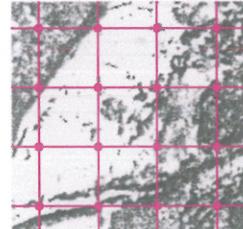


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UMWELTTECHNOLOGIE GMBH

Chemical analysis of bleaching earths

Client: Ashapura Volclay Ltd..

No. of project: ASH 12002 H

Date of Delivery: 07-03-2012

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)**

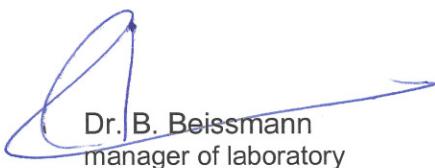
method of analysis: according to Fediol's Code of Practise on the Purchase Conditions of Fresh Bleaching Earth for Oil Refining

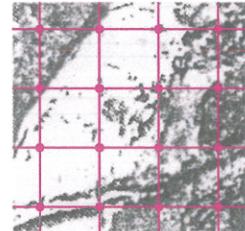
appraisal of results

The sample „V2“ (Lab. No. 189534) 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. 27-03-2012


Dr. B. Beissmann
manager of laboratory



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Client: Ashapura Volclay Ltd..

No. of project: ASH 12002 H

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Analysis of Polychlorinated Dibeno-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.	189534
Sample	V2 Super
TcCDD (2.3.7.8)	*< 0.02
PecCDD (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
HpcCDD (1.2.3.4.6.7.8)	< 0.10
OCDD	< 1.00
TeCDF (2.3.7.8)	*< 0.20
PecDF (1.2.3.7.8)	< 0.02
PecDF (2.3.4.7.8)	*< 0.03
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)	< 0.05
HpCDF (1.2.3.4.6.7.8)	< 0.10
HpCDF (1.2.3.4.7.8.9)	< 0.10
OCDF	< 1.00
TEQ (WHO) based on PCDD/F in consideration of 100% detection limit (upperbound level)	0.124
TEQ (WHO) based on PCDD/F without consideration of detection limit (lowerbound level)	0
PCB	
PCB 105	*< 7
PCB 114	< 3
PCB 118	*< 13
PCB 123	< 3
PCB 156	*< 4
PCB 157	< 3
PCB 167	< 3
PCB 189	< 3
PCB 77	< 2.0
PCB 81	< 0.5
PCB 126	< 0.5
PCB 169	< 0.5
TEQ (WHO) based on PCBs in consideration of 100% detection limit (upperbound level)	0.063
TEQ (WHO) based on PCB and PCDD/F in consideration of 100% detection limit (upperbound level)	0.187

*LOD changed, because of matrix interference

Würselen, 27-03-2012

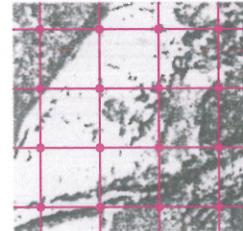
Dr. B. Beissmann
 manager of laboratory



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Chemical analysis of bleaching earths

Client: Ashapura Volclay Ltd..

No. of project: ASH 12002 H

Date of Delivery: 07-03-2012

Analysis of Polycyclic Aromatic Hydrocarbons (PAH)

method of analysis: solvent extraction, HPLC-FD (an. ISO 15302)

Untersuchungsergebnisse:

PAH [µg/kg ds]

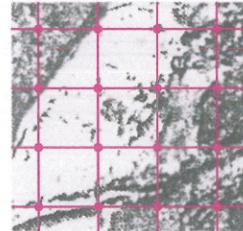
Lab.No.	189534
sample	V2 Super
PAH	
fluoranthene	< 0.5
pyrene	< 0.5
benzo(a)anthracene	< 0.5
chrysene	< 0.5
benzo(b)fluoranthene	< 0.5
benzo(k)fluoranthene	< 0.5
benzo(a)pyrene	< 0.5
indeno(1,2,3-cd)pyrene	< 0.5
sum PAH	

Würselen, 27-03-2012

Dr. B. Beissmann
manager of laboratory

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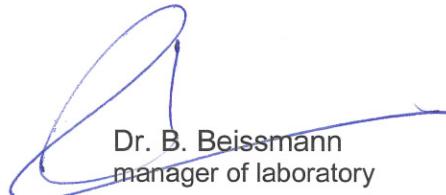
Analysis of Polycyclic Aromatic Hydrocarbons (PAH)

method of analysis: solvent extraction, HPLC-FD (an. ISO 15302)

Results:

BaP [µg/kg dry substance]	
Lab.No.	189534
sample	V2 Super
BaP	
benzo(a)pyrene	< 0.5

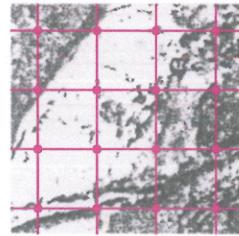
Würselen, 27-03-2012



Dr. B. Beissmann
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Chemical analysis of bleaching earths

Client: Ashapura Volclay Ltd..

No. of project: ASH 12002 H

Date of Delivery: 07-03-2012

Analysis of metals

method of analysis: Digestion with HCl/HNO₃, AAS

Untersuchungsergebnisse:

metals [mg/kg ds]

Lab.No.	189534
sample	V2 Super
cadmium (Cd)	< 0.4
lead (Pb)	< 3
mercury (Hg)	< 0.05

Würselen, 27-03-2012

A handwritten signature in blue ink, which appears to read "Dr. B. Beissmann manager of laboratory". The signature is somewhat stylized and includes a small circle around the letter 'B'.