

# Sample Collection and Submission Guidance for Settlement Testing

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## What is a Settlement Test?

A settlement test examines the rate of natural separation of solid fraction from water, helping determine the risk profile of a site and informing the type of silt pollution control measures that may be required during temporary works.

Analysis also reviews the efficacy of Gel Flocculant so that secondary treatment options may be considered.



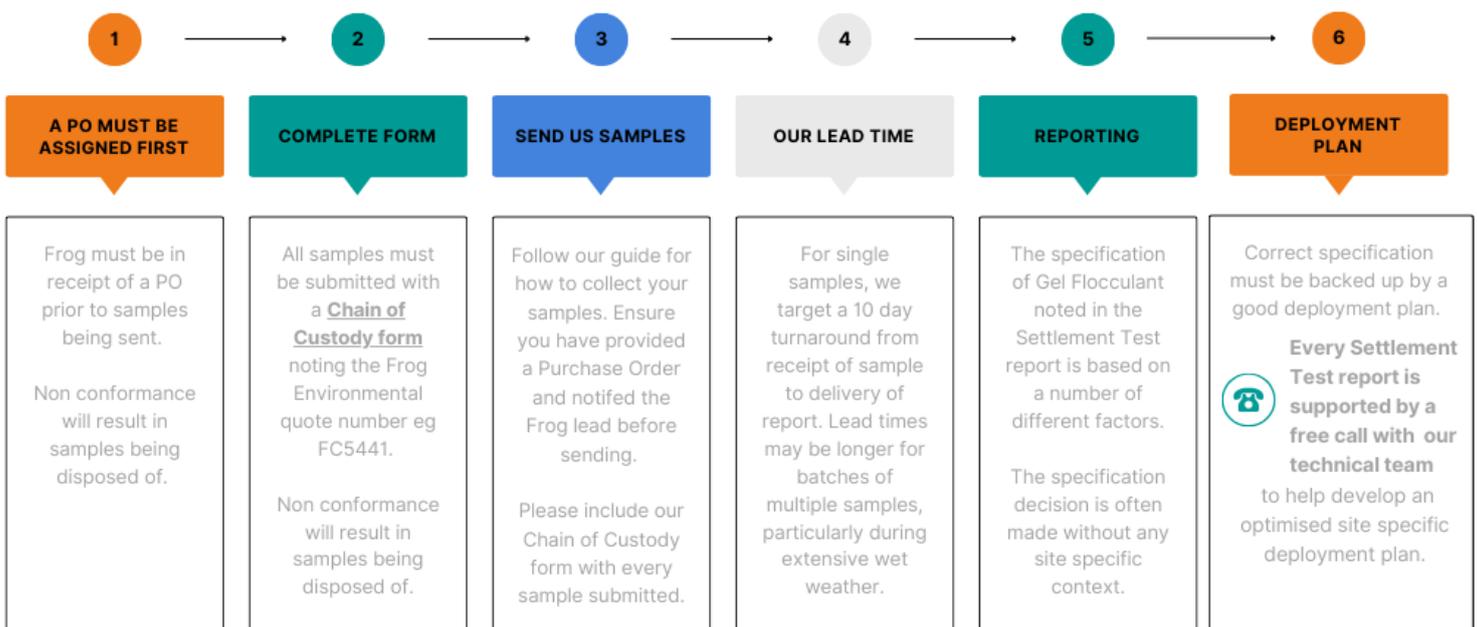
## What is a representative sample?

The aim of sampling is to accurately reflect the site specific soil & water conditions that may lead to silty run off. It is therefore extremely important that representative sampling is undertaken.

For operational construction activity, potentially already experiencing silt run-off issues, this often means sampling water that may pool as “dirty water” requiring treatment, or water of poor clarity that is directly discharging. A water sample should therefore be taken directly from the polluted water source requiring treatment (See below section: How to take a sample).

During drier periods, or to cater for early risk assessment and feasibility (potentially a greenfield site, with no exposed soils) an alternative approach needs to be followed. This typically involves an excavation to subsoil level, ideally taking advantage of existing ground investigation or borehole works, to collect a sample of subsoil from ground levels that are to be exposed during the temporary works phase. This soil is then mixed with local surface water or rainwater (not tap water) to best recreate run-off conditions.

## Our minimum requirements, lead time and technical support for Settlement Test and Flocculant Validation Reports



**Please note: All Settlement Test samples sent to us must follow our sample submission guidance as outlined in the graphic on page 1. Samples that are submitted that do not meet our standards will be delayed or disposed.**

## How and where to take a sample

### Pre-construction (Early risk assessment and optioneering)



Ideally, take a water sample where there is silt impacted pooling water that is representative of the conditions expected during the active works. Where impacted standing water is not available (e.g., a greenfield site) then a composite sample, formed from separate subsoil and freshwater samples should be used.

- Where possible combine with planned site investigation / borehole works to allow the soil sample to be taken from contracted works.
- Take a composite sample of subsoil (not topsoil) from depths reflective of the soil strip, groundworks and build programme that is to be followed.
- Collect approximately 500g of subsoil, to package and send as per Page 3.
- Additionally, collect 2 litres of freshwater (not tap water), to package/send as per Page 3.
- Water should be collected from an immediate source of freshwater – e.g., the waterbody to be discharged into
- Alternatively, collect recent standing water or collect fresh rainwater
- Do not send stagnant water or non-freshwater, as this affects the flocculant review.

### During active works



- Your water sample should ideally be taken from the source of impacted water on site – for example from the polluting discharge, silty overland flow, pooling water or attenuation pond. See Section: How to contain & label your sample.
- Where a sample is not available- e.g., during dry periods – follow the guidance for pre- construction as above, collecting separate soil and water samples to submit to Frog Environmental.



## How to contain and label your sample

### Composite Sample (Soil and Water combined)

- ◆ Using a clean bottle (e.g., a mineral water bottle or similar), fill a minimum 2 litres from the silty water / ponding water taken from the water column, do not send deposited sediment from the bed.
- ◆ Ensure the bottle is well sealed and secure.
- ◆ Clearly mark the bottle with the date of sampling, project / site name and customer detail.



### Water Sample (to combine with a separate soil sample)

- ◆ Using a clean bottle (e.g., a mineral water bottle or similar), fill a minimum 2 litres from watercourse or waterbody taken from the water column. Do not use stagnant water.
- ◆ Ensure the bottle is well sealed and secure.
- ◆ Clearly mark the bottle with the date of sampling, project or site name plus customer name.

### Soil Sample

- ◆ Package a minimum 500g of subsoil within a clean plastic tub – e.g., a sandwich tub or takeaway tub. Seal with tape. Alternatively, fill within a heavy duty plastic bag.
- ◆ Mark the tub / bag with the date of sampling, project or site name plus customer name.
- ◆ Secondary wrap the tub or primary bag within a plastic bag.

## How to package and send your sample(s)

1. Ensure your labelled samples are securely sealed and placed in a suitable box or bag.
2. Complete Frog Chain of Custody COTC Document 1 in full (Sample Detail Form).
3. Place the completed form within your box / bag and seal securely.
4. Print Frog Chain of Custody COTC Document 2 (contains Frog's address) and attach to your box/bag. Alternatively, clearly write our address on the package.
5. Send by your chosen delivery option – e.g, Royal Mail Next Day or courier.
6. Delivery within 72 hours of sampling is required as samples should not be stood for any extended period.
7. Delivery needn't be a signed for option, however, the implications of re-sampling due to a lost sample rest with the customer, so this must be borne in mind selecting your delivery option.
8. Notify your Frog Environmental contact that the sample is on its way. This helps us ensure that your samples are expected and booked into our laboratory.