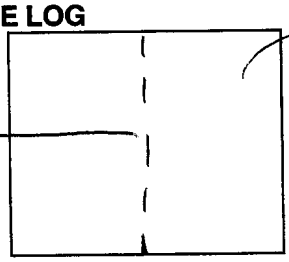
CHEM
STATION LOG page # 11

Recorded by	M.T.		
Processors			
Lon (GPS)	deg.	min.	
Lat (GPS)	deg.	min.	
Target Lon (GPS)	deg.	min.	
Target Lat (GPS)	deg.	min.	
Water depth (m or ft)	38.2		

Station-cast ID	116G1 - N/R
J Date and calendar date	March 3 2002
~~Bottom~~ Time (GMT or Local?)	2154
Bottom Time (GMT or Local?)	2156
Deck time (GMT or Local?)	
Wind/weather	NIL / NICE
Seas	FLAT
Time sub sampled	
Salinity	

VAN VEEN GRAB SAMPLE LOG

Two antenna-like structure - sample drained on deck



Box only 2/3 Full @ most

sketch subsample placement

Grab ID# 38
sed height (cm remaining)
Photo #

Subsample	Sample ID #
Organics/glass (250mL)	Y
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	NO
Organics 2 (60mL)	NO
Push Core	

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(2-4 cm sample) glass/Sid	cold/freezer
(2-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

116G1 - Brought up w/ critter (star fish?) trapped & (leaked) out on deck. - Ruined sample - Redeploy.

COMMENTS FOR ALL DEVICES:

Sample disturbance:
Lithology: GREEN ~~[illegible]~~ MUDDY SAND
H2S odor: NO
Biology: WORMS, TUBES, STAR -
Other:

All times & dates local

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 12

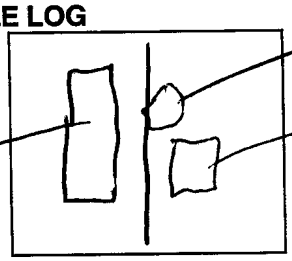
Station-cast ID	116G2		
J Date and calendar date	March 3, 2002		
Bottom Time (GMT or Local?)			
Bottom Time (GMT or Local?)	2210		
Deck time (GMT or Local?)			
Wind/weather	NIL / NICE		
Seas	FLAT		
Time sub sampled			
Salinity			

Recorded by		
Processors		
Lon (GPS)	deg.	min.
Lat (GPS)	deg.	min.
Target Lon (GPS)	deg.	min.
Target Lat (GPS)	deg.	min.
Water depth (m or ft)	38.2	

VAN VEEN GRAB SAMPLE LOG

PIPE HOLE FROM DRAINAGE.

METALS
~~[illegible]~~
HARTWELL



sketch subsample placement

TEXTURE

Grab ID# 116G2
sed height (cm remaining)
Photo # 116

Subsample	Sample ID #
Organics/glass (250mL)	
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	N
Organics 2 (60mL)	N
Push Core	NO

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

BOX <2/3 FULL. - NO CORE

COMMENTS FOR ALL DEVICES:

Sample disturbance:
Lithology: ~~[illegible]~~ SLIGHTLY MUDDY FINE SAND (GRAY-GREEN)
H2S odor:
Biology: SNAILS; WORMS; - SHRIMPLIKE CRITTERS -
Other:

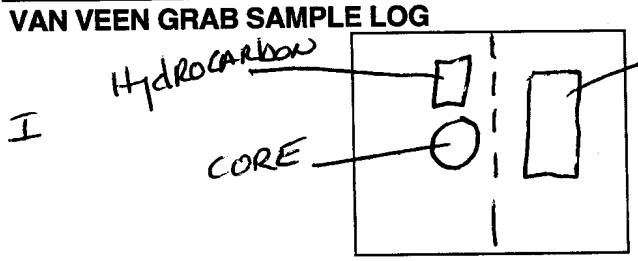
ALL DATES & TIMES LOCAL

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 13

Station-cast ID	103 G1		
J Date and calendar date	MARCH 4 2002		
Recorded by	M. TORRESAN	Bottom Time (GMT or Local?)	
Processors		Bottom Time (GMT or Local?)	0118 ?
Lon (GPS)	deg. min.	Deck time (GMT or Local?)	
Lat (GPS)	deg. min.	Wind/weather	NO WIND / CLEAR SKY
Target Lon (GPS)	deg. min.	Seas	FLAT
Target Lat (GPS)	deg. min.	Time sub sampled	
Water depth (m) or ft)	280m	Salinity	

VAN VEEN GRAB SAMPLE LOG



I

sketch subsample placement

Grab ID# 103 G1
sed height (cm remaining)
Photo #

Subsample	Sample ID #		Container	Fate
Organics/glass (250mL)			(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	MCAR	103G1	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	Y	103VV	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	N		(0-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)	Y	103	(0-4 cm sample) glass/Tom	cold/freezer
Push Core - IRREGULAR SURFACE			___ cm depth push core	cold/freezer
9.3 - 8.3				

- HARD to TELL Bottom Hit ~ 280m w/ 283m WIRE OUT. WIRE LIMP. BLOCK NO REAL HIT?
- NEARLY Full Box. Push CORE IRREGULAR

COMMENTS FOR ALL DEVICES:

Sample disturbance: SOME - IRREGULAR SURFACE 2/3 - 3/4 Full
Lithology: MUDDY FINE SAND GREY GREEN
H2S odor: NO
Biology: SOME WORMS
Other:

ALL TIMES & DATES LOCAL

Jump to STATION 103 TO Fix WEST / LOOSE WRAPS IN WIRE.

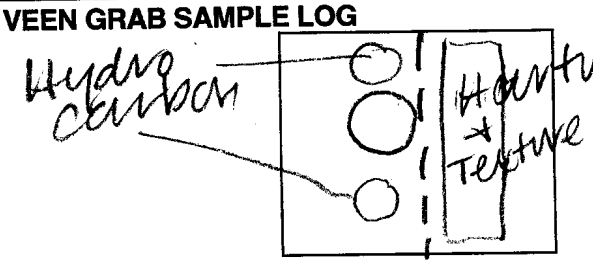
MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 14

Recorded by K. Benson
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 412 M

Station-cast ID 108
J Date and calendar date MARCH 4, 2002
Bottom Time (GMT or Local?)
Bottom Time (GMT or Local?) 440
Deck time (GMT or Local?)
Wind/weather NO WIND / CLEAR
Seas CALM
Time sub sampled
Salinity

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 108G
sed height (cm remaining)
Photo #

Subsample	Sample ID #
Organics/glass (250mL)	
Metals (spec vial)	MCAR 108G1
Texture (Ziploc)	Y
Organics (60mL)	N
Organics 2 (60mL)	Y
Push Core	73 mm
SLOPING SAMPLE	

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
7.3 cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:
Sample disturbance: SLOPING SURFACE 2/3 FULL
Lithology: MUDDY SAND GREEN, GREY
H2S odor: NONE
Biology: NONE
Other:

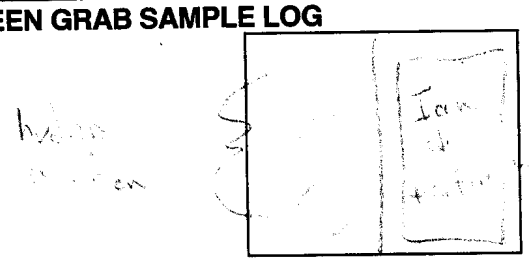
MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 15

Recorded by	S. Vaccaro		
Processors			
Lon (GPS)	deg.	min.	
Lat (GPS)	deg.	min.	
Target Lon (GPS)	deg.	min.	
Target Lat (GPS)	deg.	min.	
Water depth (m or ft)	160		

Station-cast ID	94 Cast 2
J Date and calendar date	March 4, 2002
Bottom Time (GMT or Local?)	1603
Bottom Time (GMT or Local?)	
Deck time (GMT or Local?)	
Wind/weather	0 kts / clear
Seas	calm - flat
Time sub sampled	
Salinity	

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 9462
sed height (cm remaining)
Photo #

Subsample	Sample ID #
Organics/glass (250mL)	
Metals (spec vial)	Y MCAR 9462
Texture (Ziploc)	Y
Organics (60mL)	N
Organics 2 (60mL)	Y
Push Core	N

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES: 2/3 full

Sample disturbance: [illegible] had [illegible] bottle
Lithology: gray [illegible] thick
H2S odor: none
Biology:
Other:
Cast 1 Rock [illegible]

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

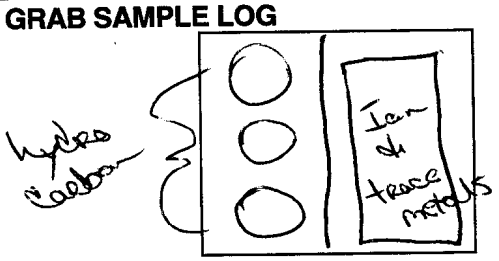
CHEM

STATION LOG page # 16

Recorded by	S. Varnam			
Processors				
Lon (GPS)	deg.	min.		
Lat (GPS)	deg.	min.		
Target Lon (GPS)	deg.	min.		
Target Lat (GPS)	deg.	min.		
Water depth (m or ft)	121			

Station-cast ID	93
J Date and calendar date	March 4 2002
Bottom Time (GMT or Local?)	751
Bottom Time (GMT or Local?)	
Deck time (GMT or Local?)	
Wind/weather	0 Kts, calm - Sunny
Seas	flat
Time sub sampled	
Salinity	

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID#	93G1
sed height (cm remaining)	
Photo #	

Subsample		Sample ID #
Organics/glass (250mL)		
Metals (spec vial)	Y	MCAR 93G1
Texture (Ziploc)	Y	
Organics (60mL)	N	
Organics 2 (60mL)	Y	
Push Core	N	

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(2-4 cm sample) glass/Sid	cold/freezer
(2-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:

Sample disturbance:	2/3 full, thick clay like mud, shallow
Lithology:	gray
H2S odor:	none
Biology:	shells
Other:	

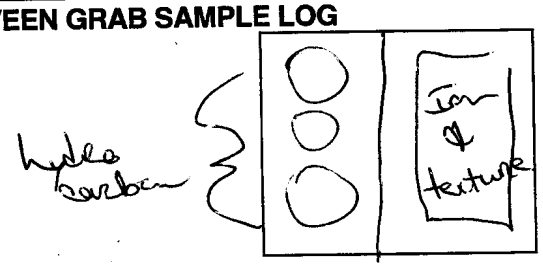
MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 17

Recorded by	S Vaenam		
Processors			
Lon (GPS)	deg.	min.	
Lat (GPS)	deg.	min.	
Target Lon (GPS)	deg.	min.	
Target Lat (GPS)	deg.	min.	
Water depth (m or ft)	97		

Station-cast ID	85
J Date and calendar date	March 4, 2002
Bottom Time (GMT or Local?)	835
Bottom Time (GMT or Local?)	
Deck time (GMT or Local?)	
Wind/weather	5-8 kts, sunny
Seas	flat w/ 1-2 ft. swells
Time sub sampled	
Salinity	

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 85 G 1
sed height (cm remaining)
Photo #

Subsample	Sample ID #
Organics/glass (250mL)	
Metals (spec vial)	MAC 02028
Texture (Ziploc)	Y
Organics (60mL)	N
Organics 2 (60mL)	Y
Push Core	N

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:
Sample disturbance: 2/3 full - shallow,
Lithology: gray, thick ~~sand~~ mud
H2S odor: none
Biology:
Other: crustaceans - small

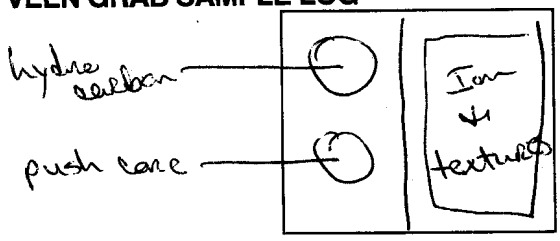
MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 18

Recorded by	S. Vaccaro		
Processors			
Lon (GPS)	deg.	min.	
Lat (GPS)	deg.	min.	
Target Lon (GPS)	deg.	min.	
Target Lat (GPS)	deg.	min.	
Water depth (m or ft)	556		

Station-cast ID	77
J Date and calendar date	March 4, 2002
Bottom Time (GMT or Local?)	1004
Bottom Time (GMT or Local?)	
Deck time (GMT or Local?)	
Wind/weather	8 kts. - fog
Seas	flat - 1 ft. swells
Time sub sampled	
Salinity	

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID#	77 G1
sed height (cm remaining)	
Photo #	6.5cm

Subsample	Sample ID #
Organics/glass (250mL)	
Metals (spec vial)	MCAR02028
Texture (Ziploc)	Y
Organics (60mL)	N
Organics 2 (60mL)	Y
Push Core	Y

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:

Sample disturbance: 2/3 full - shallow
Lithology: gray, smooth slippy, sandy
H2S odor: none
Biology: brittle stars
Other:

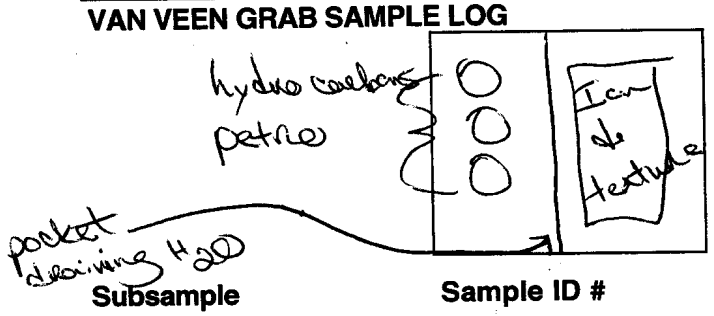
MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 19

Recorded by	S Varnam		
Processors			
Lon (GPS)	deg.	min.	
Lat (GPS)	deg.	min.	
Target Lon (GPS)	deg.	min.	
Target Lat (GPS)	deg.	min.	
Water depth (m or ft)	83		

Station-cast ID	70
J Date and calendar date	March 4, 2002
Bottom Time (GMT or Local?)	1043
Bottom Time (GMT or Local?)	
Deck time (GMT or Local?)	
Wind/weather	5 kts / foggy
Seas	1 ft, Swells, flat
Time sub sampled	
Salinity	

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 70G1
sed height (cm remaining)
Photo #

Subsample		Sample ID #
Organics/glass (250mL)		
Metals (spec vial)	Y	MCAR02028
Texture (Ziploc)	Y	
Organics (60mL)	X	
Organics 2 (60mL)	X	
Push Core	N	

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:

Sample disturbance: 1/2 full Sloping
Lithology: gray / green, Sandy mud
H2S odor: none
Biology: none
Other:

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM

STATION LOG page # 20

Recorded by MIKE TORRESAN

Processors

Lon (GPS) deg. min.

Lat (GPS) deg. min.

Target Lon (GPS) deg. min.

Target Lat (GPS) deg. min.

Water depth (m or ft)

Station-cast ID 71

J Date and calendar date MARCH 4 2002

Bottom Time (GMT or Local?) 1222 LOCAL

Bottom Time (GMT or Local?)

Deck time (GMT or Local?)

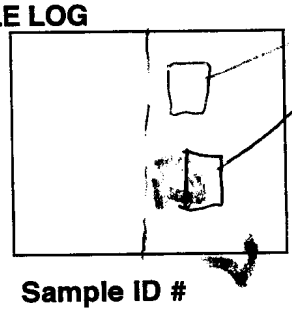
Wind/weather COOL; LIGHT BREEZE

Seas CALM

Time sub sampled

Salinity

VAN VEEN GRAB SAMPLE LOG



TEXTURE + HARTWELL
LORENSON PETRO

sketch subsample placement

Grab ID# 71G1

sed height (cm remaining)

Photo #

Subsample	Sample ID #
Organics/glass (250mL)	
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	N
Organics 2 (60mL)	Y
Push Core	NO

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
~~(2-4 cm sample)~~ glass/Sid	cold/freezer
(2-4 cm sample) glass/Tom	cold/freezer
0 cm depth push core	~~cold/freezer~~

COMMENTS FOR ALL DEVICES:

Sample disturbance: YES - SLOPING SURFACE & DRAINAGE

Lithology: MUDDY FINE SAND; GRAY GREEN

H2S odor: NO

Biology: WORMS; BRITTLE STARS

Other:

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

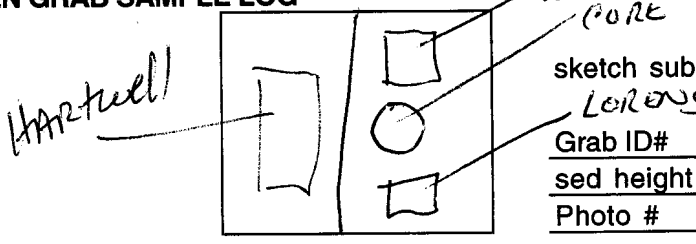
CHEM

STATION LOG page # 21

Recorded by	M.T.		
Processors			
Lon (GPS)	deg.	min.	
Lat (GPS)	deg.	min.	
Target Lon (GPS)	deg.	min.	
Target Lat (GPS)	deg.	min.	
Water depth (m or ft)	70.4 M		

Station-cast ID	58
J Date and calendar date	MARCH 4
Bottom Time (GMT or Local?)	1309
Bottom Time (GMT or Local?)	
Deck time (GMT or Local?)	
Wind/weather	COOL, SUNNY
Seas	CALM
Time sub sampled	
Salinity	

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID#	58G1
sed height (cm remaining)	
Photo #	58G1

Subsample	Sample ID #
Organics/glass (250mL)	4
Metals (spec vial)	4
Texture (Ziploc)	4
Organics (60mL)	4
Organics 2 (60mL)	4
Push Core	4

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:

Sample disturbance: SOME

Lithology: GRAY GREEN FINE MUDDY SAND

H2S odor: NO

Biology:

Other:

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

ALL DATES & TIMES LOCAL

CHEM

STATION LOG page # 22

Recorded by MIKE TORREZAN

Processors

Lon (GPS) deg. min.

Lat (GPS) deg. min.

Target Lon (GPS) deg. min.

Target Lat (GPS) deg. min.

Water depth (m or ft) 60m

Station-cast ID 45

J Date ~~and~~ (calendar date) MARCH 4 2002

Bottom Time (GMT or (Local?) 1440 LOCAL

Bottom Time (GMT or Local?)

Deck time (GMT or Local?)

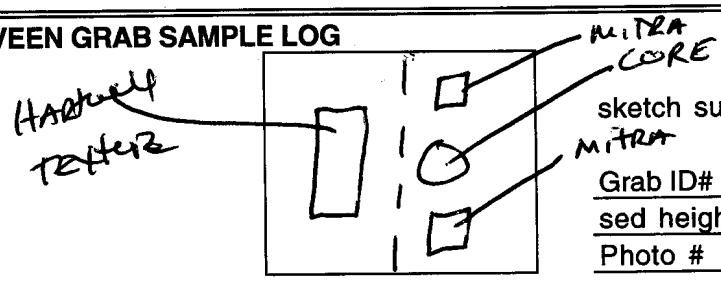
Wind/weather SLIGHT BREEZE - COOL; CLEAR

Seas RELATIVELY CALM

Time sub sampled

Salinity

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 45G1

sed height (cm remaining)

Photo # 45G1

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	Y	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	Y	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	Y	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	Y	(0-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)	NO	~~(0-4 cm sample) glass/Tom~~	cold/freezer
Push Core	Y	___ cm depth push core	cold/freezer

NEARLY FULL BOX. SOME DISTURBANCE

COMMENTS FOR ALL DEVICES:

Sample disturbance: SOME

Lithology: GRAY-GREEN MUDDY SAND

H2S odor: NO

Biology: SNAILS; BRITTLE STARS; WORMS

Other:

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 23

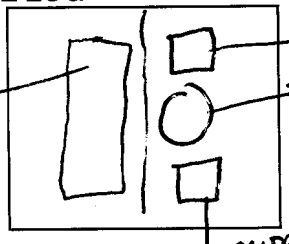
Recorded by	M. TORRESAN		
Processors			
Lon (GPS)	deg.	min.	
Lat (GPS)	deg.	min.	
Target Lon (GPS)	deg.	min.	
Target Lat (GPS)	deg.	min.	
Water depth (m or ft)	56.6m		

Station-cast ID	44
J Date and calendar date	MARCH 4, 2002
Bottom Time (GMT or Local?)	1514
Bottom Time (GMT or Local?)	
Deck time (GMT or Local?)	
Wind/weather	LIGHT WIND - ANOTHER TYPICAL DAY
Seas	CALM
Time sub sampled	
Salinity	

VAN VEEN GRAB SAMPLE LOG

THIS SIDE Full "UNDISTURBED"

THIS SIDE "DISTURBED"



MITRA & LORENSON sketch subsample placement

CORE

HARTWELL & TEXTURE

MITRA + LORENSON

Grab ID#	44G1
sed height (cm remaining)	
Photo #	

Subsample	Sample ID #
Organics/glass (250mL)	X
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	Y
Organics 2 (60mL)	Y
Push Core 9.5cm	

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
~9.5 cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES: Box Full ON RIGHT SIDE LEFTSIDE 2/3 Full

Sample disturbance: ON LEFT SIDE - SEE SKETCH

Lithology: GRAY-GREEN SLIGHTLY MUDDY FINE SAND

H2S odor: NO

Biology: SNAILS; BRITTLE STARS; WORMS + TUBES

Other:

LOCAL Times & Dates

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM

STATION LOG page # 24

Station-cast ID	114		
J Date and calendar date	MARCH 4 2002		
~~Bottom Time (GMT or Local?)~~	ON STA 1935		
Bottom Time (GMT or Local?)	2004		
Deck time (GMT or Local?)			
Wind/weather	Picking up - COLD TOO!		
Seas	- Picking up		
Time sub sampled			
Salinity	Y		

Recorded by MIKE TORRESAN

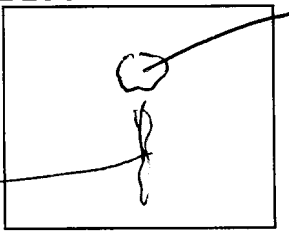
Processors

Lon (GPS)	deg.	min.
Lat (GPS)	deg.	min.
Target Lon (GPS)	deg.	min.
Target Lat (GPS)	deg.	min.
Water depth (m or ft)	22.5m	

S.F. OUTFALL 22.4m FOR WATERSAMPLE

VAN VEEN GRAB SAMPLE LOG

NO CORE
NO photo
Leakage
~~[illegible]~~



PIPING

sketch subsample placement

Grab ID# 114G1

sed height (cm remaining)

Photo # 114G1 - NO PHOTO

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	Y	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	Y	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	Y	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	Y	(0-4 cm sample) glass/Sid	cold/freezer
~~Organics 2 (60mL)~~		~~(0-4 cm sample) glass/Tom~~	cold/freezer
Push Core	N	___ cm depth push core	cold/freezer

* TAKING PHARM. SAMPLE FOR SID INCASE OUTFALL CAN PROVIDE SOME DATA. - ORIGINAL PLAN WAS TO NOT COLLECT SAMPLE BUT DECIDED TO AT SUGGESTION OF IAN HARTWELL.
* COLLECTED TWO WATER SAMPLES W/ ROSETTE.

COMMENTS FOR ALL DEVICES:

Sample disturbance: YES < 2/3 full

Lithology: GRAY SLIGHTLY MUDDY SAND - FINE SAND

H2S odor: NO - FISHY ODOR

Biology: WORMS

Other:

TIMES & DATES LOCAL

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM

STATION LOG page # 25

Station-cast ID 115

J Date and calendar date MARCH 4, 2002

Recorded by Mike TORRESAN

Bottom Time (~~GMT~~ or Local?) ON STA 2057

Processors

Bottom Time (~~GMT~~ or Local?) 2109

Lon (GPS) deg. min.

Deck time (GMT or Local?)

Lat (GPS) deg. min.

Wind/weather 10 KTS - COOL CLEAR SKY

Target Lon (GPS) deg. min.

Seas SMOOTH

Target Lat (GPS) deg. min.

Time sub sampled

Water depth (m or ft) 17.8 m

Salinity

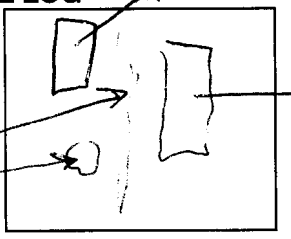
CTD @ 2057 - 2101 - S.F. OUTFALL SITE (PPOO)

VAN VEEN GRAB SAMPLE LOG

HARTPURE + TEXTURE

Box < 2/3 Full.

SAND LEAKED OUT JAWS - DISTURBANCE



sketch subsample placement MITRA

Grab ID# 115 G1

sed height (cm remaining)

Photo #

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	Y	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	Y	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	Y	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	Y	(0-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)	N	(0-4 cm sample) glass/Tom	cold/freezer
Push Core	NO	___ cm depth push core	cold/freezer

JAN SUGGESTED I COLLECT MITRA SAMPLE SO I DID

COMMENTS FOR ALL DEVICES:

Sample disturbance: YES

Lithology: FINE SAND - NO MUD

H2S odor: NO ODOR

Biology: WORM TUBES CRUSTACEAN

Other:

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 26

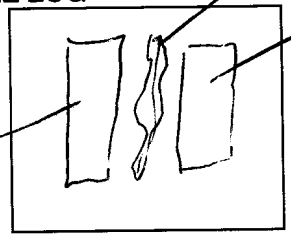
Recorded by	MWET		
Processors			
Lon (GPS)	deg.	min.	
Lat (GPS)	deg.	min.	
Target Lon (GPS)	deg.	min.	
Target Lat (GPS)	deg.	min.	
Water depth (m or ft)	18.3M		

Station-cast ID	117
~~J Date and~~ calendar date	MARCH 4 2002
~~Bottom~~ Time (~~GMT~~ or Local?)	
Bottom Time (~~GMT~~ or Local?)	2158
Deck time (GMT or Local?)	
Wind/weather	-LIGHT WIND
Seas	NICE + FAIRLY CALM
Time sub sampled	
Salinity	

DISTURBANCE FROM DRAINAGE

VAN VEEN GRAB SAMPLE LOG

LEAKING OUT JAW
DRAINAGE
DISTURBANCE
HARTWELL



TEXTURE

sketch subsample placement

Grab ID# 117G1
sed height (cm remaining)
Photo # 117G1

Subsample	Sample ID #
Organics/glass (250mL)	Y
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	N
Organics 2 (60mL)	N
Push Core	

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

* BOX CC 2/3 FULL WITH DRAIN STRUCTURES.

COMMENTS FOR ALL DEVICES:

Sample disturbance: yes
Lithology: SLIGHTLY MUDDY FINE SAND
H2S odor: NO
Biology: yes
Other:

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CHEM
STATION LOG page # 27

Recorded by Mike T
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 26.6 m

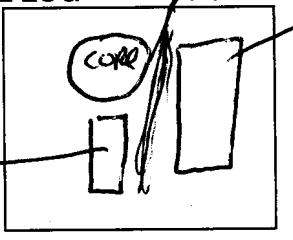
Station-cast ID 19
J Date and calendar date MARCH 4 2002
Bottom Time (~~GMT~~ or Local?)
Bottom Time (~~GMT~~ or Local?) 2312
Deck time (GMT or Local?)
Wind/weather LIGHT 10KT OR SO
Seas CALM
Time sub sampled
Salinity

CTD 20.6 m

DISTURBANCE FROM DRAINAGE

VAN VEEN GRAB SAMPLE LOG

Box 1/2 Full



HARTWELL, texture, Metals

LORENSON mitRA

sketch subsample placement

Grab ID# 19G1
sed height (cm remaining)
Photo # 19G1

Subsample	Sample ID #
Organics/glass (250mL)	Y
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	Y
Organics 2 (60mL)	Y
Push Core	Y

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

VERY SHORT. NOT WORTH IT IF 2/3 full OR LESS IN THIS SAND

COMMENTS FOR ALL DEVICES:
Sample disturbance: yes — SURFDRAINAGE
Lithology: FINE MUDDY SAND GRAY
H2S odor: NO ODOR
Biology: SNAILS, WORMS
Other:

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CHEM
STATION LOG page # 28

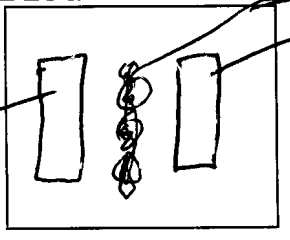
Station-cast ID	18		
J Date and calendar date	March 4 2002		
Recorded by	MR. T	Bottom Time (GMT or Local?)	
Processors		Bottom Time (GMT or Local?)	2355
Lon (GPS)	deg. min.	Deck time (GMT or Local?)	
Lat (GPS)	deg. min.	Wind/weather	yes / NICE
Target Lon (GPS)	deg. min.	Seas	calm
Target Lat (GPS)	deg. min.	Time sub sampled	
Water depth (m or ft)	28 m	Salinity	

VERY NICE NIGHT. FAIRLY Clear. Cooler THAN past 3-4 days

VAN VEEN GRAB SAMPLE LOG

Box < 2/3 Full

MITRA LOVENSON



DRAINAGE STRUCTURES ABOVE JAW CLOSURE
HARTWEL, TEXTURE, METALS
sketch subsample placement

Grab ID# 18G1
sed height (cm remaining)
Photo # 18G1

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	Y	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	Y	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	Y	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	Y	(0-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)	Y	(0-4 cm sample) glass/Tom	cold/freezer
Push Core		___ cm depth push core	cold/freezer

GRAB LEAKS at closure point CAUSING PIPING

COMMENTS FOR ALL DEVICES:

Sample disturbance: - yes DRAINAGE PIPING
Lithology: SLIGHTLY MUDDY SAND.
H2S odor: NO ODOR
Biology: SNAIL & WORMS
Other:

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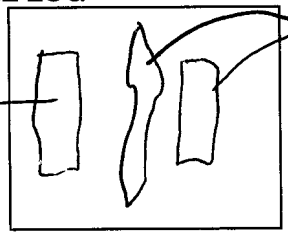
CHEM
STATION LOG page # 29

Station-cast ID	17		
J Date and calendar date	MARCH 5 2002		
Bottom Time (~~GMT~~ or Local?)	0114 ON STATION		
Bottom Time (~~GMT~~ or Local?)	0116		
Deck time (GMT or Local?)			
Wind/weather	NOT MUCH/ NICE		
Seas	CALM		
Time sub sampled			
Salinity			

Recorded by	M.T.	
Processors		
Lon (GPS)	deg.	min.
Lat (GPS)	deg.	min.
Target Lon (GPS)	deg.	min.
Target Lat (GPS)	deg.	min.
Water depth (m or ft)	28 M	

VAN VEEN GRAB SAMPLE LOG

MITRA LORENSON



DISTURBANCE FROM DRAINAGE
HARTWELL, TEXTURE, METALS

sketch subsample placement

Grab ID#	17G1
sed height (cm remaining)	
Photo #	17G1

Subsample	Sample ID #
Organics/glass (250mL)	Y
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	Y
Organics 2 (60mL)	Y
Push Core	NO

BOX < 1/2 FULL

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:

Sample disturbance: - PIPING FROM DRAINAGE - SAND PREVENTS CLOSURE
Lithology: GRAY SAND.
H2S odor: NO
Biology: SNAIL, WORMS - SNAILS QUITE ACTIVE & ESCAPING!
Other:

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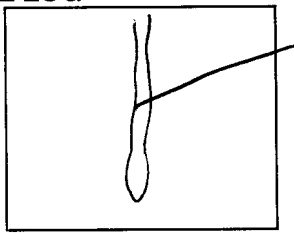
CHEM
STATION LOG page # 30

Recorded by M.T.
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft)

Station-cast ID 9
J Date and calendar date
Bottom Time (~~GMT or~~ Local?) 0146
Bottom Time (~~GMT or~~ Local?) 0149
Deck time (GMT or Local?)
Wind/weather NICE
Seas CALM
Time sub sampled
Salinity

VAN VEEN GRAB SAMPLE LOG



Box 1/2 Full
Disturbance from DRAINAGE
sketch subsample placement

Grab ID# 1961
sed height (cm remaining)
Photo # 1961

Subsample	Sample ID #
Organics/glass (250mL)	Y
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	Y
Organics 2 (60mL)	Y
Push Core	

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:
Sample disturbance: YES - DRAINAGE
Lithology: FINE SAND
H2S odor: NO ODOR
Biology: SNAILS and WORMS
Other:

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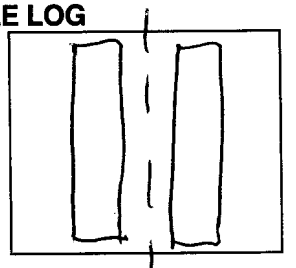
CHEM
STATION LOG page # 31

Station-cast ID 7
J Date and calendar date
Bottom Time (GMT or Local?)
Bottom Time (GMT or Local?)
Deck time (GMT or Local?)
Wind/weather ~10 KTS
Seas 1-2 FT
Time sub sampled
Salinity

Recorded by
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft)

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 7G1
sed height (cm remaining)
Photo # 7G1

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	X	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	X	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	X	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	X	(0-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)		(0-4 cm sample) glass/Tom	cold/freezer
Push Core NONE		___ cm depth push core	cold/freezer

TOO SHALLOW TO CORE

COMMENTS FOR ALL DEVICES:
Sample disturbance:
Lithology: GRAY W/HINT OF GRN
H2S odor: NONE
Biology: WORMS
Other:

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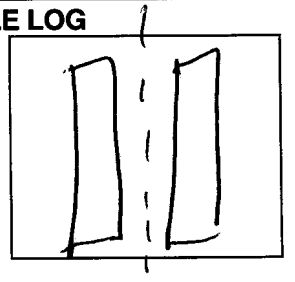
CHEM
STATION LOG page # 32

Station-cast ID 3
J Date and calendar date
Bottom Time (GMT or Local?) 4:03
Bottom Time (GMT or Local?)
Deck time (GMT or Local?)
Wind/weather 10-15 KTS
Seas 1-2'
Time sub sampled
Salinity

Recorded by
Processors
Lon (GPS) 122 36 deg. 343 min.
Lat (GPS) 37 49 deg. 946 min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 16m

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID#
sed height (cm remaining)
Photo #

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	X	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	X	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	X	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	X	(2-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)		(2-4 cm sample) glass/Tom	cold/freezer
Push Core	NO CORE TO SHALLOW	___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:
Sample disturbance:
Lithology: SAND, GRAY
H2S odor: NONE
Biology: NONE
Other:

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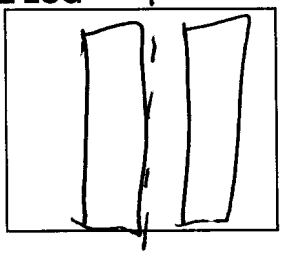
CHEM
STATION LOG page # 33

Station-cast ID 11
J Date and calendar date
Bottom Time (GMT or Local?) 5:32
Bottom Time (GMT or Local?)
Deck time (GMT or Local?)
Wind/weather 10 KTS
Seas 1 FT
Time sub sampled
Salinity

Recorded by
Processors
Lon (GPS) 122 35.94 deg. min.
Lat (GPS) 37 44.367 deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 11

VAN VEEN GRAB SAMPLE LOG 1



sketch subsample placement

Grab ID#
sed height (cm remaining)
Photo #

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	X	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	X	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	X	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	X	(0-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)		(0-4 cm sample) glass/Tom	cold/freezer
Push Core	NO CORE	___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:
Sample disturbance:
Lithology: SANDY, GRAY
H2S odor: NONE
Biology: AMPHIPOD TUBE, GASTROPODS
Other:

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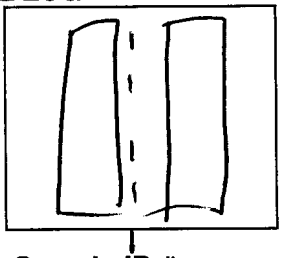
CHEM
STATION LOG page # 34

Station-cast ID 5
J Date and calendar date
Bottom Time (GMT or Local?) 6:21
Bottom Time (GMT or Local?)
Deck time (GMT or Local?)
Wind/weather 5-10 KTS
Seas 1 FT
Time sub sampled
Salinity

Recorded by
Processors
Lon (GPS) 122 32 deg. 357 min.
Lat (GPS) 37 45 deg. 473 min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 10m

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID#
sed height (cm remaining)
Photo #

Subsample	Sample ID #
Organics/glass (250mL)	X
Metals (spec vial)	X
Texture (Ziploc)	X
Organics (60mL)	X
Organics 2 (60mL)	X
Push Core	NO CORE

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:
Sample disturbance:
Lithology: COARSE SAND, BROWN
H2S odor: NONE
Biology: NONE
Other:

COARSEST SAMPLE TAKE SOFAR
1 SIDE SAMPLED BEFORE PHOTO

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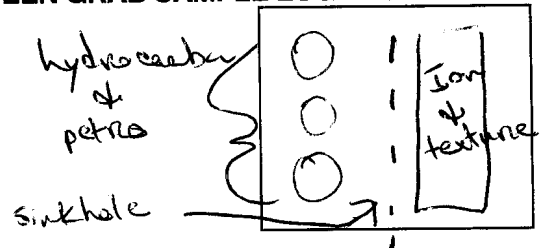
CHEM
STATION LOG page # 35

Recorded by	S. Varnam		
Processors			
Lon (GPS)	deg.	min.	
Lat (GPS)	deg.	min.	
Target Lon (GPS)	deg.	min.	
Target Lat (GPS)	deg.	min.	
Water depth (m or ft)	36.7m		

Station-cast ID	27
J Date and calendar date	
Bottom Time (GMT or Local?)	755
Bottom Time (GMT or Local?)	
Deck time (GMT or Local?)	
Wind/weather	3-5 kts. / sunny
Seas	light chop
Time sub sampled	
Salinity	

VAN VEEN GRAB SAMPLE LOG 1



sketch subsample placement

Grab ID# 961
sed height (cm remaining)
Photo #

Subsample		Sample ID #
Organics/glass (250mL)		
Metals (spec vial)	Y	MCAR961
Texture (Ziploc)	Y	
Organics (60mL)	Y	
Organics 2 (60mL)	Y	
Push Core	N	

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:

Sample disturbance: sloping, a little less than half full
Lithology: gray / green, sandy mud,
H2S odor: none
Biology: ~~none~~ sea pen, small mollusk (snail like)
Other:

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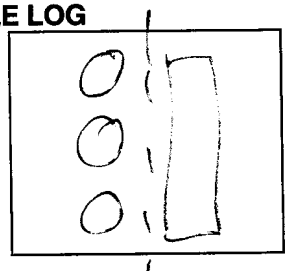
CHEM
STATION LOG page # 36

Recorded by
Processors
Lon (GPS) 122 40 deg. 565 min.
Lat (GPS) 37 38 deg. 641 min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 36.8

Station-cast ID 28
J Date and calendar date 3/5/02
Bottom Time (GMT or Local?) 8:39
Bottom Time (GMT or Local?)
Deck time (GMT or Local?)
Wind/weather 5 KTS
Seas 1-2
Time sub sampled
Salinity

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID#
sed height (cm remaining)
Photo #

Subsample	Sample ID #
Organics/glass (250mL)	X
Metals (spec vial)	X
Texture (Ziploc)	X
Organics (60mL)	X
Organics 2 (60mL)	X
Push Core	NO CORE

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:
Sample disturbance: SOME DRAINAGE IN MIDDLE
Lithology: MUDDY SAND ; GREY/GRN
H2S odor: NO
Biology: GASTROPODS
Other:

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CHEM
STATION LOG page # 37

Recorded by Mike T
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft)

Station-cast ID 1
J Date and calendar date
~~Bottom Time (GMT or Local?)~~
Bottom Time (~~GMT or~~ Local?) SEE BELOW
Deck time (GMT or Local?)
Wind/weather PICKING UP WIND
Seas PICKING UP.
Time sub sampled
Salinity

11:00 1G1 SMALL RECOVERY; 11:10 1G2 - NO RECOVERY; 11:23 1G3 NO REC.
11:25 1G4 - NO RECOVERY; 11:28 1G5 - NO RECOVERY; 11:32 1G6 - RECOVERY

VAN VEEN GRAB SAMPLE LOG

NO

sketch subsample placement

Grab ID# 1
sed height (cm remaining)
Photo # NO

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	Y 1G1	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	Y 1G1	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	Y 1G1	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	Y 1G6	(2-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)	Y 1G6	(2-4 cm sample) glass/Tom	cold/freezer
Push Core	NO CORE	___ cm depth push core	cold/freezer

SMALL BOAT OPS OFF BAKER BEACH
HANDGRAB too!

COMMENTS FOR ALL DEVICES:
Sample disturbance: PROBABLY
Lithology: SAND - MED-COARSE GRAINED
H2S odor: NO
Biology: NO
Other:

1G1 + 1G6 ARE ONLY RECOVERIES.

SMALL BOAT OPS IN COVE S of G.G. BRIDGE

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM

STATION LOG page # 38

Recorded by	Mike T	Station-cast ID	202
Processors		J Date and calendar date	March 5 2002
Lon (GPS)	deg. min.	Bottom Time (GMT or Local?)	1340
Lat (GPS)	deg. min.	Bottom Time (GMT or Local?)	20261
Target Lon (GPS)	deg. min.	Deck time (GMT or Local?)	
Target Lat (GPS)	deg. min.	Wind/weather	SOUTH WIND PICKING UP
Water depth (m or ft)	52 m	Seas	STILL CALM
		Time sub sampled	
		Salinity	

VAN VEEN GRAB SAMPLE LOG

sketch subsample placement

Grab ID# 202G1

sed height (cm remaining)

Photo # 202G1

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	Y	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	Y	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	Y	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	N	~~(0-4 cm sample) glass/Sid~~	cold/freezer
Organics 2 (60mL)	Y	(0-4 cm sample) glass/Tom	cold/freezer
Push Core	NO	___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:

Sample disturbance:

Lithology: GRAY-GREEN SAND SLIGHLY MUDDY

H2S odor: NO

Biology: Tubes

Other:

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CHEM
STATION LOG page # 39

Recorded by	MikeT.		Station-cast ID	202 "A"
Processors			J Date and calendar date	MARCH 5, 2002
Lon (GPS)	deg.	min.	Bottom Time (GMT or Local?)	
Lat (GPS)	deg.	min.	Bottom Time (~~GMT~~ or Local?)	1429
Target Lon (GPS)	deg.	min.	Deck time (GMT or Local?)	
Target Lat (GPS)	deg.	min.	Wind/weather	LIGHT
Water depth (m or ft)	5		Seas	SMALL CHOP NO WHITE CAPS
			Time sub sampled	
			Salinity	

VAN VEEN GRAB SAMPLE LOG

sketch subsample placement

Grab ID# 202A G1
sed height (cm remaining)
Photo # NO

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	N	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	N	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	N	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	N	(0-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)	N	(0-4 cm sample) glass/Tom	cold/freezer
Push Core	N	___ cm depth push core	cold/freezer

Redo 202 "LuckeBack" w/sternover SE corner of Box.

COMMENTS FOR ALL DEVICES:
Sample disturbance:
Lithology: GRAY MEDIUM SAND - SAME AS 202G1
H2S odor:
Biology: CLAM SHELLS - probably "HASH"
Other:

* 202A G1 - RECOVERY But.... we drifted OFF THE Bull's EYE so, CLEAN - MED ~~GRAY~~ SAND. GRAY IN COLOR Hit sand sheas 202
* NO SAMPLE KEPT

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM

STATION LOG page # 40

Recorded by Mike Torresan

Processors

Lon (GPS) deg. min.

Lat (GPS) deg. min.

Target Lon (GPS) deg. min.

Target Lat (GPS) deg. min.

Water depth (m or ft) 52m

Station-cast ID 202 B

J Date and calendar date MARCH 5 2002

Bottom Time (GMT or Local?)

Bottom Time (GMT or Local?) 1518

Deck time (GMT or Local?)

Wind/weather From South

Seas Small chop. No whitecaps

Time sub sampled

Salinity

Full Box – DRAIN

VAN VEEN GRAB SAMPLE LOG

sketch subsample placement

Grab ID# 202B G1

sed height (cm remaining)

Photo #

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	N	~~(0-2cm sample) 250ml glass~~	~~wrap and freeze~~
Metals (spec vial)	N	~~(0-2 cm sample) spec jar~~	~~cold/freezer~~
Texture (Ziploc)	Y	(0-2 cm sample) Ziploc/texture	cold
~~Organics (60mL)~~		~~(0-4 cm sample) glass/Sid~~	~~cold/freezer~~
Organics 2 (60mL)	Y	(0-4 cm sample) glass/Tom	cold/freezer
Push Core	Y	___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:

Sample disturbance:

Lithology: Gray Sand with some shell Debris

H2S odor: NO

Biology: Hermit crabs, worms, sea fan

Other:

LuckENbach

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 41

Recorded by N/a T.
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 57 M

Station-cast ID 203
J Date and calendar date MARCH 5, 2002
Bottom Time (GMT or Local?)
Bottom Time (GMT or Local?) 1611
Deck time (GMT or Local?)
Wind/weather Picking up & cloudy
Seas Some chop
Time sub sampled
Salinity

LuckENBach FAR S[redacted] SANCTUARY PRIORITY 2

VAN VEEN GRAB SAMPLE LOG

sketch subsample placement

Grab ID# 203G1
sed height (cm remaining)
Photo #

Subsample	Sample ID #		Container	Fate
Organics/glass (250mL)	N		(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	N		(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	Y		(0-2 cm sample) Ziploc/texture	cold
~~Organics (60mL)~~			~~(0-4 cm sample) glass/Sid~~	~~cold/freezer~~
Organics 2 (60mL)	Y	203G1	(0-4 cm sample) glass/Tom	cold/freezer
Push Core	N		___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:
Sample disturbance: - FROM DRAINAGE
Lithology: CLEAN SAND W/SOME CLAMSHELL FRAGS - GREY IN COLOR
H2S odor: NO
Biology: HERMIT CRAB SEA FAN WORMTUBE, OYSTER DRILL
Other:

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 42

Station-cast ID 204
J Date and calendar date MARCH 5, 2002
Bottom Time (GMT or Local?)
Bottom Time ([redacted] Local?) 1635
Deck time (GMT or Local?)
Wind/weather Picking up / RAIN DROP Stop
Seas Pick up
Time sub sampled
Salinity

Recorded by
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft)

VAN VEEN GRAB SAMPLE LOG

sketch subsample placement

Grab ID# 204 G1
sed height (cm remaining)
Photo #

Subsample	Sample ID #
Organics/glass (250mL)	N
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	N
Organics 2 (60mL)	Y
Push Core	N

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
([illegible]-4 cm sample) glass/Sid	cold/freezer
([illegible]-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:
Sample disturbance: - yes owing to DRAINAGE
Lithology: Sand
H2S odor: GREEN-GRAY SAND NO ODOR
Biology: SEA FAN, Joyster Drills, worms
Other:

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

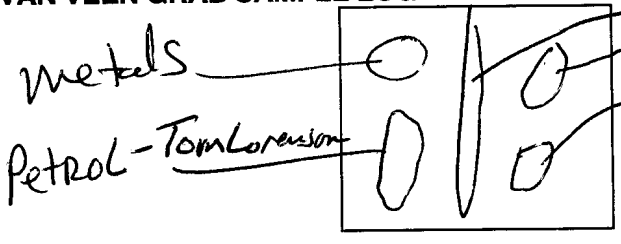
CHEM
STATION LOG page # 43

Recorded by Mike Torresan
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 52M

Station-cast ID 201
J Date and calendar date March 5, 2002
Bottom Time (GMT or Local?)
Bottom Time (GMT or Local?) 1716
Deck time (GMT or Local?)
Wind/weather Slow wind some RAIN
Seas Little Choppy - NOT BAD
Time sub sampled
Salinity

Luckenbach

VAN VEEN GRAB SAMPLE LOG



DRAINAGE Disturbance
SANCTUARY
sketch subsample placement
TEXTURE

Grab ID# 201G1
sed height (cm remaining)
Photo # NO

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	N	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	Y	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	Y	(0-2 cm sample) Ziploc/texture	cold
~~Organics (60mL)~~	N	~~(0-4 cm sample) glass/Sid~~	cold/freezer
Organics 2 (60mL)	Y	(0-4 cm sample) glass/Tom	cold/freezer
Push Core	NO	___ cm depth push core	cold/freezer

CORES AROUND Luckenback all have DRAINAGE disturbance, + too little sample to CORE.

COMMENTS FOR ALL DEVICES:
Sample disturbance: -yes from
Lithology: Gray-Green med sand
H2S odor: NO ODOR
Biology: worms, tubes, snails
Other:

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM

STATION LOG page # 44

Station-cast ID	36		
J Date and calendar date	MARCH 5, 2002		
Recorded by		Bottom Time (GMT or Local?)	
Processors		Bottom Time (GMT or Local?)	1904
Lon (GPS)	deg.	min.	Deck time (GMT or Local?)
Lat (GPS)	deg.	min.	Wind/weather BREEZE COOL
Target Lon (GPS)	deg.	min.	Seas SMALL CHOP'
Target Lat (GPS)	deg.	min.	Time sub sampled
Water depth (m or ft)	52m		Salinity

VAN VEEN GRAB SAMPLE LOG

sketch subsample placement

Grab ID# 36G1

sed height (cm remaining)

Photo # 36G1

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)		(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)		(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)		(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)		(0-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)		(0-4 cm sample) glass/Tom	cold/freezer
Push Core		___ cm depth push core	cold/freezer

NO RECOVERY

COMMENTS FOR ALL DEVICES:

Sample disturbance:

Lithology:

H2S odor:

Biology:

Other:

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM

STATION LOG page # 45

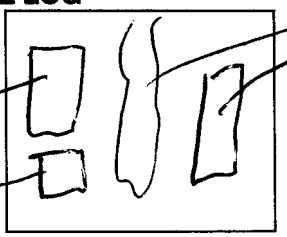
Recorded by	M.T.	Station-cast ID	36
Processors		J Date and calendar date	Mar 5 2002
Lon (GPS)	deg. min.	Bottom Time (~~GMT~~ or Local?)	
Lat (GPS)	deg. min.	Bottom Time (~~GMT or~~ Local?)	1918
Target Lon (GPS)	deg. min.	Deck time (GMT or Local?)	
Target Lat (GPS)	deg. min.	Wind/weather	BREEZY
Water depth (m or ft)	52	Seas	small chop
		Time sub sampled	
		Salinity	

VAN VEEN GRAB SAMPLE LOG

Box ½ Full

LORENSON

TEXTURE



MAJOR DRAINAGE

METALS + HARTWELL

sketch subsample placement

Grab ID# 36G2

sed height (cm remaining)

Photo # 36G2

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	Y	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	Y	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	Y	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	N	~~(0-4 cm sample) glass/Sid~~	cold/freezer
Organics 2 (60mL)	Y	(0-4 cm sample) glass/Tom	cold/freezer
Push Core	NO CORE	___ cm depth push core	cold/freezer

GRAB ~~BOX~~ HAVING MAJOR PROBLEM SEALING all DAY IN SAND! LOTS OF PIPING FROM DRAINING WATER

COMMENTS FOR ALL DEVICES:

Sample disturbance: yes -

Lithology: GREEN-GRAY sand

H2S odor: NO

Biology: worms, seaLON

Other:

NO CORE

LOCAL TIMES + DATES

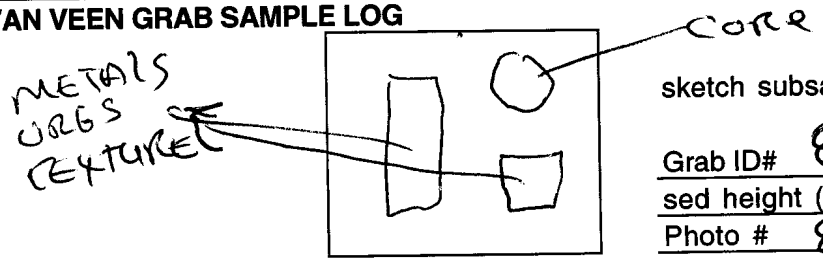
MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 46

Recorded by	MIKE TORRESAN	Station-cast ID	82
Processors		J Date and calendar date	MARCH 5, 2002
Lon (GPS)	deg. min.	Bottom Time (GMT or Local?)	
Lat (GPS)	deg. min.	Bottom Time (GMT or Local?)	22 42
Target Lon (GPS)	deg. min.	Deck time (GMT or Local?)	
Target Lat (GPS)	deg. min.	Wind/weather	LIGHT WIND & RAIN
Water depth (m or ft)	100m	Seas	SMALL CHOP. STILL SMOOTH
		Time sub sampled	
		Salinity	

*STATION 82 HAD BORDERED "NUCLEAR" POLYGON. MOVED SOUTH TO AVOID 2 TANKERS. LOST TIME SO WE GO RIT 1mi SOUTH.

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 82G1
sed height (cm remaining)
Photo # 82G1

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	Y	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	Y	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	Y	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	N	(0-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)	N	(0-4 cm sample) glass/Tom	cold/freezer
Push Core	Y	9.6 cm depth push core	cold/freezer

wind south @ 16 waves 2 feet 3"
RAIN HARD — NO photo too RAINY

COMMENTS FOR ALL DEVICES:
Sample disturbance: Some
Lithology: MUDDY FINE SAND gray GREEN
H2S odor: ND ODOR
Biology: STARFISH worms SNAILS, TUBES
Other:

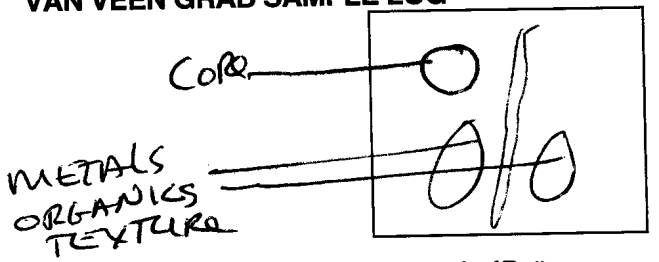
MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 47

Station-cast ID 83
J Date and calendar date MARCH 5 2002
Bottom Time (~~GMT or~~ Local?)
Bottom Time (~~GMT or~~ Local?) 2330
Deck time (GMT or Local?)
Wind/weather
Seas
Time sub sampled
Salinity

Recorded by MLT
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 99.2

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 83G1
sed height (cm remaining)
Photo # 83G1

Subsample	Sample ID #
Organics/glass (250mL)	Y
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	N
Organics 2 (60mL)	N
Push Core	Y 6.7cm

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
6.7 cm depth push core	cold/freezer

All Boxes w/ irregular surface
~ 1/2 Full

37 32 498
122 53 860

COMMENTS FOR ALL DEVICES:
Sample disturbance: yes - Leakage
Lithology: MUDDY Fine Sand - Grey Green
H2S odor:
Biology: STARfish SNAILS WORMS
Other:

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 48

Recorded by Mike TORRESAN
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft)
SeaCast CTD 97m

Station-cast ID 84
J Date and calendar date MARCH 6, 2002
Bottom Time (~~GMT or~~ Local?)
Bottom Time (~~GMT or~~ Local?) 0140
Deck time (GMT or Local?)
Wind/weather RAIN & 15-20 KT WIND
Seas - ROLLY POLLY
Time sub sampled
Salinity

VAN VEEN GRAB SAMPLE LOG

NO RECOVERY

sketch subsample placement

Grab ID# 84 G2
sed height (cm remaining)
Photo # 84 G2

Subsample	Sample ID #
Organics/glass (250mL)	Y
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	N
Organics 2 (60mL)	N
Push Core	

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

84 G1 - N/R - TRIPPED w/NO SAMPLE
Redeploy

COMMENTS FOR ALL DEVICES:
Sample disturbance:
Lithology: GREY GREEN MUD
H2S odor: NO
Biology:
Other:

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

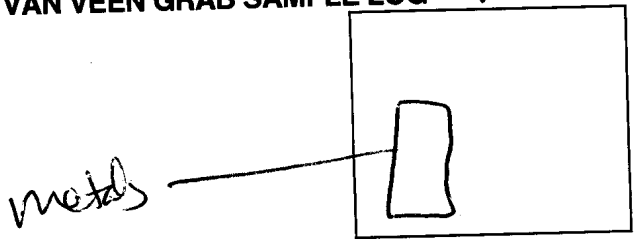
CHEM
STATION LOG page # 49

Recorded by Mike Tom
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 92m

Station-cast ID 84
J Date and calendar date MARCH 6 2002
Bottom Time (~~GMT~~ or Local?) 0156 Local
Bottom Time (~~GMT~~ or Local?)
Deck time (GMT or Local?)
Wind/weather 30KT wind / RAIN
Seas 2-4'
Time sub sampled
Salinity

WIND SLOWING OPS to ACRAWL
Roughgoing with light Van Veen

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 8462
sed height (cm remaining)
Photo # 8462

Subsample	Sample ID #
Organics/glass (250mL)	Y
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	N
Organics 2 (60mL)	N
Push Core	N

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

Box ~ 1/3 full + irregular. Leaks caused Disturbance

COMMENTS FOR ALL DEVICES:
Sample disturbance: yes
Lithology: GREEN SANDY mud
H2S odor: NO
Biology: worms
Other:

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 50

Station-cast ID 91-G3
J Date and calendar date 3/6/02
Bottom Time (GMT or Local?) 256
Bottom Time (GMT or Local?)
Deck time (GMT or Local?)
Wind/weather 15KTS RAIN
Seas 3-5
Time sub sampled
Salinity

Recorded by
Processors
Lon (GPS) 122 52 deg. 993 min.
Lat (GPS) 37 deg. 28.544 min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 110m

VAN VEEN GRAB SAMPLE LOG

sketch subsample placement

Grab ID#
sed height (cm remaining)
Photo # YES

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	X	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	X	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	X	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	NO	(0-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)	NO	(0-4 cm sample) glass/Tom	cold/freezer
Push Core	X	___ cm depth push core	cold/freezer

First Grab — NO SAMPLE
Second — " "

COMMENTS FOR ALL DEVICES:
Sample disturbance: 2/3 FULL NOT DISTURBED
Lithology: GRN BROWN/MUDDY SAND
H2S odor: NO
Biology: Sea pen
Other:

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

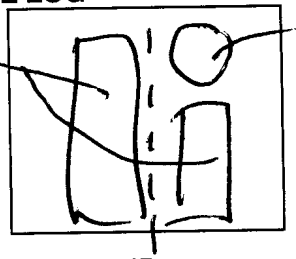
CHEM
STATION LOG page # 57

Station-cast ID 107
J Date and calendar date
Bottom Time (GMT or Local?) 5:30
Bottom Time (GMT or Local?)
Deck time (GMT or Local?)
Wind/weather 10 KTS RAIN
Seas 2-3
Time sub sampled
Salinity

Recorded by
Processors
Lon (GPS) 122 54 deg. 861 min.
Lat (GPS) 37 26 deg. 088 min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m) or ft) 345

VAN VEEN GRAB SAMPLE LOG

HARTWELL
TEXTURE
METALS



CORE

sketch subsample placement

Grab ID#
sed height (cm remaining)
Photo #

Subsample	Sample ID #
Organics/glass (250mL)	X
Metals (spec vial)	X
Texture (Ziploc)	X
Organics (60mL)	
Organics 2 (60mL)	
Push Core	X

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:
Sample disturbance: SLOPING, NOT DISTURBED
Lithology: MUDDY SAND, ~~CLAM ASH~~ GRAY/GRN
H2S odor: NO
Biology: CLAM, AMPHIPOD
Other:

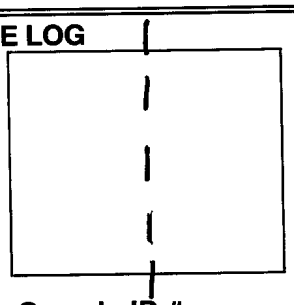
MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 52

Recorded by
Processors
Lon (GPS) 122 54 deg. 310 min.
Lat (GPS) 37 25 deg. 364 min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) ~~402~~
GRAB CLOSED @ 445 M

Station-cast ID 111
J Date and calendar date 3/4/02
Bottom Time (GMT or Local?) 6:22
Bottom Time (GMT or Local?)
Deck time (GMT or Local?)
Wind/weather 5-10
Seas 2-3
Time sub sampled
Salinity

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID#
sed height (cm remaining)
Photo #

Subsample	Sample ID #
Organics/glass (250mL)	X
Metals (spec vial)	X
Texture (Ziploc)	X
Organics (60mL)	
Organics 2 (60mL)	
Push Core	NO TO SHALLOW

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(2-4 cm sample) glass/Sid	cold/freezer
(2-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:
Sample disturbance:
Lithology: CLAY, SAND / GRAY (PROBABLY 2 LAYERS)
H2S odor: NO
Biology: BRITTLE STAR
Other:

LESS THAN 1/4 FULL
TO SHALLOW FOR CORE

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

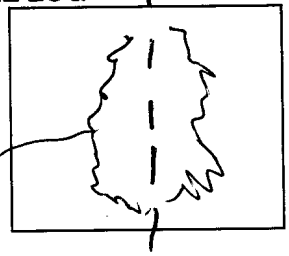
CHEM
STATION LOG page # 53

Station-cast ID 86
J Date and calendar date 3/6/02
Bottom Time (GMT or Local?) 905
Bottom Time (GMT or Local?)
Deck time (GMT or Local?)
Wind/weather
Seas
Time sub sampled
Salinity

Recorded by
Processors
Lon (GPS) 37 24 deg. 364 min.
Lat (GPS) 122 48 deg. 227 min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 97.6

VAN VEEN GRAB SAMPLE LOG

Truncate Org Tex



sketch subsample placement

Grab ID#
sed height (cm remaining)
Photo #

Subsample	Sample ID #
Organics/glass (250mL)	X
Metals (spec vial)	X
Texture (Ziploc)	X
Organics (60mL)	
Organics 2 (60mL)	
Push Core	X

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:
Sample disturbance:
Lithology: MUDDY SAND, GRAY
H2S odor: NONE
Biology: BRITTLE STAR LEGS
Other:

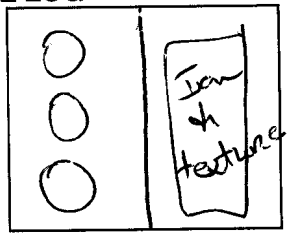
MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 54

Recorded by	S. Vanwan		Station-cast ID	69.
Processors			J Date and calendar date	
Lon (GPS)	deg.	min.	Bottom Time (GMT or Local?)	1154
Lat (GPS)	deg.	min.	Bottom Time (GMT or Local?)	
Target Lon (GPS)	deg.	min.	Deck time (GMT or Local?)	
Target Lat (GPS)	deg.	min.	Wind/weather	cloudy, 18kts
Water depth (m or ft)	62		Seas	chop 3-5ft.
			Time sub sampled	
			Salinity	

VAN VEEN GRAB SAMPLE LOG

hydrocarbons
petro
core



sketch subsample placement

Grab ID# 6961
sed height (cm remaining)
Photo #

Subsample		Sample ID #
Organics/glass (250mL)		
Metals (spec vial)	Y	MCAR6961
Texture (Ziploc)	Y	
Organics (60mL)	Y	
Organics 2 (60mL)	Y	
Push Core	Y	

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:

Sample disturbance: 2/3 full
Lithology: gray, muddy sand
H2S odor: none
Biology: tubes
Other:

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 55

Recorded by M. Tomson
Processors
Lon (GPS) 1 deg. min.
Lat (GPS) 3[redacted] deg. min.
1G1 ↳ 11:00 Target Lon (GPS) 3747.75 deg. 122 29.49 min.
1G6 11:32 Target Lat (GPS) 3747.76 deg. -122 29.52 min.
Water depth (m or ft)

Station-cast ID STATION # 1
J Date and calendar date
Bottom Time (GMT or Local?) 1G1 11:00 LOCAL
Bottom Time (GMT or Local?) 1G2 11:32 LOCAL
Deck time (GMT or Local?)
Wind/weather NICE
Seas NICE
Time sub sampled
Salinity

SMALL BOAT OPERATIONS IN COVE

VAN VEEN GRAB SAMPLE LOG

sketch subsample placement

Grab ID# 1GI
sed height (cm remaining)
Photo # NO

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)	Y	(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)	Y	(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)	X	(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)	Y	(0-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)	Y	(0-4 cm sample) glass/Tom	cold/freezer
Push Core		___ cm depth push core	cold/freezer

COARSE SAND - SMALL ROATOPS

COMMENTS FOR ALL DEVICES:
Sample disturbance: YES a
Lithology: SAND - Gray Green w/ Chert
H2S odor: NO
Biology: NO
Other:

See page # 37 for Some INFO

1A sites SKIPPED

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 56

Recorded by
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft)

Station-cast ID
J Date and calendar date
Bottom Time (GMT or Local?)
Bottom Time (GMT or Local?)
Deck time (GMT or Local?)
Wind/weather
Seas
Time sub sampled
Salinity

VAN VEEN GRAB SAMPLE LOG

sketch subsample placement

Grab ID#
sed height (cm remaining)
Photo #

Subsample	Sample ID #	Container	Fate
Organics/glass (250mL)		(0-2cm sample) 250ml glass	wrap and freeze
Metals (spec vial)		(0-2 cm sample) spec jar	cold/freezer
Texture (Ziploc)		(0-2 cm sample) Ziploc/texture	cold
Organics (60mL)		(0-4 cm sample) glass/Sid	cold/freezer
Organics 2 (60mL)		(0-4 cm sample) glass/Tom	cold/freezer
Push Core		___ cm depth push core	cold/freezer

COMMENTS FOR ALL DEVICES:
Sample disturbance:
Lithology:
H2S odor:
Biology:
Other:

Skipped 57, 47, 67 (all 1A sites) Due To Ship TRAFFIC

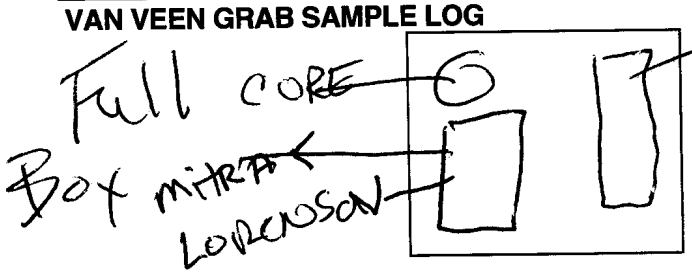
MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

CHEM
STATION LOG page # 56

Recorded by Mike T.
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 71 m

Station-cast ID 50
J Date and calendar date MARCH 6 2002
Bottom Time (GMT or Local?) 1450
Bottom Time (GMT or Local?)
Deck time (GMT or Local?)
Wind/weather 10-15KT. SOME SPRITZING
Seas 4' W/CHOP
Time sub sampled
Salinity

VAN VEEN GRAB SAMPLE LOG



sketch subsample placement

Grab ID# 50 G1
sed height (cm remaining)
Photo # 50G1

Subsample	Sample ID #
Organics/glass (250mL)	Y
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	Y
Organics 2 (60mL)	Y
Push Core	Y

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
12.3 cm depth push core	cold/freezer

NICE SUBCORE

COMMENTS FOR ALL DEVICES:
Sample disturbance: NO
Lithology: GREEN SANDY MUCKY MUD
H2S odor: NO
Biology: WORMS
Other: NICE CORE

MCAR02028 March 1-6, 2002 offshore of San Francisco Bay

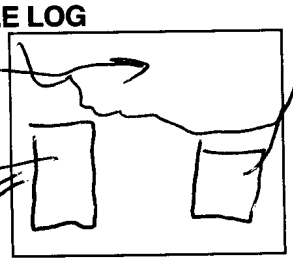
CHEM
STATION LOG page # 57

Recorded by TORRESAN
Processors
Lon (GPS) deg. min.
Lat (GPS) deg. min.
Target Lon (GPS) deg. min.
Target Lat (GPS) deg. min.
Water depth (m or ft) 35m

Station-cast ID 15
J Date and calendar date
Bottom Time (~~GMT or~~ Local?) 1705
Bottom Time (~~GMT or~~ Local?)
Deck time (GMT or Local?)
Wind/weather 10-20KT RAIN TOO!
Seas 4-6
Time sub sampled
Salinity

VAN VEEN GRAB SAMPLE LOG

MAJOR DISTURBANCE
METALS
TEXTURE
ORGANICS



PHARM + HYDROCARBS

sketch subsample placement

Grab ID# 15G1
sed height (cm remaining)
Photo # 15G1 - NO photo

Subsample	Sample ID #
Organics/glass (250mL)	Y
Metals (spec vial)	Y
Texture (Ziploc)	Y
Organics (60mL)	Y
Organics 2 (60mL)	Y
Push Core	U

Container	Fate
(0-2cm sample) 250ml glass	wrap and freeze
(0-2 cm sample) spec jar	cold/freezer
(0-2 cm sample) Ziploc/texture	cold
(0-4 cm sample) glass/Sid	cold/freezer
(0-4 cm sample) glass/Tom	cold/freezer
___ cm depth push core	cold/freezer

Box ~ 1/2 Full

COMMENTS FOR ALL DEVICES:
Sample disturbance: Yes
Lithology: GRAY muddy fine sand
H2S odor: NO
Biology: Tubes
Other:

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
G F	22	3/1/02	7:35 PM

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	Pharm Pit hydro

STATION LOCATION

South of Bayes Pt.

STATION COORDINATES

		GPS	Other
Latitude	N		
Longitude	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None X	None
Clay	Brown	Sulfur	Worms X
Mud some	Gray X	Sewage	Tubes X
Sticky ✓	Green	Oily	Molluscs
Sand fine sand	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY (CTD) YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 45	(M) / F	Secchi Depth	M / F

SAMPLE TEAM

Don, Dana, Mike

Recorder [illegible]

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	61	3/3/02	10:40

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	pharm, petro

STATION LOCATION

S of Half Moon Bay

STATION COORDINATES

		GPS	Other
Latitude 37 21.8	N		
Longitude 122 33.055	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None ✓	None
Clay	Brown	Sulfur	Worms
Muddy Sand	Gray ✓	Sewage	Tubes ✓
Sticky	Green ✓	Oily	Molluscs shells/clamshell
Sand	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY — CTD / YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 65 m	M / F	Secchi Depth	M / F

SAMPLE TEAM

Dan Blackwood, Ian, Mike

Recorder SSL

COMMENTS

MLAR 02028 } USGS#
61 G1 }

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	60	3/3/02	12:14

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	Pharm

STATION LOCATION

STATION COORDINATES

		GPS	Other
Latitude 37 24.793	N		
Longitude 122 39.693	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None X	None
Clay	Brown	Sulfur	Worms ✓
Mud by sand	Gray	Sewage	Tubes ✓
Sticky	Green	Oily	Molluscs
Sand	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 75	M / F	Secchi Depth	M / F

SAMPLE TEAM

DAN/MIKE/IAN

Recorder JJL

COMMENTS

60 G1 - USGS

G = grab

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	49	3/3/02	13:46

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	Pharm

STATION LOCATION

STATION COORDINATES

			GPS	Other
Latitude	37 26.864	N		
Longitude	122 39.335	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms ✓
Mud dy Fine Sand	Gray	Sewage	Tubes ✓
Sticky	Green	Oily	Molluscs
Sand	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

NONE

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 69	M / F	Secchi Depth	M / F

SAMPLE TEAM

Don/mike/Ian

Recorder SJR

COMMENTS

49G1-USOS

2002 CCMA California Sanctuaries Survey

Local Time

Zone	Station	Date	Time
MB	46	3/3/02	14:24

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	Pharm

STATION LOCATION

STATION COORDINATES

		GPS	Other
Latitude 37 29.064	N		
Longitude 122 38.223	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt – little	Black	None	None
Clay	Brown	Sulfur NONE	Worms ✓
Mud	Gray	Sewage	Tubes ✓
Sticky	Green/gray	Oily	~~Molluscs~~ clam shell
Sand	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 62	M / F	Secchi Depth	M / F

SAMPLE TEAM

DAN/DOUG/MIKE

Recorder JJL

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	48	3/3/02	

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	Phoxxm

STATION LOCATION

STATION COORDINATES

		GPS	Other
Latitude	N		
Longitude	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None X	None
Clay	Brown	Sulfur	Worms X
Mud X	Gray	Sewage	Tubes X
Sticky	Green X	Oily	Molluscs
Sand X	Rust		Crustacea
Shell/Rock			Echinoderms ?
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 66	M / F	Secchi Depth	M / F

SAMPLE TEAM

Recorder

COMMENTS

have to get coord's time etc from ships log - Southern ship channel plotted wrong - think grain size + sample lat long correct - hand held + ship GPS agree w/each other + target lat longs

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	59	3/3/02	16:06

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	Pharm

STATION LOCATION

STATION COORDINATES

Latitude 37 27.581	N	GPS	Other
Longitude 122 41.475	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms ✓
Mud dy sand	Gray	Sewage	Tubes ✓
Sticky	Green	Oily	Molluscs
Sand	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 73→73	M / F	Secchi Depth	M / F

SAMPLE TEAM

Ian, Dan, Mike

Recorder SJL

COMMENTS

lots of Mica

USGS - 59G1

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	43	3/3/02	6:25 PM

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	Pharm

STATION LOCATION

west of South shipping channel - had to avoid traffic

STATION COORDINATES

Latitude	37 34 541 N	GPS	Other
Longitude	122 43.570 W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt X	Black	None X	None
Clay	Brown	Sulfur	Worms X
Mud	Gray X	Sewage	Tubes X
Sticky	Green X	Oily	Molluscs
Sand X	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 54	M / F	Secchi Depth	M / F

SAMPLE TEAM

Ron, Nick, Doug

Recorder [illegible]

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	30	03/03/02	19:33 LOCAL

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	

STATION LOCATION

STATION COORDINATES

			GPS	Other
Latitude	37° 33.932'	N		
Longitude	122° 39.003'	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None ✓	None
Clay	Brown	Sulfur	Worms
Mud	Gray ✓	Sewage	Tubes ✓
Sticky	Green ✓	Oily	Molluscs
Sand ✓	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY (CTD) YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 47	(M) / F	Secchi Depth	M / F

SAMPLE TEAM

Tom, Mike, Doug

Recorder D.E.P.

COMMENTS

NO core - too SHALLOW, ~~NO ORGANICS TOO SANDY~~

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	42	03/03/02	9:13 PM

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	Sherm, Pathyder

STATION LOCATION

STATION COORDINATES

Latitude 37 37.123	N	GPS	Other
Longitude 122 43.973	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt X	Black	None X	None
Clay	Brown	Sulfur	Worms X? or
Mud	Gray	Sewage	Tubes X
Sticky X	Green X	Oily	Molluscs X
Sand X mostly	Rust		Crustacea
Shell/Rock			Echinoderms X ?
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 48	(M) / F	Secchi Depth	M / F

SAMPLE TEAM

Jan Mike Doug

Recorder KH

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	116	3/3/02	1st 9:50 PM 2nd 10:09 PM

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	

STATION LOCATION

STATION COORDINATES

			GPS	Other
Latitude	37 39. 503	N		
Longitude	122 41. 800	W		

SEDIMENT DESCRIPTION

COLOR		TEXTURE		ODOR/SHEEN		BENTHOS	
Silt		Black		None	X	None	
Clay		Brown		Sulfur		Worms	X
Mud	X	Gray	X	Sewage		Tubes	X
Sticky		Green	X	Oily		Molluscs	X
Sand	X mostly	Rust				Crustacea	
Shell/Rock						Echinoderms	
						SAV	
						Algae	
Other*		Other*		Other*		Other*	

(*describe in comments)

WATER QUALITY (CTD) YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 38	(M) / F	Secchi Depth	M / F

SAMPLE TEAM

Ian, Doug, Mike

Recorder [illegible]

COMMENTS

2 casts - 1st had two 8" spikes, antennae, ? cut off in grab + bottom leaked out

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
M B	103	3/4/02	1:10 AM

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	Pharm, Pat Hydro

STATION LOCATION

Pioneer Canyon

STATION COORDINATES

Latitude	37 24.769	N	(GPS)	Other
Longitude	122 52.520	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None X	None
Clay	Brown	Sulfur	Worms
Mud ✓	Gray X	Sewage	Tubes X
Sticky	Green X	Oily	Molluscs
Sand X mostly	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY — CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 280	(M) / F	Secchi Depth	M / F

SAMPLE TEAM

Ken Mike Doug

Recorder [illegible]

COMMENTS

wire spool seems smooth (ok) again

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	108	3/4/02	4:40

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	petro

STATION LOCATION

Pioneer Canyon - deepest sample

STATION COORDINATES

Latitude 37 23. 771	N	GPS	Other
Longitude 122 53. 823	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None ✓
Clay	Brown	Sulfur	Worms
Muddy Sand	Gray	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sand	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 412	M / F	Secchi Depth	M / F

SAMPLE TEAM

DAN GUNNAR

Recorder SGL

COMMENTS

sloping seds surface not flat

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
M B	94	3/4/02	~~5:47~~ 6:03 second grab

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	petro

STATION LOCATION

STATION COORDINATES

		GPS	Other
Latitude ~~37 25.216~~ 3725.197 second grab	N		
Longitude ~~122 51.761~~ 122 51.783 second grab	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms
Mud	Gray	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sand	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other* Broken shell

None

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth ~~160~~ 155	M / F	Secchi Depth	M / F

SAMPLE TEAM

Dan Junior

Recorder GGF

COMMENTS

First cast - rock in jaws

Hard clay > second grab

grab not full

siphoned sample

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	[redacted] 93	3/4/02	7:51

Local Time

Time on Bottom

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	Petro

STATION LOCATION

STATION COORDINATES

		GPS	Other
Latitude 37 26.063	N		
Longitude 122 50.932	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None ✓	None
Clay	Brown	Sulfur	Worms
Mud	Gray / green	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sand & Clay	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other* Bubbles

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 122	M / F	Secchi Depth	M / F

SAMPLE TEAM

Dunn, Junior

Recorder GGL

COMMENTS

siphoned water
1 closed sample
no core

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	85	3/4/02	8:35

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	petro

STATION LOCATION

STATION COORDINATES

Latitude	37 27.095	N	GPS	Other
Longitude	122 50.144	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur NONE	Worms
Mud	Gray / green	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sand / clay	Rust		Crustacea small critters
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 97	M / F	Secchi Depth	M / F

SAMPLE TEAM

DW / gunner

Recorder GGL

COMMENTS

2/3 full grab

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
~~EA~~ MD	77	3/4/02	10:04

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	✓ petro

STATION LOCATION

STATION COORDINATES

		GPS	Other
Latitude 37 27.907	N		
Longitude 122 48.483	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None ✓ None	None
Clay	Brown	Sulfur	Worms
Mud	Gray / green	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sandy clay	Rust		Crustacea
Shell/Rock			Echinoderms ✓ Brittle Stars
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY (CTD) YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 88	(M) / F	Secchi Depth	M / F

SAMPLE TEAM

DAN / gunner, Sabrina

Recorder [illegible]

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
M13	70	3/4/02	10:43

local Time

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	petrol/pharm

on the bottom

STATION LOCATION

STATION COORDINATES

Latitude 37 28. 728	N	GPS	Other
Longitude 122 46. 729	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None ✓
Clay	Brown	Sulfur	Worms
Mud	Gray	Sewage	Tubes
Sticky	Green / GRAY	Oily	Molluscs
Sandy - clay	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

None

(*describe in comments)

WATER QUALITY — CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 83	M / F	Secchi Depth	M / F

SAMPLE TEAM

DAN/Gunnar/Sabrina

Recorder GGL

COMMENTS

1/2 full - NO core taken

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	71	3/4/02	12:22

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	/	/	petro

STATION LOCATION

STATION COORDINATES

		GPS	Other
Latitude	37 26.492 ~~37 28.727~~ 99 N		
Longitude	122 44.070 W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms ✓
Mud	Gray / green	Sewage	Tubes
Sticky	Green ✓	Oily	Molluscs
Sand y clay	Rust		Crustacea
Shell/Rock			Echinoderms ✓ Brittle stars
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

NONE

WATER QUALITY — CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 81	M / F	Secchi Depth	M / F

SAMPLE TEAM

DANN/gunner/Sabrina

Recorder GGL

COMMENTS

Seacat D = 81.6m 1148 IN WATER, 1151 going down

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	58	3/4/02	13:09

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	petro, pharm

STATION LOCATION

STATION COORDINATES

			GPS	Other
Latitude	37 30.200	N		
Longitude	122 43.444	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms
Mud	Gray / green	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sandy clay	Rust		Crustacea
Shell/Rock			Echinoderms ✓
			SAV
			Algae
Other*	Other*	Other*	Other*

NONE

(*describe in comments)

WATER QUALITY — CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 70.4	M / F	Secchi Depth	M / F

SAMPLE TEAM

DAN/gunner/Lacey

Recorder SSK

COMMENTS

Core taken

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
M13	45	3/4/02	2:38 PM

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	PHARM

STATION LOCATION

West of HM Bay - just east of south separation

STATION COORDINATES

Latitude 37 30.428	N	GPS	Other
Longitude 122 40.050	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None X	None
Clay	Brown	Sulfur	Worms X
Mud X	Gray X	Sewage	Tubes X
Sticky	Green X	Oily	Molluscs
Sand X	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 69 m	M / F	Secchi Depth	M / F

SAMPLE TEAM

Tom Mabe

Recorder [illegible]

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	44	3/4/02	15:14

SAMPLES

Metals	Organics/TOC	Grain Size	Other
/	/	/	petro/pharm

STATION LOCATION

STATION COORDINATES

Latitude 37 31. 765 N		GPS	Other
Longitude 122 40. 084 W			

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms
Mud dy fine sandy	Gray / green	Sewage	Tubes ✓
Sticky	Green	Oily	Molluscs snails
Sand	Rust		Crustacea
Shell/Rock			Echinoderms / Brittle stars
			SAV
			Algae
Other*	Other*	Other*	Other*

NONE

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 56	M F	Secchi Depth	M / F

SAMPLE TEAM

Mike / Lacey

Recorder SSL

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
SF	114	3/4	8:04

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	pharm

STATION LOCATION

South of SW00 (500m)

STATION COORDINATES

			GPS	Other
Latitude	3741.809	N		
Longitude	12224.266	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms ✓
Mud ✓	Gray ✓	Sewage	Tubes ✓
Sticky	Green	Oily	Molluscs
Sand ✓	Rust	FISHY	Crustacea ✓
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY (CTD) YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 22	(M) / F	Secchi Depth	M / F

SAMPLE TEAM

Sam Mike Doug

Recorder AV

COMMENTS

Water sample, NO CORE

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
SF	115	3/4/02	9:09 am

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	pharm

STATION LOCATION

500m north of SW00

STATION COORDINATES

Latitude	37° 42.359'	N	GPS	Other
Longitude	-122° 34.098'	W	Garmin 48	

SEDIMENT DESCRIPTION

~~Texture~~ ~~COLOR~~	Color ~~TEXTURE~~	ODOR/SHEEN	BENTHOS
Silt	Black	None ✓	None
Clay	Brown ✓	Sulfur	Worms ✓
Mud ✓	Gray ✓	Sewage	Tubes ✓
Sticky	Green	Oily	Molluscs
Sand ✓	Rust		Crustacea ✓
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY — (CTD) YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 17.8	(M) F	Secchi Depth	M / F

SAMPLE TEAM

Ian Mike Doug

Recorder RA

COMMENTS

odd water column gradient

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
SF	17	3/4/02	10:00 PM

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	

STATION LOCATION

55 E of

STATION COORDINATES

			GPS	Other
Latitude	37°38.593'	N	✓	
Longitude	122°33.102'	W		

SEDIMENT DESCRIPTION

~~COLOR~~ TEXTURE	~~TEXTURE~~ COLOR	ODOR/SHEEN	BENTHOS
Silt None	Black	None X	None
Clay	Brown X	Sulfur	Worms X
Mud	Gray X	Sewage	Tubes X
Sticky	Green	Oily	Molluscs
Sand ✓	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY — CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth ~~[illegible]~~ 19	M / F	Secchi Depth	M / F

SAMPLE TEAM

Jan Mike Doug

Recorder AH

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
SF	19	3/4/02	11:10 AM

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	petro hydro pharm

STATION LOCATION

on edge of shipping lane zone

STATION COORDINATES

Latitude 37 40.153	N	GPS	Other
Longitude 122 37.255	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None X	None
Clay	Brown X	Sulfur	Worms X
Mud some	Gray	Sewage	Tubes
Sticky	Green X	Oily	Molluscs X
Sand X	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 27	M / F	Secchi Depth	M / F

SAMPLE TEAM

Dan Mike Doug

Recorder [illegible]

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	18	3/4/02	11:53

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	Pharm, petrohydro

STATION LOCATION

outer edge of SF cutout of MBS

STATION COORDINATES

			GPS	Other
Latitude	37 42.860	N		
Longitude	122 39.105	W	✓	

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None X	None
Clay	Brown X	Sulfur	Worms
Mud None	Gray X	Sewage	Tubes X
Sticky	Green slight	Oily	Molluscs X
Sand X	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 28	M / F	Secchi Depth	M / F

SAMPLE TEAM

Jan Nate Doug

Recorder [illegible]

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	17	3/5/02	1:15 AM

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	pharm, pethydro

STATION LOCATION

Center of ship traffic circle

STATION COORDINATES

Latitude 37 45.564	N	GPS	Other
Longitude 122 41.024	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None X	None
Clay	Brown	Sulfur	Worms
Mud Some	Gray X	Sewage	Tubes X
Sticky	Green X	Oily	Molluscs X
Sand X	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 30	M / F	Secchi Depth	M / F

SAMPLE TEAM

Jon Mike Doug

Recorder [illegible]

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	9	3/5/02	1:47 AM

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	

STATION LOCATION

just north of channel exit from GG

STATION COORDINATES

			GPS	Other
Latitude	37 47.080	N		
Longitude	122 39.636	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms
Mud	Gray	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sand	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 24	M / F	Secchi Depth	M / F

SAMPLE TEAM

tom Mike Doug

Recorder [illegible]

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
GF	7	3/6/02	~~3:01~~ 3:12

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	pharm

STATION LOCATION

STATION COORDINATES

3749.712

			GPS	Other
Latitude	~~37 49 .719~~	N		
Longitude	~~122 39 .577~~	W		

122 39.593

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur None	Worms ✓
Muddy Sand	Gray	Sewage	Tubes
Sticky	Green hint of	Oily	Molluscs
Sand	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY (CTD) YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth	M / F	Secchi Depth	M / F

SAMPLE TEAM

DAN, GUNNAR, KIM

Recorder GGL

COMMENTS

First grab drained sediments away.

Second grab taken.

NO CORE

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	3	3/5/02	4:03

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓		✓	pharm

STATION LOCATION

STATION COORDINATES

Latitude 37 49.946	N	GPS	Other
Longitude 122 36.343	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None ✓
Clay	Brown	Sulfur	Worms
Mud	Gray ✓	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sand ✓	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

NONE

WATER QUALITY — CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 16	M / F	Secchi Depth	M / F

SAMPLE TEAM

Dave/Gunnar/Kim

Recorder GGL

COMMENTS

NO CORE

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
SF	11	3/5/02	5:32

Local Time 1:30 Hem

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	pharm, petro

STATION LOCATION

STATION COORDINATES

		GPS	Other
Latitude 37 44. 367	N		
Longitude 122 35. 740	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms
Mud	Gray	Sewage	Tubes amphipods
Sticky	Green	Oily	Molluscs gastropods
Sand	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

None

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 11	M / F	Secchi Depth	M / F

SAMPLE TEAM

DANN, Gunnar, Kim

Recorder GGL

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
SF	5	3/5/02	6:21

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	petro, Pharm

STATION LOCATION

STATION COORDINATES

Latitude 37 45.873	N	GPS	Other
Longitude 122 32.357	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None X	None X
Clay	Brown X	Sulfur	Worms
Mud	Gray	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sand COARSE	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 10	M / F	Secchi Depth	M / F

SAMPLE TEAM

DANN, GUNNAR, KIM

Recorder GGL

COMMENTS

HELD NO WATER
1 SAMPLE TAKEN BEFORE PHOTO

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	27	3/5/02	7:55

Local time

SAMPLES			
Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	phorm, petra

STATION LOCATION

STATION COORDINATES

Latitude 37 41.345	N	GPS	Other
Longitude 122 42.524	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms
Mud	Gray / open	Sewage	Tubes
Sticky	Green	Oily	Molluscs gastropods
Sand / Mud	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other* Sea pen

NONE

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 36.7	M / F	Secchi Depth	M / F

SAMPLE TEAM

DANK, Gunnar, KIM, Sabrina

Recorder GGZ

COMMENTS

Drum hole thru seed

2002 CCMA California Sanctuaries Survey

Bottom Feeder

Zone	Station	Date	Time
MB	28	3/5/02	8:39

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	phenol & petro

STATION LOCATION

STATION COORDINATES

Latitude 37 38. 641	N	GPS	Other
Longitude 122 40. 565	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms
Muddy sand	Gray & green	Sewage	Tubes
Sticky	Green	Oily	Molluscs gastropods
Sand	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

None

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 36.8	M / F	Secchi Depth	M / F

SAMPLE TEAM

Dave, Gunnar, Kim, Sabrina

Recorder GGL

COMMENTS

Middle of grab drain out "sink hole" but not as bad as #27

NO CORE

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
SF	1	3/5/02	~~10:58~~

SAMPLES

Metals	Organics/TOC	Grain Size	Other
Gold Flakes			

11:00 G I
11:18 G II None
11:23 G III
11:25 G IV
11:27 G V
11:32 G VI

STATION LOCATION

STATION COORDINATES

		GPS	Other
Latitude	N		
Longitude	W	Yes	

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None ✓	None ✓
Clay	Brown	Sulfur	Worms
Mud	Gray ✓	Sewage	Tubes
Sticky	Green ✓	Oily	Molluscs
Sand ✓	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other* Gold Flakes	Other*

(*describe in comments)

37.47.20
122.29.52
✓ ↑
G VII

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth	M / F	Secchi Depth	M / F

G IV
37 47.37
122 29.4

SAMPLE TEAM

Recorder

COMMENTS

G I

37.47.75
122.47.29.49 } MOD

37.47.75
122.29.51 } G III

Fine
37.47.76
122.29.44

Copied To New Sheet

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
SF	1	3/5/02	11:00 GI → metals organics pharm 512 11:32 GVI → P/P

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	pharm / petro

STATION LOCATION

GI
Lat 37 47.75
Long 122 29.49

STATION COORDINATES

GVI

			GPS	Other
Latitude	37 47.76	N		
Longitude	122 29.52	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None ✓	None ✓
Clay	Brown	Sulfur	Worms
Mud	Gray & green	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sand ✓	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other* "gold flakes	Other*	Other*

(*describe in comments)

WATER QUALITY — CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth	M / F	Secchi Depth	M / F

SAMPLE TEAM

DANN, gunnar, Lacey, Leroy

Recorder SSL

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
~~202~~ GF	202A	3/5/02	14:29

SAMPLES

Metals	Organics/TOC	Grain Size	Other

STATION LOCATION

STATION COORDINATES

		GPS	Other
Latitude 37 40.368	N		
Longitude 122 47.544	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms
Mud	Gray	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sand	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth	M / F	Secchi Depth	M / F

SAMPLE TEAM

Recorder [illegible]

COMMENTS

Second 202 site - STERN closer to wreck

* NO SAMPLE KEPT *

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
GF	202B	3/5/02	3:16

SAMPLES

Metals	Organics/TOC	Grain Size	Other
	~~X~~ NO		petro, core,

STATION LOCATION

close off bow of wreck

STATION COORDINATES

Latitude	37 40.354 N	GPS	Other
Longitude	122 47.550 W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms X
Mud X	Gray X	Sewage	Tubes X
Sticky	Green X	Oily	Molluscs X
Sand X	Rust		Crustacea
Shell/Rock			Echinoderms X
			SAV
			Algae
Other*	Other*	Other* yes	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 52	M / F	Secchi Depth	M / F

See Rutter 202

SAMPLE TEAM

Dan, Doug, Mike, Kim

Recorder RH

COMMENTS

collected 3 jars for evidence - nailed the location this time

* odor - can't place it

each jar was filled by digging a hole (2' diam) into sample

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
G F	203	3/5/02	1611

SAMPLES

Metals	Organics/TOC	Grain Size	Other

STATION LOCATION

port beam of Lubenbach

STATION COORDINATES

		GPS	Other
Latitude 37° 40. 77	N		
Longitude 122° 47.23	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None None	None
Clay	Brown	Sulfur	Worms yes
Mud	Gray	Sewage	Tubes yes
Sticky	Green	Oily	Molluscs
Sand Med	Rust		Crustacea yes
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other* oyster Drill

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 5	(M) / F	Secchi Depth	M / F

SAMPLE TEAM

Dan, Mike, Doug, Tacky, Dave

Recorder

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
# 37	204	MARCH 5	~~March~~ 1635

SAMPLES

Metals	Organics/TOC	Grain Size	Other

STATION LOCATION

STATION COORDINATES

		GPS	Other
Latitude 37° 40.822	N		
Longitude 122° 47.893	W	Yes	

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None None	None
Clay	Brown	Sulfur None	Worms Yes
Mud	Gray ✓	Sewage None	Tubes Yes
Sticky	Green ✓	Oily None	Molluscs Yes
Sand Yes	Rust		Crustacea ~~Yes~~
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 51	M / F	Secchi Depth	M / F

SAMPLE TEAM

Recorder

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
GF	201	3/5	5:13 PM

SAMPLES

Metals	Organics/TOC	Grain Size	Other

STATION LOCATION

Stern of Luckenbach - close in station

STATION COORDINATES

Latitude	37	40	411	N	GPS / Other
Longitude	122	47	705	W	

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms X
Mud ✓	Gray ✓	Sewage	Tubes X
Sticky	Green ✓	Oily	Molluscs
Sand ✓	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY — ~~CTD~~ None — YSI

SURFACE		BOTTOM (see 202)	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 52	M / F	Secchi Depth	M / F

SAMPLE TEAM

Jan Mike

Recorder [illegible]

COMMENTS

3 surface sed samples (1-2 inches) off port of wreck

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
GF	36	3/5/02	716 PM

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	PETRO

STATION LOCATION

STATION COORDINATES

		GPS	Other
Latitude 3742.433	N		
Longitude 12247.817	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None X	None
Clay	Brown	Sulfur	Worms X
Mud	Gray X	Sewage	Tubes X
Sticky	Green X	Oily	Molluscs X
Sand X	Rust		Crustacea X
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 52	M / F	Secchi Depth	M / F

SAMPLE TEAM

IAN DOUG MIKE

Recorder IAN

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
GF	82A	3/5/02	2242

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	

STATION LOCATION

1 mi out of rad. dump zone

STATION COORDINATES

Latitude 37 34.350	N	GPS	Other
Longitude 122 55.216	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None X	None
Clay	Brown	Sulfur	Worms
Mud X	Gray X	Sewage	Tubes X
Sticky	Green X	Oily	Molluscs
Sand X	Rust		Crustacea
Shell/Rock			Echinoderms X
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 100	M / F	Secchi Depth	M / F

SAMPLE TEAM

Tom, Mike, Doug

Recorder [illegible]

COMMENTS

weather starting to pick up - 20 kts from SW

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
GF	83	3/5/02	2230 Local

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	Core

STATION LOCATION

100 m isobath

STATION COORDINATES

			GPS	Other
Latitude	37°32.498	N		
Longitude	122° 53.860	W		

SEDIMENT DESCRIPTION

COLOR		TEXTURE		ODOR/SHEEN		BENTHOS	
Silt		Black		None	X	None	
Clay		Brown		Sulfur		Worms	X
Mud	Some	Gray	X	Sewage		Tubes	X
Sticky		Green	X	Oily		Molluscs	X
Sand	X	Rust				Crustacea	X
Shell/Rock						Echinoderms	
						SAV	
						Algae	
Other*		Other*		Other*		Other*	

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 99.2	M / F	Secchi Depth	M / F

SAMPLE TEAM

Ian Mike Doug

Recorder [illegible]

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	84	3/6/02	01:40 AM

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	

STATION LOCATION

STATION COORDINATES

Latitude	37° [illegible] N	GPS	Other
Longitude	122° [illegible] W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms
Mud	Gray	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sand	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 97 M	M / F	Secchi Depth	M / F

SAMPLE TEAM

Jon Mike Doug

Recorder

COMMENTS

37 29.976
122 52255 @ 0156

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	91-G3	3/6/02	~~2132~~ 2156

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	

STATION LOCATION

MBNMS

STATION COORDINATES

			GPS	Other
Latitude	~~37 28.546~~ 37 29.464	N		
Longitude	~~122 52.969~~ 122 52.917	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None ✓	None
Clay	Brown X	Sulfur	Worms
Mud muddy	Gray X	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sand X	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other* UNIDAEL, U SCAPED

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 110	M / F	Secchi Depth	M / F

SAMPLE TEAM

DANN, GUNNAR, KIM

Recorder

COMMENTS

First grab NO Sample
Second " "

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
~~107~~ MB	107	3/6/02	5:30

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	/	/	—

STATION LOCATION

STATION COORDINATES

			GPS	Other
Latitude	37 ~~28~~. 26.088	N		
Longitude	122 ~~52~~. 54.861	W		

SEDIMENT DESCRIPTION

COLOR		TEXTURE		ODOR/SHEEN		BENTHOS	
Silt		Black		None	X	None	
Clay		Brown		Sulfur		Worms	X
Mud	MUDDY	Gray	X	Sewage		Tubes	
Sticky		Green	X	Oily		Molluscs	X
Sand	X	Rust				Crustacea	
Shell/Rock						Echinoderms	
						SAV	
						Algae	
Other*		Other*		Other*		Other*	

(*describe in comments)

WATER QUALITY — CTD / YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 345	M / F	Secchi Depth	M / F

SAMPLE TEAM

DANN, Gunnar, KIM

Recorder GGZ

COMMENTS

CLAM, AMPHIPOD

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	111	3/6/01	6:22

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	

STATION LOCATION

STATION COORDINATES

Latitude	37 25 364 N	GPS	Other
Longitude	122 56 310 W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None X	None
Clay X	Brown	Sulfur	Worms
Mud ~~[illegible]~~	Gray X	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sand X	Rust		Crustacea
Shell/Rock			Echinoderms X BRITTLE STAR
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

LAYER LIKELY

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth ~~442~~ 445	M / F	Secchi Depth	M / F

SAMPLE TEAM

DAWN, GUNNAR, KIM

Recorder

COMMENTS

GRAB CLOSED @ 445M
LESS THAN 1/4 FULL

NO CORE

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MMB	866	3/6/02	9:05

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	—

STATION LOCATION

STATION COORDINATES

Latitude 37 24. 366	N	GPS	Other
Longitude 122 48. 227	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms
Muddy Sand	Gray	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sand	Rust		Crustacea
Shell/Rock			Echinoderms — Brittle stars legs
			SAV
			Algae
Other*	Other*	Other*	Other*

None

(*describe in comments)

WATER QUALITY — CTD / YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 97.6	M / F	Secchi Depth	M / F

SAMPLE TEAM

Dawn, Gunner, Sabrina

Recorder GG

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
MB	69	3/6/02	~~[illegible]~~ 10:19

SAMPLES

Metals	Organics/TOC	Grain Size	Other
/	/	/	pharm

STATION LOCATION

STATION COORDINATES

		GPS	Other
Latitude	37 31.242 N		
Longitude	122 48.792 W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None	None
Clay	Brown	Sulfur	Worms
Mud dy sand	Gray	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sand	Rust		Crustacea
Shell/Rock			Echinoderms ✓ Brittle STAR parts
			SAV
			Algae
Other*	Other*	Other*	Other*

NONE

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 84	M / F	Secchi Depth	M / F

SAMPLE TEAM

DANN / GUNNAR, Sabrina

Recorder GG

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
SF	1	3/5/02	11:00 G-I → metals organics grain size 11:32 G-VI → p/p

SAMPLES

Metals	Organics/TOC	Grain Size	Other
✓	✓	✓	pharm / petro

STATION LOCATION

G-I
LAT 37 47.75
LONG 122 29.49

STATION COORDINATES

G-VI

Latitude 37 47.76	N	GPS	Other
Longitude 122 29.52	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None ✓	None ✓
Clay	Brown	Sulfur	Worms
Mud	Gray / green	Sewage	Tubes
Sticky	Green	Oily	Molluscs
Sand ✓	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other* "gold flakes	Other*	Other*

(*describe in comments)

WATER QUALITY — CTD — YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth	M / F	Secchi Depth	M / F

SAMPLE TEAM

DANN, gunner, Lacey, Leroy

Recorder SSL

COMMENTS

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
6F	50	3/6/02	2:49 PM

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X	X	core, pharm, petro

STATION LOCATION

NW separation zone

STATION COORDINATES

			GPS	Other
Latitude	37 53.876	N		
Longitude	122 59.666	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None X	None
Clay	Brown	Sulfur	Worms
Mud X	Gray X	Sewage	Tubes X
Sticky	Green X	Oily	Molluscs
Sand X	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other* X

(*describe in comments)

WATER QUALITY CTD YSI

SURFACE		BOTTOM	
Temperature	°C		°C
Salinity	ppt		ppt
Dissolved Oxygen	mg/l		mg/l
Conductivity	umhos		umhos
Depth 71	M / F	Secchi Depth	M / F

SAMPLE TEAM

Jerm Mike Doug

Recorder MA

COMMENTS

big spitter / antenna - seen them before, but at deeper stations

wind picking up again, w/ rain

2002 CCMA California Sanctuaries Survey

Zone	Station	Date	Time
GF	15	3/6/02	5:10 PM

SAMPLES

Metals	Organics/TOC	Grain Size	Other
X	X		

STATION LOCATION

North of Traffic circle - between Pt Reyes + GG

STATION COORDINATES

			GPS	Other
Latitude	37° 53.886	N		
Longitude	122° 59.667	W		

SEDIMENT DESCRIPTION

COLOR	TEXTURE	ODOR/SHEEN	BENTHOS
Silt	Black	None ✓	None
Clay	Brown	Sulfur	Worms ✓
Mud ✓	Gray ✓	Sewage	Tubes ✓
Sticky	Green ✓	Oily	Molluscs
Sand ✓	Rust		Crustacea
Shell/Rock			Echinoderms
			SAV
			Algae
Other*	Other*	Other*	Other*

(*describe in comments)

WATER QUALITY CTD YSI

	SURFACE		BOTTOM	
Temperature		°C		°C
Salinity		ppt		ppt
Dissolved Oxygen		mg/l		mg/l
Conductivity.		umhos		umhos
Depth	35	M / F	Secchi Depth	M / F

SAMPLE TEAM

Dan, Mike, Doug

Recorder [illegible]

COMMENTS