

Supplementary Material for the paper

Title: Biogeochemical interface development in a model carbonate-clayey soil

submitted to Environmental Earth Sciences

**by authors Oxana A. Sofinskaya (1), Liaisan M. Mannapova (1),
Rustem M. Usmanov (1), Albina R. Galieva (1), Lyubov V. Leonova (2),
Fedor A. Muraviev (1)**

The affiliations and addresses of the authors:

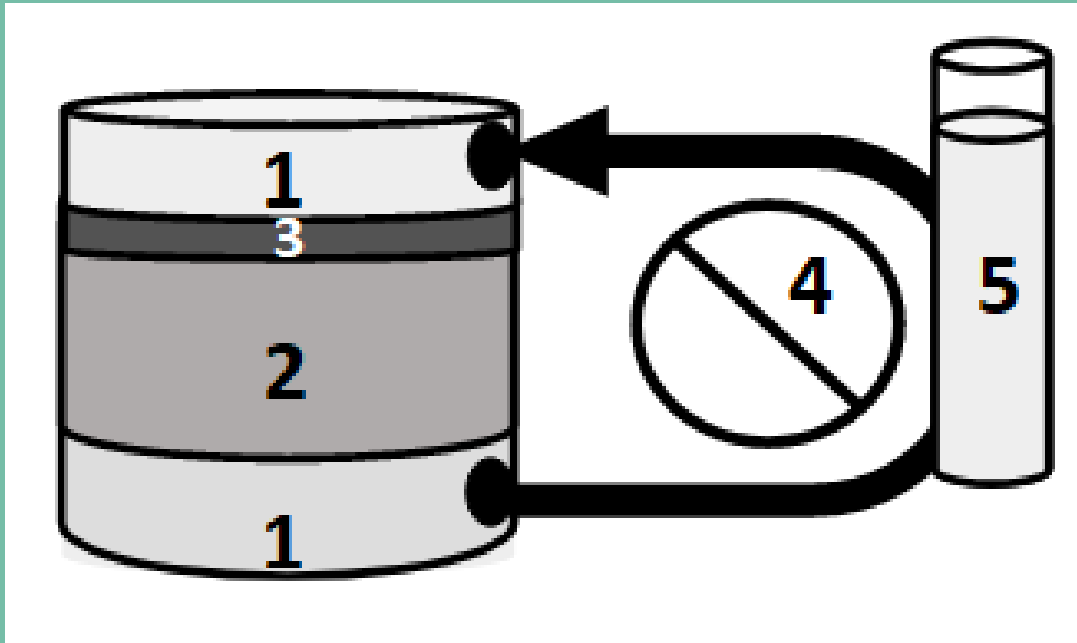
1- Kazan (Volga region) federal university, Russia, Kazan

**2 - Institute of Geology and Geochemistry, Ural Division of Russian Academy
of Sciences, Russia, Ekaterinburg**

The e-mail address, telephone and fax numbers of the corresponding author:

ushik2001@mail.ru, tel. (+7)9172 640412

Appendix 1. Experimental installation of water sealed loop:



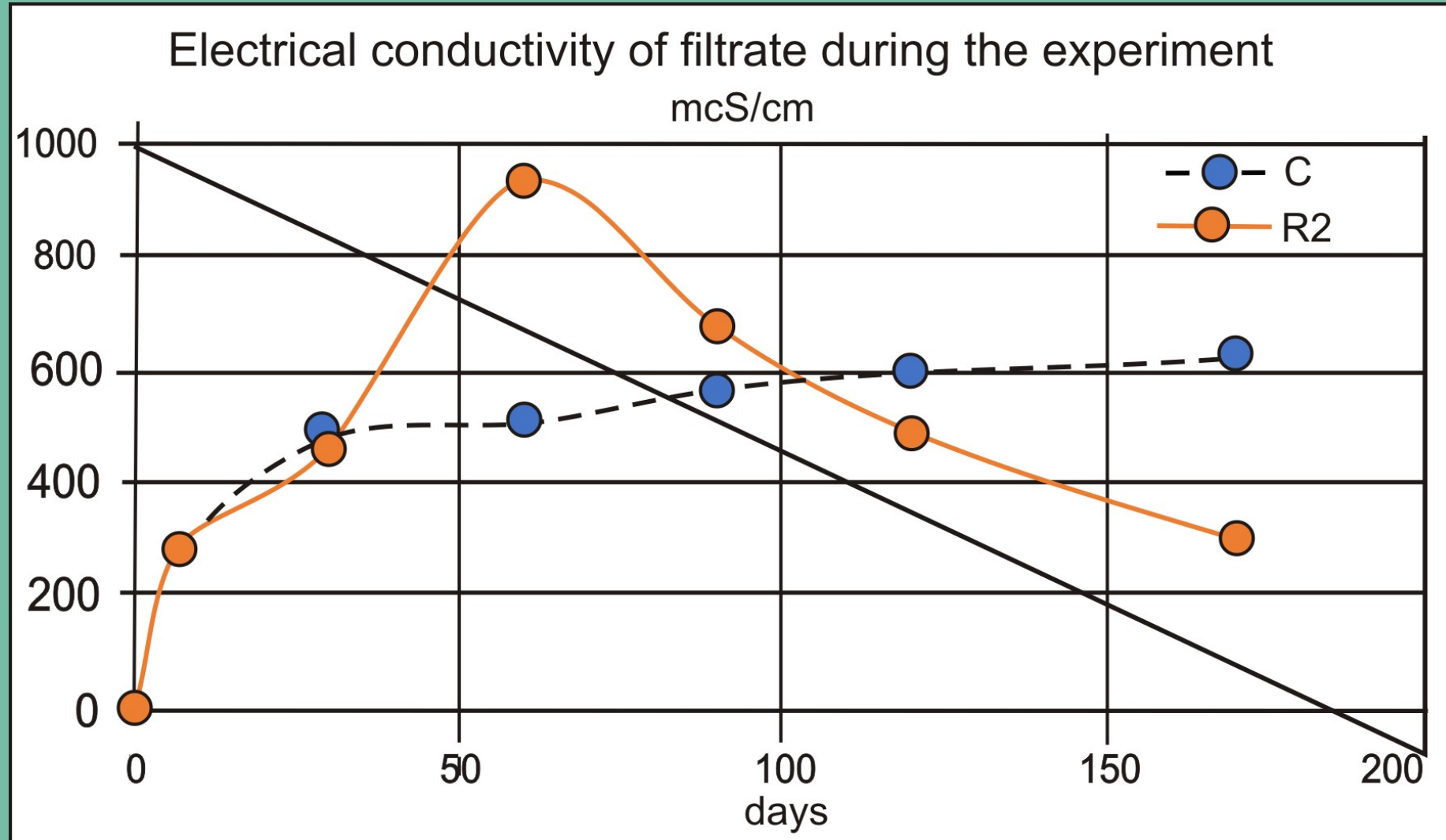
- 1 - water,
- 2 - soil sample,
- 3 - ceramic disc with R2 growth medium,
- 4 - pump,
- 5 - water level equalizer

Appendix 2. The modified composition of R2A growth media

Chemical	Quantity per litre
MgSO ₄ x7H ₂ O	0.05 g/l
K ₂ HPO ₄	0.3 g
CaCO ₃	10 g
Yeast extract	0.54 g
Casein hydrolyzate	0.5 g
Proteose peptone	0.5 g
Sodium piruvate	2,5 ml
Glucose	0.5 g
Starch	0.5 g
Alkaline humic extract* 1:10 B NaOH	6 ml

**chernozem (10% OM) : NaOH
0.05M = 20 g : 200 ml.
Extraction procedure consisted
of suspending, vortexing 1 h,
heating 1 h, centrifugation
(triple 1500 rpm 30 min),
freezing with ice throwing out to
halve the volume, evaporation
for hundredfold volume
reducing*

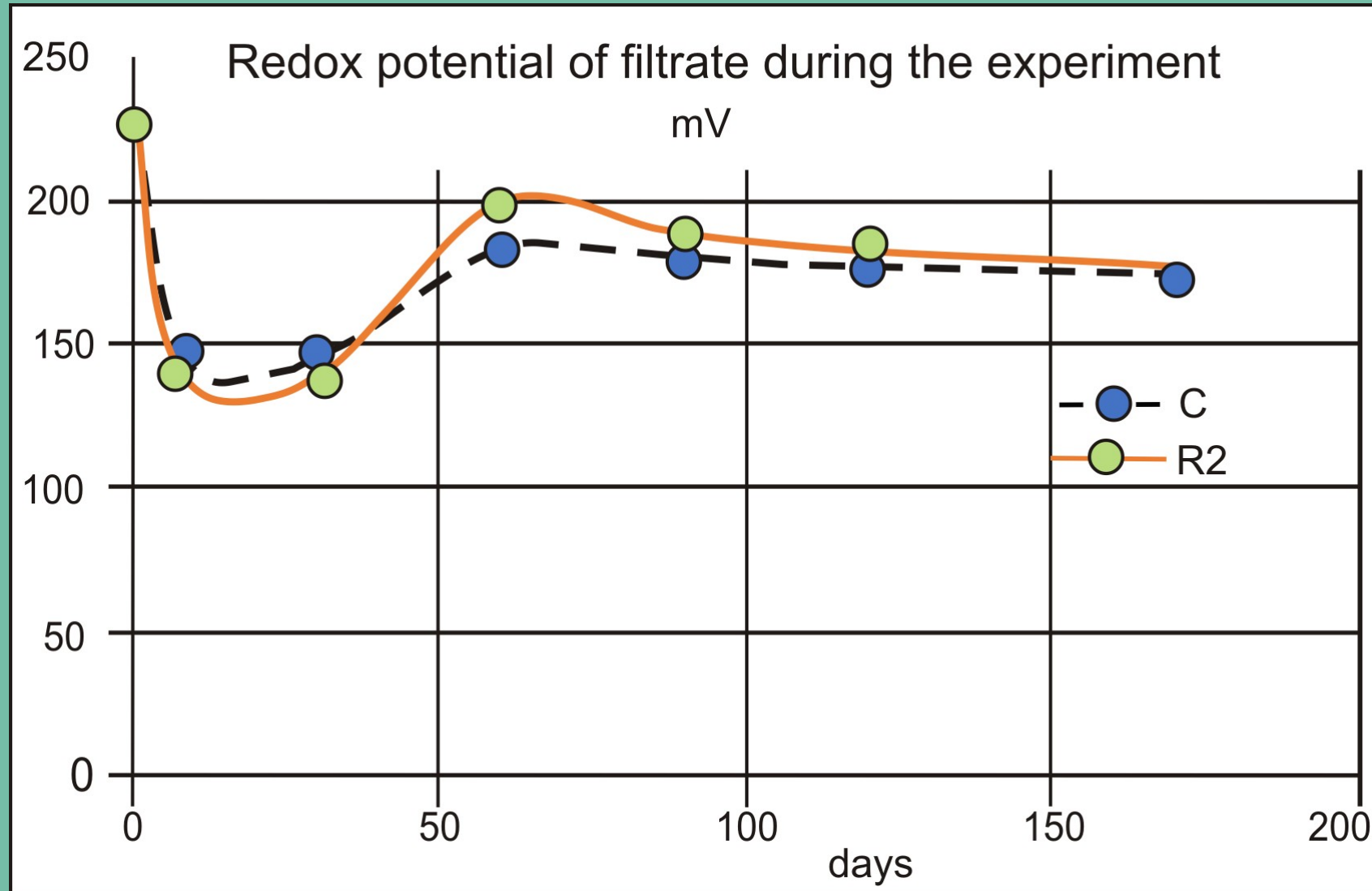
Appendix 3a. Electric conductivity of filtrate



Appendix 3b. Filtrate ionic composition, mg/L

	<i>HCO₃</i>	<i>SO₄</i>	<i>Cl</i>	<i>NO₂</i>	<i>NO₃</i>	<i>PO₄</i>	<i>F</i>	<i>Br</i>	<i>Ca</i>	<i>Mg</i>	<i>Na</i>	<i>K</i>	<i>NH₄</i>	<i>Li</i>
deionized water	0	0,1	0,1	0,000	0,000	0,000	0,058	0,000	0,8	0,1	0,1	0,0	0,006	0,001
point zero	112	17,5	4,3	0,238	0,648	0,011	0,597	0,015	35,4	12,9	6,9	0,8	0,000	0,002
C option	131	14,3	3,1	0,017	0,873	0,003	0,553	0,005	29,8	4,3	5,9	0,9	0,000	0,002
R2 option	88	12,6	2,7	0,020	0,676	0,001	0,560	0,002	29,2	5,0	5,2	0,4	0,000	0,002

Appendix 4. RedOx potential of filtrate



Appendix 5. pH of filtrate

