

GEOTAIX UMWELTTECHNOLOGIE GMBH  
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## **Chemical analysis of bleaching earths**

**Client:** Ashapura Volclay Limited, 278, Jeevan Udyog Building, 3<sup>rd</sup> Floor, D N Road, Fort, Mumbai 400001, India

**No. of project:** ASHM 130001 H

**Date of Delivery:** 19-03-2013

Analysis of **Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans (PCDD/F)**  
**Polychlorinated Biphenyls (WHO-PCB)**  
**Heavy Metals (Pb. Cd. Hg)**  
**Polycyclic Aromatic Hydrocarbons (PAH). Benzo-a-pyrene (BaP)**

method of analysis: according to Fediol's Code of Practise on the Purchase Conditions of Fresh Bleaching Earth for Oil Refining


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### **appraisal of results**

The sample „Galleon Earth V 2 Special“ (Lab. No. 212906) fulfills the criteria of Fediol's „Code of Practise on the Purchase Conditions of Fresh Bleaching Earth for Oil Refining“ of 2011.

The contents of PCDD/F (dioxins), WHO-PCB's, Heavy Metals (Pb. Cd. Hg) and benzo(a)pyrene are below the maximum levels.

Würselen. 10-04-2013



Dr. B. Beissmann  
manager of laboratory

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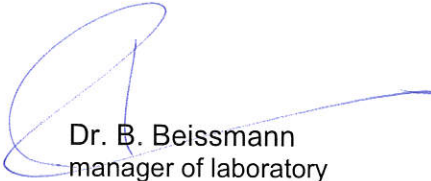
Analysis of **Polycyclic Aromatic Hydrocarbons (PAH)**

method of analysis: LUA Merkblatt Nr. 1

## Results:

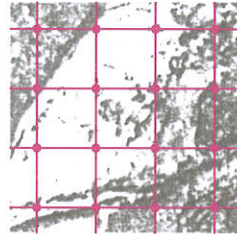
<b>PAH [<math>\mu\text{g}/\text{kg ds}</math>]</b>	
Lab.No.	212906
sample	<b>Galleon Earth V2 Special</b>
<b>PAH</b>	
fluoranthene	2.9
pyrene	1.4
benzo(a)anthracene	< 0.5
chrysene	< 0.5
benzo(b)fluoranthene	< 0.5
benzo(k)fluoranthene	< 0.5
benzo(a)pyrene	< 0.5
indeno(1,2,3-cd)pyrene	< 0.5
<b>sum PAH</b>	<b>4.3</b>

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Analysis of **Polycyclic Aromatic Hydrocarbons (PAH)**

method of analysis: LUA Merkblatt Nr. 1

### Results:

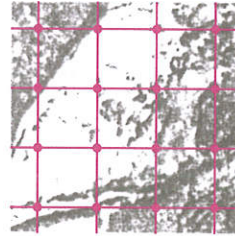
<b>BaP [<math>\mu\text{g}/\text{kg ds}</math>]</b>	
Lab.No.	212906
sample	<b>Galleon Earth V2 Special</b>
<b>BaP</b>	
benzo(a)pyrene	< 0.5

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Analysis of **metals**

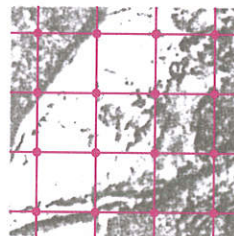
method of analysis: Digestion with HCl/HNO<sub>3</sub>

### Results:

metals [mg/kg ds]		
Lab.No. sample		212906 <b>Galleon Earth V2 Special</b>
cadmium (Cd)	DIN EN ISO 11885	< 0.4
lead (Pb)	DIN EN ISO 11885	< 3
mercury (Hg)	DIN EN 1483 E 12	< 0.05

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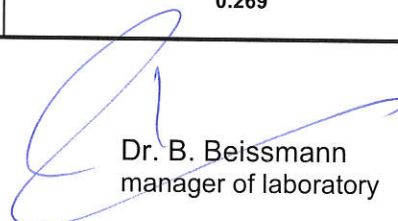
### Analysis of Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans (PCDD/F) Polychlorinated Biphenyls (WHO-PCB: "dioxin-like PCB")

method of analysis: GC/MS (AbfklärV. Germany) Analysis in cooperation with a specialized laboratory

PCDD/F	[ng/kg dry substance]
Lab.No.	212906
Sample	Galleon Earth V2 Special
TCDD (2,3,7,8)	* < 0.02
PeCDD (1,2,3,7,8)	* < 0.03
HxCDD (1,2,3,4,7,8)	< 0.05
HxCDD (1,2,3,6,7,8)	< 0.05
HxCDD (1,2,3,7,8,9)	< 0.05
HpCDD (1,2,3,4,6,7,8)	* < 0.20
OCDD	< 1.00
TCDF (2,3,7,8)	0.79
PeCDF (1,2,3,7,8)	0.05
PeCDF (2,3,4,7,8)	0.10
HxCDF (1,2,3,4,7,8)	< 0.05
HxCDF (1,2,3,6,7,8)	< 0.05
HxCDF (1,2,3,7,8,9)	< 0.05
HxCDF (2,3,4,6,7,8)	* < 0.07
HpCDF (1,2,3,4,6,7,8)	< 0.10
HpCDF (1,2,3,4,7,8,9)	< 0.10
OCDF	< 1.00
<b>TEQ (WHO) based on PCDD/F in consideration of 100% detection limit (upperbound level)</b>	<b>0.202</b>
<b>TEQ (WHO) based on PCDD/F without consideration of detection limit (lowerbound level)</b>	<b>0.111</b>
<b>PCB</b>	
PCB 105	< 5
PCB 114	< 3
PCB 118	< 10
PCB 123	< 3
PCB 156	< 3
PCB 157	< 3
PCB 167	< 3
PCB 189	< 3
PCB 77	* < 5.0
PCB 81	* < 0.8
PCB 126	< 0.5
PCB 169	< 0.5
<b>TEQ (WHO) based on PCBs in consideration of 100% detection limit (upperbound level)</b>	<b>0.067</b>
<b>TEQ (WHO) based on PCB and PCDD/F in consideration of 100% detection limit (upperbound level)</b>	<b>0.269</b>

\*LOD changed, because of matrix interference

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