

Procedure: JSY07 WI02
Title: Groundwater Monitoring and Sampling



- 1 **Purpose:** To ensure that groundwater monitoring and sampling is carried out in a consistent manner and in accordance with industry best practice, thus generating reliable groundwater quality data.

2	Procedure	Responsible Person	Record
	Prior to Sampling Date		
2.1	Arrangements are made with the laboratory (Element) for the correct sample containers to be delivered comfortably in advance of the proposed sampling date. If required by DHL, they are pre-notified that samples will be delivered to them at Jersey Airport on the intended date.	Sampling personnel	-
	Lone Working and Site Hazards		
2.2	The task is undertaken by two monitoring personnel and hence Lone Working procedures are not required. However, any site specific hazards (e.g. blasting, no-go areas and areas in which to expect quarry workings/plant movements) are discussed with the quarry manager before the commencement of monitoring If on any occasion the task is undertaken by one person the Jersey specific lone working procedure JSY33 is adhered to.	Sampling personnel	-
2.3	Suitable and sufficient PPE is worn in accordance with the task based risk assessment.	Sampling Personnel	Risk Assessment
	Monitoring Water Levels (where required)		
2.4	The first borehole is located and checked for damage. The following are noted on the monitoring proforma/notebook: <ul style="list-style-type: none"> - screw cap missing - sample bailer missing - borehole damaged such that it cannot be monitored/sampled - any other pertinent information 	Sampling personnel	Proforma / notebook
2.5	The borehole screw cap is removed. The dedicated sampling bailer, which is suspended just inside the top of the borehole, is removed if necessary and placed carefully to avoid getting the bailer contaminated with surface derived soils/ debris.	Sampling personnel	-
2.6	The dip meter is lowered into the borehole until it signals that the water level has been encountered. The dip to water is measured from a known and surveyed reference point, usually the top of the borehole pipe. The dip level is recorded.	Sampling personnel	Proforma / notebook
2.7	At least annually a dip to the base of the borehole is required. The depth to the base of the well is measured from the same reference point (top of pipe).	Sampling personnel	Proforma / notebook
2.8	If no sampling is required during the visit the borehole sampling bailer and screw cap are then replaced.	Sampling personnel	-
	Clauses 2.4 – 2.8 are repeated for all boreholes as required.		

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Sampling Using a Bailer			
2.9	If the borehole has not been dipped immediately before sampling then clauses 2.4 and 2.5 should be followed.	Sampling personnel	-
2.10	The dedicated bailer for the well is attached to the sampling line reel using a carabiner clip and lowered into the borehole. The bailer is allowed to fill and is then removed from the borehole and the first volume is discarded to rinse the bailer. The bailer is refilled and the next volume and further volumes are used to fill the sample bottles (there is no need to rinse the bottles as they are sterile or may be pre-charged with a fixative).	Sampling personnel	-
2.11	Any fixative/preservative is added to the sample(s) as required by the laboratory. All bottles are filled to the top unless there is a fill level indication point marked on the bottle. Care is taken to ensure there is no air gap when the bottle top is screwed back on securely. If necessary the outside of the bottles are wiped 'dry' using a paper towel.	Sampling personnel	-
Sampling from a pumped borehole supply or quarry sump			
2.12	BH Pump 2 is a borehole for which an abstraction licence is held to concrete making activities. The sample is taken from pipe outlet supplying washout activities.	-	Information
2.13	The sump in the base of the quarry collects site drainage which is pumped up to the silt settlement channel. For health and safety reasons the sample may be collected from the outlet of the pipe where water from the sump is discharged into the settlement lagoon, however, if the end of the pipe is submerged below the water in the lagoon or is not otherwise accessible, the sample is taken directly from the quarry sump.	-	Information
Sample Despatch			
2.14	The filled and labelled sample bottles are packed in the cool box provided by the laboratory with several (at least 3) frozen ice packs to prolong the stability of the water quality parameters. Bubble wrap is used to protect the sample bottles from breakage in transit. If there is any delay in dispatch the samples are stored in cool conditions, preferably a fridge.	Sampling personnel	-
2.15	The samples are despatched to the laboratory in accordance with JSY07 WI03.	Sampling personnel	Analysis request form

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2 Procedure **Responsible Person** **Record**

Reference Documents:

1. JSY07 WI01 Surface Water Monitoring and Sampling
2. JSY33 Lone Working
3. JSY07 WI03 Water Sampling – Dispatching Samples to the Lab
4. JSY07 Management and Monitoring of Site Water Effluent and Discharges