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## Accelerated gate two queries process

<b>Strategic solution(s)</b>	Recycling
<b>Query number</b>	SWR008
<b>Date sent to company</b>	31/01/2022
<b>Response due by</b>	02/02/2022

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### Query

Please provide the following information:-

The detail of sample parameters classed as 'exotic' in the submission, the number of these taken and cost per sample.

Please explain why these "exotic" samples were needed.

Please provide an explanation for any other samples taken outside of the scope of the ACWG sampling methodology, including parameters and number of samples undertaken, cost per sample and the reason why they were taken.

### Solution owner response

We have broken down the recent query into sections below.

The detail of sample parameters classed as 'exotic' in the submission, the number of these taken and cost per sample.

SW have interpreted the use of "exotic" as Contaminants of Emerging Concern (CECs) – which include compounds such as pharmaceuticals and personal care products (PPCPs), flame retardants, PFAS, 1,4 Dioxane, NDMA, wastewater tracers e.g., caffeine and sucralose as well as compounds such as 1H-Benzotriazole, which has been identified by the DWI Ref: DWI - parameter codes consolidated list - including Raw Water monitoring - incorporating Information Letter 03/2019 Annex C (updated on the 20<sup>th</sup> of April 2020).

Circa 470 analytes including 97 PPCPs, other CECs as well as compounds listed in DWI's Schedule 1 and 2 have been sampled for over 2 years (Dec 2019 to date). The sampling programme covered seasonal variations to enable Southern Water to establish the risk profile of both wastewater and river catchment. This was explained, initially, in Southern Water's Gate 1 report and in previous engagement sessions with the DWI.

The comprehensive list of CECs is included Southern Water's Water Safety Plan (approved by SW's Water Quality and Water Risk teams) submitted to the DWI on the 24<sup>th</sup> of September 2021 by Southern Waters Water Quality & Public Health Manager.

Southern Water have used 4 catchment events per year, over 2 years, with 15 sampling locations. 30 samples were taken per location for each catchment event. This is further detailed in our Gate 2 submission, Annex 2, section 2.2.1.1.

The total cost of these CEC / "exotic" parameters, based on analytical costs, is [REDACTED] for an estimated total of 3600 samples (individual samples covering multiple parameters). This does not include other associated costs e.g. sampling contractor time.

The average cost per sample (consisting of multiple parameters) is [REDACTED]. Please note we cannot share the individual costs per parameter without a commercial redaction.

Please explain why these "exotic" samples were needed.

The analytes or determinands sampled from the rivers Itchen and Test, seasonally, were also sampled at the [REDACTED] that includes a Full Advanced Treatment process. A data comparison was made between the river Itchen and the permeate from the [REDACTED] to ensure the treatment risk at [REDACTED] was minimal. Sampling of the wastewater catchment enabled Southern Water to understand the risk in the new 'source' water (final effluent) as recommended at the Water Safety Plan (WSP) Hazards Identification stage at Gate 1. We have leveraged global best practise to ensure we have fully understood and mitigated any water quality risks in the catchment to ensure the [REDACTED] can mitigate the risks.

Please note that the WfLH team is working, in conjunction with Southern Water's Water Quality team on a reduction of the list of compounds that will be presented in the future WSPs and a meeting will be set up with the DWI to communicate the change and obtain feedback.

Please provide an explanation for any other samples taken outside of the scope of the ACWG sampling methodology, including parameters and number of samples undertaken, cost per sample and the reason why they were taken.

The ACWG methodology (a list of circa 96 compounds proposed by the ACWG Working Group) is still in draft and has not yet been ratified by the ACWG as best practise for SRO projects. It is understood that the compounds list is still in development and will eventually include a guidance note to highlight caveats on potential additional chemicals or compounds needed in order for Companies to manage their own catchments risks as required for the WSPs.

Southern Water will continue to work with the ACWG Working Group to finalise the methodology and supporting guidance and will include any requirements in its updated WSP or Gate 3 submission.

Southern Water have taken the WSP requirements as their guidance to ensure the water quality risks are clearly understood and mitigation can be demonstrated in the novel technology being used in the [REDACTED].

The reason for the sampling is described above, as are the costs.

<b>Date of response to RAPID</b>	2/2/22
<b>Strategic solution contact / responsible person</b>	[REDACTED] [REDACTED]