

Title: The Kallisti Limnes, carbon dioxide-accumulating subsea pools

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This supplement contains:

- 1. Supplementary Tables (1)**
- 2. Supplementary Figures (5)**

Supplementary Table 1

	CAF-16	CAF-17	CAF-19	CAF-20
Si %	16.20	16.90	12.59	
Al %	3.24	3.37	2.39	
Fe %	16.32	16.38	24.33	
Mg %	1.03	1.10	0.87	
Ca %	1.46	1.45	1.34	
Na %	4.67	4.47	2.86	
K %	0.87	0.93	0.65	
Ti %	0.17	0.18	0.13	
P %	0.07	0.09	0.05	
Mn %	0.05	0.06	0.05	
Cr	20.53	20.53	20.53	
Ni	11.00	27.00	7.60	5.8
Ba	149.00	176.00	123.00	
Co	5.40	5.30	4.40	
Cs	1.80	1.80	1.40	
Ga	5.70	5.30	3.70	
Sr	163.40	190.60	232.00	
V	94.00	118.00	86.00	
Zr	72.00	79.50	55.30	
Y	55.90	53.60	24.40	
La	12.60	13.70	9.10	
Ce	21.80	23.60	15.40	
Pr	2.62	2.78	2.01	
Nd	10.10	10.60	7.40	
Sm	2.41	2.69	1.83	
Eu	0.53	0.58	0.46	
Gd	2.93	3.03	1.96	
Tb	0.47	0.47	0.33	
Dy	3.20	3.11	2.26	
Ho	0.82	0.75	0.44	
Er	2.27	2.22	1.39	
Tm	0.37	0.36	0.22	
Yb	2.11	2.36	1.40	
Lu	0.37	0.38	0.22	
ΣREE	62.60	66.63	44.42	
La/Yb	5.97	5.81	6.50	
Eu/Eu*	0.20	0.20	0.24	
C %	1.28	1.55	1.43	1.08
S %	0.19	0.21	0.22	0.2
Mo	27.60		40.70	32.1
Cu	19.80		14.50	8.7
Pb	45.40		23.10	19.7
Zn	28.00		21.00	16
As	53.50		42.90	36.1
Zr/Fe	4.41	4.85	2.27	
As/Fe	3.28		1.76	

Table S1. Elemental concentrations (mg/kg or as otherwise stated) in suspended material of the Kallisti Limnes.

Supplementary Figures

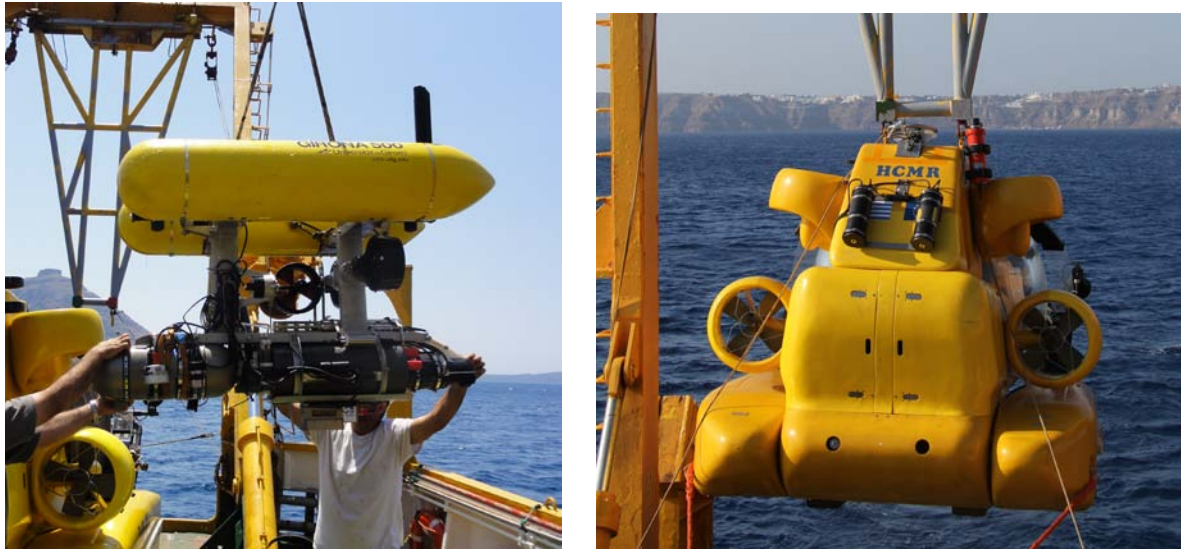


Figure S1 | Photos showing deployment of the *Girona 500* AUV and *Thetis* HOV (at left and right, respectively) equipped with a TETHYS mass spectrometer. The mass spectrometer is visible in the AUV's forward lower payload bay (left side of the photo), and its battery packs are visibly attached to the aft of the HOV (below the HCMR logo). Cliff-top towns of Santorini are visible in the distance.



Figure S2 | Photo of the *MaxRover* ROV showing horizontally-mounted Niskin bottles attached to the port and starboard sides of the vehicle chassis approximately 0.5 meters above its bottom skids.



Figure S3 | Photo of the *MaxRover* ROV manipulator arm placing the temperature sensors within a Kallisi Limnes hydrothermal pool at -235 m water depth.

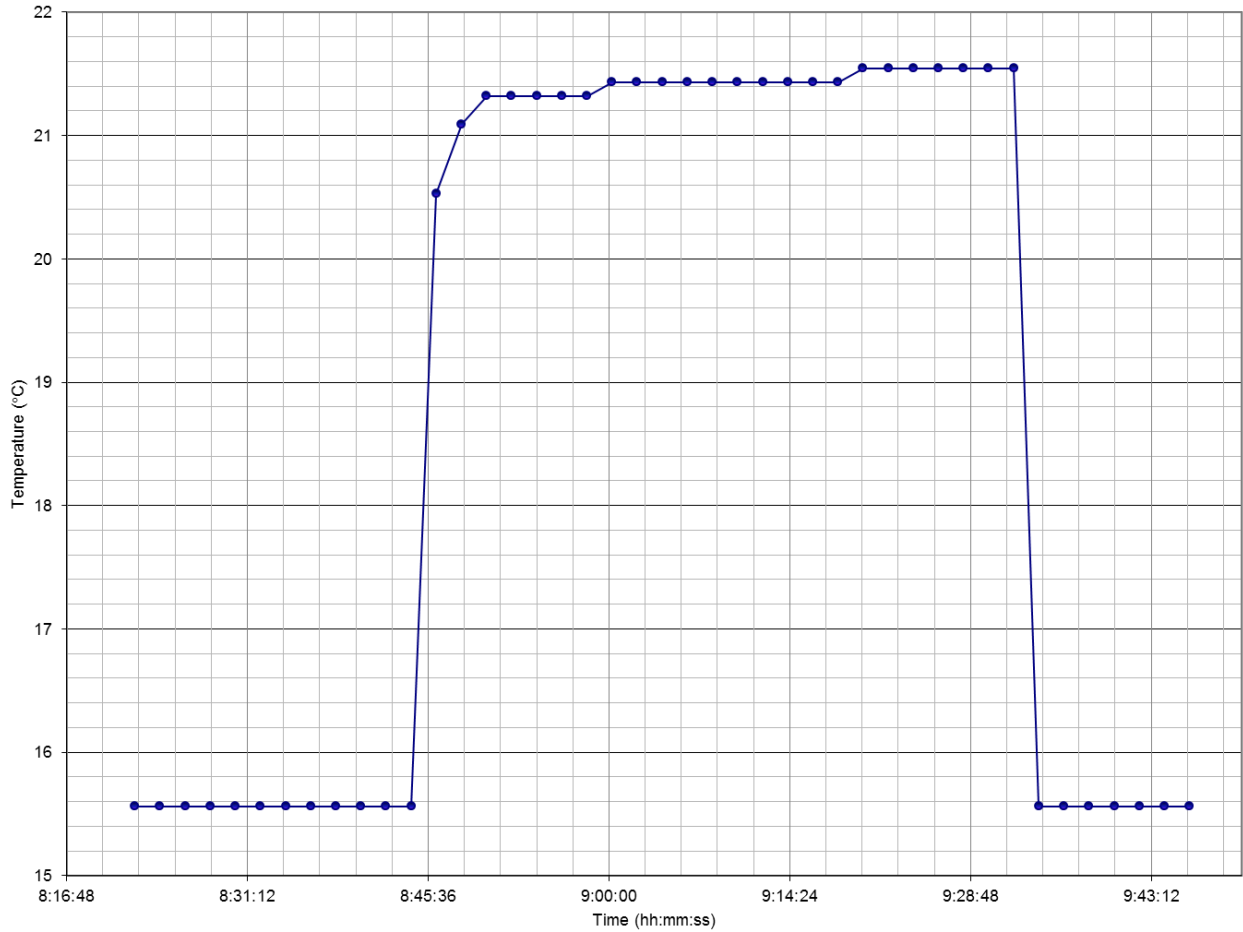


Figure S4 | One hour temperature time series recorded within the highest elevation pool of the Kallisti Limnes (depth of -235 m). Data are interpreted to represent a stable temperature within the pool, where the temperature increase from 21.319° C to 21.545° C is caused by thermal stabilization of the temperature probe. The seawater temperature immediately above the pool prior to deployment and following recovery from the pool remained unchanged at 15.563° C.

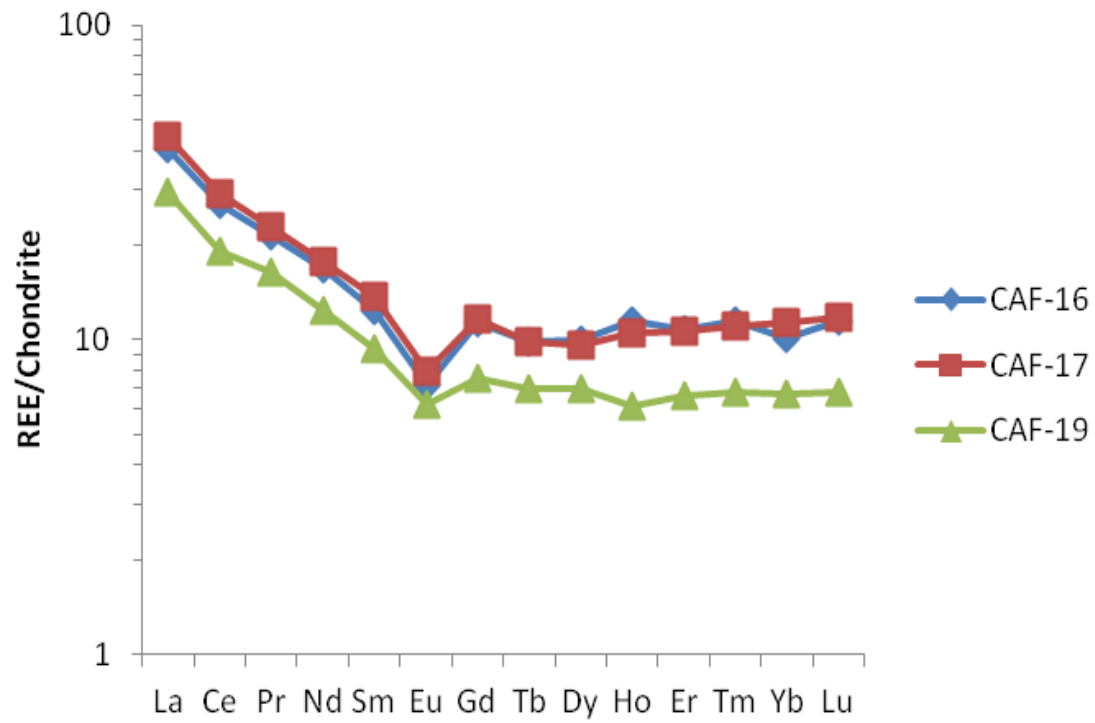


Figure S5 | Chondrite normalized rare earth element (REE) distribution patterns of the suspended material from Kallisti Limnes.