

Method of Working

Hamon Grabbing Surveys-CSVs

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1 Introduction

1.1 Purpose & Scope

This document sets out the method of working to be adopted whilst undertaking grabbing operations from the fleet of Guardian coastal Survey Vessels.

This document outlines the following:

- Equipment requirements
- Crew competence requirements
- Rigging of equipment
- Deployment and recovery of equipment
- Derigging & stowage of equipment

This document does not deal with the processing and management of samples.

2 Associated documents

This method statement should be read in conjunction with the following documents:

Document N°	Type	Document Title
CSV-RA-13 (rev3)	Risk Assessment	Hamon Grab Ops Rev3

3 Vessel Requirements

For the purposes of grab sampling, the vessel should have a winch with a >1 tonne capacity, fitted with sufficient wire to extend 1.5 times beyond the maximum sampling depth. The wire should lead from the winch to the 'A' frame which allows the grab to be deployed safely clear of the vessel.

The vessel should have sufficient deck area to carry out the processing of samples and be fitted with a deck-wash hose

The vessel should also be fitted with a DGPS satellite positioning system.

4 Competence Requirements

This procedure may only be carried out by staff who have received training in this document. Training records must be maintained and archived accordingly. The deck crew of the vessel must understand the procedure for the deployment of the gear and must also be familiar with winch and A-Frame operations.

The table below references the formal

Role	Core Requirements	Task Specific requirements	
Skipper	Commercially Endorsed Yachtmaster or equivalent ENG1 medical Personal Survival Techniques	Manual handling	
Mate (winch operator)	ENG1 Personal Survival Techniques	Manual handling Winch and A-frame operations	
EA Staff	ENG1 Personal Survival Techniques	Manual handling Familiar with winch operations	
New staff	ENG1 Personal Survival Techniques	Manual handling Requirement for close supervision by competent person	

5 Crew responsibilities

The table below references the formal

Role	Key Responsibilities
Skipper	Overall Management and safety of vessel and crew. Safe operation of aft deck operations.
Mate (winch operator)	Coordination of safe working and deck operations Control of lifting operation (A-frame & winch operations) Coordination of deck crew. Communication between Bridge and Deck.
EA Staff	Coordination of sampling processes
New Personnel onboard	Observe safe operation and familiarize themselves with sampling operations.

6 Suitability of conditions & crew

The master will need to consider the following

- Weather conditions
- Wave Height
- Survey area Obstructions
- Depth of water
- Crew experience, physical ability and awareness.

7 Stopping the Job

The company's top priority is to ensure safe working practises, safety of its crew and the environment. Everyone has the authority to stop the job if they feel unhappy with a particular aspect of the operation.

8 Safety Critical Elements

Hazard	Controls
Swell/ Wave height Affects safe Lifting operations and deployment of Grab	Weather forecast / sea state Dynamic assessment
Manual handling of equipment	Use of lifting equipment where practicable Manual handling training
Suspended load Hamon grab weighs 350kg and is subject to vessel movement	Certified lifting equipment Supervision Competent winch operator and survey staff
Pinch points Grab and A-Frame Grab being lowered onto stand (Find Grab mechanism	Weather conditions. Awareness, body positioning, fingers. Layout of survey equipment to reduce pinch points.
Ropes & wires under tension Snapbacks Bights	Maintenance and inspection Certified lifting equipment and accessories Pre-use inspection Awareness of lifting operation Wire deck guard Management of ropes and wires on deck Supervision by Mate
Slip & trip hazards Winch wire and running wire guard Sediment	Awareness and position of wires. Deck fitting including wire guard painted in high contrast colour Deck regularly hosed down to prevent build up of sediment Suitable safety footwear with adequate grip
Man overboard	MOB drills MOB davit First Aid (hypothermia)

9 PPE

The following PPE should be worn for deck operations

Description	Specification
Safety boots	EN ISO 20345 S3 SRC
Coveralls	Standard issue for deck work
Safety glasses	EN166F
Safety gloves	Water resistant EN388 mechanical hazards Abrasion resistance = 3 Cut resistance = 2 Tear resistance = 3 Puncture resistance = 3
Hard hat with chin strap	BS EN 397
Lifejacket with crotch strap	Minimum of 150N
Wet weather gear	EN 343 3:2
Ear Protection Working adjacent to engine room fan louvres	Ear defenders to be made available as required when working adjacent to engine room fans.

10 Equipment Requirements

The following tables list equipment requirements along with associated certification and inspections.

10.1 Vessel Equipment

Vessel Equipment	Description	Test certification	Pre-use inspection
A frame	Lifting equipment	LOLER	Visual inspection & function test is free from defects, such as cracks
Winch	Deck equipment	LOLER	Visual inspection & function test is free from defects and operating without issue
Winch wire	Wire used for lifting grab in and outboard	LOLER	Visual inspection to ensure wire is in good condition, free from defects such as kinks
Running wire guard	Guard is fixed in position on deck to reduce risk of snap backs	N/A	Visual inspection
CCTV	Provides bridge with view of aft deck	N/A	Function test Operating and picture clear
UHF Radio	Provides means of communication between bridge and winch operator located on aft deck	N/A	Function test
Hose	Deck hose to be used for cleaning deck of sediment	N/A	Function test

10.2 Rigging Equipment

Vessel Equipment Type	SWL	Weight	Test certification	Pre-use inspection
Hamon grab	1.1t	350kg	LOLER certificate for wire	Visual inspection & function test
Hamon grab deck stand		100kg		Visual inspection & function test
Damper			Visual inspection	Visual inspection & function test
Shackles	Various		LOLER certification	Visual inspection & function test
"A" Frame pully attachment	3.25 tonne		LOLER certification	Visual inspection & function test
Wire to grab	1.5 tonne		LOLER certification	Visual inspection & function test

10.3 Survey Equipment

Survey equipment is the responsibility of the survey officer, however, the skipper must be happy with the arrangements on deck.

Vessel Equipment Type	Weight	Test certification	Pre-use inspection
Sample Sieving Stand/Shut	25kg	N/A	Visual inspection & function test
Sieves	Negligible	N/A	Sharp edges
Sample buckets		N/A	Sound construction, no sharp edges

11 Mobilisation

The master is responsible for identifying an appropriately safe berth for the loading of survey equipment and personnel.

12 Rigging Procedure

Item	Description	Illustration
1.	Attach A-Frame Damper	
2.	Position Hamon Grab and Stand in position on rear deck under A - frame	
3.	Attach winch wire to Hamon Grab lifting wire using appropriate tested shackle and Swivel.	
4.	Check that operation of Hamon Grab and wire condition and that the weights are secure.	
5.	Place a clean plastic box under the grab stand hopper to collect the sample	
6.	Arm the Hamon grab by pulling the lifting arm down from the vertical position allowing the release hook to be engage. To keep this hook engaged, the winch wire needs to be under slight tension. (Winch operator will judge this)	

13 Survey Preparation

Item	Description
1.	Suitable Weather forecast, dynamic risk assessment if appropriate
2.	Make sure all equipment is secure and ready for use
3.	Safety barrier to be left in place during operations

4.	Undertake Toolbox Talk with all crew and review RAMS
5.	Confirm CCTV and UHF is operational allowing effective communication between deck and bridge
6.	When new crew are involved a practice run will be conducted in dock or a designated safe area

14 Grabbing Procedure

Item	Description	Illustration
1.	Positioning the vessel on site and prepare the grab	
2.	Confirmation from rear deck that all is ready	
3.	Master to confirm when on location and ready for deployment of the grab	
4.	Hydraulics engaged	
5.	Crew to stand clear of grab and running wire during deployment	
6.	Winchman signals "Lifting"	
7.	Grab raised and steadied in damper	
8.	"A" frame traversed outboard	
9.	Engine revs increased and grab lowered to seabed	
10.	Winch operator confirms when grab has made contact with the seabed. (FIX)	
11.	Grab recovered to surface where it is controlled and leaves the water	
12.	Two crew in position ready to steady the grab in to stand.	
13.	Revs reduced and "A" Frame retracted to the vertical	
14.	Grab lowered into stand	
15.	Winchman give signal to pull down wire for slack	

16.	While the arm is held in the horizontal position, the scoop of the grab should be checked to make sure the entire sample has been released. The grab mechanism is then reset (cocked) crew and the winch operator. A slight tension will need to be maintained on the winch wire to prevent the mechanism from triggering before the next deployment	
17.	Sample is carried by 2 crew members to sieving stand or placed on deck area	
18.	Grab is washed with deck wash	
18.	New clean bucket placed under grab	
19.	Notification to Master that grab is ready for re deployment	
20.	The aft deck should be regularly hosed down and kept clean and tidy.	

15 De-rigging Procedure

Item	Description
1.	Disconnect wire of grab from winch wire
2.	Secure Grab to Grab frame securely before lifting
3.	Use Effer crane to position Grab equipment in new location on vessel or shoreside

16 Stowage of Grab

Item	Description	Description
1.	Hamon grab should be securely lashed in the stowage location in preparation for transport	Hamon grab should be strapped securely in new stowage location