

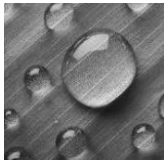
ELEMENTS ENERGY

**Cilybebyll Hydro
Scheme**

**Hydromorphology
Survey**

July 2025

**Hydropower Consultancy &
Development**



Document Control

Scheme Name: Plas Farm Hydro Scheme

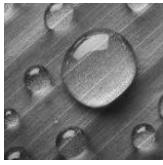
Client Name: Richard Bowen

Elements Energy Ltd Reference: CYBH

Elements Energy Ltd

Tel: 07717811107

Document Control			
File Name:	CYBH-DOC-Hydromorphology Survey Report-B-050126-AC		
	Original Rev A	Revision B	Revision C
Prepared by:	A. Cropper	A. Cropper	
Approved by:	A. Cropper	A. Cropper	
Date:	140725	050126	
Status:	Approved	Approved	
Comments:			



Survey Date & Time: 11th July 2025, 11am-5pm (16 Locations)
Conducted by: Adam Cropper
Flow Conditions: Low

Hyrdomophology Survey

Watercourse – River Clydach, Cilybebyll, Swansea

The hydromorphology survey was taken on the 11/07/25 between the 11:00am and 5:00pm. Sixteen Locations were selected throughout the water course ranging from 400m up from the proposed intake down to the proposed outfall and one more 100m below outfall and 200m below outfall. Any further upstream or downstream was not able to be recorded due to access restrictions. For each location a grid reference was taken along with photographs of the location and where possible a photograph of the river bed sediment (all photographs include a stave or similar for scale).

On all photographs the left and right bank labels are when looking upstream.

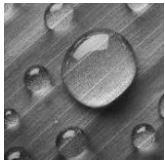
The depleted Reach Gradient

The Coanda intake crest is at 205.50mOAD, the invert of the outfall is at 146.44mAOD. The floor level of the powerhouse is at 148m OAD.

The reach has an elevation drop of 59.6m

The length of the reach measured down the centre of the watercourse is 974m long

Therefore the gradient is 0.061 or 6%



Location 1 – SN 75995 04478 (circa 400m Upstream of intake)



Figure 1 Downstream



Figure 2: Upstream

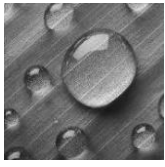


Figure 3: Let Bank



Figure 4: Right Bank

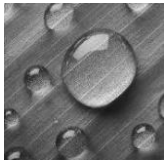


Figure 5: Sediment

Location 2 – SN 75801 04417 (circa 250m upstream of intake, apologies water on lens, this location only)



Figure 1: Downstream

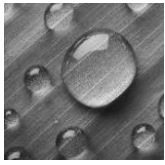


Figure 2: Upstream



Figure 3: Left Bank

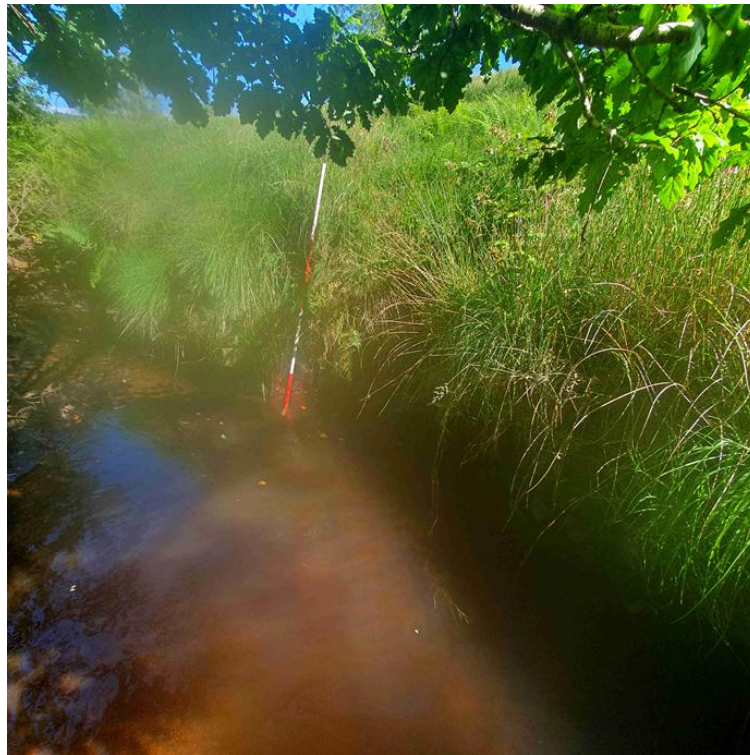
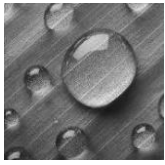
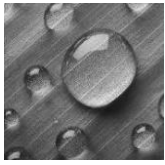


Figure 4: Right Bank



Figure 5: Sediment



Location 3 – SN 75677 04394 (at landownership boundary, circa 100m upstream of intake)



Figure 1: Downstream

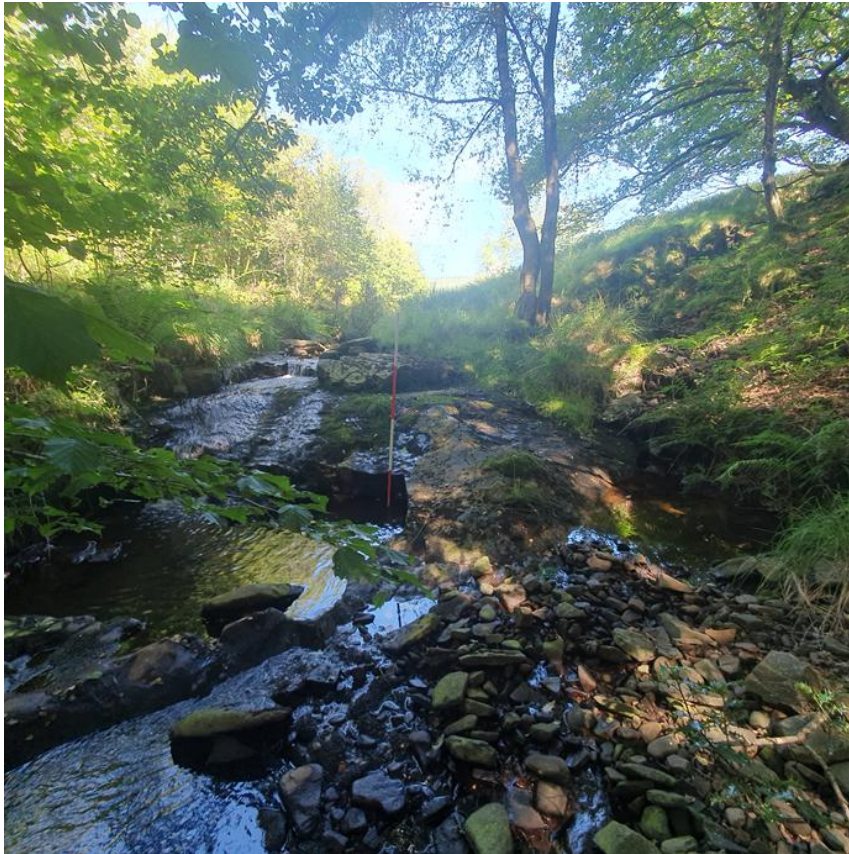
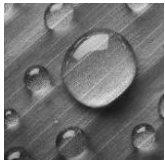


Figure 2: Upstream

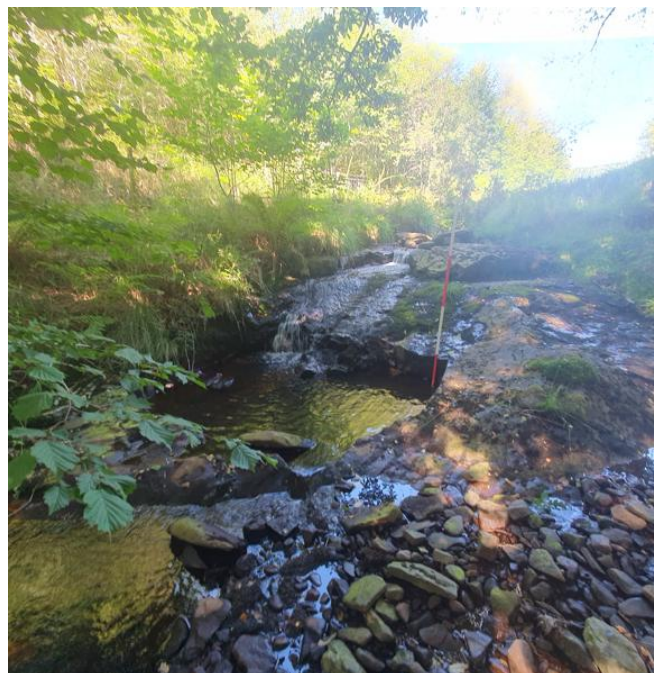


Figure 3: Left Bank

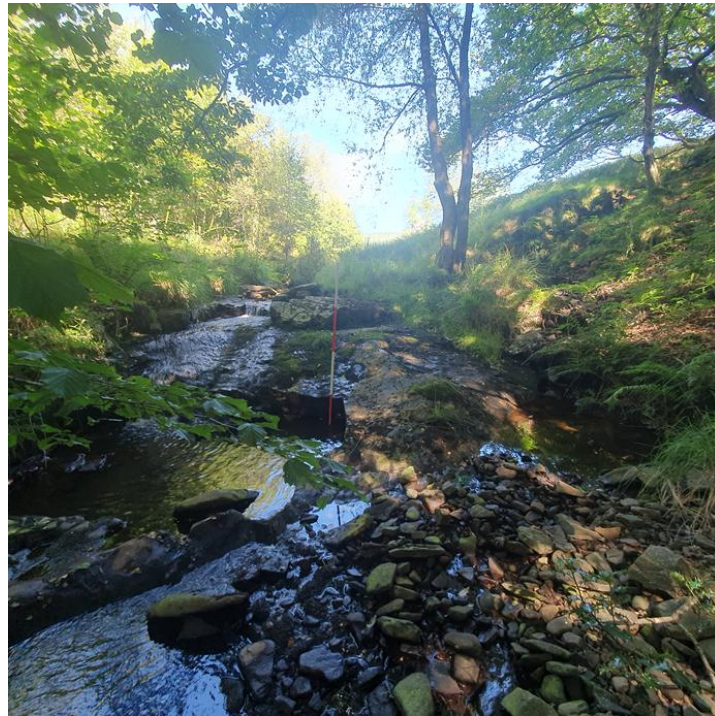
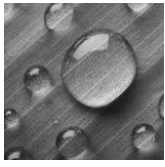
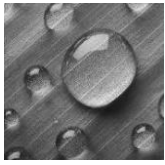


Figure 3: Right Bank



Figure 4: Sediment



Location 4 – SN 75557 04369 (Intake Location)

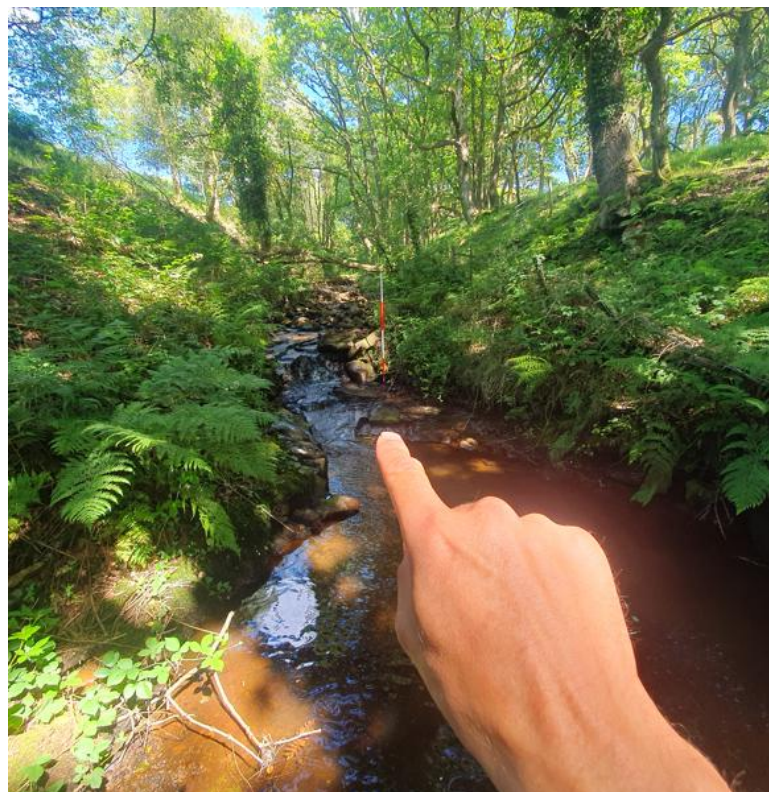
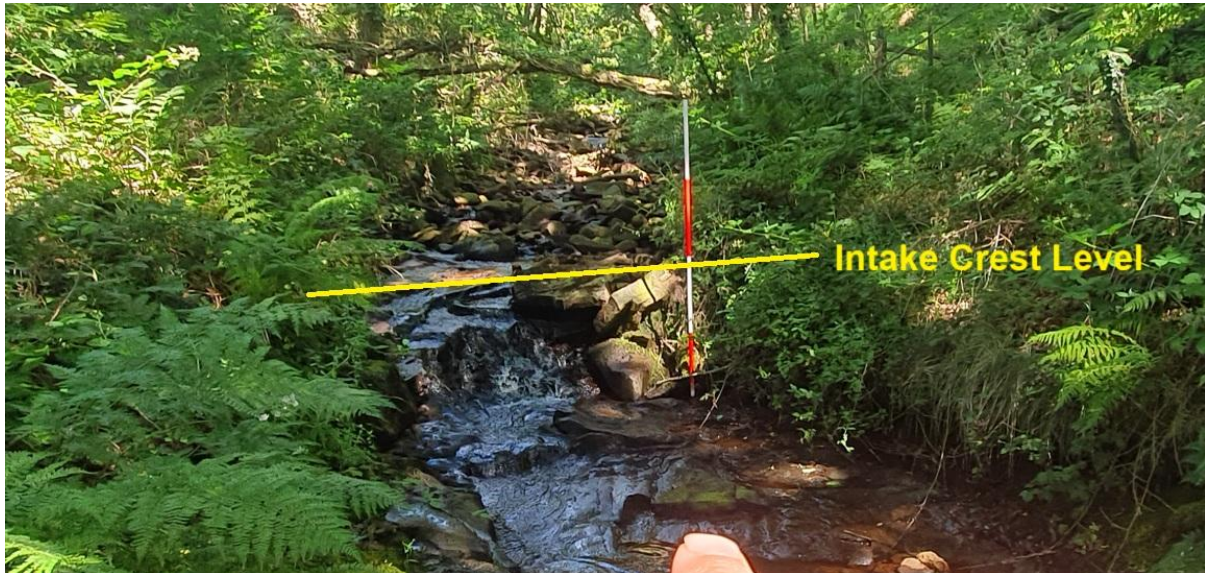


Figure 1: Upstream

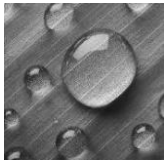


Figure 3: Left Bank



Figure 3: Right Bank

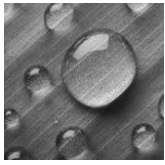


Figure 4: Sediment

Location 5 – SN 75377 04354



Figure 1: Downstream

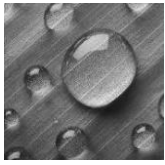


Figure 2: Upstream

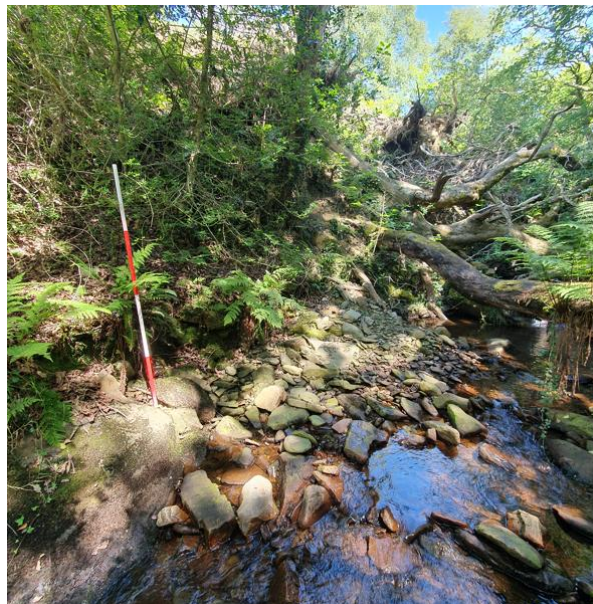


Figure 3: Left Bank

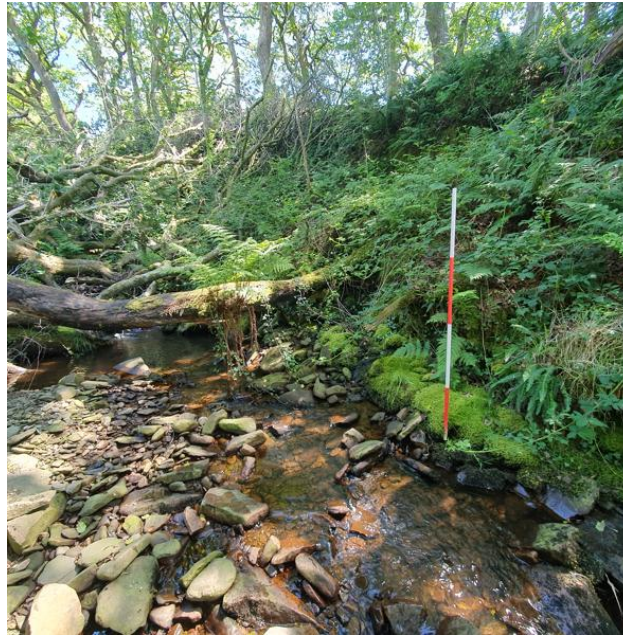
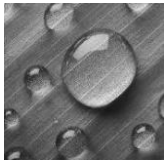


Figure 4: Right Bank

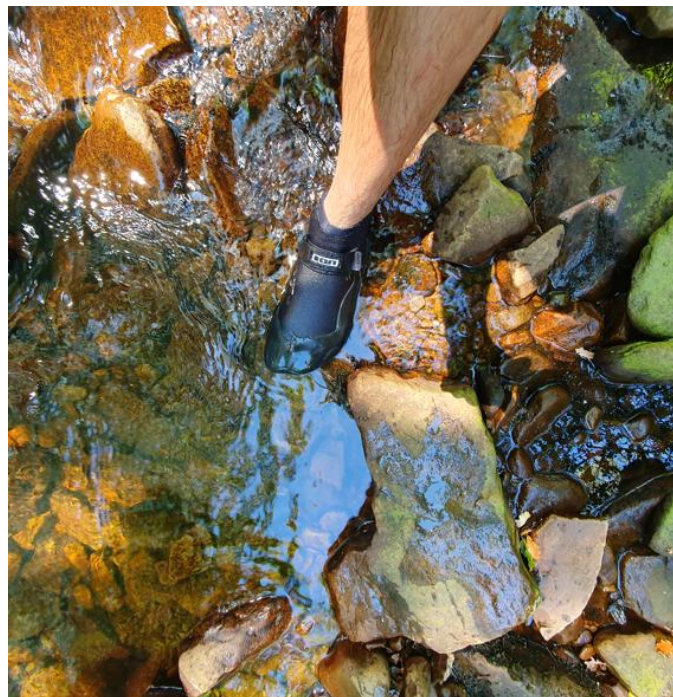
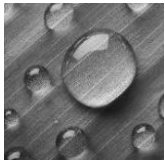


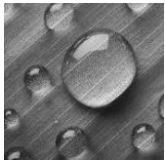
Figure 5: Sediment



Feature Road Bridge Waterfall – SN 75215 04397



Location 6 – SN 75179 04374 (Confluence of joining tributary)



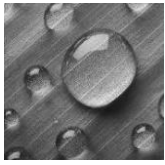
ELEMENTS ENERGY



Downstream



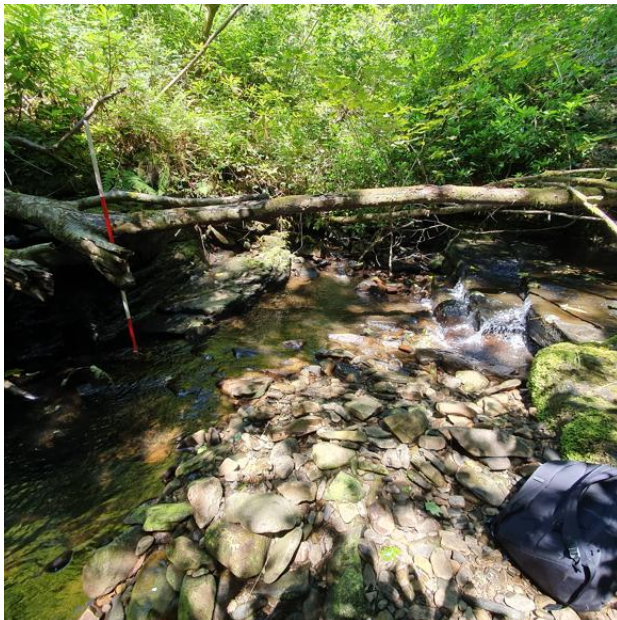
Figure 2 (Trib is on the left of photo, main river is on the right (hydro is on main river not the trib.)



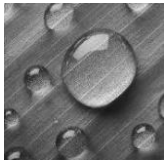
ELEMENTS ENERGY



Right Bank



Left Bank

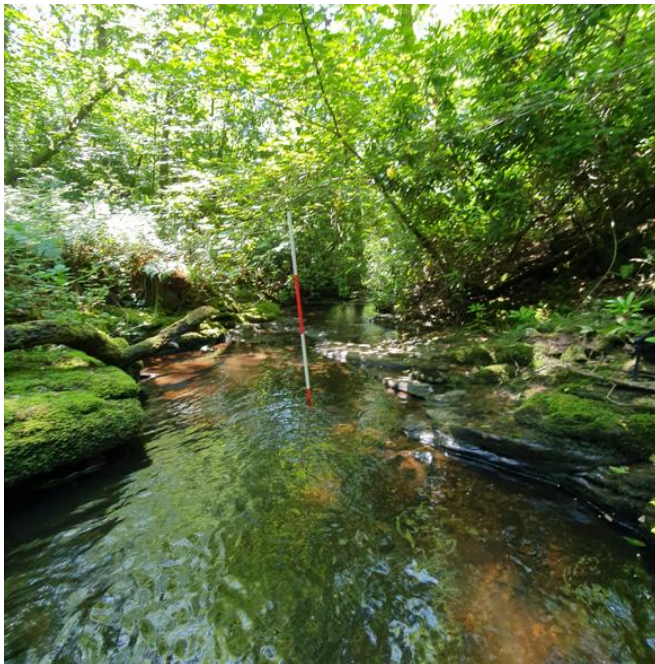


ELEMENTS ENERGY

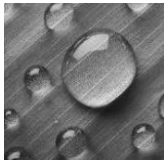


Sediment

Location 7 – SN 75065 04301



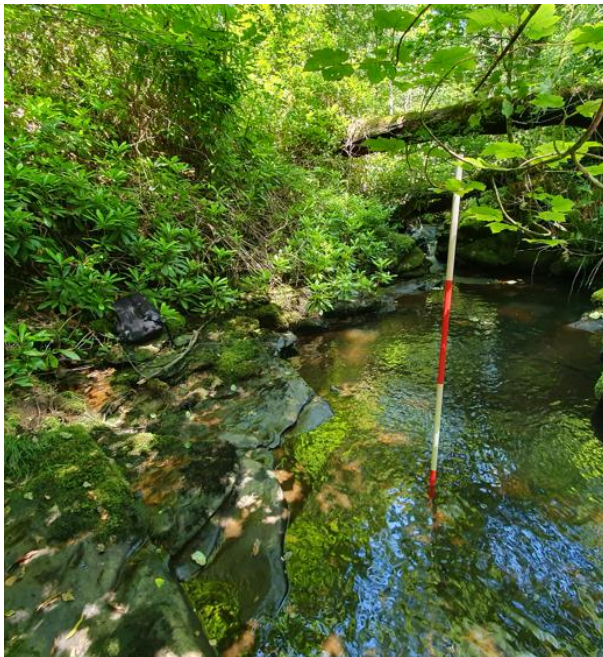
Downstream



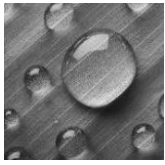
ELEMENTS ENERGY



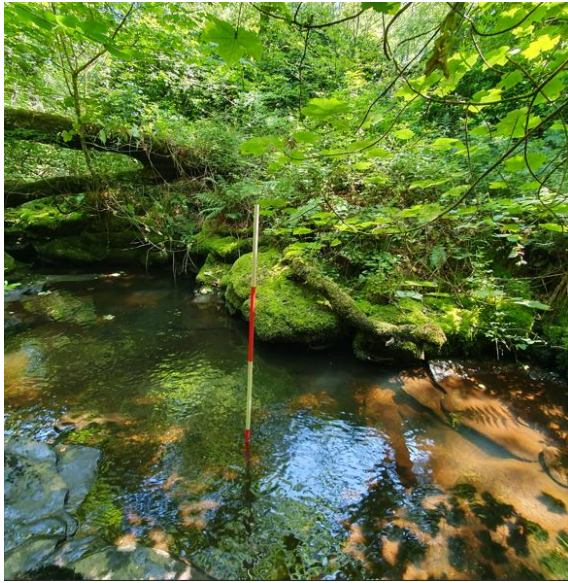
Upstream



Left Bank



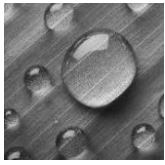
ELEMENTS ENERGY



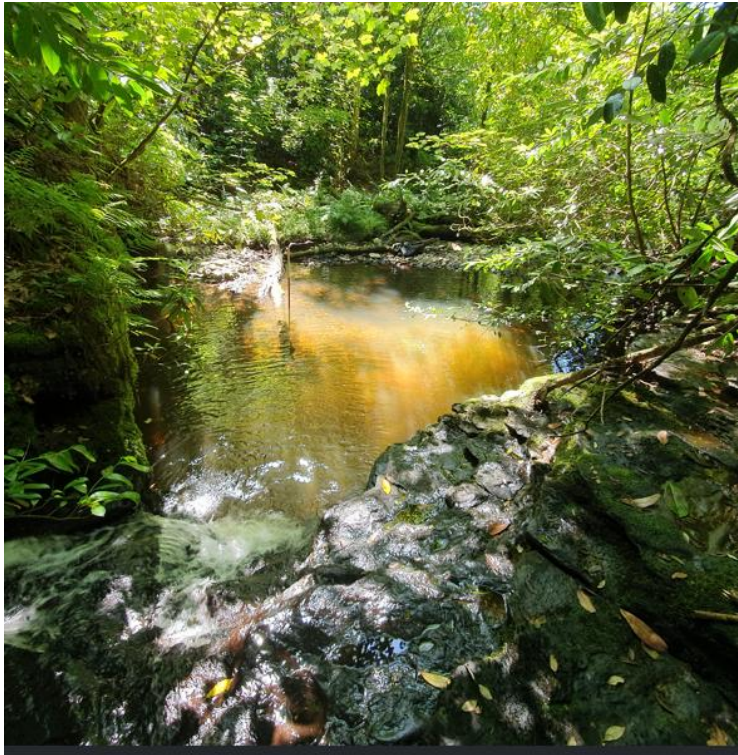
Right Bank



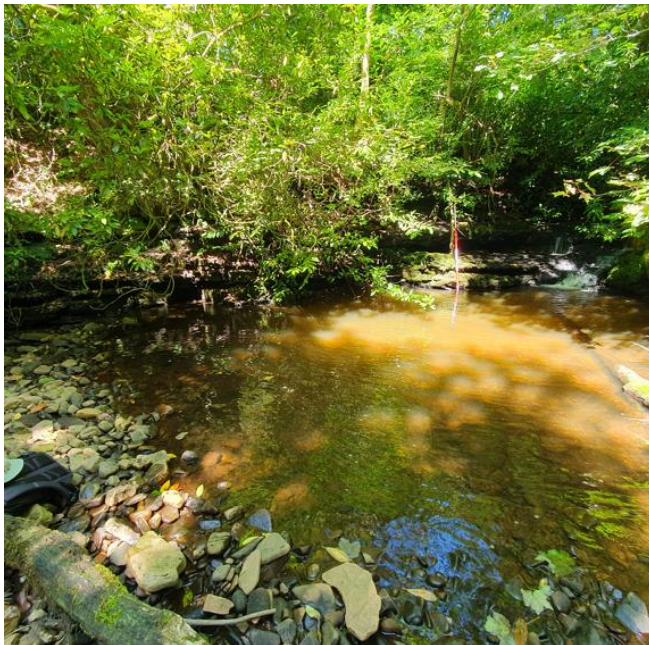
Sediment



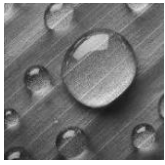
Location 8 – SN 75035 04271 (Large Pool fed by waterfall)



Downstream



Left Bank



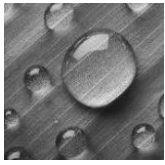
ELEMENTS ENERGY



Right Bank



Sediment



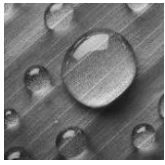
Location 9 – SN 74923 04227



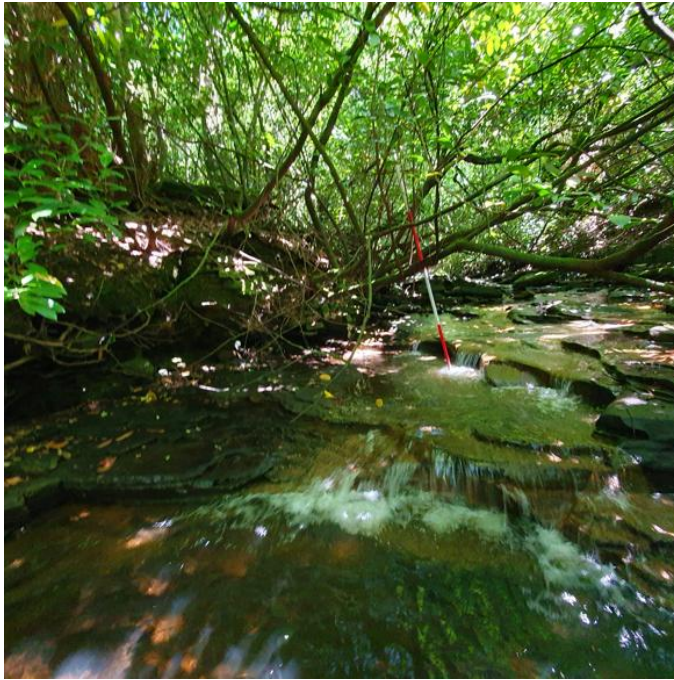
Downstream



Upstream



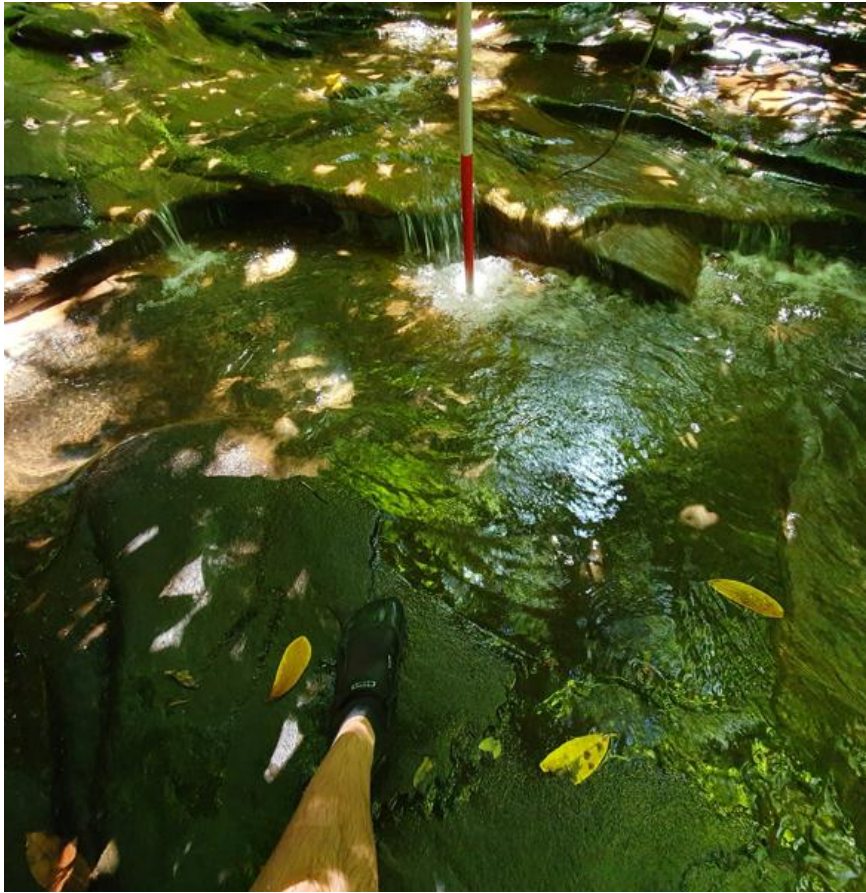
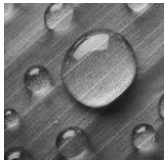
ELEMENTS ENERGY



Left Bank

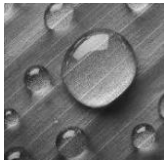


Right Bank

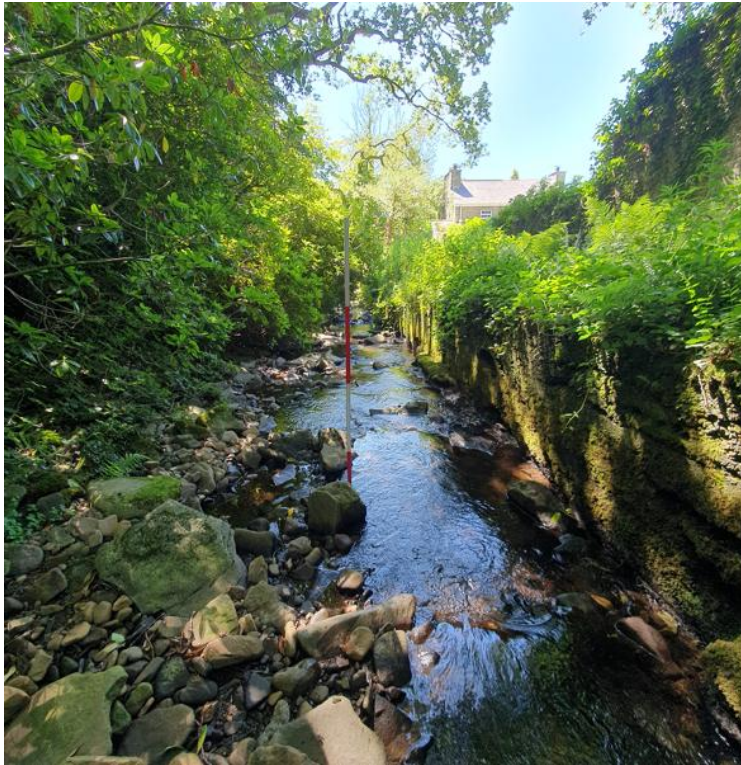


Sediment

Location 10 – SN 74893 04211



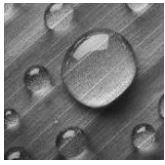
ELEMENTS ENERGY



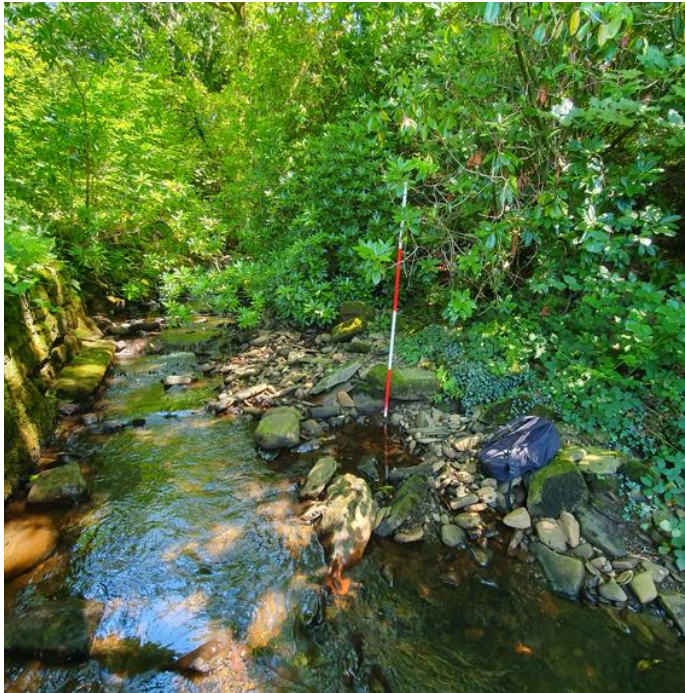
Downstream



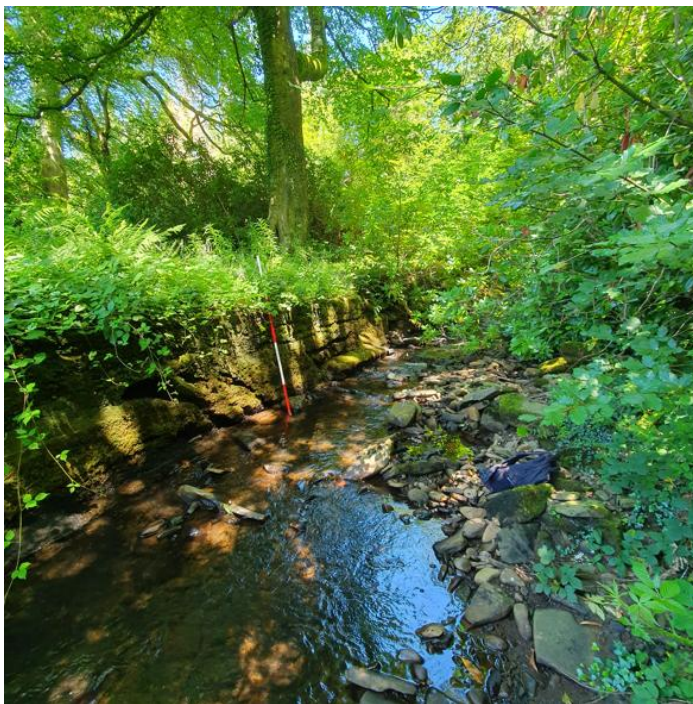
Upstream



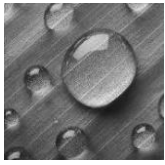
ELEMENTS ENERGY



Right Bank



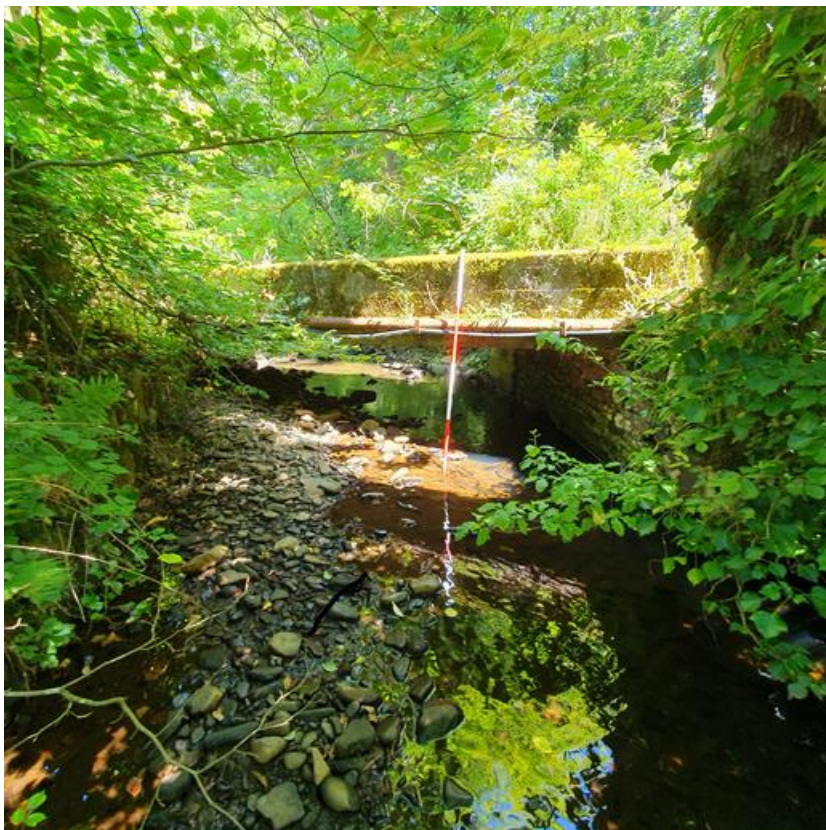
Left Bank



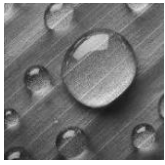
ELEMENTS ENERGY



Sediment



Feature between location 10 and location 11, old bridge



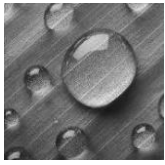
Location 11 – SN 74886 04183



Downstream



Upstream



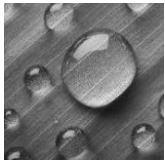
ELEMENTS ENERGY



Left Bank



Right Bank



ELEMENTS ENERGY

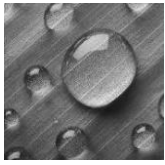


Sediment

Location 12 – SN 74893 04139



Downstream



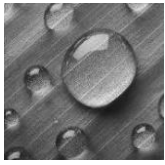
ELEMENTS ENERGY



Upstream



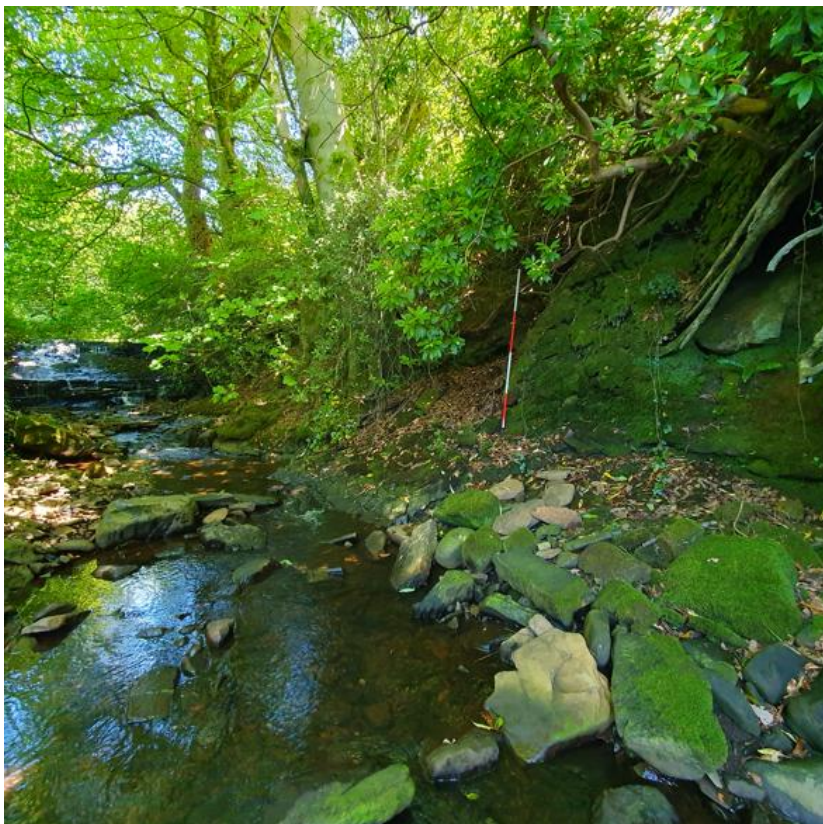
Extra Feature (old weir, this is from former waterwheel at Plas Cilybebyll) Weir visible in upstream photo above as well). Weir is about 2.5m high.



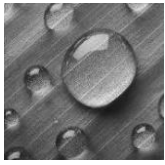
ELEMENTS ENERGY



Left Bank



Right Bank

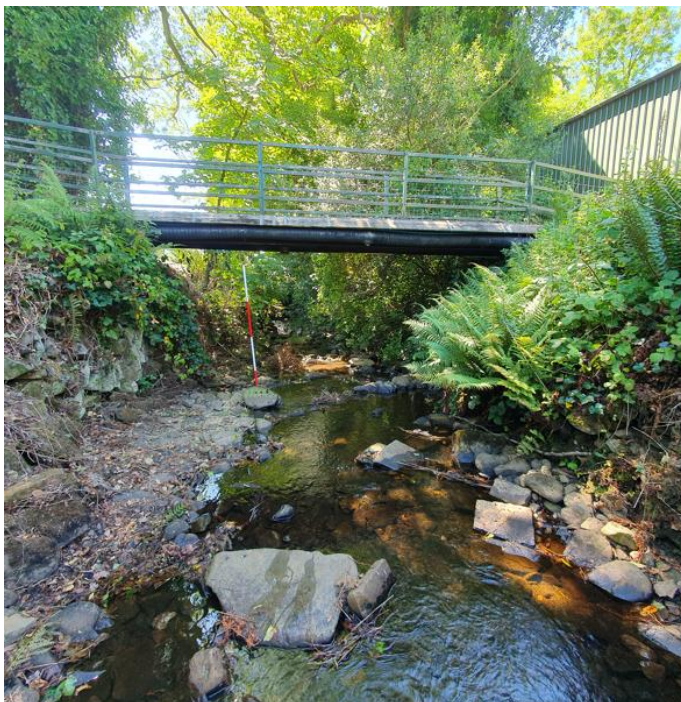


ELEMENTS ENERGY

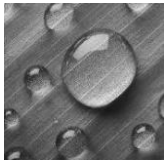


Sediment

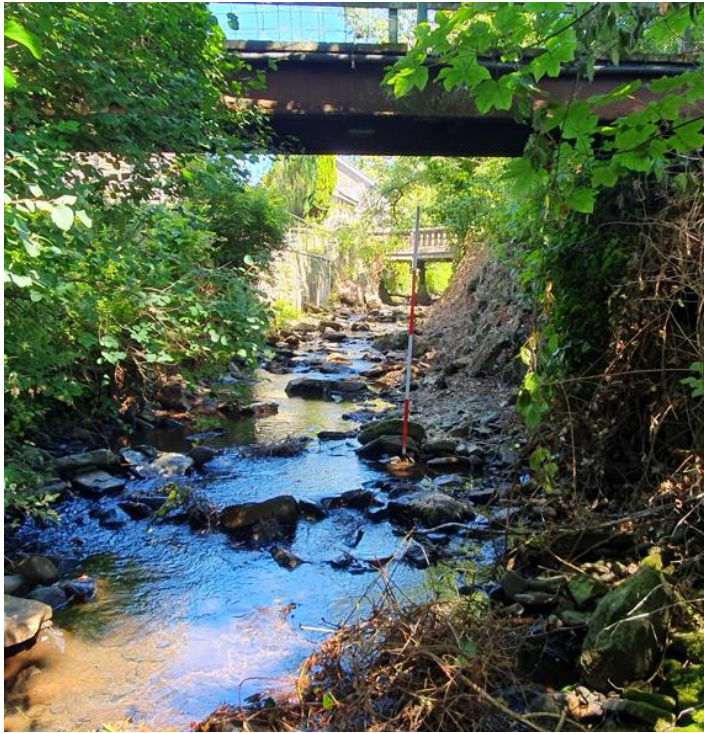
Location 13 – SN 74858 04057



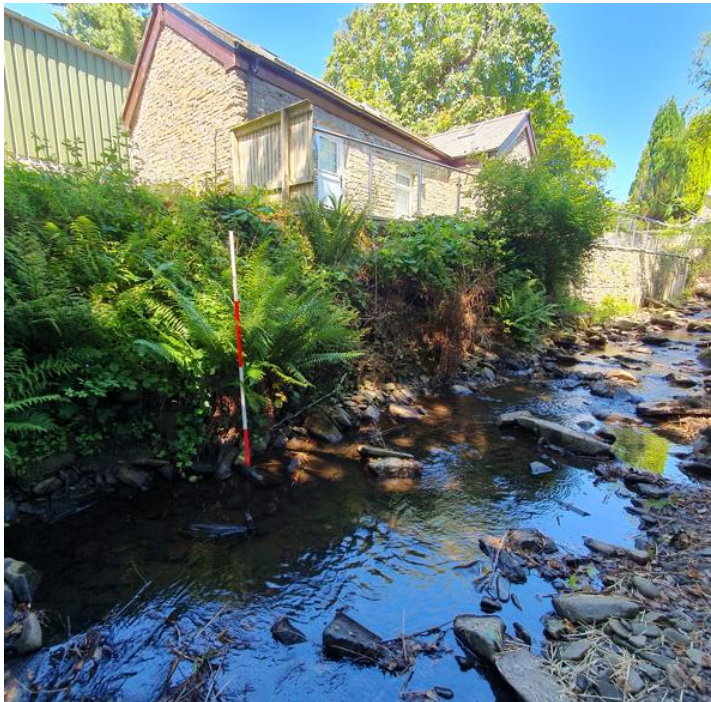
Downstream



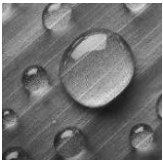
ELEMENTS ENERGY



Upstream



Left Bank



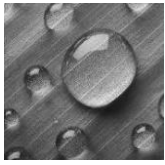
ELEMENTS ENERGY



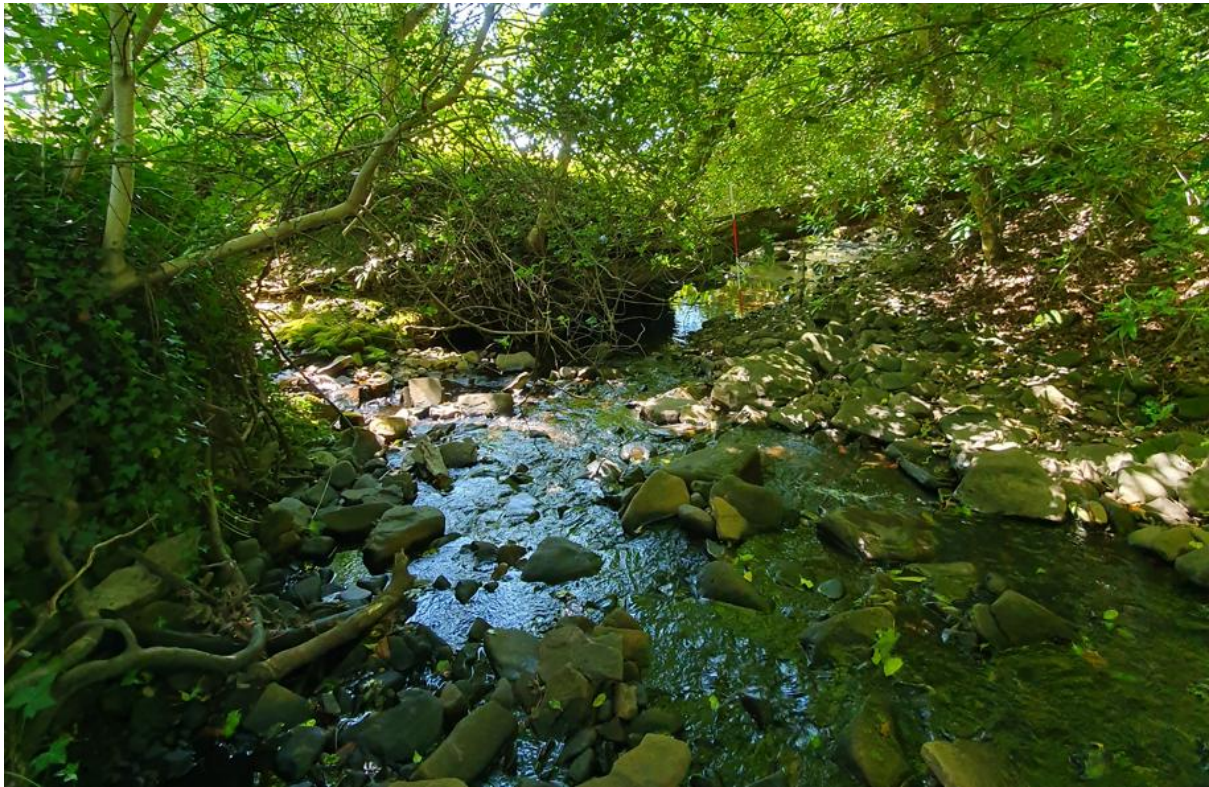
Right Bank



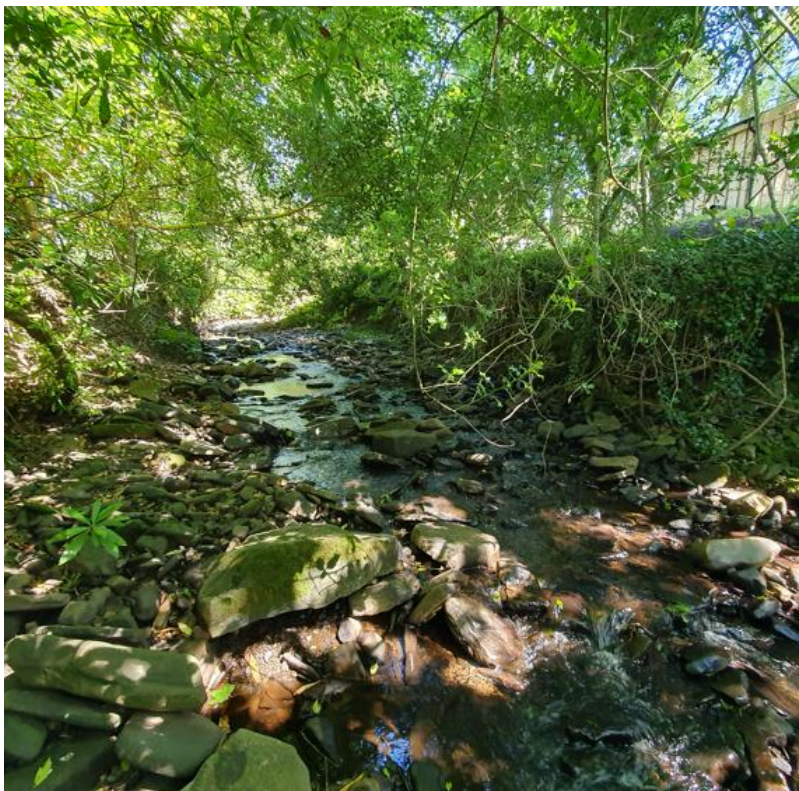
Sediment



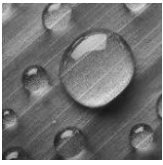
Location 14 – SN 74830 03989 (close to Outfall Location)



Downstream



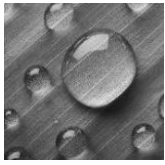
Upstream



Left Bank



Right Bank

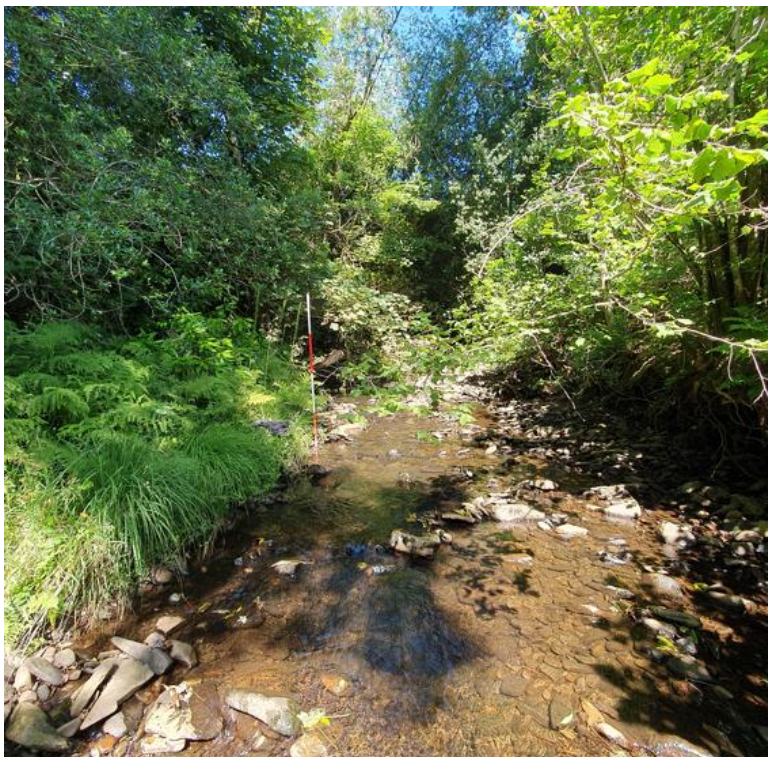


ELEMENTS ENERGY

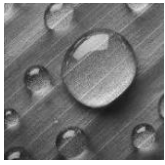
Location 15 – SN 74761 03875 circa 120m Downstream



Downstream



Upstream



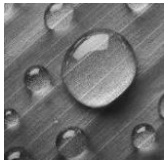
ELEMENTS ENERGY



Right Bank



Left Bank



Location 16 – SN 74709 03719 circa 300m downstream of outfall (From Plas Farm Survey, survey date 23th February 2024, 11am-4pm, flows moderate/high)



Figure 97: Downstream



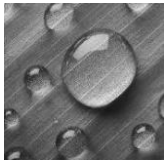


Figure 98: Left Bank



Figure 99: Right Bank



Figure 100: Upstream

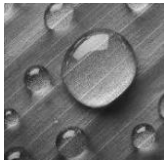


Figure 101: Sediment