

- Supplementary information -

In-situ XRF study of black colouring matter of the Palaeolithic figures in the Font-de-Gaume cave

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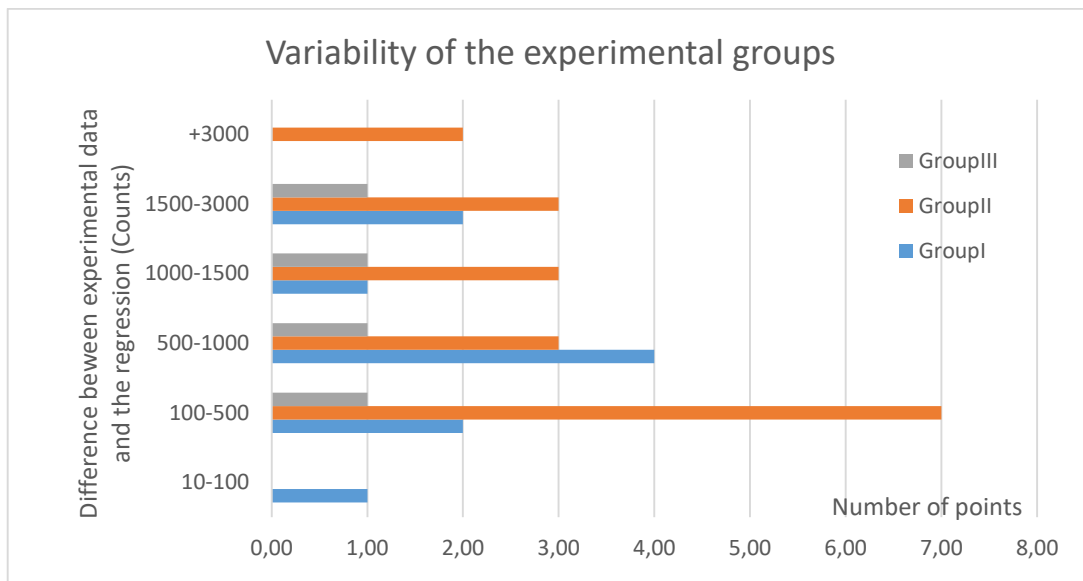


Figure 1: Scattering distribution of the three experimental groups of the *in-situ* data.

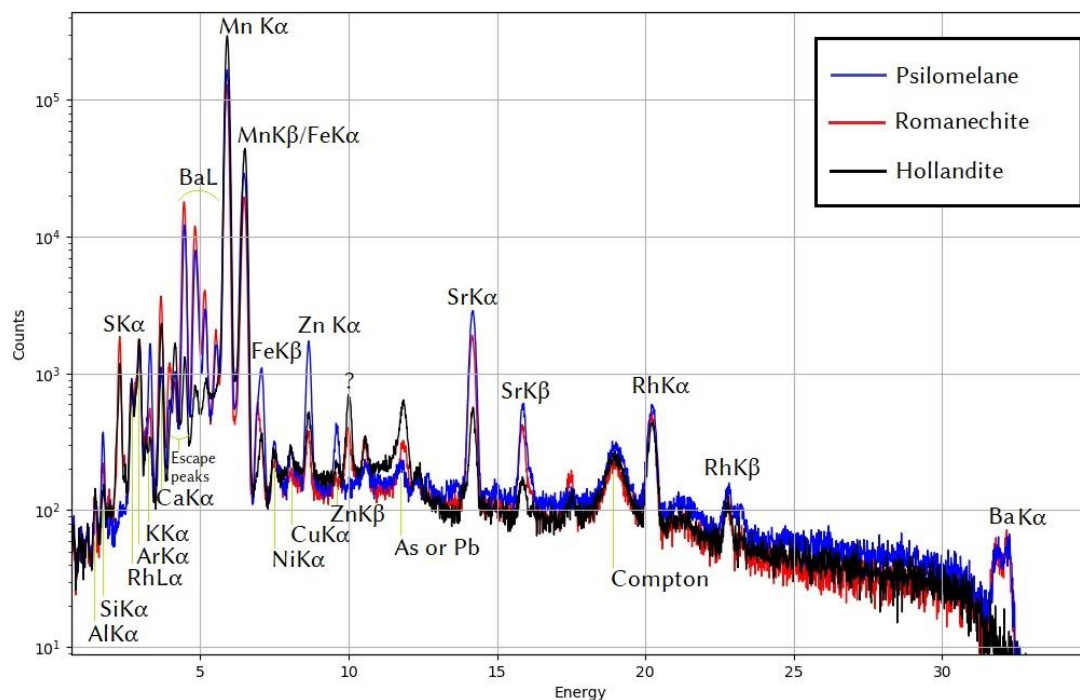


Figure 2: Spectra of the psilomelane, romanechite and hollandite raw materials used to prepare the mock-ups.

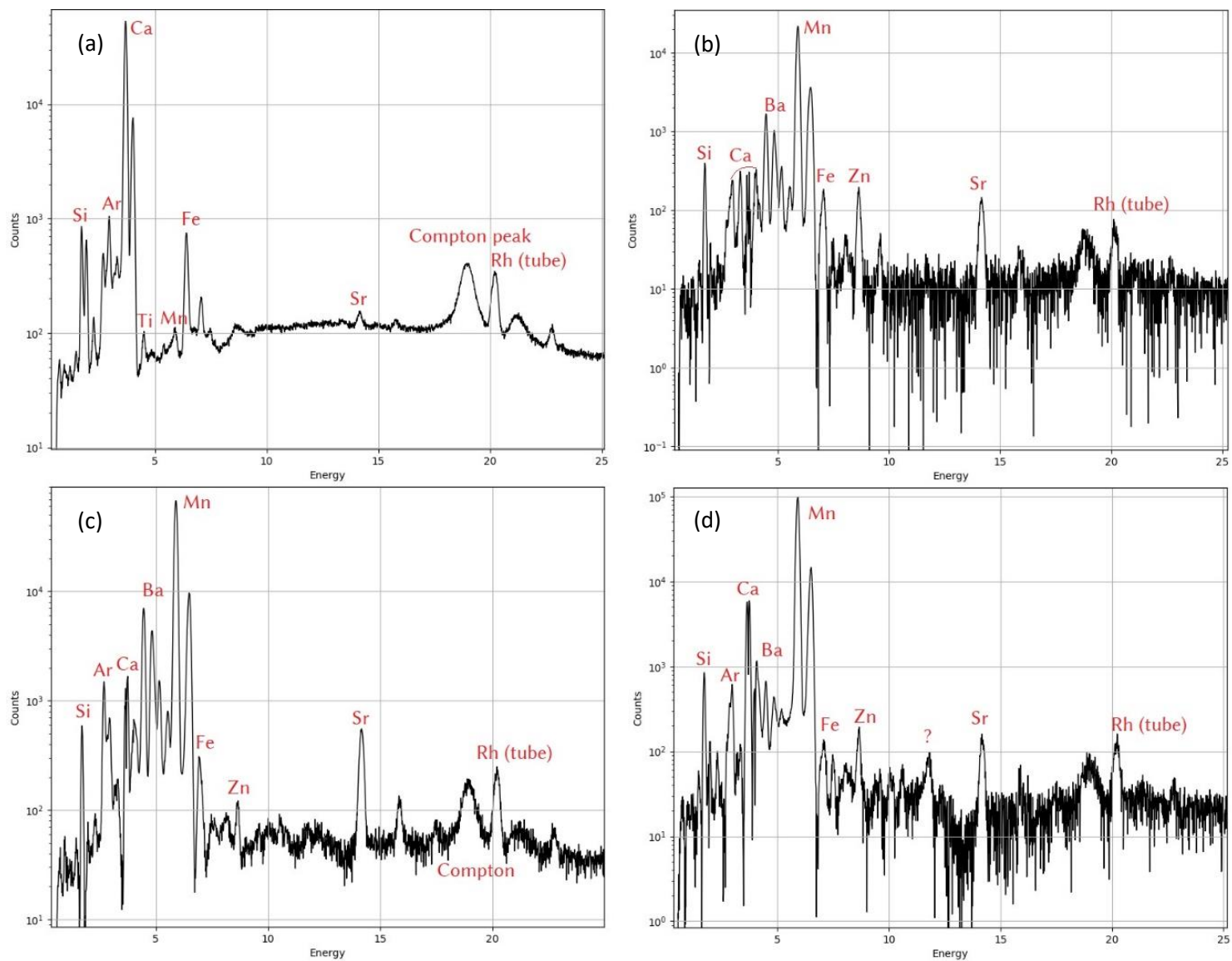
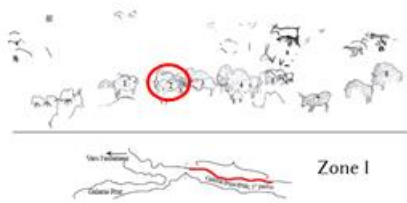


Figure 3: Spectra processed with the "Internal Standard" approach of the (a) the substrate, (b) the psilomelane raw material, (c) the romanechite raw material and (d) the hollandite raw material.

Description of the studied panels in the Font-de-Gaume cave



Panel No. 2

Zone : Principal gallery,
1st section, left wall.

Superimposition: Yes

Bison

Painted and engraved, bichrome (Black/Brown), Outlines drawn in black and engraved head, Overall paint in brown with gradient, Use of the wall relief. Represented in static position, head on the left side. Partially faded- Modern graffiti - Calcite veil

Reindeer

Graved, fine engraving.
head on the left side.
Well preserved, Modern gravure.

(Graffiti)

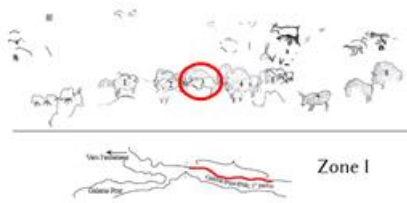
Engraved elephant.
head on the left side.
Well preserved, Modern)



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● XRF analysis ● Raman analysis

Figure 4. Description of the panel no. 2 of the Font-de-Gaume cave



Panel No. 3

Zone : Principal gallery,
1st section, left wall.



Superimposition: Yes

Mammoth

Engraved. Its tusks protrude on the figure 2.
Well preserved, Modern engraving (graffiti).

Bison

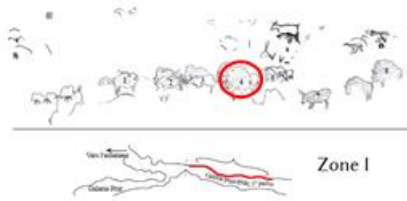
Engraved.
Head directed to the right.
Damaged by the superimposition of the mammoth.

Reindeer

Painted in brown.
Represented in static position, head on the
left side.
Very faded- Modern gravure - Damaged by the
superimposition of the mammoth.

● XRF analysis

Figure 5. Description of the panel no. 3 of the Font-de-Gaume cave



Panel No. 4

Zone : Principal gallery,
1st section, left wall.

Superimposition: Yes

Modern graffiti and engraving, black dust.

Bison

Painted and engraved, Polychrome (black, red, brown), outlines drawn in red and black but also graved, overall paint in red with gradient of brown and black, use of the wall relief, details finely engraved (head, hair...). Represented in static position, toward the right. Well preserved, covered by a mammoth.

Horse

Painted and engraved, brown colour. Under the bison, the head is gone and replaced by the bison's legs. Very faded

Reindeer

Painted and engraved, dark brown colour, outlines graved
The legs and rump are shared with the bison
Faded- Covered by another painting

Mammoth

Engraved, scratching as well as fine engraved details. Realized over the bison. Well preserved



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● XRF analysis



● Raman analysis

Figure 6. Description of the panel no. 4 of the Font-de-Gaume cave

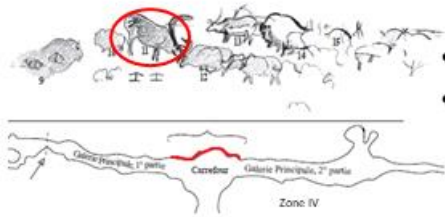


Figure No. 11

Zone : Intersection

Superimposition: No

Reindeer

Painted and graved, bichrome (black and red), Deeply engraved details, outlines drawn in red and engraved, overall paint in black with gradient, use of the wall relief. Represented face to another reindeer of the figure 12 and Licks its muzzle. Directed to the right. Partially faded.

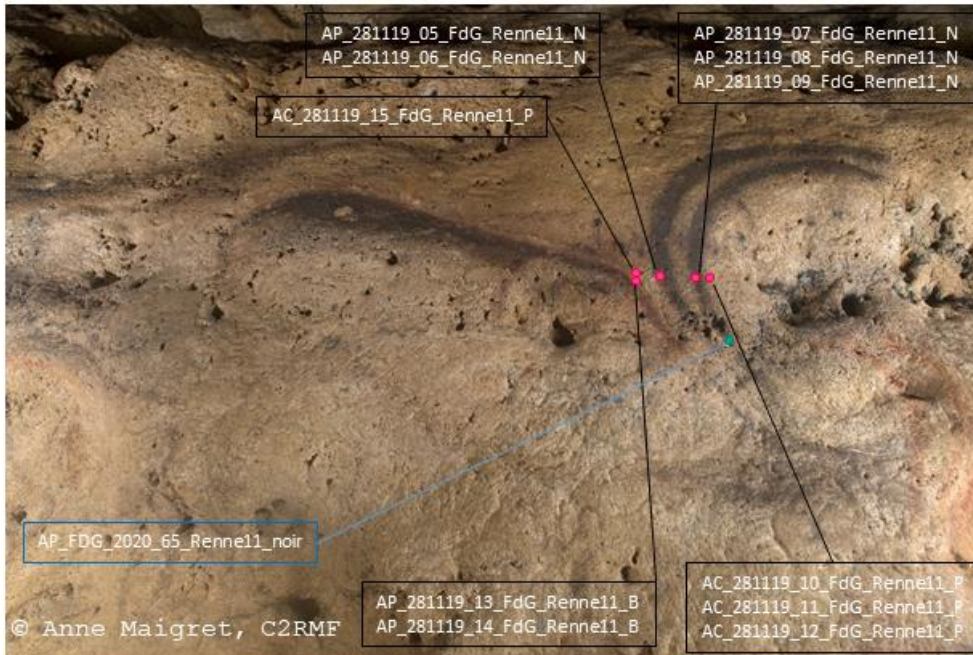
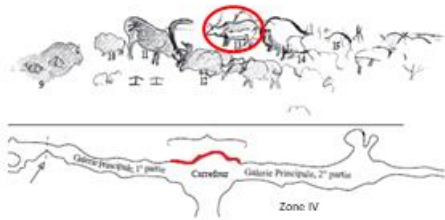


Figure 7. Description of the figure no. 11 of the Font-de-Gaume cave



Panel No. 13

Zone : Intersection

Superimposition: Yes

Reindeer

Painted in black and finely grained, outlines drawn in thick black and partly grained and inner painted with gradient. The head could be grained.

Directed to the left, first animal of a black frieze.

Well preserved except for the head.

Horse

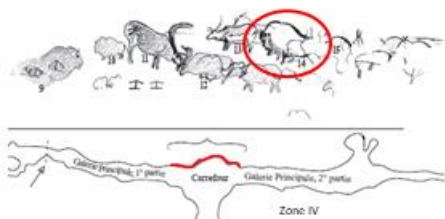
Finely engraved.

Above the reindeer, covers a part of the figure 14. Directed to the right.



● XRF analysis

Figure 8. Description of the panel no. 13 of the Font-de-Gaume cave



Panel No. 14

Zone : Intersection

Superimposition: Yes

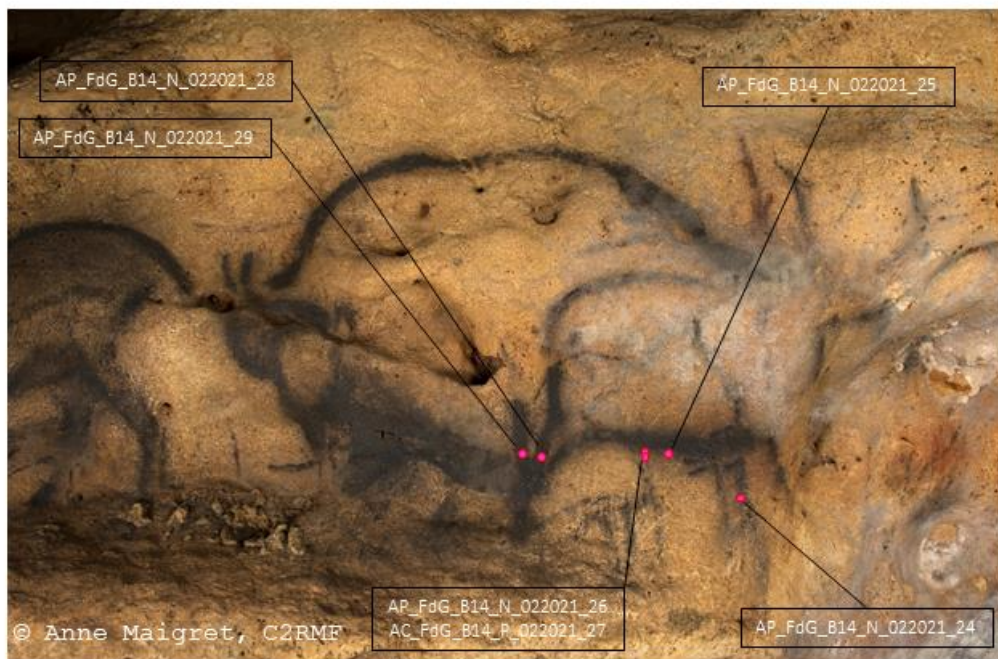
Calcite veil

Bison

Drawn in black and partly engraved.
Following the reindeer of the figure 13, the back is not represented.
Well preserved.

Reindeer

Drawn in black.
Shares its back leg with the bison. Seems turned in three-quarter perspective.
Well preserved but covered with calcite veil.



● XRF analysis

Figure 9. Description of the panel no. 14 of the Font-de-Gaume cave

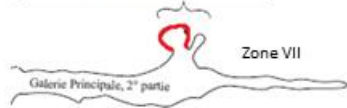
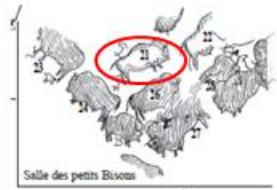


Figure No. 21

Zone : Chamber of the bisons

Superimposition: No

Bison

Painted and graved, outlines deeply engraved and partially drawn in black with gradient to the inner of the bison. Strong use of the wall relief.

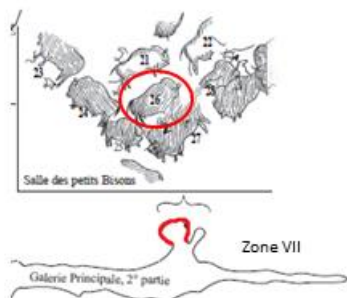
Partially faded



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● XRF analysis

Figure 10. Description of the figure 21 of the Font-de-Gaume cave



Superimposition: Yes

Calcite veil

Panel No. 26

Zone : Chamber of the bison

Bison

Painted and graved, polychrome (black, red and yellow), outlines drawn in black and finely graved, inner painted in yellow and red.

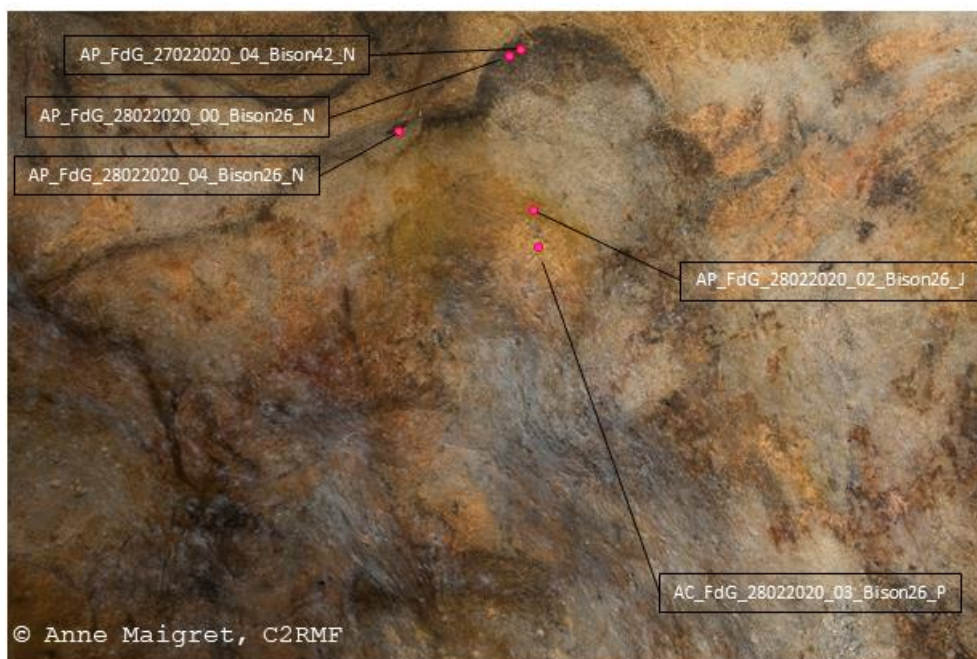
Calcite veil

Auroch

Engraved, only a head. In the bison.

Symbols

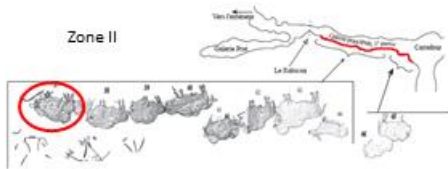
Three finely engraved tectiforms. In the bison.



● XRF analysis

Figure 11. Description of the panel 26 of the Font-de-Gaume cave

Superimposition: Yes



Panel No. 37

Zone : Principal gallery, 1st section, right wall.

Bison

Painted and engraved, polychrome (black and red), outlines unevenly engraved and drawn in black with a gradient to the inner of the animal, overall paint in red, use of the wall relief.

Represented on the other Bison, directed to the right.

Faded - Modern engraving (graffiti) - Black dust

Bison

Painted and graved, polychrome (black and red), outlines graved and drawn in black, overall paint in red.

Represented on the other Bison, directed to the left.

Very Faded - Modern engraving (graffiti) - Black dust

Others

Indistinct engraving
horse (s)/mammoth/reindeer (s)



● XRF analysis

Figure 12. Description of the panel no. 37 of the Font-de-Gaume cave

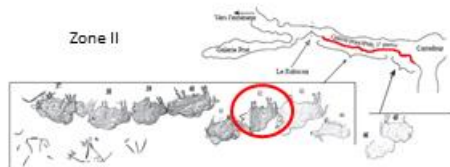


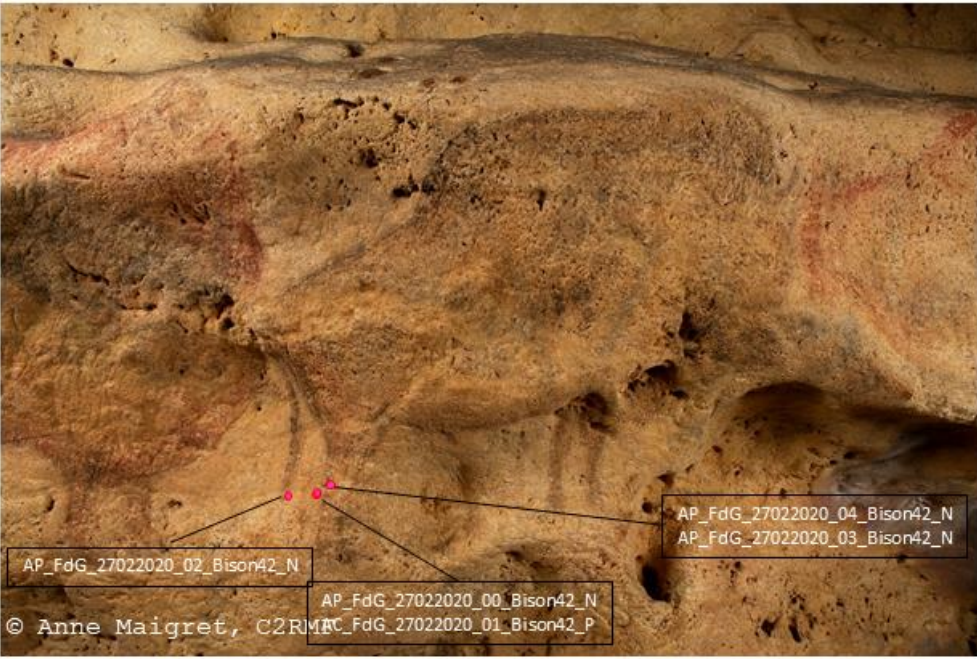
Figure No. 42

Zone : Principal gallery,
1st section, right wall.

Superimposition: No

Bison

Painted and engraved, polychrome (black, red, brown), outlines drawn in black and scratched, Overall paint in red and brown, use of the wall relief.
 Represented opposed to the bison 41, directed to the right.
 Well preserved - Slightly faded



● XRF analysis

Figure 13. Description of the figure no. 42 of the Font-de-Gaume cave

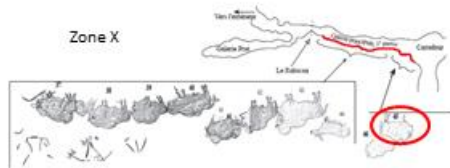


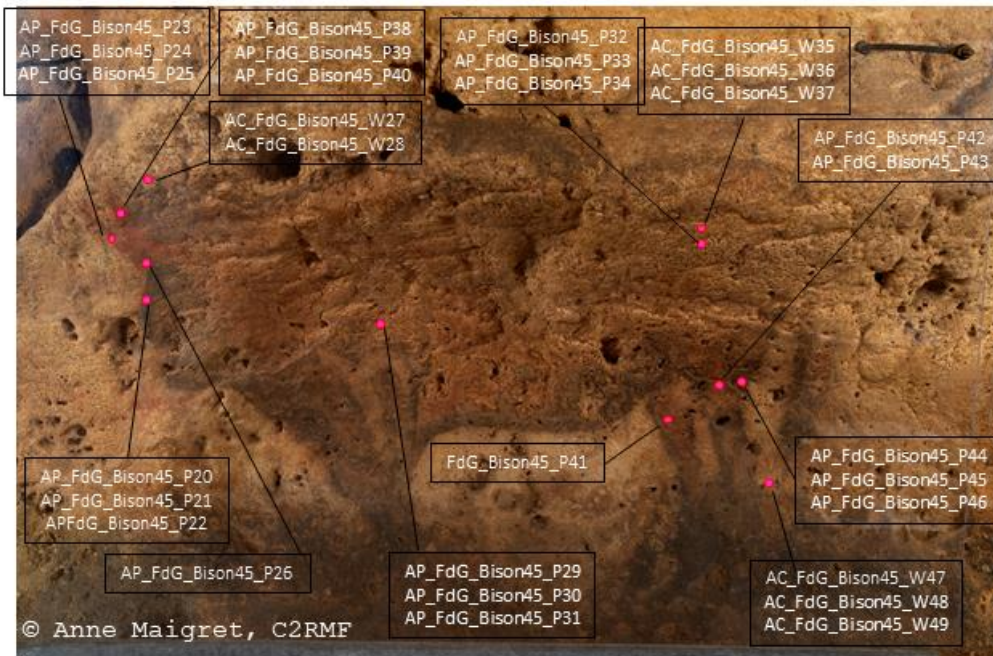
Figure No. 45

Zone : Principal gallery,
1st section, right wall.

Superimposition: No

Bison

Painted and slightly engraved, polychrome (black/red/brown), outlines drawn in black, Overall paint in red and brown, Fine engraved details, use of the wall relief. Directed to the left. Well preserved



● XRF analysis

Figure 14. Description of the figure no. 45 of the Font-de-Gaume cave

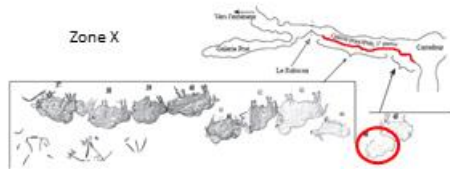


Figure No. 46

Zone : Principal gallery,
1st section, right wall.

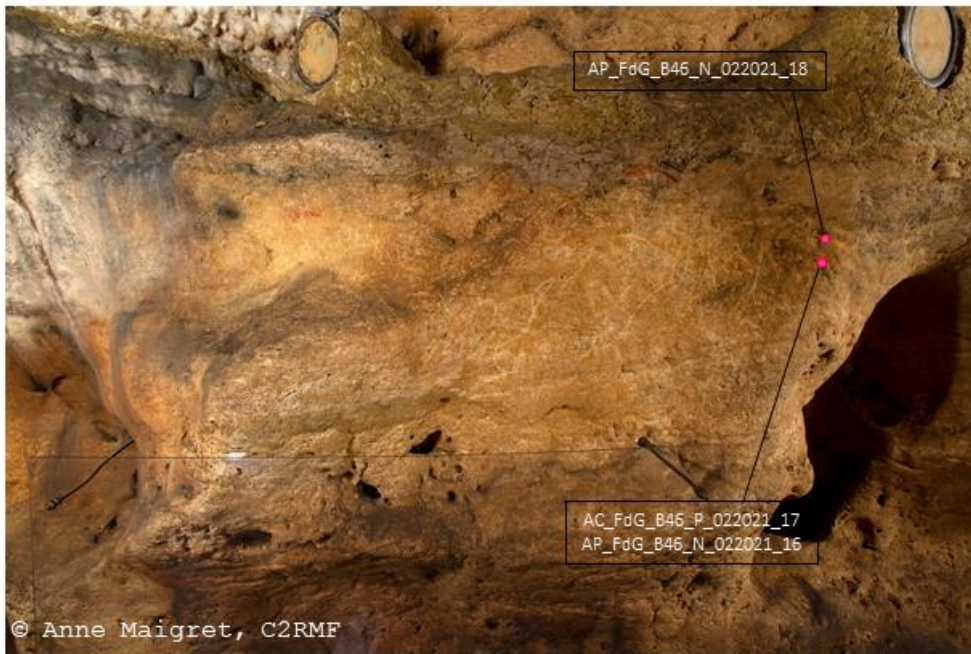
Superimposition: No

Bison

Painted and engraved, polychrome (Black/Red), outlines drawn in red and black, finely engraved details (head, eye). Use of the relief.

Directed to the right.

Very Faded - Modern engraving (graffiti) - Black dust



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● XRF analysis

Figure 15. Description of the figure no. 46 of the Font-de-Gaume cave

Table 1: fitted intensity of the pXRF spectra in counts

<i>In-situ points on coloured area</i>	Al	Si	P	S	Ar	K	Ca	Ti	V	Cr	Mn	Fe	Ni	Cu	Zn	Rb	Sr	Y	Zr	Rh	Rh	Ba	Pb
AP_FdG_B46_N_022021_16	7,45E+02	1,36E+04	8,39E+02	6,04E+02	1,61E+04	2,37E+04	1,37E+05	1,78E+04	2,53E+03	1,54E+03	1,63E+05	5,64E+05	2,15E+03	7,76E+02	3,61E+03	2,21E+03	3,23E+03	1,86E+03	5,99E+03	1,52E+04	1,47E+04	1,81E+04	n.d.
AP_FdG_B46_N_022021_16B	7,46E+02	1,36E+04	8,40E+02	6,05E+02	1,61E+04	2,37E+04	1,37E+05	1,78E+04	2,53E+03	1,54E+03	1,63E+05	5,64E+05	2,15E+03	7,76E+02	3,61E+03	2,18E+03	3,22E+03	1,72E+03	5,98E+03	1,52E+04	1,47E+04	1,81E+04	3,51E+03
AP_FdG_B46_N_022021_18	4,67E+02	1,14E+04	4,07E+01	7,02E+02	2,14E+04	1,53E+04	6,12E+05	5,97E+03	4,35E+02	7,87E+02	1,71E+04	2,16E+05	1,53E+03	9,15E+02	2,72E+03	1,60E+03	2,58E+03	1,32E+03	1,91E+03	1,64E+04	1,58E+04	2,44E+03	2,57E+03
AP_FdG_B14_N_022021_24	1,12E+02	1,01E+03	5,66E+00	1,84E+02	1,24E+04	3,10E+03	1,54E+05	1,22E+03	1,20E+02	6,46E+02	4,11E+03	2,85E+04	3,68E+02	7,96E+02	8,29E+02	n.d.	6,95E+02	6,76E+02	n.d.	3,85E+03	7,53E+03	7,42E+02	n.d.
AP_FdG_B14_N_022021_25	4,37E+02	8,90E+03	6,87E+02	6,38E+02	1,90E+04	1,13E+04	5,42E+05	3,51E+03	4,63E+02	1,46E+03	7,67E+04	9,99E+04	1,32E+03	1,16E+03	3,52E+03	1,34E+03	1,85E+03	9,44E+02	1,35E+03	1,40E+04	1,75E+04	1,10E+04	2,55E+03
AP_FdG_B14_N_022021_26	5,52E+02	3,20E+03	4,39E+02	6,04E+02	2,05E+04	1,01E+04	7,44E+05	2,68E+03	1,15E+03	4,64E+02	2,09E+05	1,01E+05	7,30E+02	5,50E+02	2,39E+03	9,56E+02	2,37E+03	1,02E+03	1,45E+03	1,36E+04	1,58E+04	2,38E+04	2,79E+03
AP_FdG_B14_N_022021_28	6,08E+02	2,11E+03	1,75E+02	5,60E+02	2,29E+04	8,23E+03	1,18E+06	1,41E+03	2,94E+02	4,61E+02	2,62E+04	3,19E+04	5,01E+02	6,94E+02	1,73E+03	n.d.	1,02E+03	n.d.	9,84E+02	1,39E+04	1,63E+04	2,79E+03	n.d.
AP_FdG_B14_N_022021_29	2,35E+02	2,41E+03	1,17E+01	4,40E+02	2,55E+04	6,02E+03	4,47E+05	1,66E+03	5,57E+02	6,93E+02	1,09E+05	4,78E+04	5,84E+02	1,59E+03	1,18E+03	n.d.	1,59E+03	n.d.	1,09E+03	8,81E+03	1,58E+04	1,24E+04	n.d.
AP_FdG_C13_N_022021_31	3,20E+02	3,86E+03	1,29E+03	5,47E+02	2,37E+04	9,38E+03	4,50E+05	3,71E+03	9,40E+01	8,75E+02	2,48E+04	8,72E+04	1,16E+03	1,94E+03	5,25E+03	1,46E+03	1,93E+03	7,16E+02	1,06E+03	1,10E+04	1,64E+04	3,44E+03	3,16E+03
AP_FdG_27022020_00_Bison42_N	6,23E+02	9,76E+03	6,65E+01	4,10E+02	1,84E+04	1,36E+04	4,25E+05	3,05E+03	1,45E+03	n.d.	5,07E+05	1,42E+05	1,99E+03	6,64E+02	5,89E+03	9,24E+02	1,58E+03	9,48E+02	1,16E+03	1,44E+04	1,45E+04	2,79E+04	n.d.
AP_FdG_27022020_02_Bison42_N	7,57E+02	1,08E+04	5,82E+02	5,32E+02	1,74E+04	1,68E+04	3,10E+05	7,43E+03	2,30E+03	n.d.	4,65E+05	2,76E+05	2,48E+03	9,07E+02	4,01E+03	1,88E+03	2,53E+03	n.d.	1,68E+03	1,37E+04	1,52E+04	2,28E+04	n.d.
AP_FdG_27022020_03_Bison42_N	7,13E+02	1,07E+04	1,57E+01	4,61E+02	2,02E+04	1,61E+04	7,20E+05	3,74E+03	2,44E+03	n.d.	3,33E+05	1,82E+05	1,58E+03	6,66E+02	4,12E+03	1,41E+03	2,39E+03	n.d.	2,61E+03	1,56E+04	1,53E+04	1,95E+04	2,59E+03
AP_FdG_27022020_04_Bison42_N	3,80E+02	7,51E+03	1,06E+02	3,11E+02	9,88E+03	7,21E+03	3,19E+05	1,96E+03	4,17E+03	n.d.	1,19E+05	9,43E+04	1,23E+03	7,65E+02	2,51E+03	1,11E+03	1,26E+03	n.d.	1,35E+03	7,81E+03	8,14E+03	6,02E+03	1,86E+03
AP_FdG_28022020_00_Bison26_N	4,73E+02	4,49E+03	4,79E+02	6,64E+02	2,07E+04	1,50E+04	6,47E+05	3,34E+03	5,82E+02	8,52E+02	7,30E+04	8,16E+04	1,30E+03	n.d.	2,12E+03	1,96E+03	1,86E+03	8,62E+02	9,88E+02	1,35E+04	1,64E+04	6,33E+03	2,58E+03
AP_FdG_28022020_01_Bison26_N	4,70E+02	1,88E+04	1,69E+02	3,53E+02	1,69E+04	9,99E+03	1,94E+05	3,13E+03	2,94E+02	5,65E+02	6,93E+04	6,47E+04	n.d.	n.d.	n.d.	n.d.	2,12E+03	1,02E+03	2,04E+03	1,49E+04	1,14E+04	5,27E+03	2,53E+03
AP_FdG_28022020_04_Bison26_N	4,27E+02	2,97E+03	1,05E+01	9,59E+02	2,22E+04	9,45E+03	8,12E+05	3,47E+03	3,80E+02	7,88E+02	1,06E+04	9,27E+04	1,21E+03	9,70E+02	3,75E+03	1,51E+03	2,23E+03	1,19E+03	1,96E+03	1,56E+04	1,89E+04	n.d.	n.d.
AP_FdG_28022020_05_Bison21_N	7,93E+02	1,40E+04	7,36E+02	7,78E+02	2,01E+04	2,16E+04	4,85E+05	6,22E+03	9,20E+02	1,10E+03	2,42E+05	1,73E+05	2,32E+03	n.d.	4,05E+03	3,26E+03	3,35E+03	1,13E+03	2,31E+03	1,90E+04	1,56E+04	1,35E+04	4,29E+03
AP_FdG_29022020_02_Bison3_N	7,56E+02	1,57E+04	9,60E+02	5,08E+02	1,85E+04	1,45E+04	5,11E+05	6,10E+03	1,39E+03	1,09E+03	2,12E+05	4,60E+05	1,20E+03	1,01E+03	3,32E+03	1,19E+03	2,50E+03	9,24E+02	1,71E+03	1,60E+04	1,51E+04	7,85E+03	4,83E+03
AP_FdG_29022020_03_Bison3_N	8,31E+02	1,47E+04	1,90E+03	7,58E+02	1,82E+04	1,91E+04	4,06E+05	9,52E+03	1,60E+03	1,45E+03	n.d.	3,15E+05	1,17E+03	9,43E+02	5,74E+03	2,64E+03	5,43E+03	9,74E+02	2,34E+03	1,55E+04	1,54E+04	n.d.	3,47E+03
AP_FdG_29022020_06_Bison2_N	3,80E+02	6,91E+03	1,26E+03	7,16E+02	1,76E+04	7,91E+03	2,84E+05	4,59E+03	1,92E+03	1,08E+03	5,30E+05	2,30E+05	2,50E+03	1,18E+03	5,48E+03	1,29E+03	5,00E+03	9,63E+02	2,56E+03	1,27E+04	1,40E+04	3,52E+04	2,96E+03
AP_FdG_29022020_07_Bison2_N	6,05E+02	9,10E+03	1,05E+03	8,31E+02	1,70E+04	1,53E+04	2,76E+05	6,43E+03	3,14E+03	1,78E+03	1,09E+06	2,76E+05	1,57E+03	8,80E+02	6,96E+03	1,20E+03	1,22E+04	7,93E+02	2,17E+03	1,47E+04	1,53E+04	4,10E+04	7,32E+03
AP_FdG_29022020_12_Cerf14_N	4,74E+02	1,26E+04	1,30E+03	6,18E+02	1,90E+04	1,01E+04	5,97E+05	3,36E+03	1,28E+03	4,57E+02	n.d.	8,76E+04	1,50E+03	7,45E+02	2,04E+03	1,20E+03	1,70E+03	n.d.	2,70E+03	1,50E+04	1,45E+04	n.d.	n.d.
AP_FdG_29022020_14_Cerf14_RN	6,44E+02	4,63E+03	2,62E+02	5,95E+02	2,09E+04	1,15E+04	9,91E+05	4,13E+03	3,18E+02	5,49E+02	7,46E+04	2,37E+05	1,38E+03	5,24E+02	2,10E+03	1,22E+03	1,78E+03	n.d.	1,72E+03	1,55E+04	1,60E+04	5,25E+03	2,28E+03
AP_FdG_29022020_16_Cerf14_N	3,28E+02	3,42E+03	1,51E+03	8,41E+02	1,92E+04	1,13E+04	4,48E+05	2,74E+03	6,37E+02	8,82E+02	1,07E+04	8,67E+04	1,11E+03	9,94E+02	1,89E+03	1,96E+03	1,82E+03	n.d.	1,29E+03	1,36E+04	1,68E+04	2,69E+03	2,45E+03
AP_FdG_29022020_Bison3_RN	6,98E+02	1,28E+04	1,89E+03	5,23E+02	1,80E+04	1,69E+04	2,51E+05	9,88E+03	2,13E+03	1,20E+03	1,71E+04	3,94E+05	1,25E+03	6,94E+02	6,29E+03	2,38E+03	5,67E+03	1,01E+03	3,11E+03	1,52E+04	1,33E+04	4,82E+03	2,85E+03
AP_FDG_28112019_06_Renne11_N	2,01E+02	2,49E+03	2,78E+03	3,46E+02	8,76E+03	5,62E+03	1,34E+05	1,26E+03	4,74E+02	4,84E+02	8,43E+04	6,41E+04	9,04E+02	5,06E+02	8,49E+03	9,75E+02	1,28E+03	6,78E+02	8,42E+02	6,45E+03	6,85E+03	4,50E+03	1,29E+03
AP_FDG_28112019_08_Renne11_N	3,43E+02	2,96E+03	4,73E+03	4,28E+02	9,35E+03	5,23E+03	1,92E+05	2,18E+03	1,81E+03	6,32E+02	2,69E+05	1,24E+05	1,17E+03	5,55E+02	1,31E+04	1,10E+03	2,53E+03	7,06E+02	1,65E+03	7,67E+03	8,25E+03	1,89E+04	1,99E+03
AP_FDG_28112019_13_Renne11_B	3,59E+02	4,52E+03	2,78E+03	5,59E+02	1,03E+04	4,78E+03	4,27E+05	5,18E+03	9,98E+02	n.d.	1,76E+04	7,28E+04	9,68E+02	7,44E+02	4,85E+03	7,56E+02	1,10E+03	5,19E+02	1,13E+03	7,99E+03	8,41E+03	1,40E+03	1,79E+03
AP_FDG_28112019_14_Renne11_B	3,83E+02	5,25E+03	2,92E+03	5,33E+02	1,02E+04	6,79E+03	4,20E+05	2,12E+03	5,21E+02	n.d.	3,58E+04	1,41E+05	1,13E+03	9,19E+02	5,97E+03	1,01E+03	1,20E+03	n.d.	1,87E+03	8,74E+03	7,56E+03	2,39E+03	n.d.
AP_FDG_28112019_20_Renne11_N	5,45E+02	4,37E+03	3,86E+03	1,13E+03	2,05E+04	1,24E+04	6,84E+05	5,00E+03	5,93E+02	1,23E+03	5,35E+03	1,30E+05	1,32E+03	1,15E+03	1,04E+04	1,59E+03	2,82E+03	8,17E+02	1,57E+03	1,33E+04	1,61E+04	n.d.	2,75E+03
AP_FDG_291119_07_Bison4_N	8,80E+02	1,22E+04	2,60E+03	5,55E+02	1,77E+04	1,89E+04	3,46E+05	1,16E+04	1,89E+03	1,95E+03	5,79E+05	3,66E+05	1,67E+03	1,08E+03	6,65E+03	1,93E+03	6,99E+03	1,72E+03	3,15E+03	1,62E+04	1,40E+04	1,24E+04	2,56E+03
AP_FDG_291119_08_Bison4_N	9,49E+02	1,28E+04	3,17E+03	9,89E+02	1,71E+04	1,89E+04	3,00E+05	1,20E+04	1,29E+03	1,83E+03	2,26E+05	4,32E+05	1,79E+03	1,54E+03	8,88E+03	2,76E+03	1,35E+04	1,40E+03	n.d.	1,65E+04	1,56E+04	7,13E+03	4,04E+03
AP_FDG_291119_11_Bison37_N	5,59E+02	6,84E+03	1,94E+02	3,80E+02	2,04E+04	1,45E+04	7,36E+05	3,19E+03	8,82E+02	n.d.	2,24E+05	1,84E+05	1,47E+03	5,60E+02	3,03E+03	1,65E+03	2,80E+03	7,26E+02	n.d.	1,37E+04	1,48E+04	1,48E+04	1,95E+03
AP_FDG_291119_13_Bison37_N	3,97E+02	5,70E+03	1,04E+02	3,22E+02	1,95E+04	5,24E+03	5,56E+05	2,70E+03	8,99E+02	1,06E+02	1,97E+05	1,53E+05	1,75E+03	1,06E+03	3,19E+03	n.d.	3,21E+03	n.d.	n.d.	1,17E+04	1,34E+04	1,01E+04	2,35E+03
AP_FdG_291119_14_Bison37_N	5,18E+02	5,97E+03	6,29E+01	5,23E+02	2,02E+04	1,28E+04	7,31E+05	3,64E+03	1,67E+03	n.d.	2,46E+05	2,45E+05	1,29E+03	1,20E+03	3,89E+03	1,56E+03	2,53E+03	n.d.	1,03E+03	1,37E+04	1,56E+04	1,64E+04	2,37E+03

AP_FdG_Bison 45_P20	1,93E+02	2,17E+03	4,72E+02	4,65E+02	9,11E+03	8,44E+03	3,17E+05	3,26E+03	7,82E+02	4,11E+02	1,81E+05	1,01E+05	1,06E+03	6,99E+02	3,36E+03	1,38E+03	1,57E+03	0,00E+00	1,93E+03	9,07E+03	8,36E+03	9,31E+03	n.d.
AP_FdG_Bison 45_P21	2,45E+02	2,09E+03	5,58E+02	4,85E+02	9,68E+03	7,70E+03	4,38E+05	1,93E+03	2,38E+02	4,04E+02	1,05E+05	6,86E+04	8,43E+02	6,28E+02	2,62E+03	1,35E+03	2,11E+03	0,00E+00	1,34E+03	1,01E+04	8,21E+03	4,53E+03	n.d.
AP_FdG_Bison 45_P22	1,68E+02	2,37E+03	3,31E+02	5,11E+02	9,78E+03	9,09E+03	4,68E+05	2,46E+03	5,11E+02	4,87E+02	1,15E+05	7,64E+04	8,81E+02	0,00E+00	2,20E+03	1,45E+03	1,96E+03	0,00E+00	1,04E+03	1,01E+04	8,59E+03	7,10E+03	n.d.
AP_FdG_Bison 45_P26	2,51E+02	3,49E+03	5,35E+02	2,40E+02	1,13E+04	1,12E+04	2,28E+05	2,00E+03	6,06E+02	6,67E+02	3,29E+04	7,90E+04	1,45E+03	1,91E+03	2,57E+03	1,48E+03	1,69E+03	9,74E+02	1,05E+03	8,98E+03	7,54E+03	2,73E+03	n.d.
AP_FdG_Bison45_P44	1,77E+02	4,20E+03	3,88E+02	6,91E+02	9,70E+03	5,42E+03	2,48E+05	2,86E+03	5,76E+02	5,04E+02	4,42E+04	9,92E+04	8,59E+02	1,07E+03	2,79E+03	1,35E+03	1,83E+03	0,00E+00	1,98E+03	1,04E+04	8,32E+03	5,77E+03	n.d.
AP_FdG_Bison45_P45	2,59E+02	5,66E+03	2,70E+02	4,35E+02	8,93E+03	7,47E+03	2,77E+05	3,91E+03	1,06E+03	4,80E+02	1,20E+05	1,84E+05	1,39E+03	1,40E+03	3,47E+03	1,96E+03	2,11E+03	0,00E+00	1,66E+03	1,16E+04	7,91E+03	1,50E+04	n.d.
AP_FdG_Bison45_P46	1,80E+02	5,92E+03	4,54E+02	5,61E+02	9,13E+03	7,36E+03	2,45E+05	3,98E+03	1,12E+03	6,18E+02	1,48E+05	2,78E+05	7,95E+02	8,48E+02	1,95E+03	1,59E+03	1,92E+03	0,00E+00	1,12E+03	1,11E+04	8,73E+03	1,96E+04	n.d.
In-situ points on the substrate	Al	Si	P	S	Ar	K	Ca	Ti	V	Cr	Mn	Fe	Ni	Cu	Zn	Rb	Sr	Y	Zr	Rh	Rh	Ba	Pb
AC_FdG_Bison 40_W02	1,29E+02	3,21E+03	1,31E+04	3,88E+02	1,05E+04	3,70E+03	3,88E+05	9,58E+02	n.d.	n.d.	2,76E+03	1,00E+04	9,67E+02	n.d.	n.d.	n.d.	1,92E+03	n.d.	1,77E+03	8,84E+03	6,61E+03	4,31E+05	n.d.
AC_FdG_Bison 40_W03	1,25E+02	2,28E+03	1,07E+04	3,90E+02	1,16E+04	2,48E+03	3,73E+05	9,81E+02	n.d.	5,71E+02	2,02E+03	1,13E+04	6,58E+02	n.d.	1,49E+03	n.d.	1,84E+03	n.d.	1,64E+03	8,50E+03	6,57E+03	4,90E+05	n.d.
AC_FdG_Bison 40_W06	2,25E+02	6,29E+03	3,09E+02	3,06E+02	9,47E+03	5,21E+03	3,49E+05	1,26E+03	8,12E+02	1,17E+03	1,63E+03	1,52E+04	1,45E+03	n.d.	n.d.	1,90E+03	2,00E+03	n.d.	1,51E+03	9,52E+03	1,06E+04	4,55E+05	n.d.
AC_FdG_Bison 40_W07	9,33E+01	5,44E+03	2,11E+02	1,46E+02	1,01E+04	6,59E+03	2,39E+05	1,60E+03	5,86E+02	8,35E+02	1,05E+03	1,54E+04	1,54E+03	n.d.	n.d.	n.d.	1,70E+03	n.d.	0,00E+00	1,06E+04	6,20E+03	3,40E+04	n.d.
AC_Frise noir_W11	1,24E+02	2,42E+03	2,96E+03	2,60E+02	1,02E+04	7,20E+03	2,86E+05	2,67E+03	1,31E+03	5,57E+02	9,55E+03	7,13E+04	1,01E+03	n.d.	1,35E+04	n.d.	2,13E+03	1,66E+03	0,00E+00	9,24E+03	7,65E+03	2,78E+04	n.d.
AC_Frise noir_W12	1,94E+02	2,27E+03	3,80E+03	2,75E+02	9,51E+03	5,13E+03	2,75E+05	2,57E+03	3,50E+02	9,75E+02	2,17E+04	5,11E+04	1,23E+03	1,07E+03	1,32E+04	n.d.	9,13E+02	n.d.	1,43E+03	9,85E+03	7,67E+03	1,49E+04	n.d.
AC_Bison 12_W16	2,02E+02	2,01E+03	4,17E+02	3,60E+02	1,13E+04	6,42E+03	7,31E+05	1,46E+03	n.d.	1,96E+02	1,37E+03	2,61E+04	7,76E+02	n.d.	1,13E+03	1,74E+03	1,86E+03	1,53E+03	1,22E+03	1,07E+04	8,59E+03	n.d.	n.d.
AC_Bison 12_W17	1,50E+02	4,19E+03	1,43E+02	2,32E+02	1,03E+04	4,48E+03	3,61E+05	9,66E+02	7,61E+02	1,97E+02	7,47E+02	2,33E+04	1,22E+03	n.d.	1,57E+03	9,65E+02	1,58E+03	1,45E+03	2,19E+03	9,20E+03	7,25E+03	3,83E+04	n.d.
AC_FdG_Bison 45_W27	5,96E+01	1,68E+03	7,35E+03	4,54E+02	1,06E+04	5,04E+03	3,01E+05	6,97E+02	n.d.	n.d.	1,62E+03	1,41E+04	n.d.	n.d.	n.d.	n.d.	1,62E+03	n.d.	1,22E+03	9,00E+03	7,04E+03	1,48E+04	6,23E+03
AC_FdG_Bison 45_W28	1,30E+02	2,05E+03	4,42E+03	2,58E+02	1,04E+04	2,56E+03	1,88E+05	2,41E+03	3,47E+02	n.d.	9,21E+02	1,05E+04	1,03E+03	n.d.	1,38E+03	n.d.	1,84E+03	n.d.	2,91E+03	1,03E+04	6,13E+03	1,48E+04	8,15E+03
AC_FdG_Bison 45_W35	1,90E+02	3,98E+03	1,40E+03	5,40E+02	9,68E+03	5,11E+03	2,48E+05	1,42E+03	3,02E+02	3,36E+02	2,45E+03	3,72E+04	1,08E+03	n.d.	2,53E+03	n.d.	n.d.	n.d.	1,81E+03	8,88E+03	8,05E+03	1,34E+04	1,51E+04
AC_FdG_Bison 45_W36	2,30E+02	3,38E+03	2,43E+02	3,35E+02	9,11E+03	3,42E+03	3,18E+05	9,52E+02	1,25E+03	7,28E+02	3,08E+03	2,65E+04	1,02E+03	n.d.	1,06E+03	n.d.	1,39E+03	n.d.	1,24E+03	8,60E+03	6,91E+03	1,19E+04	3,21E+04
AC_FdG_Bison 45_W37	5,47E+01	2,84E+03	2,60E+03	4,89E+02	8,61E+03	3,66E+03	3,02E+05	1,39E+03	n.d.	n.d.	2,55E+03	4,43E+04	1,05E+03	n.d.	1,54E+03	1,79E+03	1,91E+03	n.d.	1,15E+03	1,13E+04	6,77E+03	1,31E+04	2,12E+05
AC_FdG_Bison45_W47	2,98E+02	4,67E+03	3,00E+02	4,06E+02	8,35E+03	5,72E+03	2,22E+05	2,70E+03	5,83E+02	n.d.	3,00E+03	7,55E+04	9,02E+02	1,01E+03	2,91E+03	1,77E+03	1,78E+03	n.d.	1,93E+03	1,07E+04	6,32E+03	1,29E+04	3,87E+05
AC_FdG_Bison45_W48	1,22E+02	6,87E+03	5,43E+02	4,06E+02	6,75E+03	4,27E+03	1,32E+05	2,73E+03	7,62E+02	n.d.	4,54E+03	7,53E+04	1,21E+03	1,22E+03	2,42E+03	n.d.	1,51E+03	n.d.	1,78E+03	1,10E+04	6,09E+03	1,44E+04	7,31E+04
AC_FdG_Bison45_W49	1,48E+02	6,34E+03	5,66E+02	6,06E+02	8,88E+03	7,62E+03	2,44E+05	4,47E+03	9,32E+02	6,26E+02	7,39E+03	1,11E+05	1,32E+03	1,02E+03	3,96E+03	2,03E+03	1,83E+03	n.d.	1,40E+03	1,11E+04	7,73E+03	1,43E+04	1,07E+05
AC_FDG_28112019_21_Renne11_P	5,32E+02	5,43E+03	2,59E+03	7,60E+02	2,19E+04	1,09E+04	9,67E+05	3,10E+03	4,73E+02	7,36E+02	5,05E+03	6,07E+04	6,93E+02	n.d.	4,52E+03	9,54E+02	1,99E+03	8,79E+02	9,03E+02	1,46E+04	1,67E+04	6,49E+04	5,18E+04
AC_FDG_291119_09_Bison4_P	4,40E+02	9,16E+03	5,10E+02	3,74E+02	2,25E+04	9,45E+03	1,06E+06	1,63E+03	3,86E+02	5,85E+02	2,94E+03	5,01E+04	1,01E+03	n.d.	n.d.	1,53E+03	1,58E+03	8,18E+02	4,08E+03	1,52E+04	1,40E+04	1,75E+04	n.d.
AC_FDG_291119_10_Bison4_P	4,54E+02	9,81E+03	1,41E+02	4,03E+02	2,23E+04	9,07E+03	8,94E+05	4,04E+03	1,04E+03	n.d.	2,34E+03	2,56E+04	1,19E+03	n.d.	n.d.	n.d.	2,13E+03	n.d.	1,59E+03	1,40E+04	1,49E+04	1,50E+04	2,32E+05
AC_FDG_291119_12_Bison37_P	5,28E+02	6,54E+03	1,88E+02	6,06E+02	2,26E+04	1,07E+04	1,12E+06	2,06E+03	n.d.	4,28E+02	4,03E+03	3,52E+04	9,98E+02	n.d.	n.d.	n.d.	2,39E+03	n.d.	n.d.	1,46E+04	1,57E+04	1,50E+04	1,28E+05
AC_FdG_27022020_01_Bison42_P	6,06E+02	3,78E+03	1,94E+02	6,07E+02	2,33E+04	1,28E+04	1,16E+06	1,99E+03	4,01E+02	n.d.	4,95E+03	2,88E+04	8,99E+02	n.d.	1,96E+03	n.d.	1,97E+03	n.d.	8,94E+02	1,35E+04	1,59E+04	1,24E+04	4,92E+04
AC_FdG_28022020_03_Bison26_P	6,45E+02	1,34E+04	8,39E+00	4,61E+02	1,97E+04	1,61E+04	5,47E+05	2,11E+04	1,01E+03	9,42E+02	6,50E+03	9,74E+04	1,78E+03	5,86E+02	2,38E+03	2,86E+03	2,10E+03	1,18E+03	9,29E+03	1,57E+04	1,47E+04	4,14E+04	3,33E+04
AC_FdG_28022020_07_Bison15_P	3,94E+02	5,17E+03	1,15E+03	5,62E+02	2,13E+04	9,01E+03	5,64E+05	3,30E+03	7,52E+02	8,80E+02	3,32E+03	8,59E+04	8,60E+02	n.d.	2,31E+03	1,24E+03	1,35E+03	6,07E+02	2,36E+03	1,28E+04	1,44E+04	1,23E+04	2,33E+05
AC_FdG_29022020_01_Bison3_P	5,69E+02	6,38E+03	2,38E+02	5,27E+02	2,11E+04	1,78E+04	1,04E+06	2,02E+03	2,87E+02	n.d.	4,15E+03	5,22E+04	1,13E+03	n.d.	1,60E+03	1,39E+03	2,01E+03	2,68E+03	1,26E+03	1,51E+04	1,70E+04	1,22E+04	2,08E+05
AC_FdG_29022020_04_Bison3_P	7,24E+02	7,09E+03	4,13E+02	5,88E+02	2,19E+04	1,21E+04	1,14E+06	2,55E+03	7,12E+02	n.d.	8,59E+03	6,78E+04	1,06E+03	n.d.	1,78E+03	n.d.	2,13E+03	n.d.	n.d.	1,66E+04	1,90E+04	1,43E+04	2,34E+05
AC_FdG_29022020_09_Bison2_P	6,37E+02	7,83E+03	7,50E+02	4,79E+02	2,15E+04	1,23E+04	1,11E+06	3,28E+03	7,98E+02	8,10E+02	1,63E+04	9,63E+04	8,50E+02	n.d.	3,61E+03	1,49E+03	1,98E+03	n.d.	5,10E+03	1,66E+04	1,59E+04	1,38E+04	2,11E+05
AC_FdG_29022020_11_Bison15_P	4,43E+02	2,28E+03	2,21E+03	5,93E+02	2,12E+04	7,10E+03	8,33E+05	2,48E+03	n.d.	7,34E+02	3,68E+03	4,15E+04	7,82E+02	n.d.	1,40E+03	1,25E+03	7,58E+02	1,46E+03	8,42E+02	1,29E+04	1,75E+04	1,41E+04	2,09E+05
AC_FdG_29022020_13_Cerf14_P	4,28E+02	4,10E+03	7,83E+02	3,47E+02	2,44E+04	9,15E+03	1,04E+06	2,23E+03	1,94E+02	4,42E+02	4,64E+03	4,80E+04	8,61E+02	6,95E+02	2,30E+03	n.d.	1,84E+03	n.d.	n.d.	1,35E+04	1,63E+04	n.d.	n.d.
AC_FdG_29022020_15_Cerf14_P	6,03E+02	6,04E+03	2,26E+02	4,71E+02	2,29E+04	1,47E+04	1,16E+06	3,60E+03	9,38E+01	7,38E+02	4,84E+03	5,38E+04	7,76E+02	5,49E+02	2,19E+03	1,45E+03	1,63E+03	n.d.	1,23E+03	1,59E+04	1,79E+04	n.d.	n.d.
AC_FdG_B09_15_022021_15	4,49E+02	6,12E+03	5,79E+01	7,49E+02	2,13E+04	1,09E+04	8,71E+05	1,53E+03	1,58E+03	4,46E+02	2,30E+03	3,79E+04	1,02E+03	n.d.	n.d.	n.d.	1,76E+03	n.d.	1,41E+03	1,32E+04	1,44E+04	n.d.	n.d.

AC_FdG_B46_P_022021_17	4,82E+02	7,89E+03	1,93E+02	3,68E+02	2,33E+04	1,04E+04	1,10E+06	1,90E+03	7,55E+02	3,92E+02	6,10E+03	3,58E+04	1,53E+03	n.d.	n.d.	n.d.	2,31E+03	n.d.	1,58E+03	1,51E+04	1,48E+04	n.d.	n.d.
AC_FdG_C12_P_022021_22	3,30E+02	8,86E+03	2,88E+02	5,04E+02	2,00E+04	8,85E+03	6,01E+05	2,93E+03	5,21E+02	8,40E+02	4,65E+03	7,18E+04	1,32E+03	9,23E+02	2,36E+03	n.d.	1,87E+03	n.d.	1,29E+03	1,38E+04	1,52E+04	n.d.	n.d.
AC_FdG_B14_P_022021_27	4,51E+02	4,34E+03	3,25E+02	5,12E+02	1,98E+04	9,44E+03	6,26E+05	4,87E+03	5,33E+02	6,68E+02	1,82E+04	9,56E+04	9,58E+02	6,63E+02	1,86E+03	1,40E+03	1,64E+03	n.d.	1,38E+03	1,28E+04	1,49E+04	n.d.	n.d.
AC_FdG_B01_C_022021_35	4,93E+02	7,32E+03	4,55E+01	3,35E+02	2,31E+04	9,56E+03	1,05E+06	2,77E+03	n.d.	6,25E+02	4,64E+03	5,98E+04	2,19E+03	6,34E+02	2,51E+03	1,27E+03	1,68E+03	n.d.	6,33E+03	1,42E+04	1,35E+04	n.d.	n.d.
Laboratory analysis	Al	Si	P	S	Ar	K	Ca	Ti	V	Cr	Mn	Fe	Ni	Cu	Zn	Rb	Sr	Y	Zr	Rh	Rh	Ba	Pb
GP_02032021_00_Romanechite33971	4,94E+02	1,46E+03	1,96E+02	1,63E+04	1,75E+04	4,22E+03	3,76E+04	9,77E+03	1,47E+04	n.d.	1,81E+06	2,99E+04	1,73E+03	1,25E+03	4,22E+03	n.d.	3,99E+04	6,43E+02	1,14E+03	1,26E+04	1,32E+04	n.d.	n.d.
GP_09032021_00_Romanechite33971_1	6,14E+02	1,26E+03	7,35E+01	4,01E+02	1,83E+04	6,94E+03	1,64E+04	2,40E+01	1,98E+04	n.d.	2,43E+06	3,89E+04	2,12E+03	1,38E+03	4,45E+03	n.d.	5,32E+04	n.d.	1,01E+03	3,04E+03	1,49E+04	n.d.	n.d.
GP_09032021_00_Romanechite33971_2	6,45E+02	8,11E+02	1,08E+02	2,33E+02	1,88E+04	5,62E+03	1,52E+04	7,38E+00	1,75E+04	n.d.	2,24E+06	2,91E+04	2,09E+03	1,30E+03	4,27E+03	n.d.	4,35E+04	n.d.	9,89E+02	1,30E+04	1,49E+04	n.d.	n.d.
GP_02032021_01_Hollandite11	7,87E+02	8,90E+02	2,22E+02	1,05E+04	1,70E+04	2,83E+03	2,96E+04	2,95E+02	4,80E+03	n.d.	4,44E+06	4,81E+04	3,27E+03	2,79E+03	7,32E+03	n.d.	1,31E+04	8,59E+02	6,68E+02	1,12E+04	1,32E+04	3,40E+04	n.d.
GP_02032021_02_Psilomelane46	6,08E+02	2,70E+03	1,44E+02	1,72E+02	1,64E+04	1,63E+04	9,36E+03	7,70E+03	6,25E+03	n.d.	2,31E+06	1,58E+05	3,38E+03	2,81E+03	2,65E+04	n.d.	n.d.	6,21E+04	n.d.	8,58E+02	1,45E+04	1,33E+04	2,91E+05
Ep_02032021_05_Psilo46_couche2	6,04E+02	2,96E+03	2,21E+02	2,35E+02	1,68E+04	1,67E+04	2,22E+04	7,37E+03	4,76E+03	n.d.	2,28E+06	1,51E+05	2,89E+03	2,38E+03	2,33E+04	n.d.	n.d.	3,55E+04	n.d.	4,04E+02	1,35E+04	1,51E+04	2,93E+05
Ep_02032021_06_Psilo46_couche3	5,64E+02	3,44E+03	4,40E+02	2,64E+02	1,98E+04	1,58E+04	5,82E+05	5,70E+03	1,38E+03	n.d.	1,09E+06	8,82E+04	1,51E+03	1,46E+03	1,11E+04	n.d.	n.d.	1,21E+04	n.d.	1,04E+03	1,38E+04	1,45E+04	1,39E+05
Ep_02032021_04_Psilo46_couche1	5,84E+02	4,26E+03	7,61E+02	3,56E+02	2,30E+04	1,58E+04	1,24E+06	3,11E+03	1,43E+02	6,03E+02	3,27E+05	4,40E+04	6,46E+02	1,30E+03	3,79E+03	n.d.	n.d.	4,45E+03	n.d.	1,09E+03	1,45E+04	1,71E+04	4,01E+04
Ep_02032021_07_Psilo46_couche4	5,68E+02	4,37E+03	9,02E+02	2,07E+02	2,57E+04	1,36E+04	1,36E+06	2,39E+03	2,60E+02	5,57E+02	1,27E+05	3,09E+04	2,72E+02	9,44E+02	2,42E+03	n.d.	n.d.	2,91E+03	n.d.	8,93E+02	1,37E+04	1,55E+04	1,48E+04
GP_02032021_01_Hollandite11	7,87E+02	8,90E+02	2,22E+02	1,05E+04	1,70E+04	2,83E+03	2,96E+04	2,95E+02	4,80E+03	n.d.	4,44E+06	4,81E+04	3,27E+03	2,79E+03	7,32E+03	n.d.	1,31E+04	8,59E+02	6,68E+02	1,12E+04	1,32E+04	n.d.	n.d.
GP_09032021_02_Hollandite11_1	7,37E+02	9,13E+02	3,61E+02	1,07E+04	1,69E+04	2,25E+03	2,60E+04	1,20E+03	3,67E+03	n.d.	4,09E+06	8,31E+04	2,87E+03	2,83E+03	6,60E+03	n.d.	1,02E+04	n.d.	6,70E+02	1,03E+04	1,45E+04	n.d.	n.d.
GP_09032021_03_Hollandite11_2	8,71E+02	7,58E+02	3,20E+02	6,57E+03	1,79E+04	1,48E+03	1,82E+04	5,32E+02	5,48E+03	n.d.	4,41E+06	6,10E+04	1,35E+03	2,50E+03	7,80E+03	n.d.	4,06E+03	n.d.	4,96E+02	1,07E+04	1,66E+04	n.d.	n.d.
Ep_09032021_08_Hollan11_couche2	3,80E-02	4,86E+02	3,62E+03	8,84E+02	4,45E+02	2,72E+04	1,18E+04	1,37E+06	8,27E+02	4,09E+02	6,47E+02	1,64E+05	1,97E+04	2,12E+02	1,71E+02	n.d.	n.d.	3,14E+03	n.d.	1,14E+03	1,38E+04	n.d.	n.d.
Ep_09032021_07_Hollan11_couche1	5,29E+02	5,19E+03	7,03E+02	5,49E+02	2,36E+04	9,90E+03	1,26E+06	9,97E+02	6,75E+02	n.d.	3,57E+05	2,46E+04	9,03E+02	8,13E+02	3,11E+03	1,18E+03	3,69E+03	n.d.	1,08E+03	1,45E+04	1,48E+04	8,15E+03	n.d.
Ep_09032021_10_Hollan11_couche4	6,20E+02	2,52E+03	6,66E+02	6,45E+02	2,38E+04	8,75E+03	9,77E+05	1,08E+03	1,28E+03	n.d.	1,07E+06	3,78E+04	1,01E+03	5,49E+02	2,56E+03	n.d.	4,45E+03	n.d.	9,46E+02	1,38E+04	1,34E+04	1,51E+04	n.d.
Ep_09032021_09_Hollan11_couche3	7,70E+02	1,01E+03	2,21E+01	7,48E+02	1,64E+04	3,70E+03	1,06E+05	4,49E+02	4,61E+03	n.d.	3,88E+06	1,00E+05	3,24E+03	2,74E+03	6,68E+03	n.d.	7,79E+03	n.d.	9,62E+02	1,37E+04	1,19E+04	3,21E+04	n.d.
EP_30032021_00_Roma33971_c1	4,37E+02	4,33E+03	3,39E+02	2,67E+02	1,97E+04	7,19E+03	4,77E+05	1,66E+03	8,66E+03	n.d.	1,21E+06	3,24E+04	1,31E+03	9,39E+02	2,57E+03	n.d.	1,48E+04	n.d.	1,22E+03	1,42E+04	1,31E+04	2,12E+05	n.d.
EP_30032021_01_Roma33971_c2	4,57E+02	1,39E+03	2,77E+01	3,37E+02	1,75E+04	5,04E+03	9,82E+04	3,61E+03	1,66E+04	n.d.	2,10E+06	5,61E+04	1,65E+03	9,99E+02	3,41E+03	n.d.	3,36E+04	n.d.	5,07E+02	1,43E+04	1,29E+04	3,87E+05	n.d.
EP_30032021_02_Roma33971_c3	5,44E+02	4,15E+03	7,40E+02	3,45E+02	2,26E+04	1,05E+04	1,05E+06	2,13E+03	1,89E+03	n.d.	4,51E+05	2,62E+04	8,49E+02	5,72E+02	1,60E+03	n.d.	4,95E+03	n.d.	1,26E+03	1,45E+04	1,44E+04	7,31E+04	n.d.
EP_30032021_03_Roma33971_c4	4,73E+02	3,70E+03	6,29E+02	3,49E+02	2,19E+04	7,48E+03	9,41E+05	4,08E+03	3,35E+03	n.d.	6,61E+05	2,44E+04	5,50E+02	8,15E+02	1,65E+03	n.d.	6,27E+03	n.d.	6,83E+02	1,37E+04	1,43E+04	1,07E+05	n.d.
EP_30032021_04_Roma33971_c5	4,75E+02	3,01E+03	6,69E+02	4,26E+02	1,54E+04	7,49E+03	1,27E+06	1,48E+03	2,20E+03	n.d.	3,28E+05	2,15E+04	1,36E+02	1,27E+03	1,01E+03	n.d.	4,40E+03	n.d.	1,04E+03	1,44E+04	6,49E+04	5,18E+04	n.d.
EP_30032021_10_MelangePH_c0	5,80E+02	1,18E+04	5,25E+02	2,30E+02	2,31E+04	1,32E+04	1,40E+06	8,75E+02	4,34E+02	1,32E+03	1,60E+03	1,64E+04	7,18E+02	3,87E+02	2,11E+03	n.d.	2,30E+03	n.d.	1,03E+03	1,49E+04	1,75E+04	n.d.	n.d.
EP_30032021_11_MelangePH_c1	6,70E+02	1,99E+03	1,94E+02	5,14E+02	1,64E+04	1,25E+04	1,64E+04	3,07E+03	5,46E+03	n.d.	3,39E+06	1,32E+05	3,62E+03	3,03E+03	1,91E+04	n.d.	2,96E+04	n.d.	1,46E+02	1,44E+04	1,50E+04	2,32E+05	2,69E+03
EP_30032021_12_MelangePH_c2	5,42E+02	5,04E+03	2,62E+02	2,51E+02	1,88E+04	1,32E+04	5,03E+05	3,68E+03	2,00E+03	n.d.	1,74E+06	7,74E+04	2,15E+03	1,43E+03	9,98E+03	n.d.	1,30E+04	n.d.	9,94E+02	1,38E+04	1,50E+04	1,28E+05	2,29E+03
EP_30032021_13_MelangePH_c3	5,21E+02	2,00E+04	4,59E+02	2,47E+02	2,04E+04	1,15E+04	6,48E+05	3,29E+03	9,05E+02	n.d.	7,20E+05	4,32E+04	1,79E+03	8,99E+02	6,16E+03	n.d.	6,93E+03	n.d.	9,31E+02	1,50E+04	1,24E+04	4,92E+04	2,22E+03
EP_30032021_14_MelangePH_c4	5,89E+02	7,16E+03	7,71E+02	6,91E+01	1,84E+04	1,06E+04	1,22E+06	1,80E+03	4,36E+02	n.d.	4,85E+05	3,52E+04	7,90E+02	1,08E+03	3,88E+03	n.d.	5,32E+03	n.d.	1,28E+03	1,45E+04	4,14E+04	3,33E+04	3,08E+03
GP_01062021_00_Psilo46_2	5,30E+02	2,27E+03	1,27E+02	2,33E+02	1,60E+04	1,22E+04	7,27E+03	6,38E+03	5,09E+03	n.d.	1,85E+06	1,24E+05	2,31E+03	1,99E+03	1,93E+04	n.d.	4,62E+04	n.d.	9,35E+02	1,17E+04	1,23E+04	2,33E+05	n.d.
GP_01062021_01_Psilo46_2	4,78E+02	2,03E+03	5,17E+01	1,73E+02	1,60E+04	1,09E+04	6,43E+03	4,74E+03	4,42E+03	n.d.	1,65E+06	1,11E+05	2,07E+03	1,62E+03	1,72E+04	n.d.	4,05E+04	n.d.	9,21E+02	1,05E+04	1,22E+04	2,08E+05	n.d.
GP_01062021_06_Mixture	5,91E+02	1,79E+03	1,17E+02	4,60E+02	1,58E+04	1,26E+04	1,38E+04	3,68E+03	6,69E+03	n.d.	3,23E+06	1,83E+05	3,93E+03	2,74E+03	2,17E+04	n.d.	4,82E+04	n.d.	9,11E+02	1,53E+04	1,43E+04	2,34E+05	n.d.
GP_01062021_07_Mixture	6,16E+02	1,73E+03	1,60E+02	6,35E+02	1,72E+04	1,09E+04	1,26E+04	1,39E+00	5,76E+03	n.d.	2,83E+06	1,62E+05	2,90E+03	2,40E+03	1,74E+04	n.d.	3,73E+04	n.d.	9,87E+02	1,13E+04	1,38E+04	2,11E+05	n.d.
GP_01062021_08_Mixture	5,38E+02	1,82E+03	7,34E+01	6,72E+02	1,69E+04	1,14E+04	2,22E+04	2,78E+03	5,48E+03	n.d.	2,75E+06	1,67E+05	2,79E+03	2,69E+03	1,80E+04	n.d.	3,84E+04	n.d.	1,00E+03	1,17E+04	1,41E+04	2,09E+05	n.d.