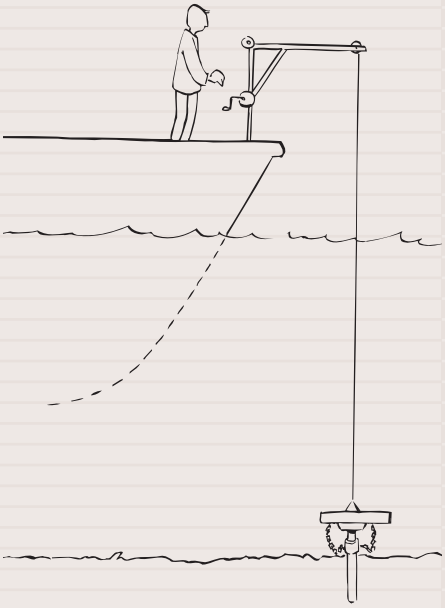
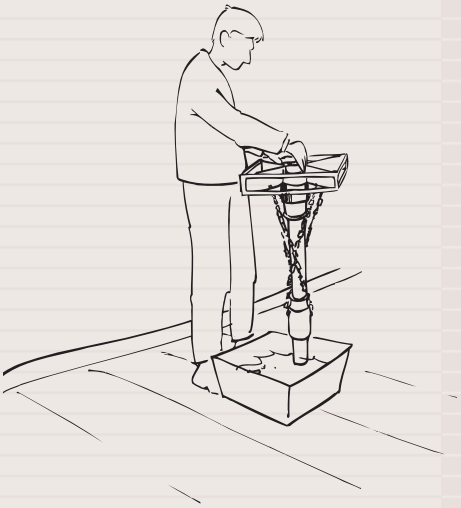
You will return to the contents of P1
SOIL by clicking the pictogram

CABLE OPERATED SEDIMENT SAMPLERS

Using a davit on board of a boat the free-fall corer is lowered in free-fall.



The sample is discharged by lifting the ball valve a little.



Sampling of submerged soils at greater depths from the bottoms of rivers, lakes, etc. is executed with cable operated samplers. The samples are either or not disturbed.

04.29 Free-fall corer

The free-fall corer is a sampling tool for fairly undisturbed sampling from the top layer of submerged sediments either or not consolidated.

The free-fall corer consists of a frame with strengthening ribs, falling weight and sampler. Using a hoisting unit (davit) on board of a boat the sampler is lowered in free fall. By its own weight and velocity the apparatus penetrates the submerged soil.

The depth of penetration is partly determined by the composition of the submerged soil. In soils rich of mud, penetration will reach to about 80 cm, in more sandy soils this will be about 30 cm.

After lifting the sampler an immediate rough description of the stratification of the submerged soil is possible due to the transparent tube and also the depth of penetration can be measured.
After removing the sample further description regarding the composition, colour, smell and particulars if any, is possible.

Applications

- The free-fall corer is applied particularly when sampling with rod operated equipment poses problems because of too great water depth and current velocity.
- Sampling is done on behalf of environmental research, soil research and geo-hydrological research.

Note: During sampling with the free-fall corer samples are compressed, in some cases this may amount to a factor 2. The problem of compression can be avoided by using a sediment sampler, type Beeker sampler (04.23.SA).

Free-fall corer

BENEFITS

04.29 Free-fall corer

- Cable operated; takes samples at any depth
- Super rapid, no anchoring needed
- Ball valve at top prevents loss of sample

CABLE OPERATED SEDIMENT SAMPLERS

04.30 Van Veen grabs

The stainless steel Van Veen grabs are used for taking disturbed samples from the bottom of lakes, rivers, etc. Various designs can be supplied. The smaller designs are manually controlled.

The mode of operation of all Van Veen grabs is the same. At the surface the jaws are pushed open and kept in that position by a hook. To keep the hook in the right position the Van Veen grab should be sunk at a steady, not too high, pace.
Both jaws are fitted with holes to allow air to escape during the sinking. If these holes were not there, the air would escape when taking the sample, which would result in interference with the sample.
As soon as the jaws touch the bottom, the hook loosens its grip, so that, when hoisting the rope again the jaws will shut tight because of the leverage by the rods.

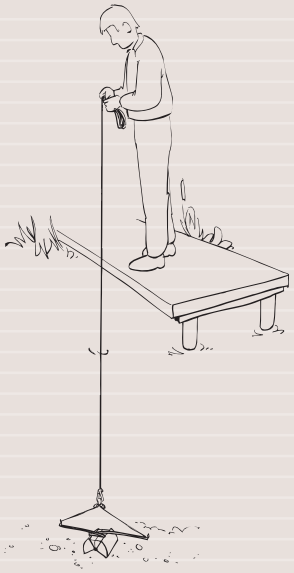
The amount of drawn sample mainly depends on the compactness of the bottom. A heavier grab catches more than a lighter one. Therefore all models have been fitted with weighting blocks. Moreover, when a strong current prevails, the cable of the heavier grab deviates less from the vertical than the lighter one.

It is recommended to take at least 6 samples from every location and to base your conclusion on the total of the samples.
This is especially important when the bottom is less regularly shaped and the bottom material consists of a mixture of materials.

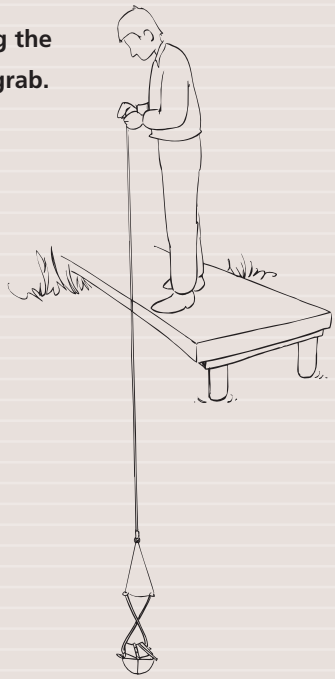
In spite of the heavy closing force, it can happen that a pebble sticks between the buckets. In such case the sample is not representative; the smaller parts may have excaped during hoisting.
Once surfaced, the grab is emptied and cleaned.

Van Veen grabs

The Van Veen grab is sunk on a rope with its jaws open.



Hoisting the closed grab.



BENEFITS

04.30 Van Veen grabs

- Fastest indication of sediment type
- Four sizes to suit any need
- Inert stainless steel construction
- Anyone can do the job

Eijkelkamp Agrisearch Equipment

www.eijkelkamp.com

PARTS LIST

Art.no.	Description	Qty. in set
P1.41	**Cable operated sediment samplers**	
	The free fall corer is considered as the standard apparatus for cable-operated sediment sampling	
04.29	**Free-fall corer. Standard set**	
**04.29.01	Frame with sample tube guide	1
**04.29.11	Acrylic sample tube, with steel cutting shoe, Ø 76x66 mm, length 100 cm	10
04.30	**Van Veen grabs**	
	Depending on the required size of the sample you may choose one of the various Van Veen grabs, which are sunk on cables (For the operation of the biggest grab a hand winch is needed).	
04.30.01	Van Veen grab (stainlesssteel), contents 0.5 litres, surface covered 126 cm^2	
04.30.02	Van Veen grab (stainless steel), contents 2 litres, surface covered ca. 260 cm^2	
04.30.03	Van Veen grab (stainless steel), contents 6 litres, surface covered ca. 480 cm^2	
04.30.05	Van Veen grab (stainless steel), contents 12 litres, surface covered 8 dm^2	
02.02.99.01	Synthetic cable, Ø 8 mm x 15 m, incl. fasteners	
02.02.99.05	Synthetic cable, Ø 10 mm x 25 m, incl. fasteners	
02.02.99.08	Synthetic cable, Ø 10 mm x 40 m, incl. fasteners	

Art.no.	Description	Qty. in set