

# EIA

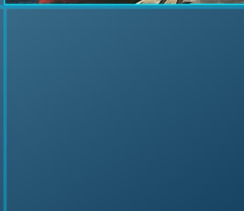
## ESTUDO DE IMPACTO AMBIENTAL PORTO SUL

**TOMO II - Volume 5 - 2/2**  
**Diagnóstico Ambiental - Anexos**

CONSÓRCIO  
**HYDROS**

 **ORIENTA**





# EIA

## ESTUDO DE IMPACTO AMBIENTAL PORTO SUL

**TOMO II - Volume 5 - 2/2**  
**Diagnóstico Ambiental - Anexos**

CONSÓRCIO  
**HYDROS**

**ORIENTA**

**perco**

# **EIA**

**ESTUDO DE  
IMPACTO  
AMBIENTAL  
PORTO SUL**

**TOMO II - Volume 5 - 2/2**  
**Diagnóstico Ambiental - Anexos**

**GOVERNO DO ESTADO DA BAHIA**

**SECRETARIA DE INFRAESTRUTURA**

**DERBA - DEPARTAMENTO DE INFRA-ESTRUTURA DE TRANSPORTES DA BAHIA**

**DIRETOR GERAL**

Saulo Filinto Pontes de Souza

**DIRETOR DE PROJETOS E PROGRAMAS ESPECIAIS**

Anna Christina Cruz Dias

**HYDROS ENGENHARIA E PLANEJAMENTO LTDA**

**RESPONSÁVEL TÉCNICO**

Engº Silvio Humberto Vieira Regis

**COORDENAÇÃO GERAL**

Engº Ulysses Fontes Dias

Engº José Jaques Coelho

**GERENTE DE CONTRATO**

Geol. Sandro Luiz de Camargo

**ESTUDO DE IMPACTO AMBIENTAL (EIA) E RELATÓRIO DE IMPACTO  
AMBIENTAL (RIMA) PARA IMPLANTAÇÃO DO PORTO SUL EM ILHÉUS**

**TOMO II – DIAGNÓSTICO AMBIENTAL**

**VOLUME 5 – ANEXOS**

## SUMÁRIO GERAL DO EIA/RIMA

### **Tomo I – CARACTERIZAÇÃO DO EMPREENDIMENTO**

### **Tomo II – DIAGNÓSTICO AMBIENTAL**

- *Volumes 1 - Diagnóstico do Meio Físico*
- *Volumes 2 e 3 - Diagnóstico do Meio Biótico*
- *Volume 4 - Diagnóstico do Meio Socioeconômico*
- *Volume 5 - Anexos*

### **Tomo III – AVALIAÇÃO DE IMPACTOS AMBIENTAIS**

### **RIMA**

## ANEXOS

- 8.1.1.4.1 Laudos Analíticos Água marinha
- 8.1.3.1.1 Mapa Geológico regional
- 8.1.3.1.2 Mapa Geológico da AID
- 8.1.3.2.1 Mapa Pedológico da ADA
- 8.1.3.2.2 Mapa Pedológico da AID
- 8.1.4.1.1 Mapa Planialtimétrico da ADA
- 8.1.5.5.1 Laudos Analíticos - Sedimentos
- 8.1.5.5.2 Laudos Analíticos - Água continental
- 8.1.5.5.3 Metodologia do Cálculo do IQA
- 8.1.6.3.1 Batimetria
- 8.1.7.4.1 Laudos Sedimentológicos
- 8.1.7.4.2 Laudos Geoquímicos
- 8.1.7.4.3 Sondagens Geotécnicas
- 8.1.8.1.1 Domínio do Modelo
- 8.1.8.1.2 Malha Utilizada nos Estudos de Modelagem
- 8.1.8.2.1 Relatório Scott Wilson - modelagem morfodinâmica
- 8.1.8.3.1 Relatório Scott Wilson - modelagem da dispersão de sedimentos
- 8.2.2.1.1 Mapa de vegetação
- 8.2.3.2.1 Autorização - Ponta da Tulha, Aritaguá e Sema
- 8.2.4.1 Lista bruta de Ictiofauna
- 8.3.1.1 Ferramenta de Análise das Entrevistas
- 8.3.2.10.1 Quilombolas e Indígenas
- 8.3.3.2.1 Áreas de Pesca
- 8.3.3.3.1 Territórios Pesqueiros
- 8.3.3.3.2 Esquema Áreas de Pesca

Neste volume são apresentados os anexos 8.1.1.4.1 à 8.1.8.1.2.

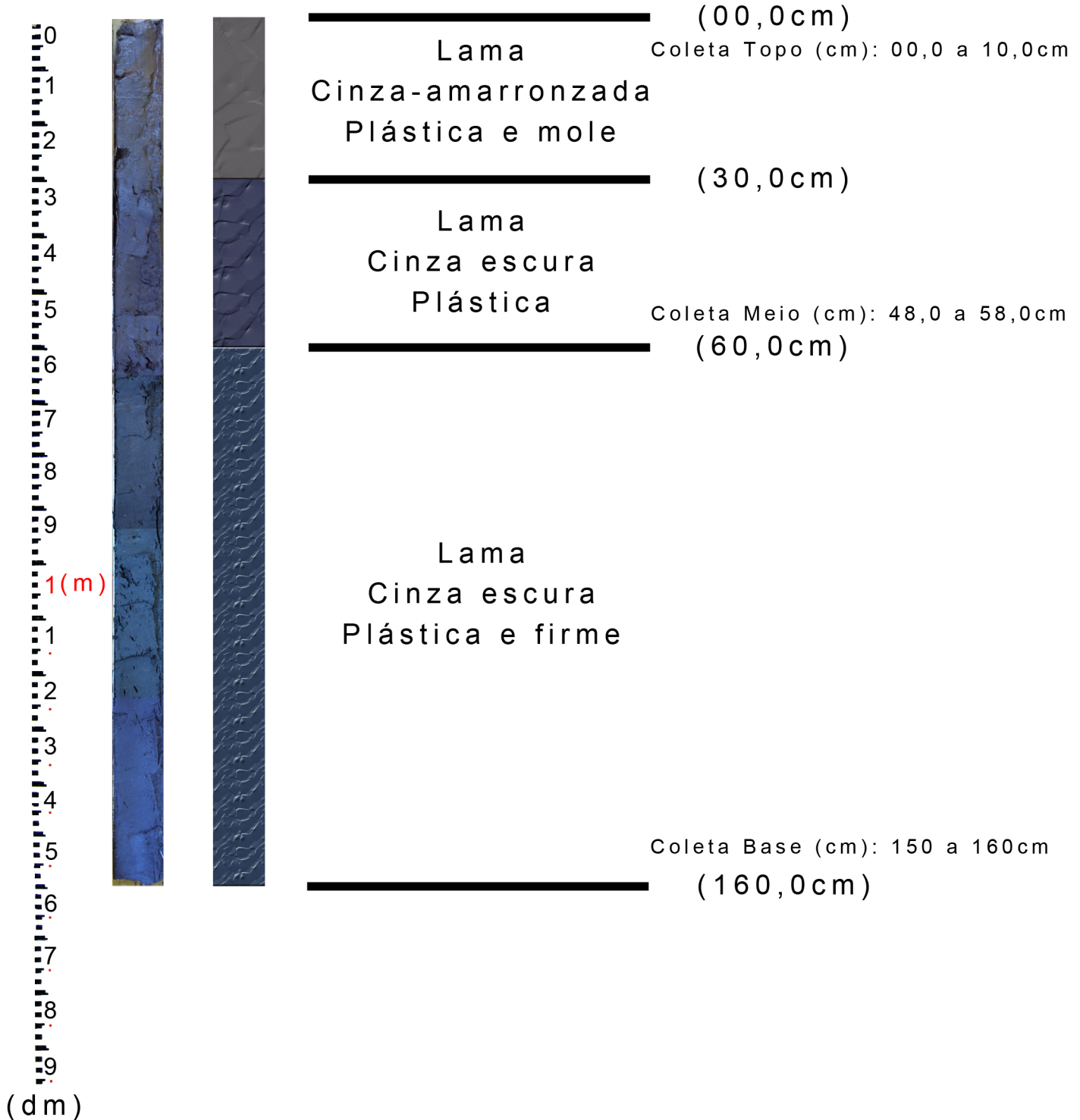
**ANEXO - TOMO II\_VOLUME 5**

#### **8.1.7.4.1 LAUDOS SEDIMENTOLÓGICOS**



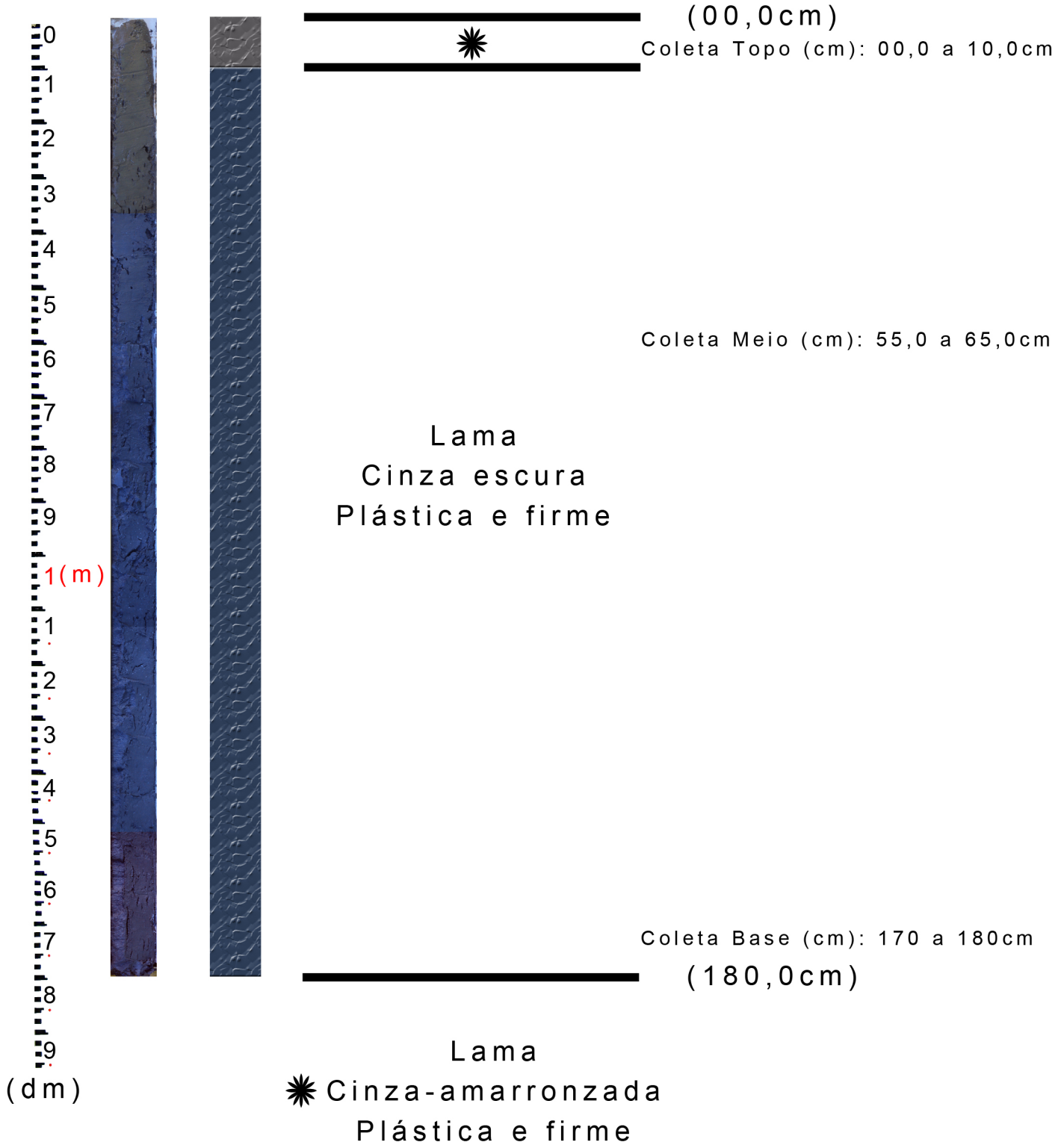


## Estação Amostral: #P03



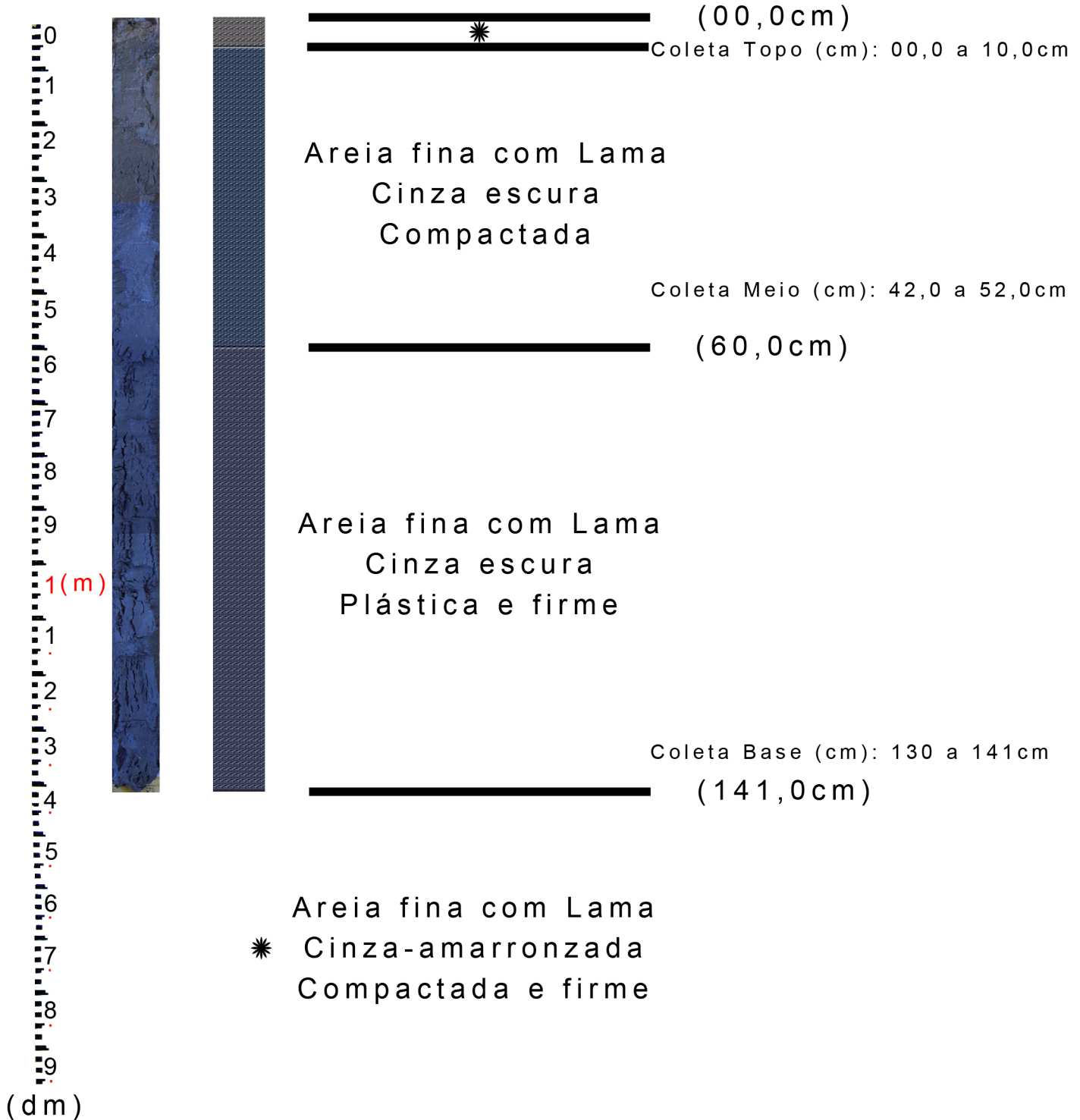


## Estação Amostral: #P05



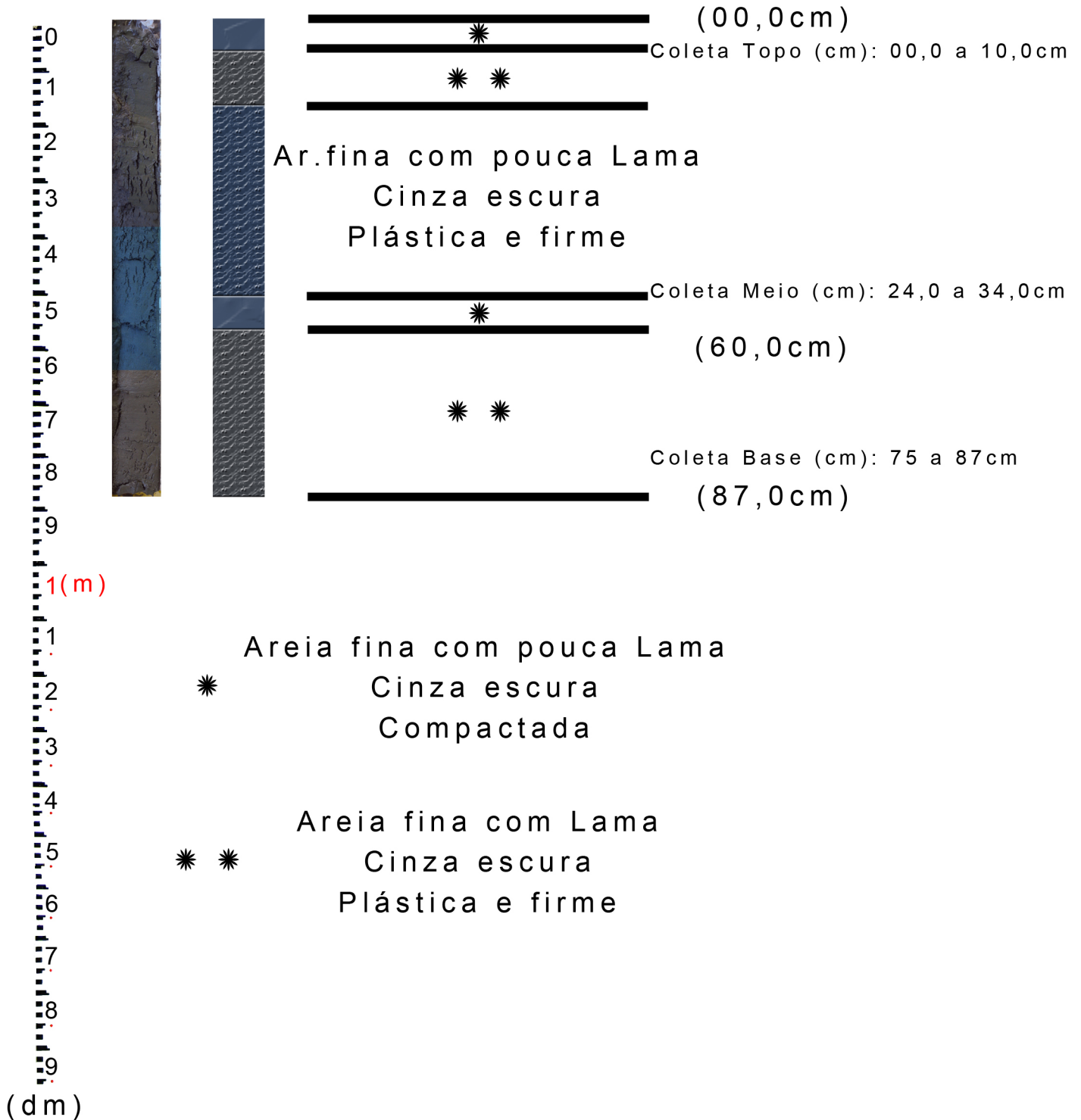


## Estação Amostral: #P08



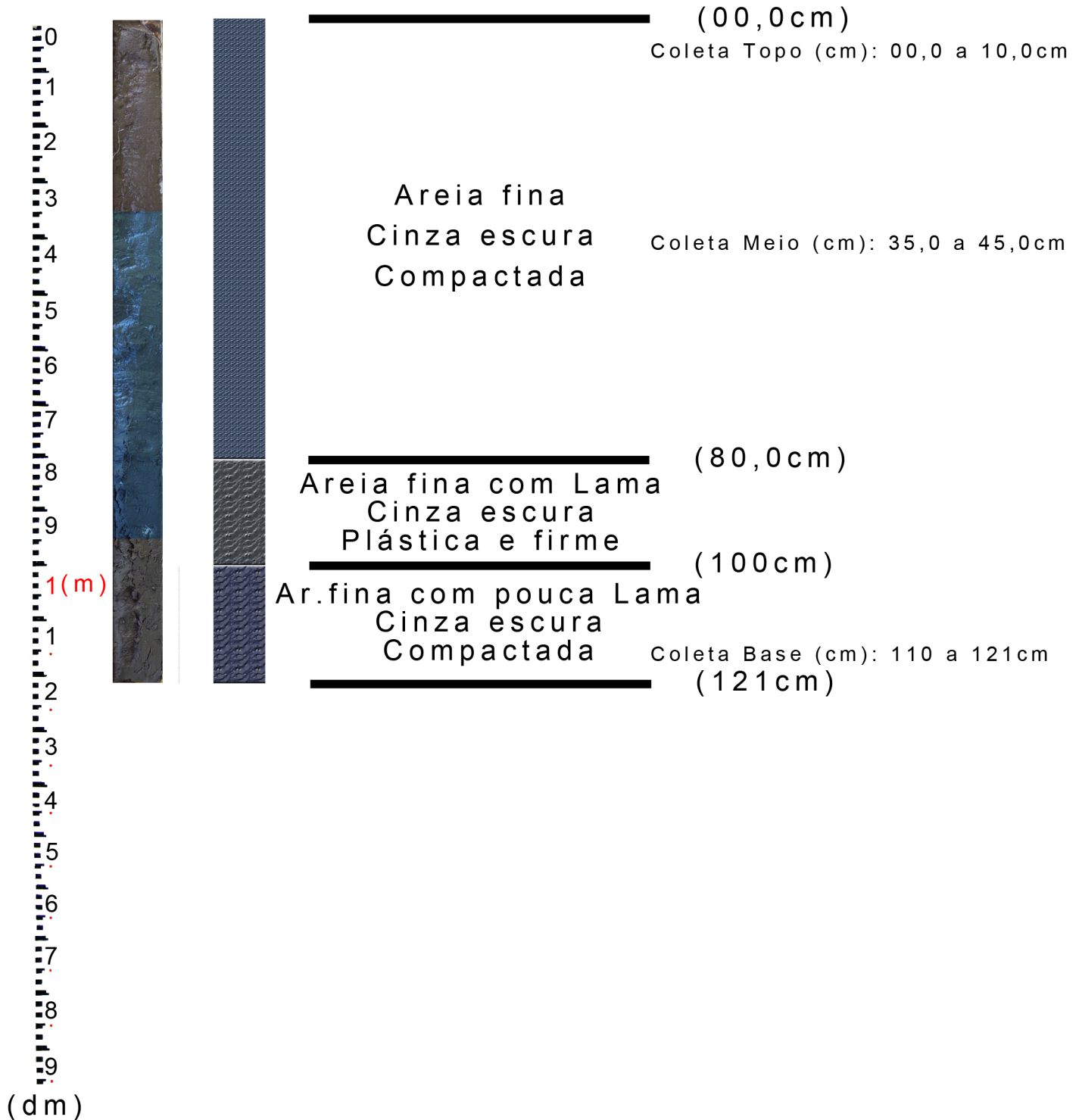


## Estação Amostral: #P12



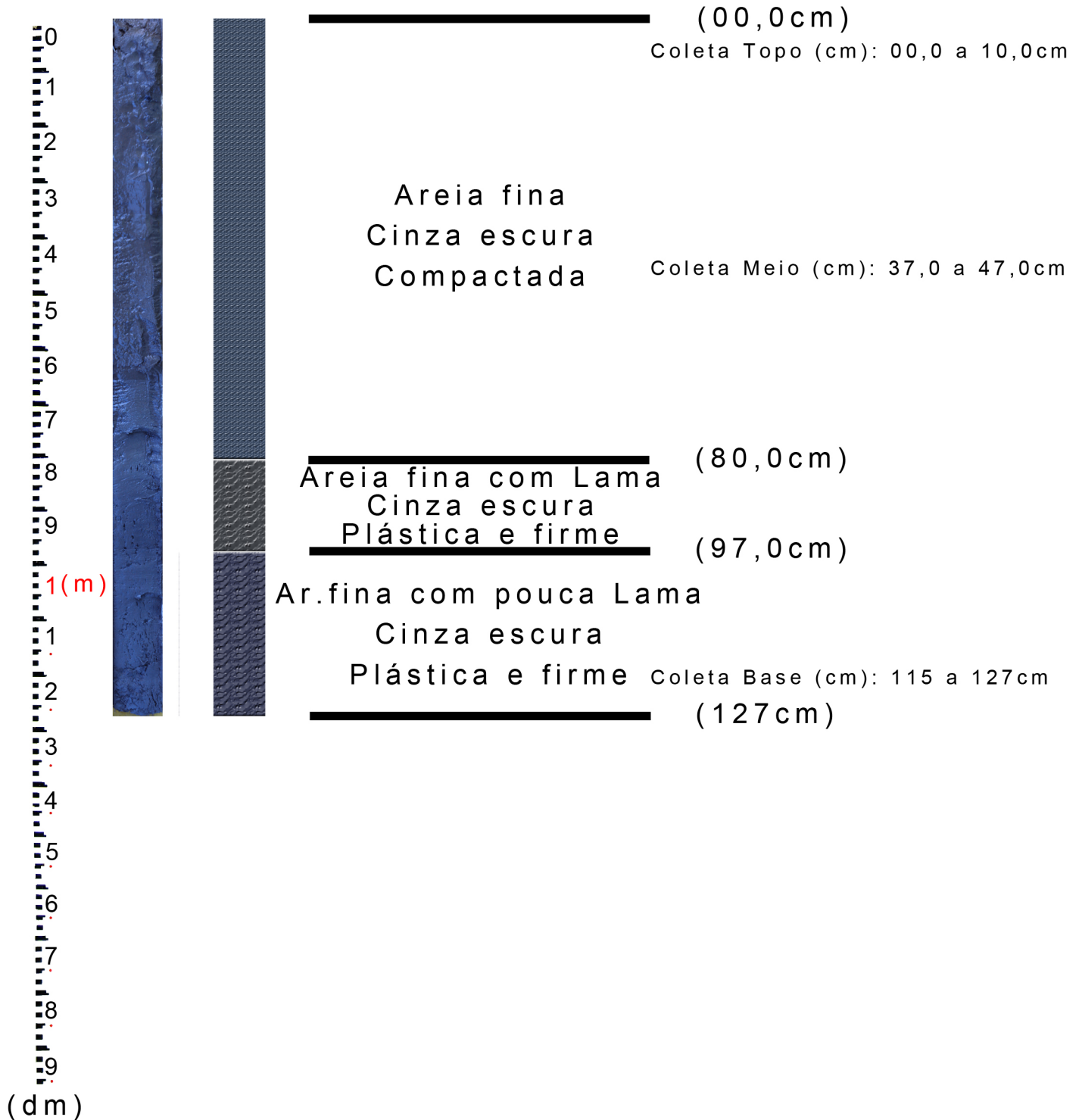


## Estação Amostral: #P14

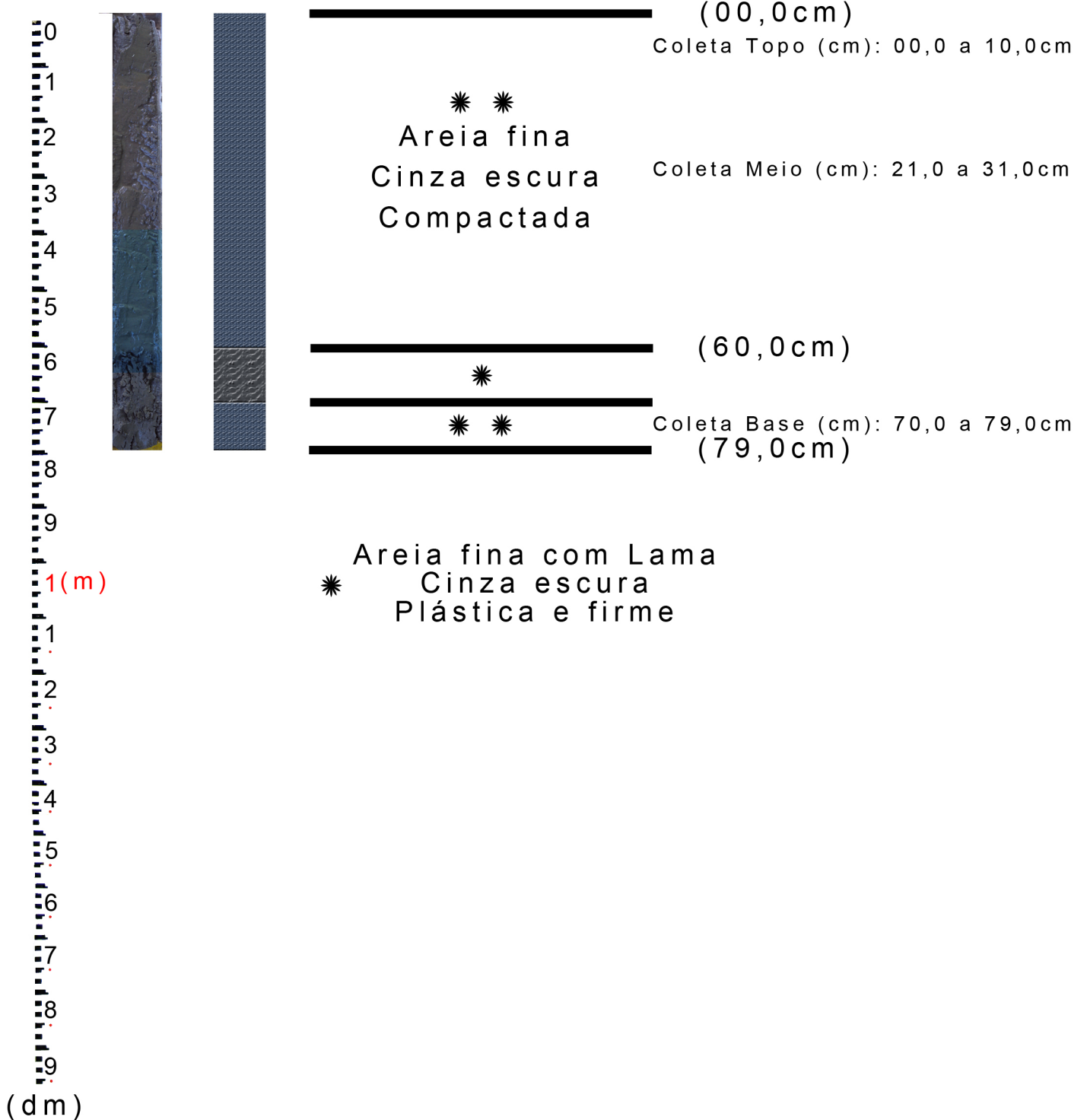




## Estação Amostral: #P19

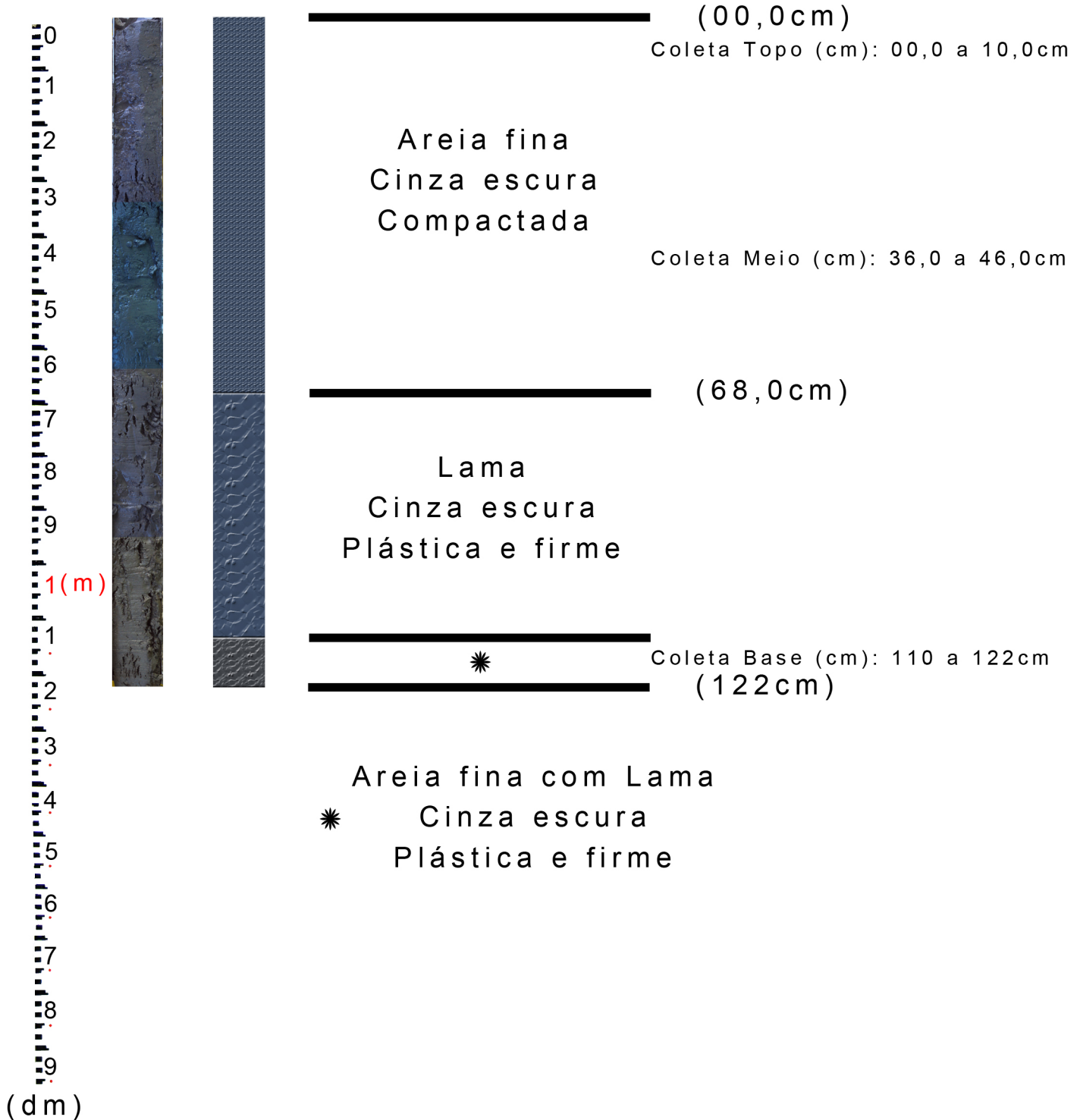


## Estação Amostral: #P20





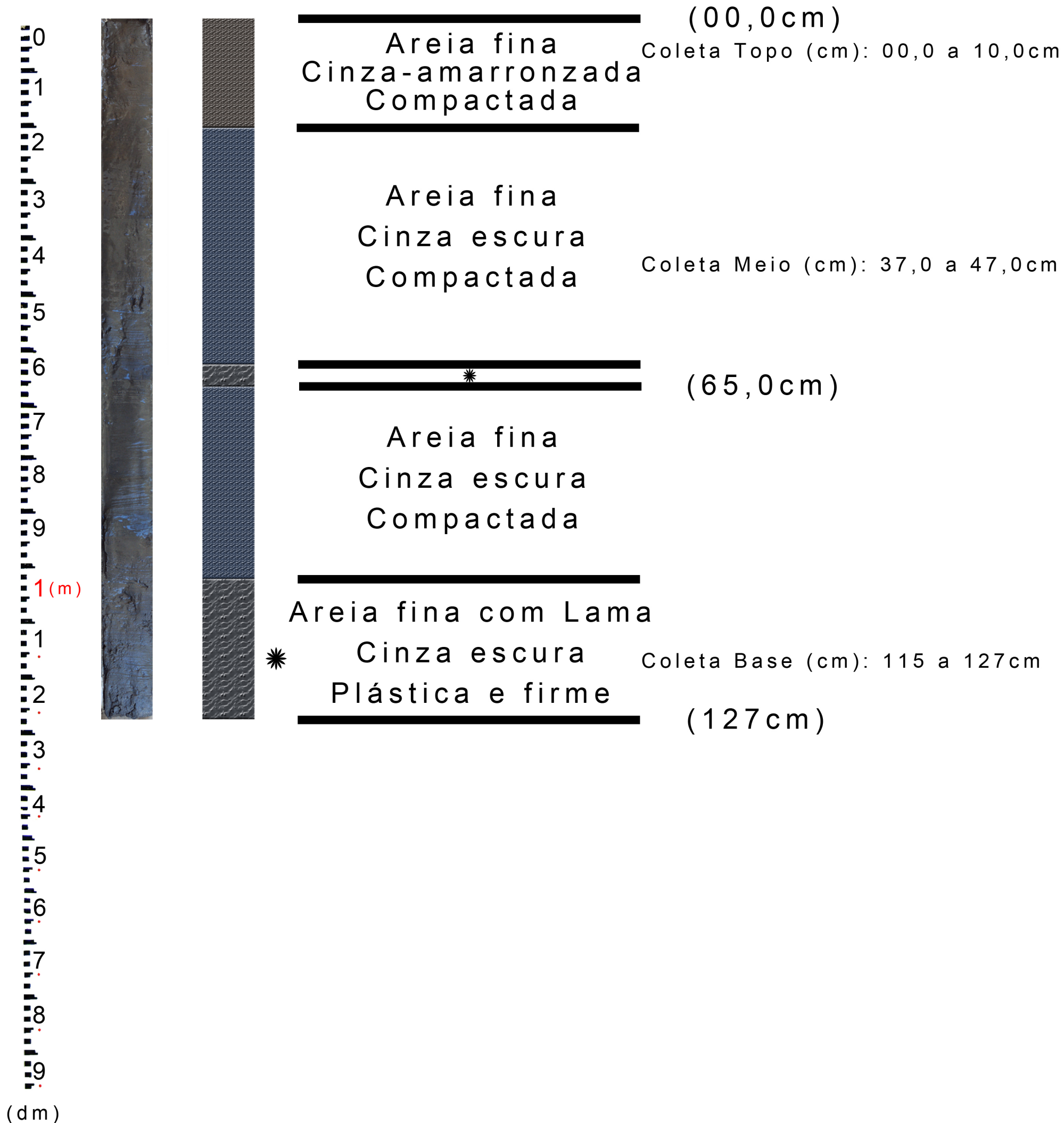
## Estação Amostral: #P21





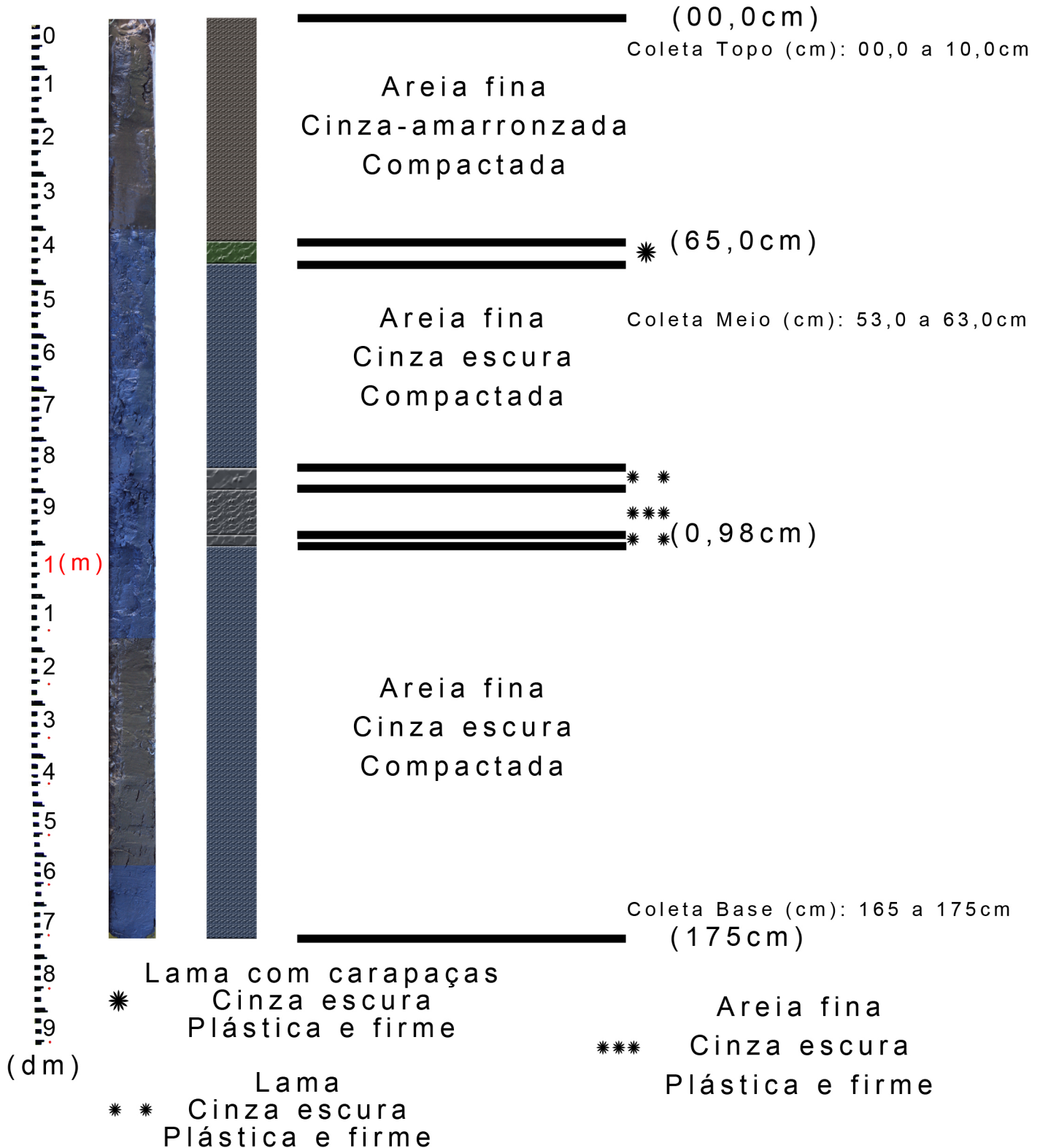


## Estação Amostral: #P23



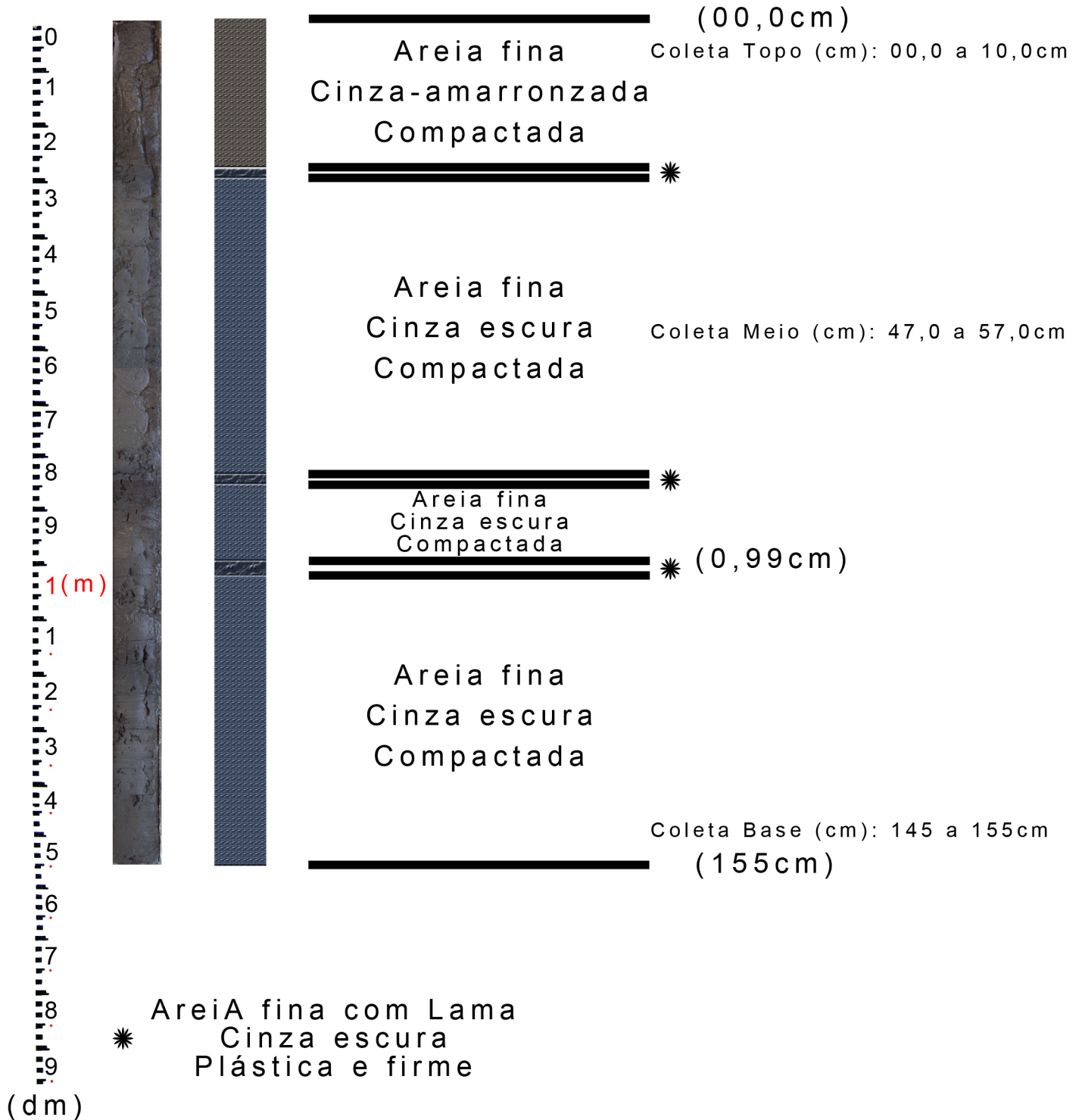


## Estação Amostral: #P27



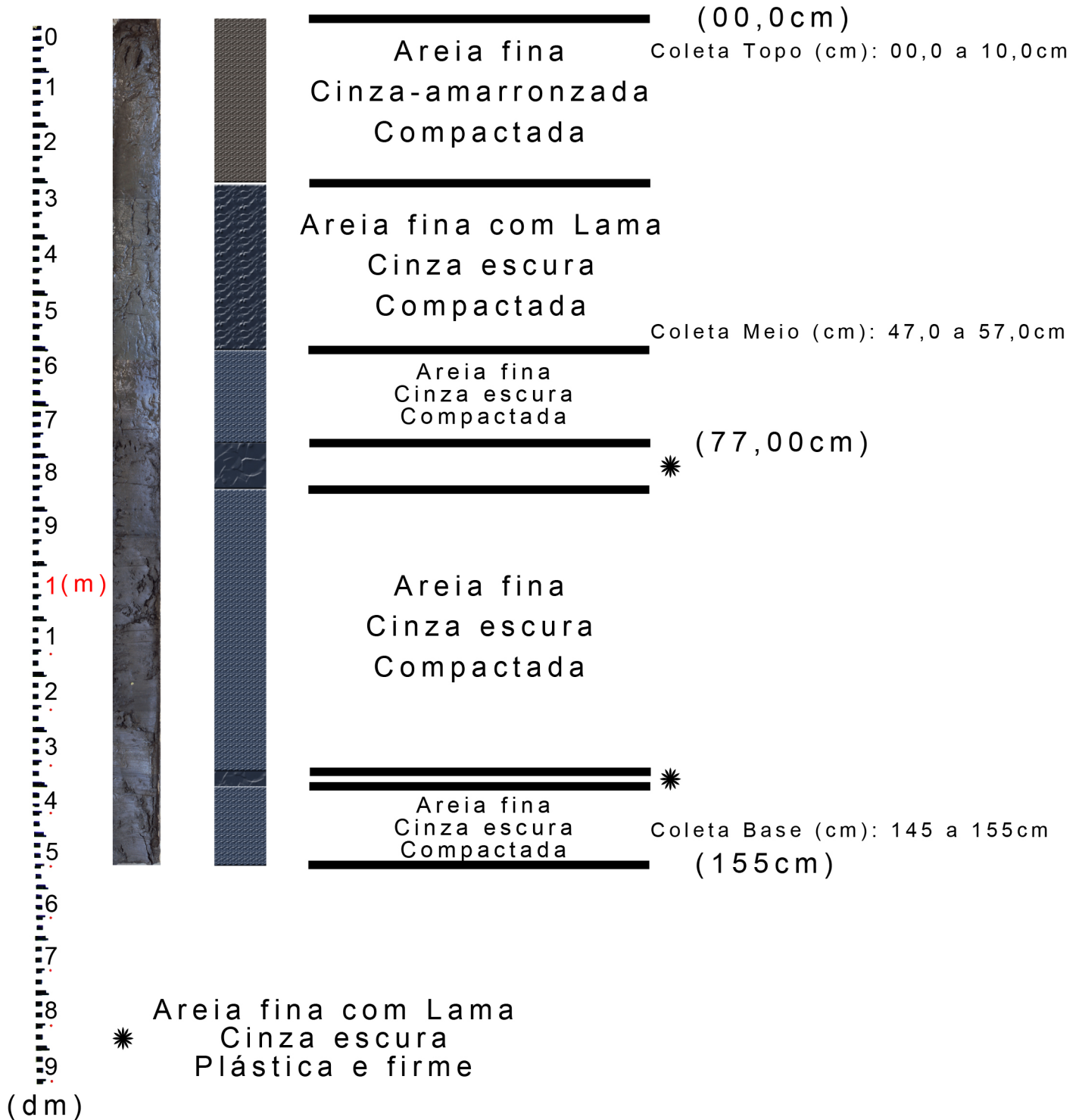


## Estação Amostral: #P28



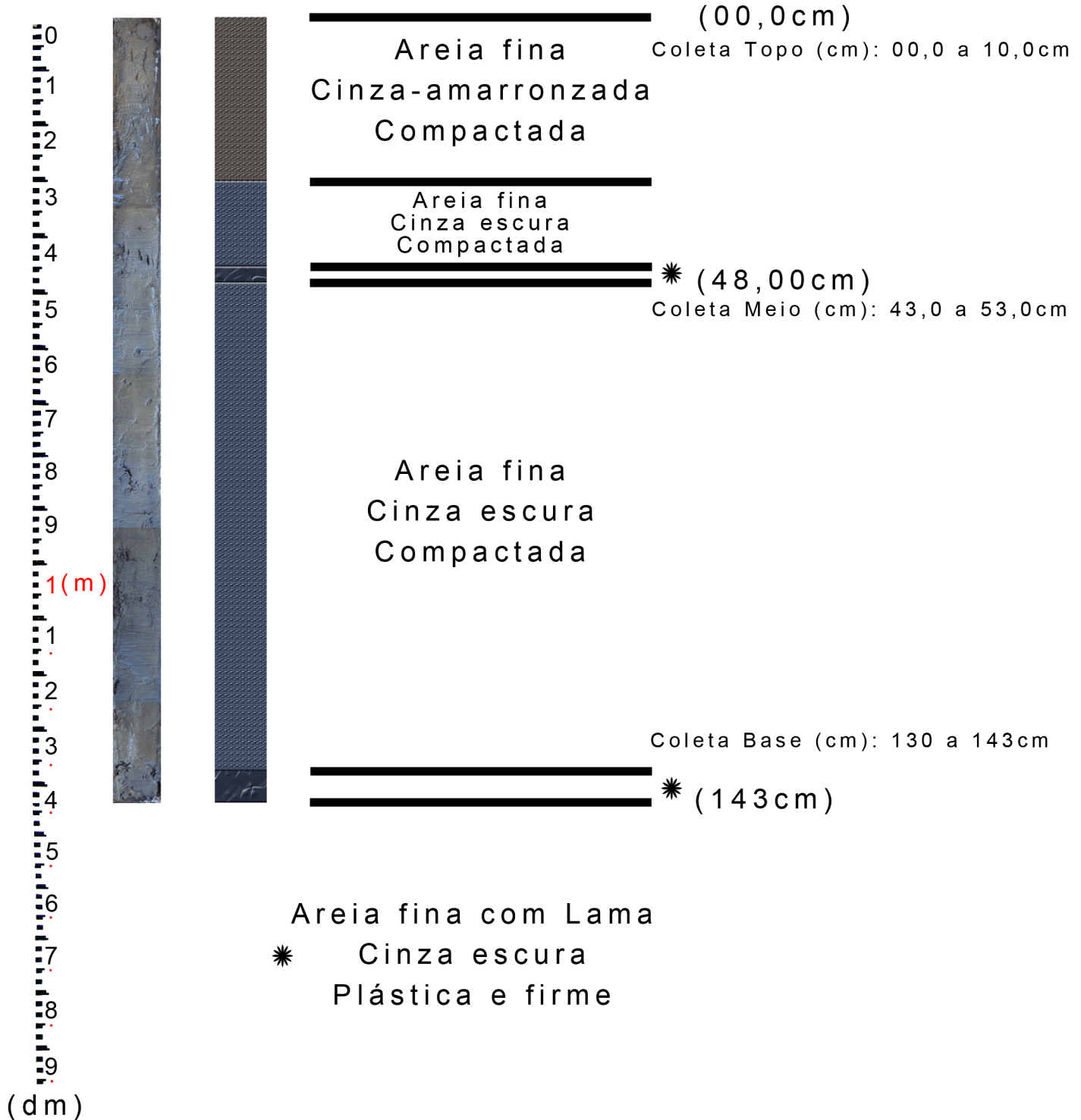


## Estação Amostral: #P29



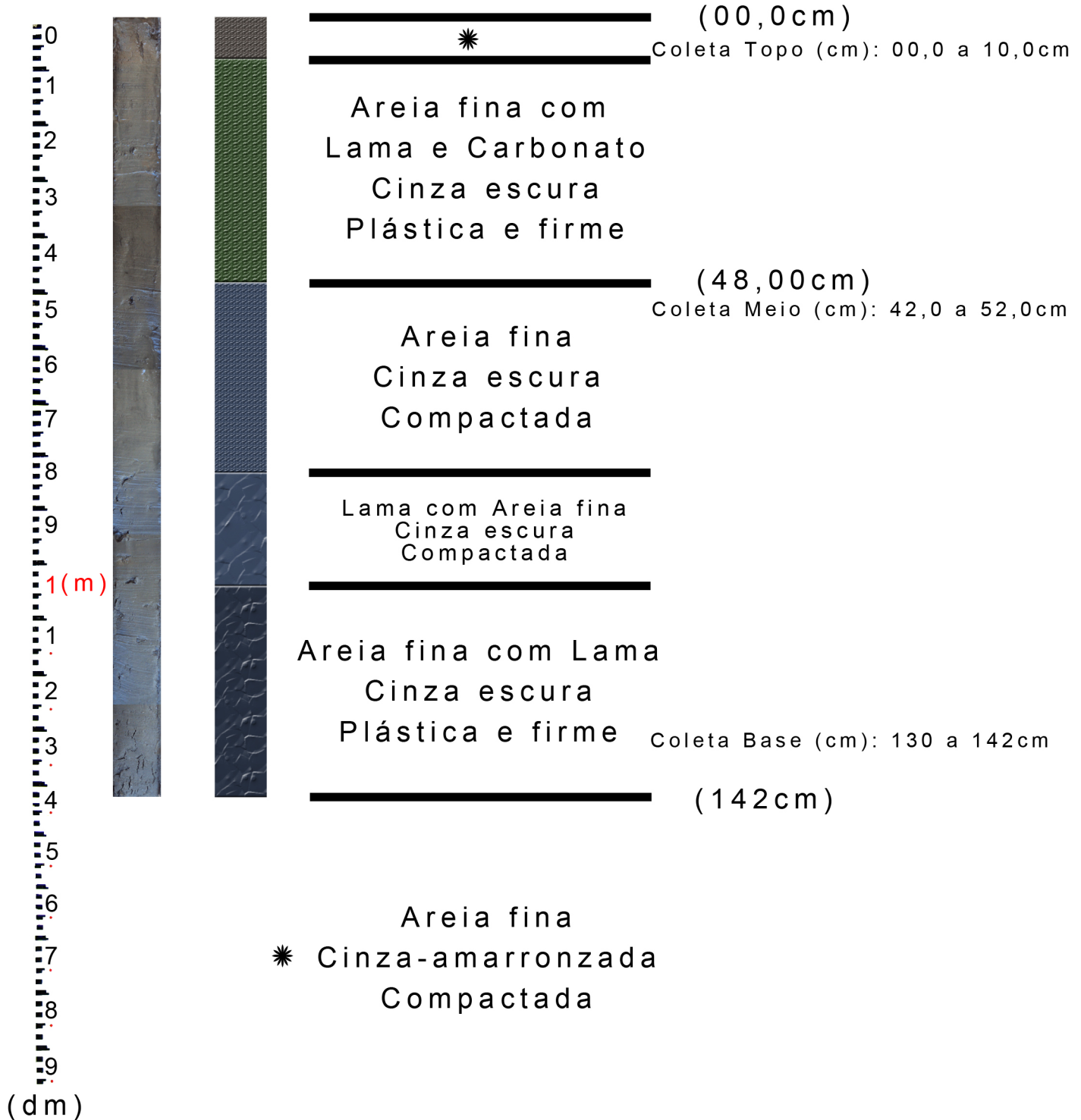


## Estação Amostral: #P30



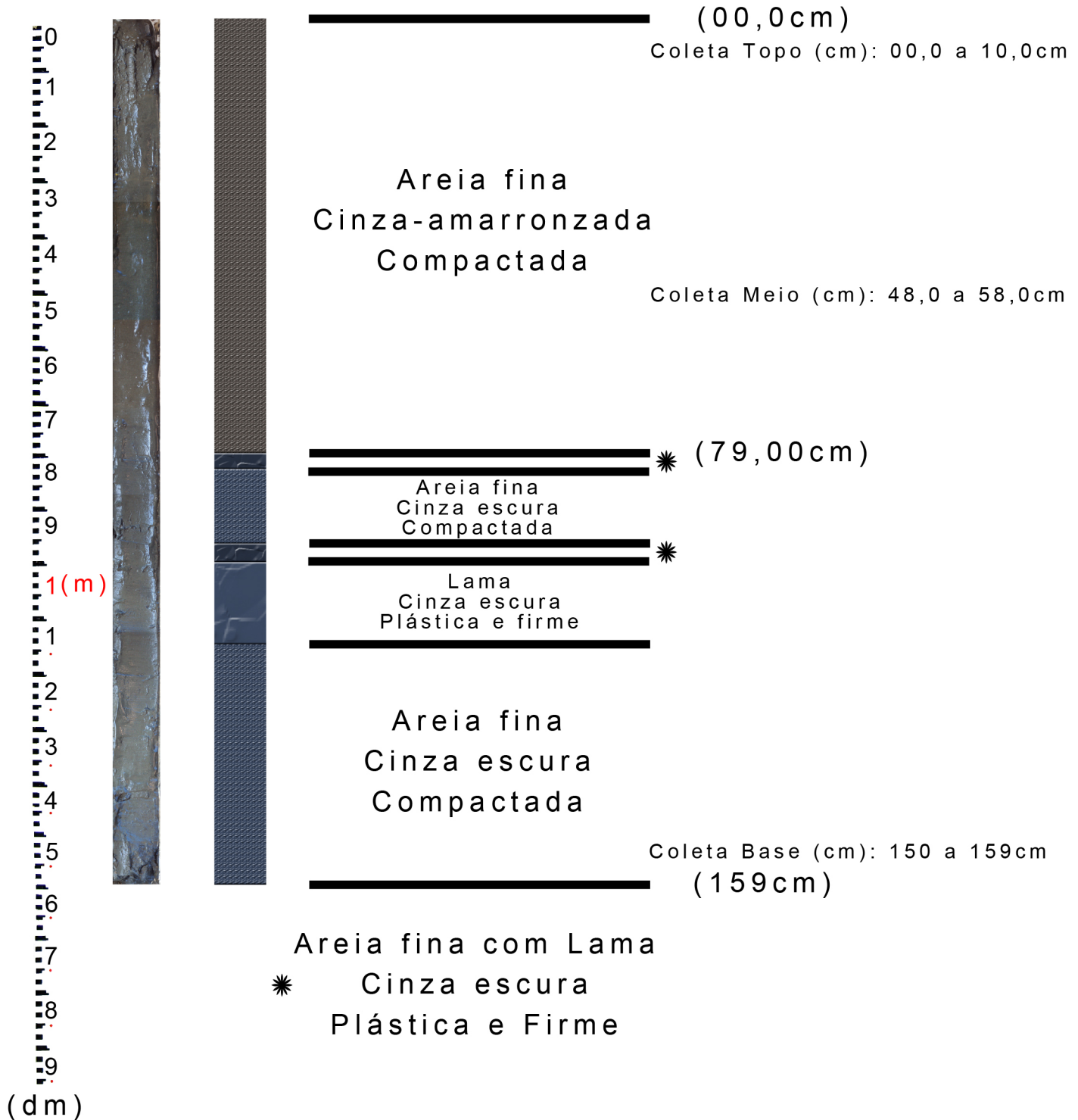


## Estação Amostral: #P31



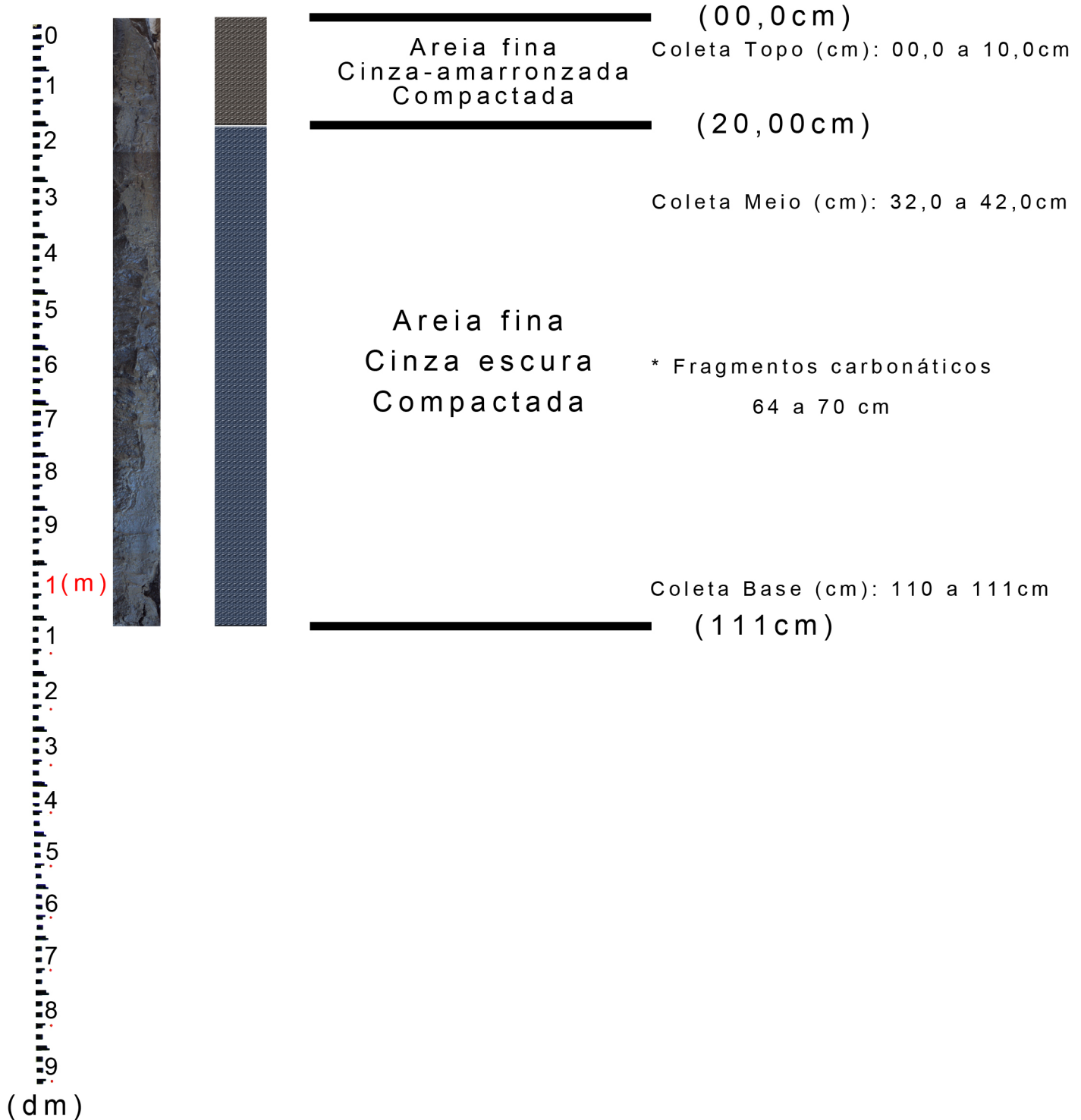


## Estação Amostral: #P32





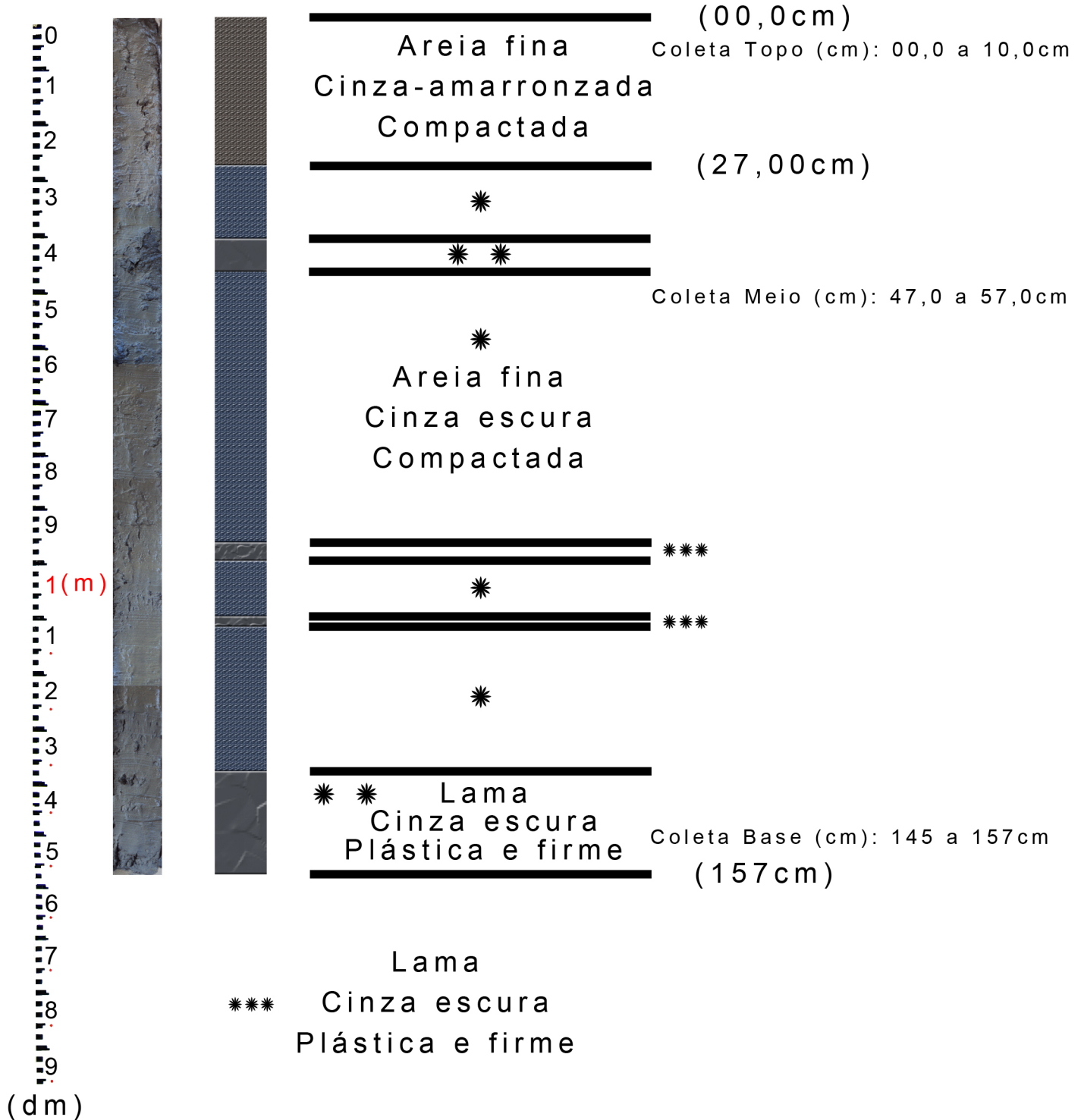
## Estação Amostral: #P36





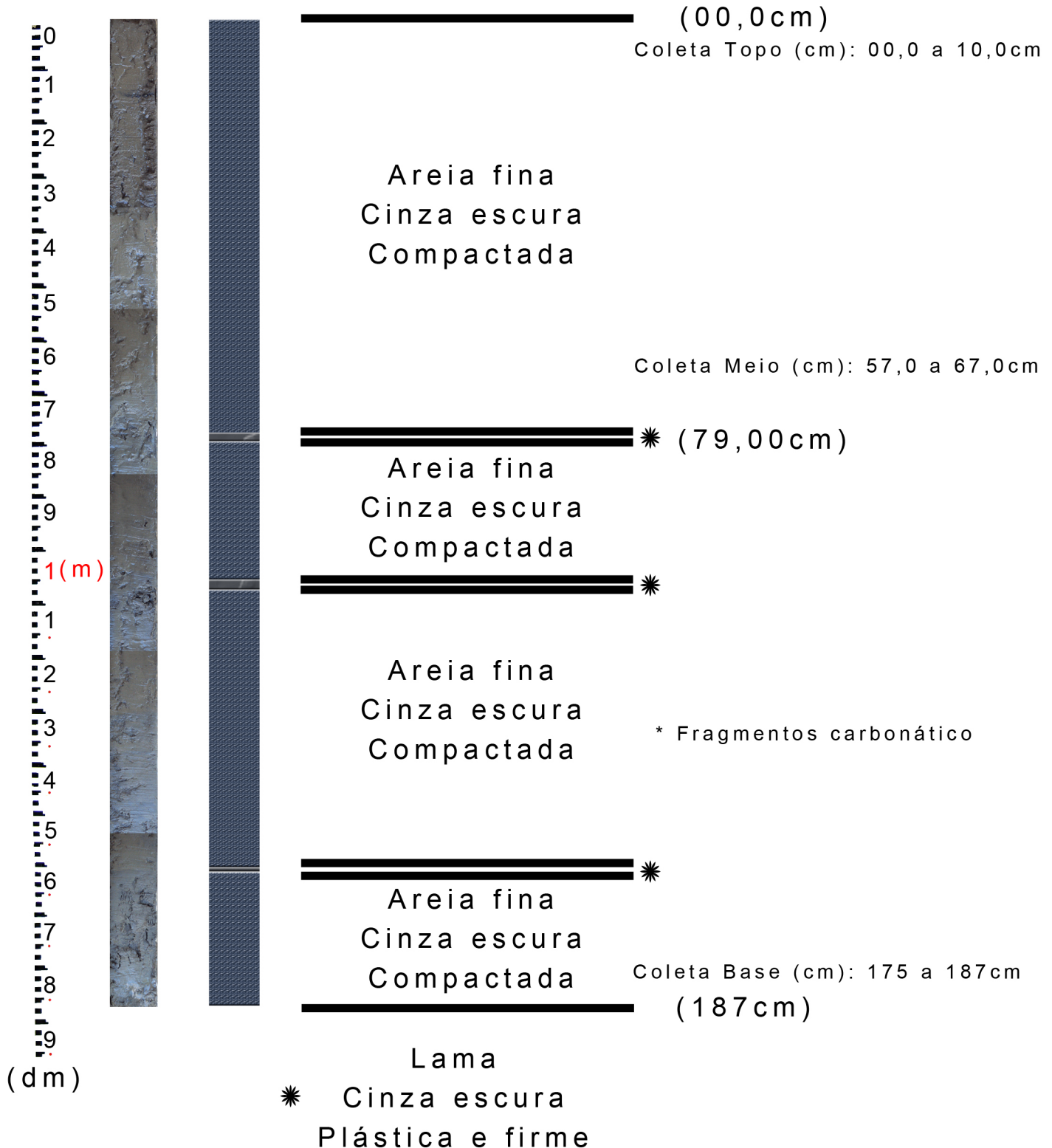


## Estação Amostral: #P38



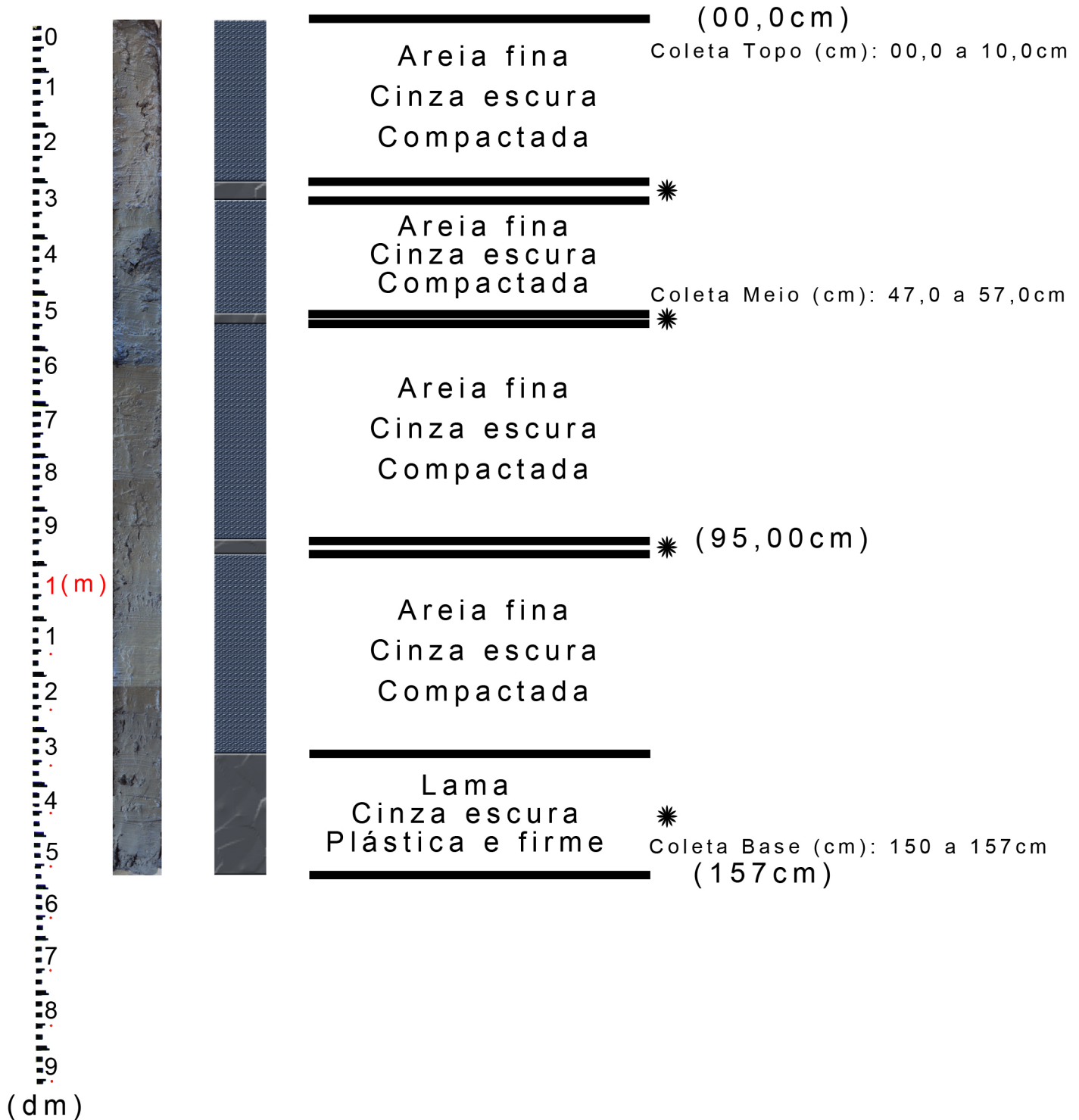


## Estação Amostral: #P42



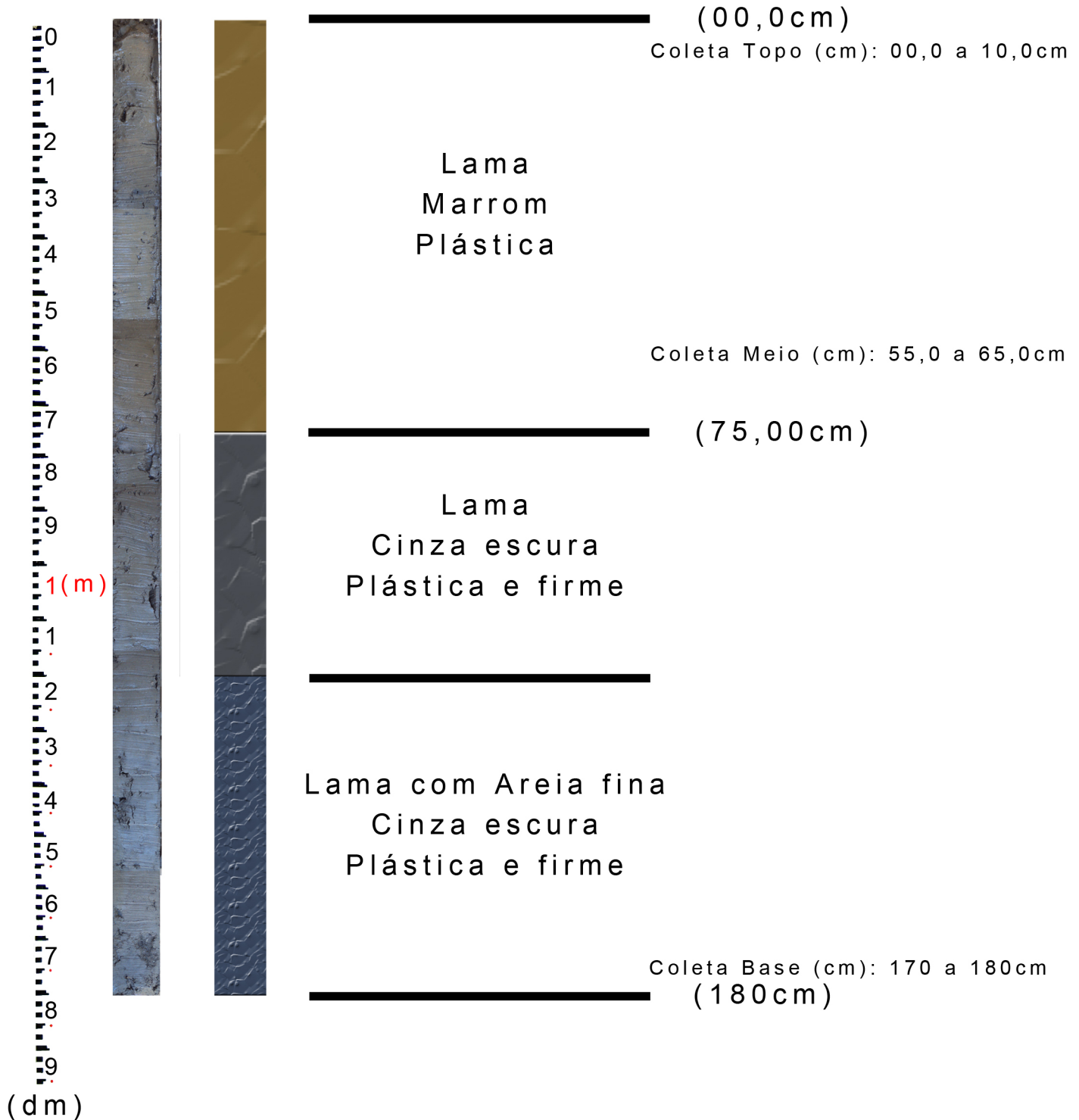


## Estação Amostral: #P45





## Estação Amostral: #P48



**LAUDO TÉCNICO**  
**ANÁLISES LABORATORIAIS SEDIMENTOLÓGICAS**

Identificação Laudo: LT\_37\_2011  
Responsável Técnico: Tobias Betzel Cancian  
Data:27/07/2011



**Vitória, 2011**

## SUMÁRIO

<b>Labmar- Análises e Soluções Ambientais.....</b>	<b>3</b>
<b>Descrição do Projeto.....</b>	<b>4</b>
<b>Metodologia.....</b>	<b>5</b>
<b>Resultados.....</b>	<b>8</b>
<b>Referências.....</b>	<b>19</b>

**1**

## **Labmar - Análises e Soluções Ambientais**

**LabMar Análises e Soluções Ambientais Ltda**

**CNPJ:** 09.583.456/0001-04

**Inscrição Estadual:** Isento

**End.:** PC Presidente Getulio Vargas. ED. Jusmar SL 921. CENTRO. Vitória – ES

**CEP** 29010-350

**Tel:** (27) 3082-2450

[labmar@labmar.com.br](mailto:labmar@labmar.com.br)

---

### **Contatos:**

**Contato Projetos:** MSc. Marcel Gianordoli

**Email:** [marcel@labmar.com.br](mailto:marcel@labmar.com.br)

**Contato Laboratório:** Esp.Tobias Cancian

**Email:** [tobias@labmar.com.br](mailto:tobias@labmar.com.br)

## 2-Descrição do Projeto



PC Presidente Getulio Vargas. ED. Jusmar SL 921. CENTRO. 29010-350. Vitória ES

Contato: Marcel Gianordoli (27) 99581575

Contato: Tobias Betzel Cancian (27) 99553221

Empresa contratante: CEPEMAR MEIO AMBIENTE

Projeto:	Bahia Mineração	Data recebimento:	07/07/2011	LT n°:	32_11
Local:	Ilhéus - BA	Data entrega laudo:	27/07/11		
Gerente:	Marcelo Travassos	Tipo de amostra:	lamosa (X) arenosa ()		
Contato:	2121-6511	Data coleta:	05/07/2011		
Responsável:	Antenor	Obs.:			

### ORDEM DE SERVIÇOS

Identificação das amostras				Parâmetros a serem analisados em laboratório				
				Granulometria	Pipetagem	Matéria Orgânica	Carbonato	Mineral pesado
P 01	P 02	P 04	P 06	X			X	
P 07	P 09	P 10	P 11	X			X	
P 15	P 16	P 17	P 18	X			X	
P 22	P 24	P 25	P 26	X			X	
P 33	P 34	P 35	P 37	X			X	
P 39	P 40	P41	P 42	X			X	
P 43	P 44	P 46	P 47	X			X	
P 49	P 50			X			X	



### 3 Metodologia

Inicialmente os sedimentos foram devidamente lavados em bacias para a retirada total do sal. Posteriormente foram secados em estufa a aproximadamente 80°C, quarteados (homogeneização de todas as classes texturais representativas das amostras) e pesados em torno de 50g para a análise granulométrica e 20g para a determinação do teor de carbonato.

A quantificação dos teores de carbonato (CaCO<sub>3</sub>) foi realizada com os 20g, através da dissolução dos componentes carbonáticos da amostra com a adição de HCl (ácido clorídrico). Os teores foram determinados pela diferença do peso inicial e final, e a amostra foi classificada segundo a terminologia proposta por Larsouner (1977), dentro de uma das litologias abaixo (TABELA 1):

**Tabela 1:** classificação da composição do sedimento por teor de carbonato (LARSOUNNER, 1977).

Principais Divisões	% de carbonato
<b>Sedimento Litoclástico</b>	≤ 30%
<b>Sedimento Litobioclástico</b>	> 30% ≤ 50%
<b>Sedimento Biolitoclástico</b>	> 50% ≤ 70%
<b>Sedimento Bioclástico</b>	> 70%

A análise granulométrica (50g) consistiu na técnica de peneiramento a seco para a fração grossa e de separação via úmida pra a determinação do teor de finos, conforme descrito por SUGUIO (1973).

O processo de peneiramento a seco utilizou peneiras sedimentológicas de 0,5 em 0,5 Phi, conforme a Tabela 2. A análise granulométrica foi realizada com os sedimentos com a presença de matéria orgânica e participação do material bioclástico, que constitui em muitas estações o componente principal.

**Tabela 2:** Diâmetro das peneiras utilizadas.

<b>mm</b>	4	2,8	2	1,41	1	0,71	0,5	0,35	0,25	0,177	0,125	0,090	0,062	Fundo
<b>phi</b>	-2	-1,5	-1	-0,5	0	0,5	1	1,5	2	2,5	3	3,50	4	Fundo

Para a determinação dos parâmetros estatísticos que caracterizam as distribuições granulométricas da fração grossa foi adotada a metodologia proposta por FOLK & WARD (1957), onde os valores para o cálculo de tais parâmetros são obtidos através da determinação de percentis a partir da curva granulométrica acumulada traçada em gráfico de probabilidade aritmética. Os diâmetros dos sedimentos são expressos em escala  $\Phi$  ( $\Phi$ ), introduzida por KRUMBEIN (1934), que transforma a progressão geométrica de razão 2, dos intervalos das classes texturais expressas em mm, onde  $\Phi = -\log_2 \text{mm}$  (Tabela 3), o que representa mais adequadamente a tendência de distribuição log-normal dos sedimentos. Para o processamento matemático dos parâmetros estatísticos foi utilizado o programa SysGran 3.0 (CAMARGO, 2006).

**Tabela 3:** Intervalos de classes estabelecidos por Wentworth (1922).

Classificação	Phi ( $\Phi$ )	Mm
<b>Grânulo</b>	-2 a -1	4 a 2
<b>Areia muito grossa</b>	-1 a 0	2 a 1
<b>Areia grossa</b>	0 a 1	1 a 0,5
<b>Areia média</b>	1 a 2	0,5 a 0,25
<b>Areia fina</b>	2 a 3	0,25 a 0,125
<b>Areia muito fina</b>	3 a 4	0,125 a 0,0625
<b>Silte grosso</b>	4 a 5	0,0625 a 0,031
<b>Silte médio</b>	5 a 6	0,031 a 0,016
<b>Silte fino</b>	6 a 7	0,016 a 0,008
<b>Silte muito fino</b>	7 a 8	0,008 a 0,004
<b>Argila</b>	>8	<0,004

Foram compilados valores estatísticos da média, mediana, seleção, assimetria e curtose normalizada. A classificação estatística descritiva de acordo com Wentworth (1922) e Folk (1968) está de acordo com as tabelas 4, 5 e 6.

**Tabela 4:** Grau de seleção segundo Folk (1968) *apud* Guerra & Cunha (1996).

Grau de seleção	Phi ( $\Phi$ )
<b>Muito bem selecionado</b>	0 a 0,35
<b>Bem selecionado</b>	0,35 a 0,50
<b>Moderadamente bem selecionado</b>	0,50 a 0,71
<b>Moderadamente selecionado</b>	0,71 a 1
<b>Mal selecionado</b>	1 a 2
<b>Muito mal selecionado</b>	2 a 4
<b>Extremamente mal selecionado</b>	>4

**Tabela 5:** Grau de assimetria segundo Folk (1968) *apud* Guerra & Cunha (1996).

Phi ( $\Phi$ )	Assimetria Classificação
<b>1 a 0,3</b>	Muito positiva
<b>0,3 a 0,1</b>	Positiva
<b>0,1 a -0,1</b>	Aproximadamente simétrica
<b>-0,1 a -0,3</b>	Negativa
<b>-0,3 a -1</b>	Muito negativa

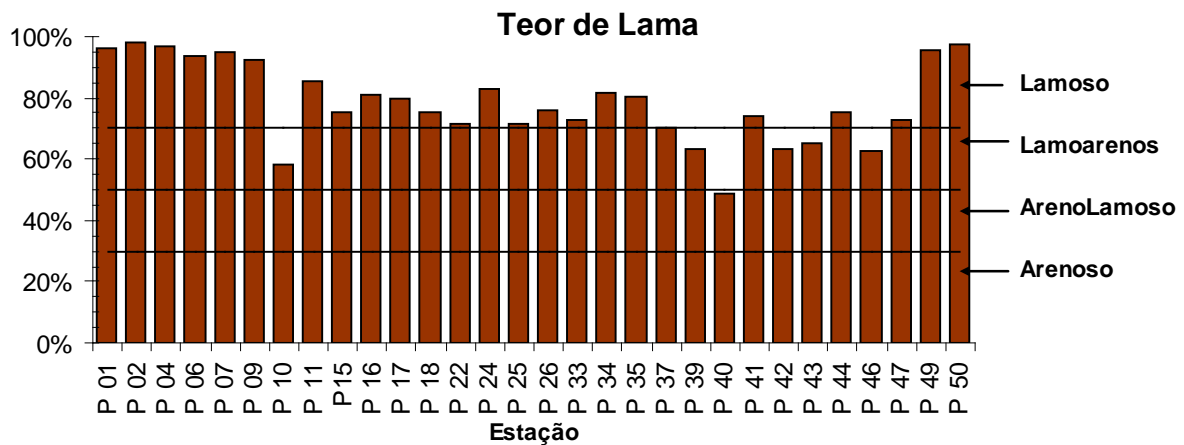
**Tabela 6:** Classificação da curtose segundo Folk (1968) *apud* Guerra & Cunha (1996).

Classificação	Phi ( $\Phi$ )
<b>Muito Platicúrtica</b>	0,41 a 0,67
<b>Platicúrtica</b>	0,67 a 0,90
<b>Mesocúrtica</b>	0,90 a 1,11
<b>Leptocúrtica</b>	1,11 a 1,50
<b>Muito Leptocúrtica</b>	1,50 a 3
<b>Extremamente Leptocúrtica</b>	>3

## 4 Resultados

### Composição

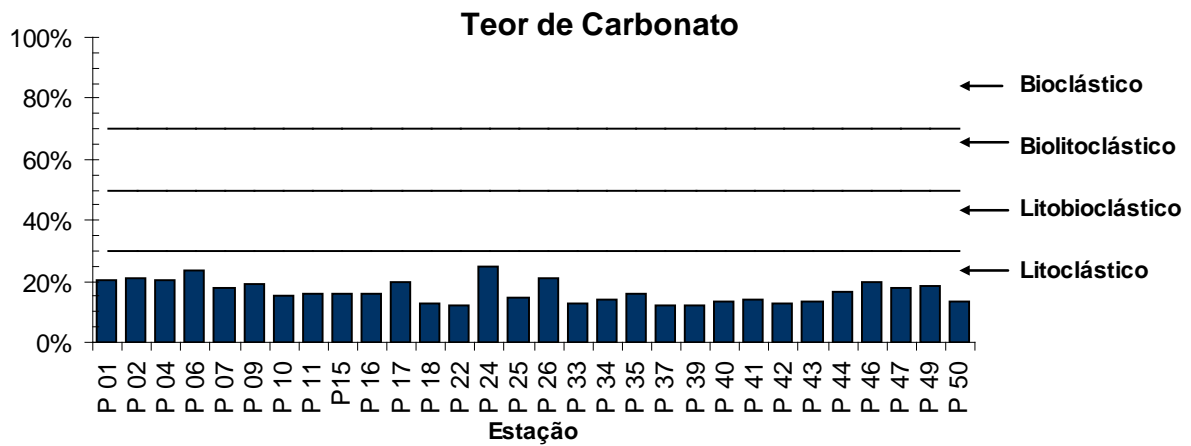
Nas Figuras 1 e 2, e Tabelas 7 e 8 são apresentados os principais componentes dos sedimentos do projeto Bahia Mineração, Ilhéus – BA , de Julho de 2011.



**Figura 1:** Teores de Lama e classificação do sedimento quanto a seu percentual (%). Projeto Bahia Mineração, Ilhéus – BA, de Julho de 2011.

**Tabela 7:** Teores de lama e areia. Projeto Bahia Mineração, Ilhéus – BA, de Julho de 2011.

Estação	Lama (%)	Areia (%)	Estação	Lama (%)	Areia (%)
P 01	95,95	4,05	P 26	76,06	23,94
P 02	98,37	1,63	P 33	72,88	27,12
P 04	96,67	3,33	P 34	81,36	18,64
P 06	93,67	6,33	P 35	80,37	19,63
P 07	95,04	4,96	P 37	70,10	29,90
P 09	92,68	7,32	P 39	63,27	36,73
P 10	58,39	41,61	P 40	48,67	51,33
P 11	85,56	14,44	P 41	73,81	26,19
P 15	75,09	24,91	P 42	63,38	36,62
P 16	80,76	19,24	P 43	65,17	34,83
P 17	79,97	20,03	P 44	75,36	24,64
P 18	75,47	24,53	P 46	62,93	37,07
P 22	71,36	28,64	P 47	73,03	26,97
P 24	82,82	17,18	P 49	95,33	4,67
P 25	71,76	28,24	P 50	97,36	2,64



**Figura 2:** Teores de Carbonato e classificação do sedimento quanto a seu percentual (%). Projeto Bahia Mineração, Ilhéus – BA, de Julho de 2011.

**Tabela 8:** Teores de Bioclastos e Litoclastos. Projeto Bahia Mineração, Ilhéus – BA, de Julho de 2011.

Estação	Bioclasto (%)	Litoclasto (%)
P 01	20,29	79,71
P 02	20,77	79,23
P 04	20,66	79,34
P 06	23,30	76,70
P 07	17,92	82,08
P 09	18,81	81,19
P 10	15,11	84,89
P 11	15,63	84,37
P15	16,05	83,95
P 16	16,02	83,98
P 17	19,69	80,31
P 18	12,68	87,32
P 22	12,32	87,68
P 24	24,98	75,02
P 25	14,86	85,14

Estação	Bioclasto (%)	Litoclasto (%)
P 26	20,77	79,23
P 33	12,74	87,26
P 34	13,90	86,10
P 35	15,80	84,20
P 37	12,13	87,87
P 39	11,97	88,03
P 40	13,69	86,31
P 41	13,88	86,12
P 42	12,53	87,47
P 43	13,63	86,37
P 44	16,67	83,33
P 46	19,52	80,48
P 47	17,67	82,33
P 49	18,48	81,52
P 50	13,17	86,83

## Granulometria

Nas Tabelas 9, 10 e 11 é apresentada a percentagem do peso total retido nos diversos intervalos granulométricos. A classificação dos parâmetros granulométricos dos sedimentos analisados encontra-se nas Tabelas 12, 13, e 14, e Figuras 3, 4, 5 e 6. Já nas Figuras 9, 10, 11, 12, 13 e 14 são apresentados os histogramas da distribuição granulométrica.

**Tabela 9:** Percentagem do peso total retido nos diversos intervalos granulométricos. Projeto Bahia Mineração, Ilhéus – BA, de Julho de 2011.

Phi	P 01	P 02	P 04	P 06	P 07	P 09	P 10	P 11	P 15	P 16
-2,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
-1,50	0,00	0,00	0,05	0,00	0,00	0,00	0,00	0,00	0,00	0,00
-1,00	0,00	0,00	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,04
-0,50	0,01	0,05	0,01	0,02	0,02	0,03	0,06	0,04	0,00	0,03
0,00	0,02	0,10	0,03	0,02	0,04	0,05	0,06	0,02	0,01	0,05
0,50	0,04	0,06	0,04	0,02	0,02	0,02	0,04	0,02	0,09	0,04
1,00	0,07	0,05	0,06	0,03	0,03	0,04	0,07	0,02	0,06	0,03
1,50	0,09	0,05	0,05	0,07	0,03	0,04	0,10	0,02	0,07	0,03
2,00	0,16	0,05	0,06	0,14	0,03	0,07	0,21	0,05	0,11	0,06
2,50	0,26	0,09	0,12	0,35	0,08	0,17	0,48	0,20	0,44	0,30
3,00	0,46	0,10	0,25	0,92	0,22	0,41	1,31	0,68	1,52	1,26
3,50	0,44	0,18	0,51	4,20	0,70	1,19	3,80	2,40	4,29	2,83
4,00	2,29	0,79	1,96	3,50	3,70	4,95	35,38	10,85	16,50	14,46
>4,00	96,18	98,47	96,85	90,74	95,12	93,04	58,50	85,69	76,90	80,89

**Tabela 10:** Percentagem do peso total retido nos diversos intervalos granulométricos. Projeto Bahia Mineração, Ilhéus – BA, de Julho de 2011.

Phi	P 17	P 18	P 22	P 24	P 25	P 26	P 33	P 34	P 35	P 37
-2,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
-1,50	0,00	0,04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
-1,00	0,01	0,01	0,00	0,00	0,02	0,00	0,02	0,01	0,05	0,00
-0,50	0,02	0,04	0,03	0,00	0,01	0,03	0,03	0,02	0,01	0,06
0,00	0,00	0,07	0,04	0,01	0,05	0,05	0,02	0,02	0,05	0,08
0,50	0,05	0,04	0,04	0,01	0,04	0,13	0,03	0,05	0,05	0,07
1,00	0,06	0,05	0,05	0,01	0,06	0,21	0,03	0,03	0,06	0,06
1,50	0,09	0,06	0,04	0,03	0,05	0,40	0,03	0,04	0,05	0,06
2,00	0,16	0,08	0,08	0,05	0,08	1,09	0,08	0,05	0,09	0,07
2,50	0,36	0,29	0,33	0,27	0,26	2,16	0,30	0,13	0,33	0,28
3,00	0,74	0,97	1,40	0,68	0,96	4,76	1,03	0,58	1,02	0,98
3,50	1,08	2,83	4,90	2,35	3,07	5,91	3,17	3,19	2,84	4,00
4,00	17,21	20,02	21,64	13,58	23,53	13,50	22,24	14,38	14,92	24,11
>4,00	80,23	75,51	71,45	83,03	71,88	71,76	73,02	81,49	80,52	70,23

**Tabela 11:** Percentagem do peso total retido nos diversos intervalos granulométricos. Projeto Bahia Mineração, Ilhéus – BA, de Julho de 2011.

Phi	P 39	P 40	P 41	P 42	P 43	P 44	P 46	P 47	P 49	P 50
-2,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
-1,50	0,04	0,00	0,23	0,00	0,05	0,04	0,25	0,00	0,00	0,00
-1,00	0,04	0,04	0,05	0,01	0,01	0,03	0,03	0,00	0,07	0,00
-0,50	0,05	0,09	0,02	0,03	0,03	0,09	0,08	0,03	0,04	0,00
0,00	0,07	0,10	0,05	0,03	0,04	0,15	0,08	0,04	0,04	0,00
0,50	0,06	0,15	0,06	0,05	0,06	1,29	0,12	0,05	0,04	0,01
1,00	0,04	0,26	0,05	0,07	0,05	0,11	0,14	0,12	0,07	0,01
1,50	0,06	0,34	0,04	0,06	0,08	0,12	0,20	0,10	0,08	0,04
2,00	0,07	0,38	0,07	0,09	0,13	0,13	0,31	0,11	0,14	0,07
2,50	0,28	0,93	0,20	0,35	0,38	0,31	0,68	0,31	0,33	0,13
3,00	1,14	2,51	0,77	1,21	1,16	0,91	1,24	0,86	0,59	0,21
3,50	5,65	9,77	4,56	3,62	3,58	2,47	3,99	2,24	0,83	0,46
4,00	29,14	36,69	19,98	30,94	29,18	19,72	29,84	23,03	2,11	1,18
>4,00	63,38	48,73	73,92	63,55	65,24	74,63	63,02	73,10	95,65	97,89

**Tabela 12:** Classificação dos parâmetros estatísticos das distribuições granulométricas. Projeto Bahia Mineração, Ilhéus – BA, de Julho de 2011. \*valores em fi.

Estações	Média (Mz) *	Mediana (Md) *	Grau de seleção ( $\sigma_1$ )*	Assimetria ( $Sk_1$ )*	Curtose Normalizada ( $Kg'$ )
P 01	4,48 Silte grosso	4,48 Silte grosso	0,32 Muito bem selecionado	0,00 Aproximadamente simétrica	0,74 Platicúrtica
P 02	4,49 Silte grosso	4,49 Silte grosso	0,31 Muito bem selecionado	0,00 Aproximadamente simétrica	0,74 Platicúrtica
P 04	4,48 Silte grosso	4,48 Silte grosso	0,32 Muito bem selecionado	0,00 Aproximadamente simétrica	0,74 Platicúrtica
P 06	4,45 Silte grosso	4,45 Silte grosso	0,42 Bem selecionado	-0,18 Negativa	1,14 Leptocúrtica
P 07	4,47 Silte grosso	4,47 Silte grosso	0,32 Muito bem selecionado	0,00 Aproximadamente simétrica	0,74 Platicúrtica
P 09	4,46 Silte grosso	4,46 Silte grosso	0,36 Bem selecionado	-0,08 Aproximadamente simétrica	0,87 Platicúrtica
P 10	4,17 Silte grosso	4,15 Silte grosso	0,51 Moderadamente selecionado	0,03 Aproximadamente simétrica	0,79 Platicúrtica
P 11	4,42 Silte grosso	4,42 Silte grosso	0,41 Bem selecionado	-0,12 Negativa	0,96 Mesocúrtica
P 15	4,31 Silte grosso	4,35 Silte grosso	0,50 Bem selecionado	-0,20 Negativa	1,02 Mesocúrtica
P 16	4,36 Silte grosso	4,38 Silte grosso	0,44 Bem selecionado	-0,15 Negativa	0,95 Mesocúrtica

\*\* As frações finas do sedimento não foram discriminadas, dessa forma as lamas totais (>4 Phi) para fins estatísticos foram enquadradas como Silte Grosso.

**Tabela 13:** Classificação dos parâmetros estatísticos das distribuições granulométricas. Projeto Bahia Mineração, Ilhéus – BA, de Julho de 2011. \*valores em fi.

Estações	Média (Mz) *	Mediana (Md) *	Grau de seleção ( $\sigma_1$ )*	Assimetria ( $Sk_1$ )*	Curtose Normalizada (Kg')
<b>P 17</b>	4,36 Silte grosso	4,38 Silte grosso	0,43 Bem selecionado	-0,12 Negativa	0,90 Platicúrtica
<b>P 18</b>	4,31 Silte grosso	4,34 Silte grosso	0,47 Bem selecionado	-0,13 Negativa	0,88 Platicúrtica
<b>P 22</b>	4,26 Silte grosso	4,30 Silte grosso	0,51 Moderadamente selecionado	-0,17 Negativa	0,91 Mesocúrtica
<b>P 24</b>	4,39 Silte grosso	4,40 Silte grosso	0,42 Bem selecionado	-0,12 Negativa	0,94 Mesocúrtica
<b>P 25</b>	4,28 Silte grosso	4,30 Silte grosso	0,47 Bem selecionado	-0,10 Negativa	0,81 Platicúrtica
<b>P 26</b>	4,21 Silte grosso	4,30 Silte grosso	0,66 Moderadamente selecionado	-0,35 Muito negativa	1,24 Leptocúrtica
<b>P 33</b>	4,28 Silte grosso	4,32 Silte grosso	0,47 Bem selecionado	-0,11 Negativa	0,83 Platicúrtica
<b>P 34</b>	4,37 Silte grosso	4,39 Silte grosso	0,44 Bem selecionado	-0,14 Negativa	0,94 Mesocúrtica
<b>P 35</b>	4,36 Silte grosso	4,38 Silte grosso	0,45 Bem selecionado	-0,15 Negativa	0,94 Mesocúrtica
<b>P 37</b>	4,26 Silte grosso	4,29 Silte grosso	0,49 Bem selecionado	-0,12 Negativa	0,83 Platicúrtica

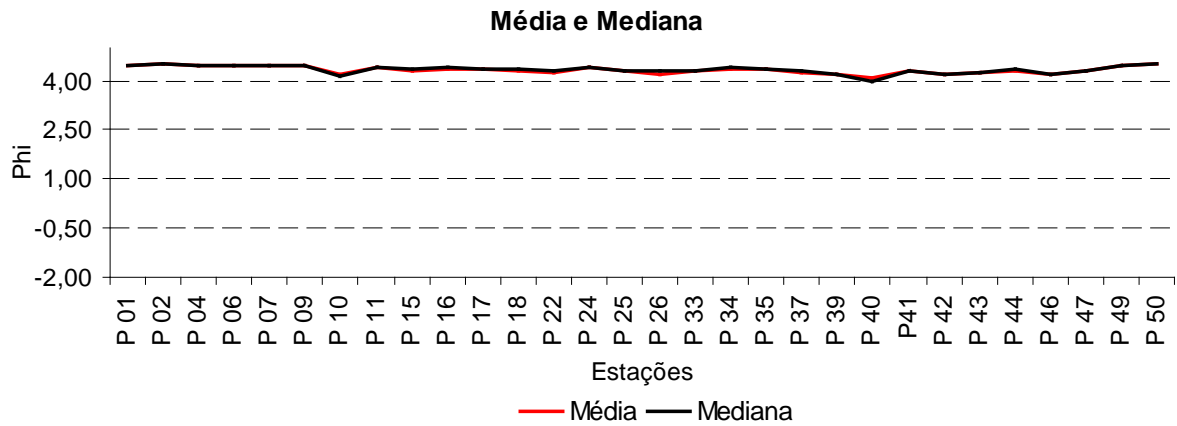
\*\* As frações finas do sedimento não foram discriminadas, dessa forma as lamias totais (>4 Phi) para fins estatísticos foram enquadradas como Silte Grosso.



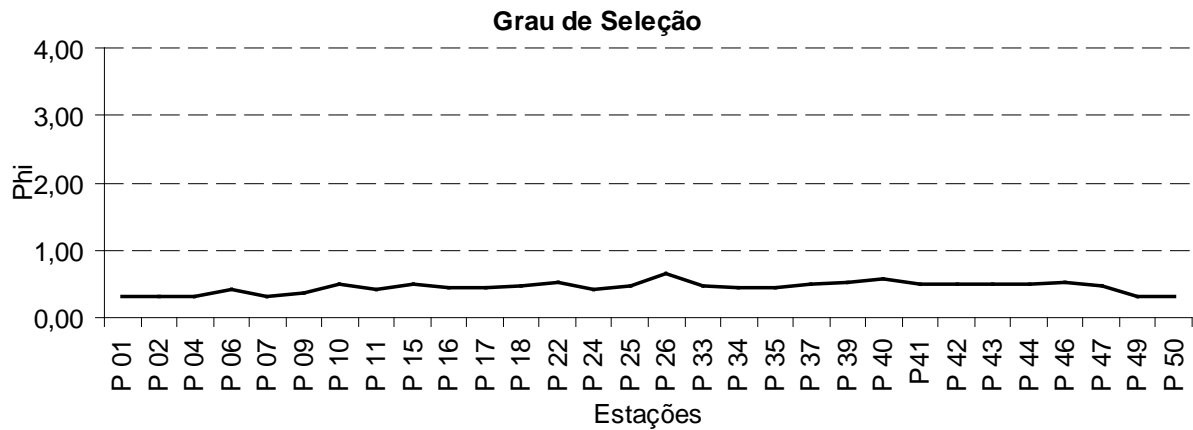
**Tabela 14:** Classificação dos parâmetros estatísticos das distribuições granulométricas. Projeto Bahia Mineração, Ilhéus – BA, de Julho de 2011. \*valores em fi.

Estações	Média (Mz) *	Mediana (Md) *	Grau de seleção ( $\sigma_1$ )*	Assimetria ( $Sk_1$ )*	Curtose Normalizada (Kg')
<b>P 39</b>	4,20 Silte grosso	4,21 Silte grosso	0,52 Moderadamente selecionado	-0,08 Aproximadamente simétrica	0,84 Platicúrtica
<b>P 40</b>	4,06 Silte grosso	3,98 Areia muito fina	0,57 Moderadamente selecionado	0,08 Aproximadamente simétrica	0,92 Mesocúrtica
<b>P41</b>	4,29 Silte grosso	4,32 Silte grosso	0,49 Bem selecionado	-0,16 Negativa	0,92 Mesocúrtica
<b>P 42</b>	4,21 Silte grosso	4,21 Silte grosso	0,50 Bem selecionado	-0,03 Aproximadamente simétrica	0,77 Platicúrtica
<b>P 43</b>	4,22 Silte grosso	4,23 Silte grosso	0,50 Bem selecionado	-0,06 Aproximadamente simétrica	0,79 Platicúrtica
<b>P 44</b>	4,29 Silte grosso	4,33 Silte grosso	0,49 Bem selecionado	-0,17 Negativa	0,95 Mesocúrtica
<b>P 46</b>	4,20 Silte grosso	4,21 Silte grosso	0,53 Moderadamente selecionado	-0,09 Aproximadamente simétrica	0,86 Platicúrtica
<b>P 47</b>	4,29 Silte grosso	4,32 Silte grosso	0,47 Bem selecionado	-0,11 Negativa	0,82 Platicúrtica
<b>P 49</b>	4,48 Silte grosso	4,48 Silte grosso	0,32 Muito bem selecionado	0,00 Aproximadamente simétrica	0,74 Platicúrtica
<b>P 50</b>	4,49 Silte grosso	4,49 Silte grosso	0,31 Muito bem selecionado	0,00 Aproximadamente simétrica	0,74 Platicúrtica

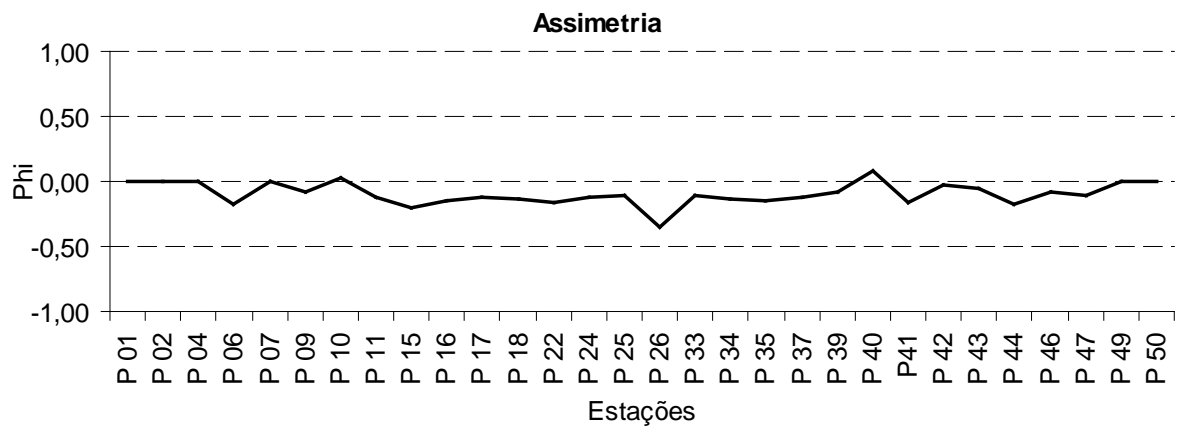
\*\* As frações finas do sedimento não foram discriminadas, dessa forma as lamaz totais (>4 Phi) para fins estatísticos foram enquadradas como Silte Grosso.



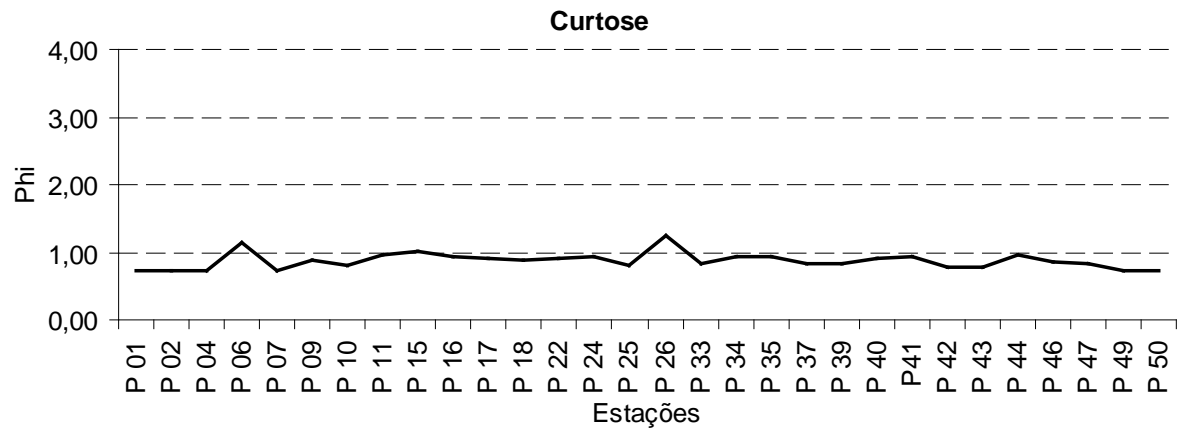
**Figura 3:** Valores dos parâmetros estatísticos Média e Mediana das estações amostrais. Projeto Bahia Mineração, Julho de 2011.



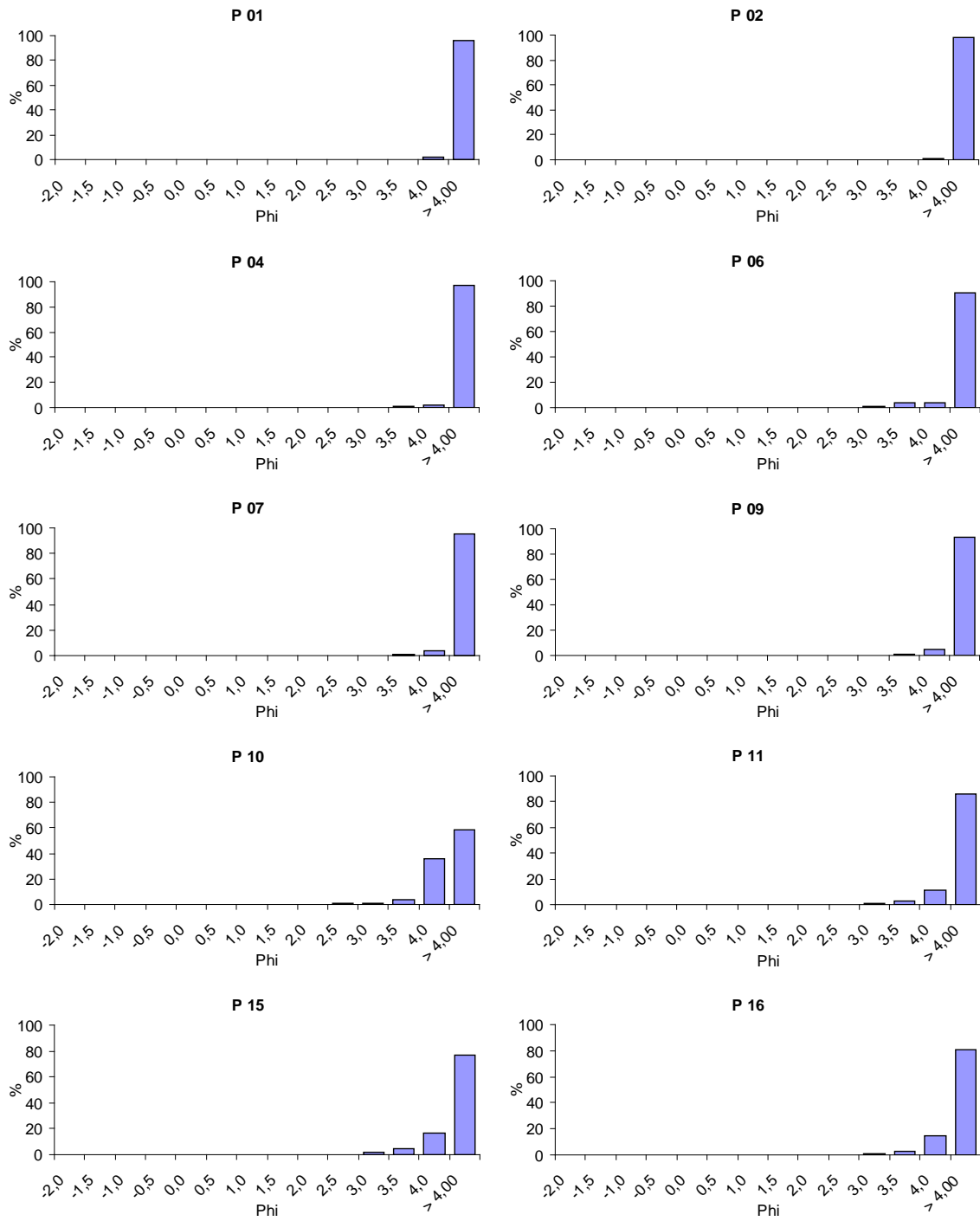
**Figura 4:** Valores dos parâmetro estatístico Grau de Seleção das estações amostrais. Projeto Bahia Mineração, Julho de 2011.



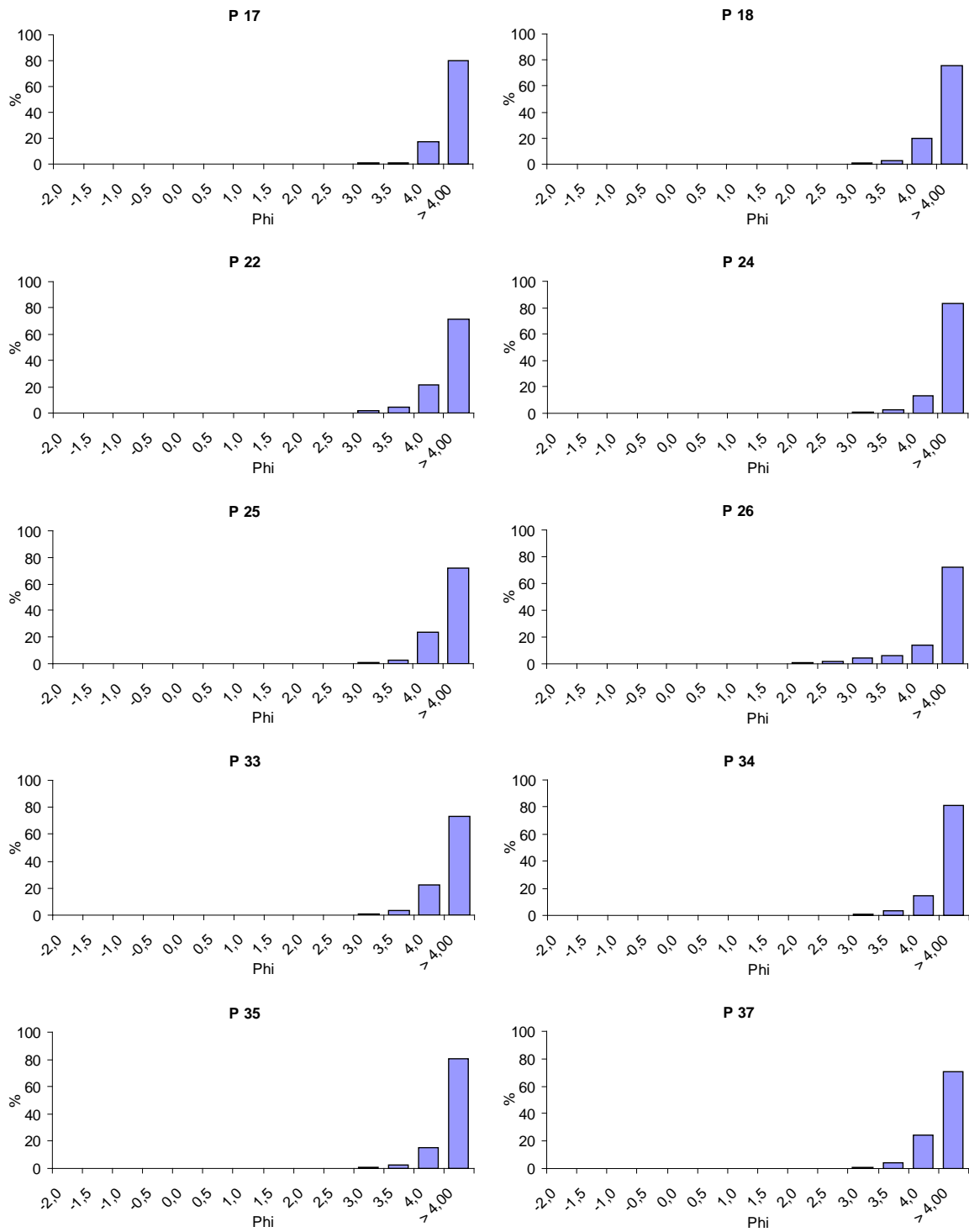
**Figura 5:** Valores dos parâmetro estatístico Assimetria das estações amostrais. Projeto Bahia Mineração, Julho de 2011.



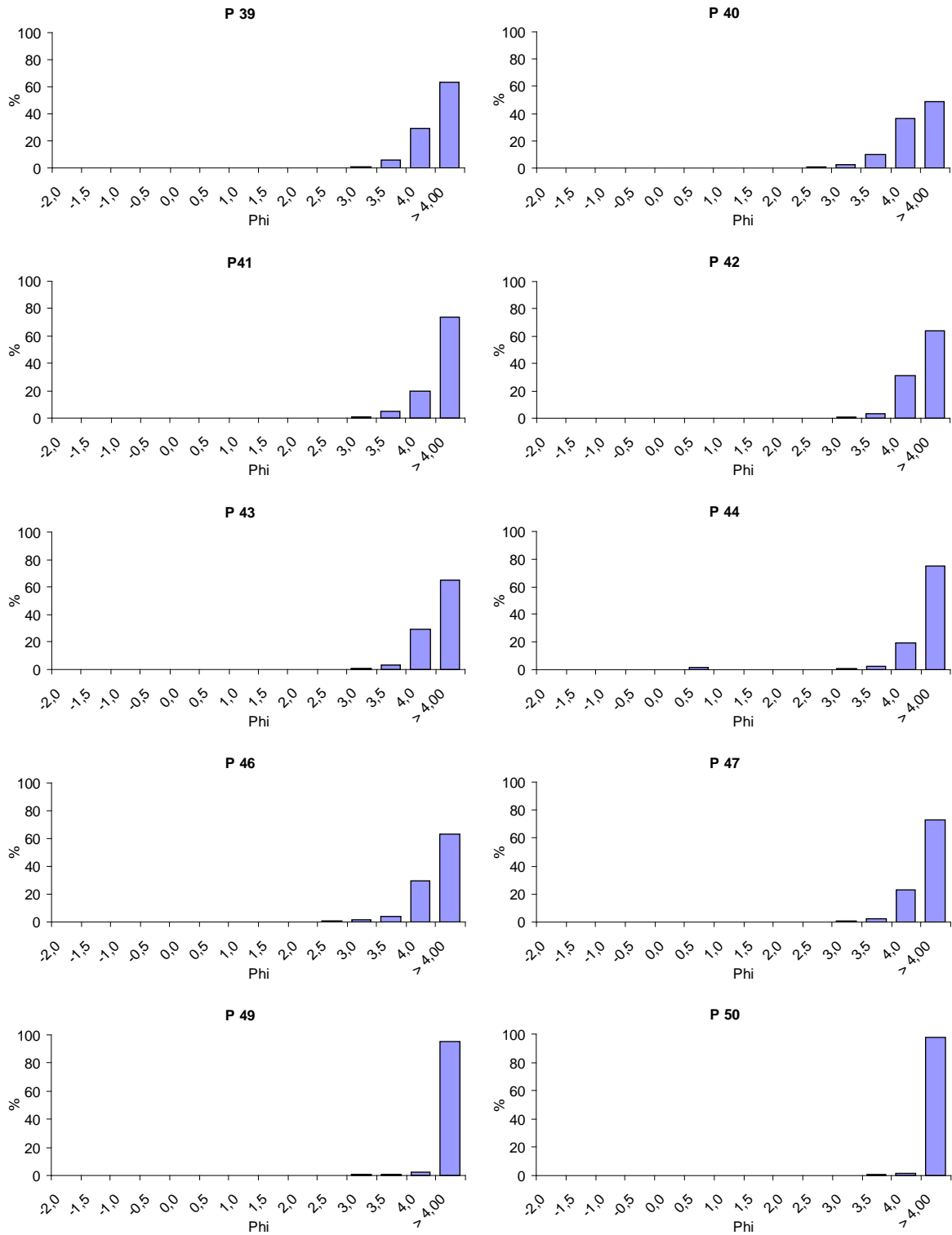
**Figura 6:** Valores dos parâmetro estatístico Curtose das estações amostrais. Projeto Bahia Mineração, Julho de 2011.



**Figura 9:** Histogramas das distribuições granulométricas das amostras analisadas. Projeto Bahia Mineração, Julho de 2011.



**Figura 10:** Histogramas das distribuições granulométricas das amostras analisadas. Projeto Bahia Mineração, Julho de 2011.



**Figura 11:** Histogramas das distribuições granulométricas das amostras analisadas. Projeto Bahia Mineração, Julho de 2011.

# 5

## Referências

Camargo, M.G. 2006. SysGran: um sistema de código aberto para análises granulométricas do sedimento. *Revista Brasileira de Geociências*, vol. 36(2): 371-378.

CUNHA, S. B.; GUERRA, A. J. T. Geomorfologia: exercícios, técnicas e aplicações. Rio de Janeiro: Bertrand do Brasil, 1996.

FOLK, R. & Ward, W. 1957. Brazos river bar. A study in the significance of grain size parameters. *Jour. Sed. Petrol.* 27(1):3-26.

KRUMBEIN W.C., 1934. Statistic models in sedimentology. *Sedimentology* 10:7-23.

LARSONNEUR, C. - 1977 - La cartographie de's dépôts meubles sur le plateau continental français: méthode mise du points et utilisée em Manche. *Journal Redi Oceanog*, 2:34-39.

SUGUIO, K. 1973. Introdução à Sedimentologia. Ed. Edgar Bucher. São Paulo.

WENTHWORTH, C. 1922 A scale of grade and class term for clastic sediment. *Journal of. Geology* 30:377-392.

**LAUDO TÉCNICO**  
**ANÁLISES LABORATORIAIS SEDIMENTOLÓGICAS**

Identificação Laudo: LT\_37\_2011  
Responsável Técnico: Tobias Betzel Cancian  
Data:05/08/2011



**Vitória, 2011**



## SUMÁRIO

<b>Labmar- Análises e Soluções Ambientais.....</b>	<b>3</b>
<b>Descrição do Projeto.....</b>	<b>4</b>
<b>Metodologia.....</b>	<b>5</b>
<b>Resultados.....</b>	<b>8</b>
<b>Referências.....</b>	<b>16</b>

**1**

## **Labmar - Análises e Soluções Ambientais**

**LabMar Análises e Soluções Ambientais Ltda**

**CNPJ:** 09.583.456/0001-04

**Inscrição Estadual:** Isento

**End.:** PC Presidente Getulio Vargas. ED. Jusmar SL 921. CENTRO. Vitória – ES

**CEP** 29010-350

**Tel:** (27) 3082-2450

[labmar@labmar.com.br](mailto:labmar@labmar.com.br)

---

### **Contatos:**

**Contato Projetos:** MSc. Marcel Gianordoli

**Email:** [marcel@labmar.com.br](mailto:marcel@labmar.com.br)

**Contato Laboratório:** Esp. Tobias Cancian

**Email:** [tobias@labmar.com.br](mailto:tobias@labmar.com.br)

## 2-Descrição do Projeto



PC Presidente Getulio Vargas. ED. Jusmar SL 921. CENTRO. 29010-350. Vitória ES

Contato: Marcel Gianordoli (27) 99581575

Contato: Tobias Betzel Cancian (27) 99553221

Empresa contratante: CEPEMAR MEIO AMBIENTE

Projeto:	Bahia Mineração	Data recebimento:	07/07/2011	LT n°:	37_11
Local:	Ilhéus - BA	Data entrega laudo:	05/08/11		
Gerente:	Marcelo Travassos	Tipo de amostra:	lamosa (X) arenosa ()		
Contato:	2121-6511	Data coleta:	05/07/2011		
Responsável:	Antenor	Obs.:			

### ORDEM DE SERVIÇOS

Identificação das amostras				Parâmetros a serem analisados em laboratório				
				Granulometria	Pipetagem	Matéria Orgânica	Carbonato	Mineral pesado
P 03 T	P 28 T			X			X	
P 05 T	P 29 T			X			X	
P 08 T	P 30 T			X			X	
P 12 T	P 31 T			X			X	
P 14 T	P 32 T			X			X	
P 19 T	P 36 T			X			X	
P 20 T	P 38 T			X			X	
P 21 T	P 42 T			X			X	
P 23 T	P 45 T			X			X	
P 27 T	P 48 T			X			X	

### 3 Metodologia

Inicialmente os sedimentos foram devidamente lavados em bacias para a retirada total do sal. Posteriormente foram secados em estufa a aproximadamente 80°C, quarteados (homogeneização de todas as classes texturais representativas das amostras) e pesados em torno de 50g para a análise granulométrica e 20g para a determinação do teor de carbonato.

A quantificação dos teores de carbonato (CaCO<sub>3</sub>) foi realizada com os 20g, através da dissolução dos componentes carbonáticos da amostra com a adição de HCl (ácido clorídrico). Os teores foram determinados pela diferença do peso inicial e final, e a amostra foi classificada segundo a terminologia proposta por Larsouner (1977), dentro de uma das litologias abaixo (TABELA 1):

**Tabela 1:** classificação da composição do sedimento por teor de carbonato (LARSOUNNER, 1977).

Principais Divisões	% de carbonato
<b>Sedimento Litoclástico</b>	≤ 30%
<b>Sedimento Litobioclástico</b>	> 30% ≤ 50%
<b>Sedimento Biolitoclástico</b>	> 50% ≤ 70%
<b>Sedimento Bioclástico</b>	> 70%

A análise granulométrica (50g) consistiu na técnica de peneiramento a seco para a fração grossa e de separação via úmida pra a determinação do teor de finos, conforme descrito por SUGUIO (1973).

O processo de peneiramento a seco utilizou peneiras sedimentológicas de 0,5 em 0,5 Phi, conforme a Tabela 2. A análise granulométrica foi realizada com os sedimentos com a presença de matéria orgânica e participação do material bioclástico, que constitui em muitas estações o componente principal.

**Tabela 2:** Diâmetro das peneiras utilizadas.

<b>mm</b>	4	2,8	2	1,41	1	0,71	0,5	0,35	0,25	0,177	0,125	0,090	0,062	Fundo
<b>phi</b>	-2	-1,5	-1	-0,5	0	0,5	1	1,5	2	2,5	3	3,50	4	Fundo

Para a determinação dos parâmetros estatísticos que caracterizam as distribuições granulométricas da fração grossa foi adotada a metodologia proposta por FOLK & WARD (1957), onde os valores para o cálculo de tais parâmetros são obtidos através da determinação de percentis a partir da curva granulométrica acumulada traçada em gráfico de probabilidade aritmética. Os diâmetros dos sedimentos são expressos em escala  $\phi$  ( $\Phi$ ), introduzida por KRUMBEIN (1934), que transforma a progressão geométrica de razão 2, dos intervalos das classes texturais expressas em mm, onde  $\Phi = -\log_2 \text{mm}$  (Tabela 3), o que representa mais adequadamente a tendência de distribuição log-normal dos sedimentos. Para o processamento matemático dos parâmetros estatísticos foi utilizado o programa SysGran 3.0 (CAMARGO, 2006).

**Tabela 3:** Intervalos de classes estabelecidos por Wentworth (1922).

Classificação	Phi ( $\Phi$ )	Mm
<b>Grânulo</b>	-2 a -1	4 a 2
<b>Areia muito grossa</b>	-1 a 0	2 a 1
<b>Areia grossa</b>	0 a 1	1 a 0,5
<b>Areia média</b>	1 a 2	0,5 a 0,25
<b>Areia fina</b>	2 a 3	0,25 a 0,125
<b>Areia muito fina</b>	3 a 4	0,125 a 0,0625
<b>Silte grosso</b>	4 a 5	0,0625 a 0,031
<b>Silte médio</b>	5 a 6	0,031 a 0,016
<b>Silte fino</b>	6 a 7	0,016 a 0,008
<b>Silte muito fino</b>	7 a 8	0,008 a 0,004
<b>Argila</b>	>8	<0,004

Foram compilados valores estatísticos da média, mediana, seleção, assimetria e curtose normalizada. A classificação estatística descritiva de acordo com Wentworth (1922) e Folk (1968) está de acordo com as tabelas 4, 5 e 6.

**Tabela 4:** Grau de seleção segundo Folk (1968) *apud* Guerra & Cunha (1996).

Grau de seleção	Phi ( $\Phi$ )
<b>Muito bem selecionado</b>	0 a 0,35
<b>Bem selecionado</b>	0,35 a 0,50
<b>Moderadamente bem selecionado</b>	0,50 a 0,71
<b>Moderadamente selecionado</b>	0,71 a 1
<b>Mal selecionado</b>	1 a 2
<b>Muito mal selecionado</b>	2 a 4
<b>Extremamente mal selecionado</b>	>4

**Tabela 5:** Grau de assimetria segundo Folk (1968) *apud* Guerra & Cunha (1996).

Phi ( $\Phi$ )	Assimetria Classificação
1 a 0,3	Muito positiva
0,3 a 0,1	Positiva
0,1 a -0,1	Aproximadamente simétrica
-0,1 a -0,3	Negativa
-0,3 a -1	Muito negativa

**Tabela 6:** Classificação da curtose segundo Folk (1968) *apud* Guerra & Cunha (1996).

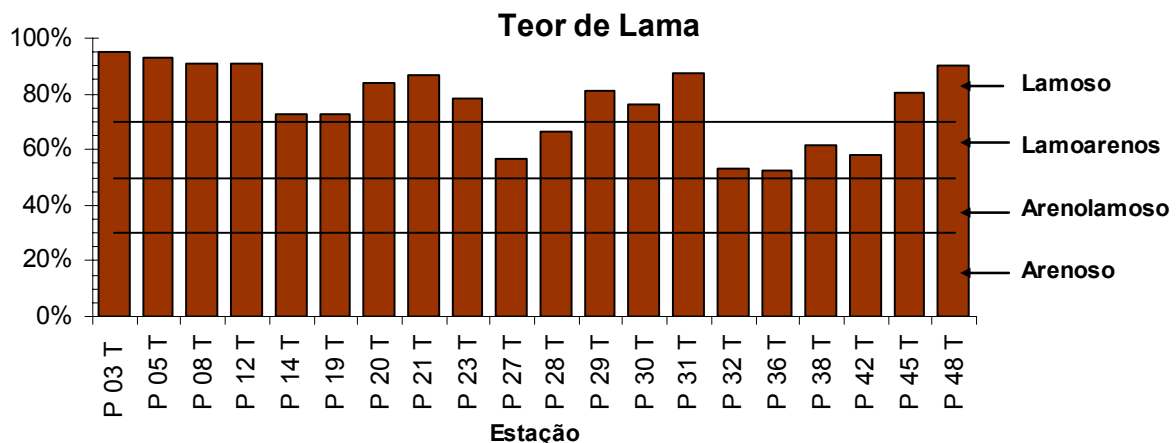
Classificação	Phi ( $\Phi$ )
Muito Platicúrtica	0,41 a 0,67
Platicúrtica	0,67 a 0,90
Mesocúrtica	0,90 a 1,11
Leptocúrtica	1,11 a 1,50
Muito Leptocúrtica	1,50 a 3
Extremamente Leptocúrtica	>3

## 4 Resultados

O presente laudo contempla a análise granulométrica – sem determinação das frações finas, e quantificação de carbonato das 20 amostras de Topo dos cores do projeto Bahia Mineração de Junho de 2011. Para melhor adequação aos gráficos as amostras de Topo foram abreviadas com a letra “T”.

### Composição

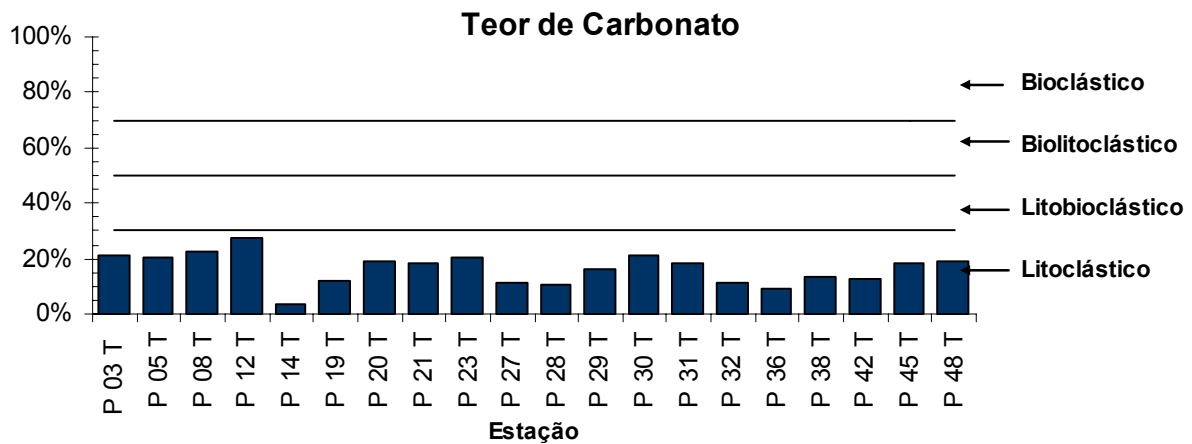
Nas Figuras 1 e 2, e Tabelas 7 e 8 são apresentados os principais componentes dos sedimentos do projeto Bahia Mineração, Ilhéus – BA , Julho de 2011.



**Figura 1:** Teores de Lama e classificação do sedimento quanto a seu percentual (%). Projeto Bahia Mineração, Ilhéus – BA, Julho de 2011.

**Tabela 7:** Teores de lama e areia. Projeto Bahia Mineração, Ilhéus – BA, Julho de 2011.

Estação	Lama (%)	Areia (%)
P 03 T	94,77	5,23
P 05 T	93,31	6,69
P 08 T	90,88	9,12
P 12 T	90,95	9,05
P 14 T	72,95	27,05
P 19 T	72,91	27,09
P 20 T	83,77	16,23
P 21 T	86,49	13,51
P 23 T	78,53	21,47
P 27 T	56,48	43,52
P 28 T	66,16	33,84
P 29 T	81,24	18,76
P 30 T	75,89	24,11
P 31 T	87,58	12,42
P 32 T	53,36	46,64
P 36 T	52,10	47,90
P 38 T	61,52	38,48
P 42 T	57,94	42,06
P 45 T	80,55	19,45
P 48 T	89,93	10,07



**Figura 2:** Teores de Carbonato e classificação do sedimento quanto a seu percentual (%). Projeto Bahia Mineração, Ilhéus – BA, de Julho de 2011.

**Tabela 8:** Teores de Bioclastos e Litoclastos. Projeto Bahia Mineração, Ilhéus – BA, Julho de 2011.

Estação	Bioclasto (%)	Litoclasto (%)
P 03 T	21,25	78,75
P 05 T	20,66	79,34
P 08 T	22,86	77,14
P 12 T	27,16	72,84
P 14 T	3,31	96,69
P 19 T	12,04	87,96
P 20 T	19,13	80,87
P 21 T	18,54	81,46
P 23 T	20,09	79,91
P 27 T	11,12	88,88
P 28 T	10,72	89,28
P 29 T	16,44	83,56
P 30 T	21,28	78,72
P 31 T	18,46	81,54
P 32 T	10,93	89,07
P 36 T	9,41	90,59
P 38 T	13,24	86,76
P 42 T	12,41	87,59
P 45 T	18,03	81,97
P 48 T	19,34	80,66

### Granulometria

Nas Tabelas 9 e 10 é apresentada a percentagem do peso total retido nos diversos intervalos granulométricos. A classificação dos parâmetros granulométricos dos sedimentos analisados encontra-se nas Tabelas 11 e 12 e Figuras 3, 4, 5 e 6. Já nas Figuras 7 e 8 são apresentados os histogramas da distribuição granulométrica.



**Tabela 9:** Percentagem do peso total retido nos diversos intervalos granulométricos. Projeto Bahia Mineração, Ilhéus – BA, Julho de 2011.

Phi	P 03 T	P 05 T	P 08 T	P 12 T	P 14 T	P 19 T	P 20 T	P 21 T	P 23 T	P 27 T
-2,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
-1,50	0,05	0,39	0,02	0,04	0,03	0,00	0,00	0,00	0,00	0,00
-1,00	0,07	0,00	0,00	0,04	0,01	0,00	0,00	0,01	0,02	0,03
-0,50	0,05	0,04	0,00	0,05	0,03	0,02	0,00	0,01	0,02	0,01
0,00	0,09	0,03	0,01	0,07	0,07	0,03	0,00	0,01	0,00	0,03
0,50	0,08	0,09	0,01	0,05	0,06	0,03	0,02	0,02	0,02	0,05
1,00	0,11	0,10	0,03	0,08	0,06	0,05	0,02	0,03	0,01	0,05
1,50	0,12	0,12	0,03	0,08	0,06	0,05	0,01	0,02	0,03	0,07
2,00	0,17	0,08	0,06	0,11	0,09	0,08	0,04	0,05	0,06	0,13
2,50	0,29	0,24	0,27	0,28	0,56	0,31	0,24	0,20	0,36	0,47
3,00	0,58	0,58	0,84	0,89	2,08	1,06	1,07	1,13	1,36	1,90
3,50	1,33	1,51	2,03	2,20	6,06	4,76	3,49	2,96	4,00	7,02
4,00	2,29	3,51	5,80	5,15	17,93	20,71	11,34	9,06	15,58	33,77
>4,00	94,77	93,31	90,88	90,95	72,95	72,91	83,77	86,49	78,53	56,48

**Tabela 10:** Percentagem do peso total retido nos diversos intervalos granulométricos. Projeto Bahia Mineração, Ilhéus – BA, Julho de 2011.

Phi	P 28 T	P 29 T	P 30 T	P 31 T	P 32 T	P 36 T	P 38 T	P 42 T	P 45 T	P 48 T
-2,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
-1,50	0,00	0,00	0,12	0,00	0,05	0,17	0,02	0,00	0,01	0,19
-1,00	0,00	0,01	0,03	0,01	0,03	0,05	0,01	0,01	0,12	0,11
-0,50	0,01	0,02	0,04	0,05	0,07	0,09	0,00	0,01	0,07	0,13
0,00	0,02	0,05	0,05	0,03	0,07	0,09	0,03	0,02	0,09	0,12
0,50	0,03	0,03	0,03	0,04	0,06	0,09	0,09	0,05	0,07	0,16
1,00	0,03	0,04	0,06	0,05	0,04	0,07	0,06	0,04	0,07	0,21
1,50	0,06	0,04	0,09	0,03	0,04	0,04	0,07	0,05	0,06	0,23
2,00	0,07	0,09	0,11	0,12	0,10	0,12	0,11	0,10	0,08	0,31
2,50	0,38	0,28	0,35	0,83	0,42	0,31	0,51	0,46	0,27	0,65
3,00	1,42	1,16	1,48	0,89	1,93	1,11	1,95	2,06	1,21	1,10
3,50	4,95	3,70	5,06	2,38	8,93	6,48	5,85	8,66	3,89	2,19
4,00	26,88	13,34	16,70	7,98	34,90	39,27	29,78	30,62	13,51	4,69
>4,00	66,16	81,24	75,89	87,58	53,36	52,10	61,52	57,94	80,55	89,93

**Tabela 11:** Classificação dos parâmetros estatísticos das distribuições granulométricas. Projeto Bahia Mineração, Ilhéus – BA, Julho de 2011. \*valores em  $\phi$ .

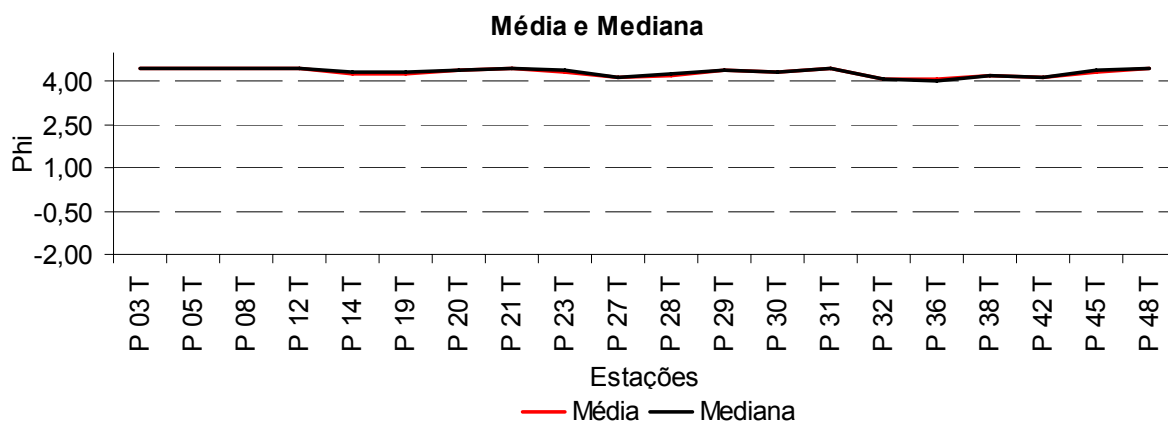
Estações	Média (Mz) *	Mediana (Md) *	Grau de seleção ( $\sigma_1$ )*	Assimetria ( $Sk_1$ )*	Curtose Normalizada (Kg')
<b>P 03 T</b>	4,47 Silte grosso	4,47 Silte grosso	0,33 Muito bem selecionado	-0,02 Aproximadamente simétrica	0,78 Platicúrtica
<b>P 05 T</b>	4,46 Silte grosso	4,46 Silte grosso	0,36 Bem selecionado	-0,09 Aproximadamente simétrica	0,91 Mesocúrtica
<b>P 08 T</b>	4,45 Silte grosso	4,45 Silte grosso	0,38 Bem selecionado	-0,12 Negativa	0,97 Mesocúrtica
<b>P 12 T</b>	4,45 Silte grosso	4,45 Silte grosso	0,39 Bem selecionado	-0,13 Negativa	1,00 Mesocúrtica
<b>P 14 T</b>	4,26 Silte grosso	4,32 Silte grosso	0,54 Moderadamente selecionado	-0,22 Negativa	1,02 Mesocúrtica
<b>P 19 T</b>	4,28 Silte grosso	4,31 Silte grosso	0,50 Moderadamente selecionado	-0,16 Negativa	0,91 Mesocúrtica
<b>P 20 T</b>	4,40 Silte grosso	4,40 Silte grosso	0,42 Bem selecionado	-0,13 Negativa	0,99 Mesocúrtica
<b>P 21 T</b>	4,42 Silte grosso	4,42 Silte grosso	0,41 Bem selecionado	-0,13 Negativa	1,00 Mesocúrtica
<b>P 23 T</b>	4,33 Silte grosso	4,36 Silte grosso	0,48 Bem selecionado	-0,18 Negativa	1,00 Mesocúrtica
<b>P 27 T</b>	4,14 Silte grosso	4,12 Silte grosso	0,55 Moderadamente selecionado	-0,01 Aproximadamente simétrica	0,86 Platicúrtica

\*\* As frações finas do sedimento não foram discriminadas, dessa forma as lamas totais (>4 Phi) para fins estatísticos foram enquadradas como Silte Grosso.

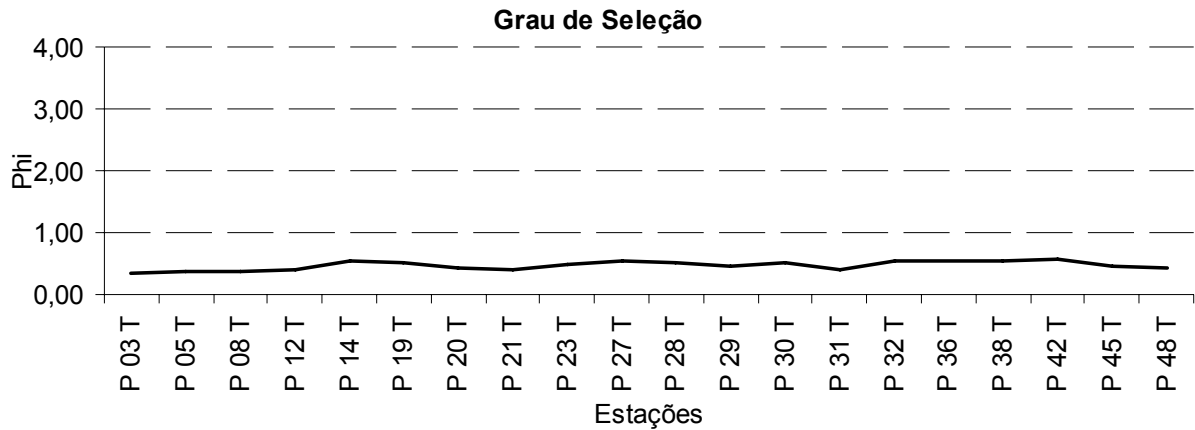
**Tabela 12:** Classificação dos parâmetros estatísticos das distribuições granulométricas. Projeto Bahia Mineração, Ilhéus – BA, Julho de 2011. \*valores em  $\phi$ .

Estações	Média (Mz) *	Mediana (Md) *	Grau de seleção ( $\sigma_1$ )*	Assimetria ( $Sk_1$ )*	Curtose Normalizada (Kg')
<b>P 28 T</b>	4,22 Silte grosso	4,24 Silte grosso	0,52 Moderadamente selecionado	-0,11 Negativa	0,85 Platicúrtica
<b>P 29 T</b>	4,36 Silte grosso	4,39 Silte grosso	0,45 Bem selecionado	-0,17 Negativa	1,00 Mesocúrtica
<b>P 30 T</b>	4,30 Silte grosso	4,34 Silte grosso	0,51 Moderadamente selecionado	-0,21 Negativa	1,04 Mesocúrtica
<b>P 31 T</b>	4,43 Silte grosso	4,43 Silte grosso	0,41 Bem selecionado	-0,13 Negativa	1,01 Mesocúrtica
<b>P 32 T</b>	4,11 Silte grosso	4,06 Silte grosso	0,56 Moderadamente selecionado	0,03 Aproximadamente simétrica	0,87 Platicúrtica
<b>P 36 T</b>	4,11 Silte grosso	4,04 Silte grosso	0,53 Moderadamente selecionado	0,11 Positiva	0,85 Platicúrtica
<b>P 38 T</b>	4,18 Silte grosso	4,19 Silte grosso	0,54 Moderadamente selecionado	-0,08 Aproximadamente simétrica	0,87 Platicúrtica
<b>P 42 T</b>	4,15 Silte grosso	4,14 Silte grosso	0,56 Moderadamente selecionado	-0,05 Aproximadamente simétrica	0,86 Platicúrtica
<b>P 45 T</b>	4,35 Silte grosso	4,38 Silte grosso	0,47 Bem selecionado	-0,19 Negativa	1,03 Mesocúrtica
<b>P 48 T</b>	4,44 Silte grosso	4,44 Silte grosso	0,42 Bem selecionado	-0,17 Negativa	1,13 Leptocúrtica

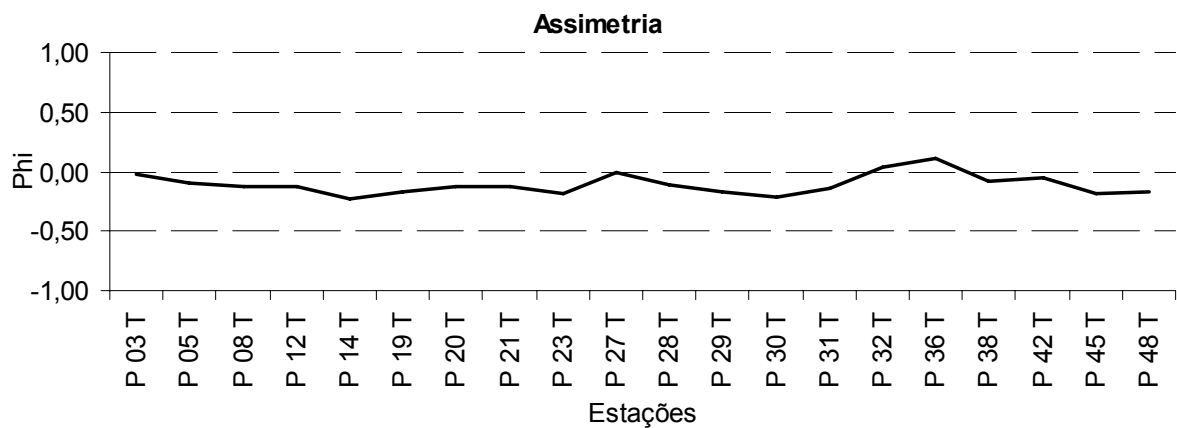
\*\* As frações finas do sedimento não foram discriminadas, dessa forma as lamas totais (>4  $\phi$ ) para fins estatísticos foram enquadradas como Silte Grosso.



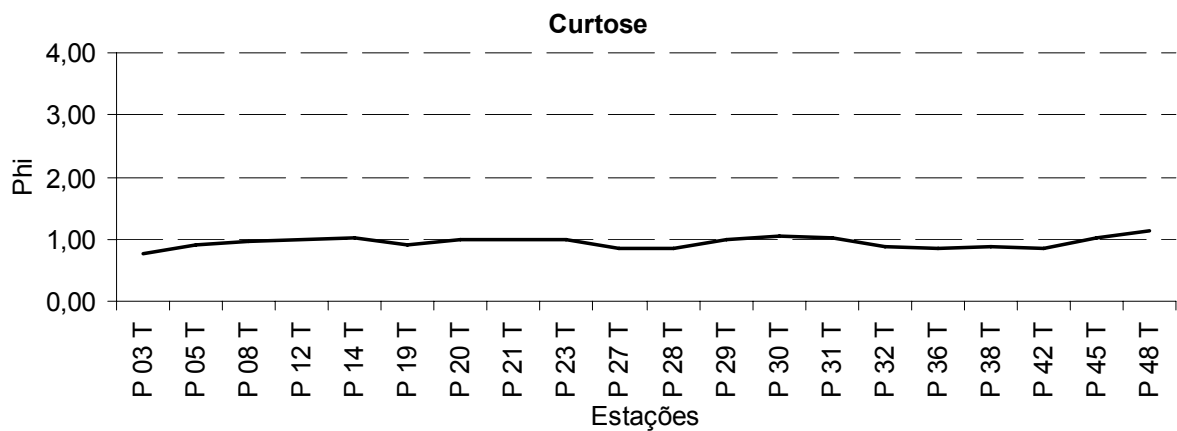
**Figura 3:** Valores dos parâmetros estatísticos Média e Mediana das estações amostrais. Projeto Bahia Mineração, Julho de 2011.



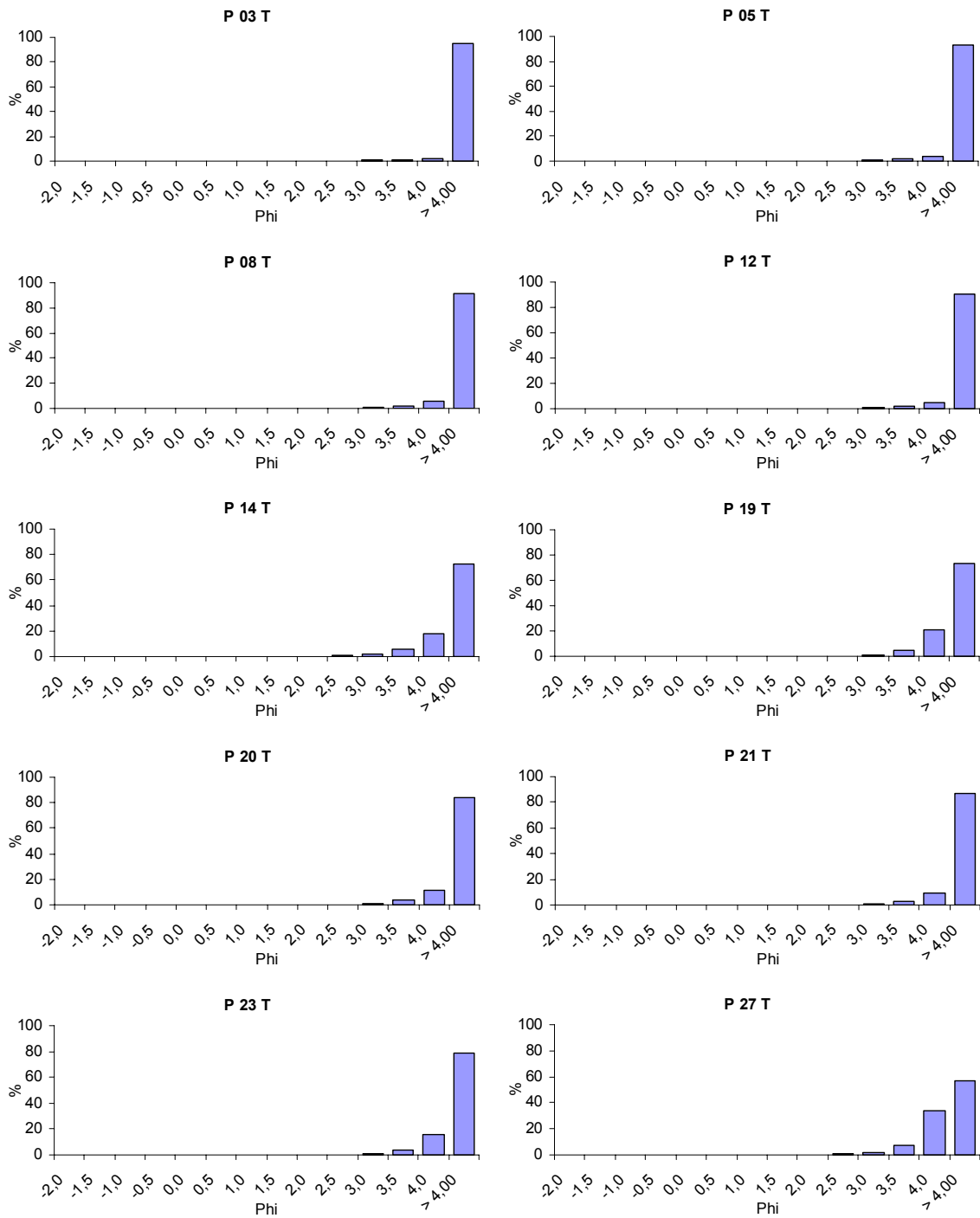
**Figura 4:** Valores dos parâmetro estatístico Grau de Seleção das estações amostrais. Projeto Bahia Mineração, Julho de 2011.



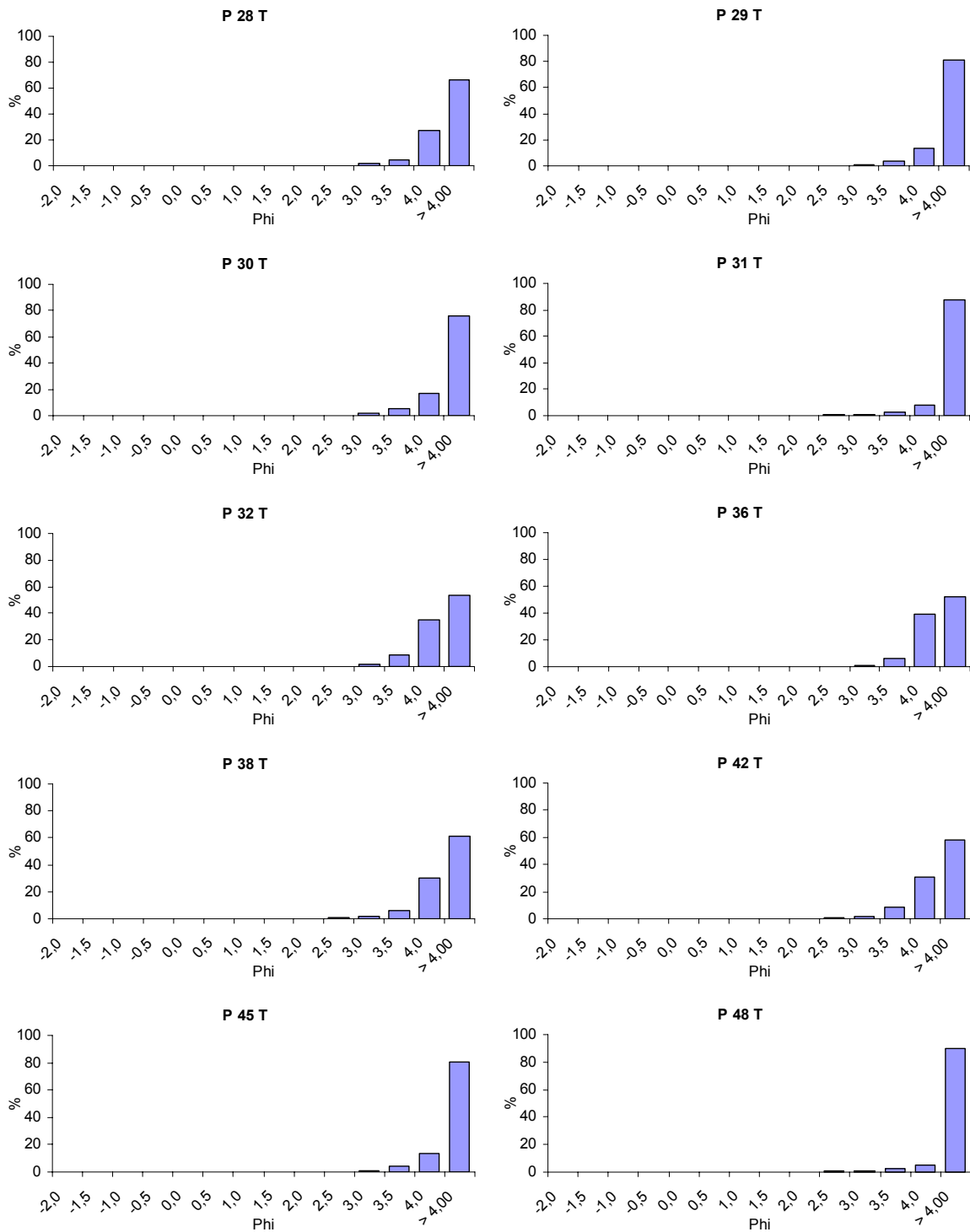
**Figura 5:** Valores dos parâmetro estatístico Assimetria das estações amostrais. Projeto Bahia Mineração, Julho de 2011.



**Figura 6:** Valores dos parâmetro estatístico Curtose das estações amostrais. Projeto Bahia Mineração, Julho de 2011.



**Figura 7:** Histogramas das distribuições granulométricas das amostras analisadas. Projeto Bahia Mineração, Julho de 2011.



**Figura 8:** Histogramas das distribuições granulométricas das amostras analisadas. Projeto Bahia Mineração, Julho de 2011.

# 5

## Referências

Camargo, M.G. 2006. SysGran: um sistema de código aberto para análises granulométricas do sedimento. *Revista Brasileira de Geociências*, vol. 36(2): 371-378.

CUNHA, S. B.; GUERRA, A. J. T. *Geomorfologia: exercícios, técnicas e aplicações*. Rio de Janeiro: Bertrand do Brasil, 1996.

FOLK, R. & Ward, W. 1957. Brazos river bar. A study in the significance of grain size parameters. *Jour. Sed. Petrol.* 27(1):3-26.

KRUMBEIN W.C., 1934. Statistic models in sedimentology. *Sedimentology* 10:7-23.

LARSONNEUR, C. - 1977 - La cartographie de's dépôts meubles sur le plateau continental français: méthode mise du points et utilisée em Manche. *Journal Redi Oceanog*, 2:34-39.

SUGUIO, K. 1973. *Introdução à Sedimentologia*. Ed. Edgar Bucher. São Paulo.

WENTHWORTH, C. 1922 A scale of grade and class term for clastic sediment. *Journal of. Geology* 30:377-392.

#### **8.1.7.4.2 LAUDOS GEOQUÍMICOS**



**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 89 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-1

(Mat.-Id.: 100 )

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 147 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-59

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-59				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

Claudia Schick

date

28.07.2011

## test report 1626 - 146 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-58

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

*Analytical Service Message*

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-58				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 145 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-57

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-57				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 144 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-56

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-56				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 143 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-55

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-55				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 142 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-54

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-54				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible  
Claudia Schick

date  
28.07.2011

## test report 1626 - 141 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-53 (Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin  
Telefon 030/67798560 Bankverbindung Geschäftsführer  
Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski  
030/63926010 BLZ 25050000 Gerichtsstand  
E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-53				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible  
Claudia Schick

date  
28.07.2011

## test report 1626 - 140 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-52 (Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin  
Telefon 030/67798560 Bankverbindung Geschäftsführer  
Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski  
030/63926010 BLZ 25050000 Gerichtsstand  
E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-52				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 139 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-51

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-51				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

Claudia Schick

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 138 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-50

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-50				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 137 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-49

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Services Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-49				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 136 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-48

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-48				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible  
Claudia Schick

date  
28.07.2011

## test report 1626 - 135 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-47

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-47				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 134 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-46

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-46				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 133 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-45

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-45				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 132 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-44 (Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

Anal. Service Message

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-44				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 131 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-43

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-43				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 130 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-42

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Services Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-42				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 129 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-41

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-41				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 128 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-40

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-40				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 127 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-39

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-39				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible  
Claudia Schick

date  
28.07.2011

## test report 1626 - 126 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-38 (Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin  
Telefon 030/67798560 Bankverbindung Geschäftsführer  
Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski  
030/63926010 BLZ 25050000 Gerichtsstand  
E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-38				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Bankverbindung:

Geschäftsführer:

Telefax: 030/67798588

Nord/LB

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010


BLZ 25050000

Gerichtsstand

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Kto 199918863

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 125 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-37

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-37				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 124 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-36

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-36				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible  
Claudia Schick

date  
28.07.2011

## test report 1626 - 123 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-35 (Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin  
Telefon 030/67798560 Bankverbindung Geschäftsführer  
Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski  
030/63926010 BLZ 25050000 Gerichtsstand  
E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-35				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 122 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-34

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-34				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Bankverbindung:

Geschäftsführer:

Telefax: 030/67798588

Nord/LB

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010


BLZ 25050000

Gerichtsstand

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Kto 199918863

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 121 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-33

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-33				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 120 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-32

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-32				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 119 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-31

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-31				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 118 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-30

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Services Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-30				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

Claudia Schick

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 117 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-29

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Services Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-29				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 116 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-28

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Services Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-28				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 115 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-27

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

page 1 of 2

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-27				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 114 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-26

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-26				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 113 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-25

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-25				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 112 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-24

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-24				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

Claudia Schick

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 111 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-23

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-23				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

Claudia Schick

date

28.07.2011

## test report 1626 - 110 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-22

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

Analytical Service Message

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-22				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 109 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-21

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-21				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible  
Claudia Schick

date  
28.07.2011

## test report 1626 - 108 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-20 (Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-20				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 107 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-19

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-19				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 106 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-18

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-18				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Bankverbindung:

Geschäftsführer:

Telefax: 030/67798588

Nord/LB

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010


BLZ 25050000

Gerichtsstand

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Kto 199918863

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 105 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-17

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-17				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 104 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-16

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-16				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 103 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-15

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-15				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible  
Claudia Schick

date  
28.07.2011

## test report 1626 - 102 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-14 (Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-14				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible  
Claudia Schick

date  
28.07.2011

## test report 1626 - 101 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-13 (Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Services Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-13				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 100 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-12 (Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

Analytical Service Message

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-12				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible  
Claudia Schick

date  
28.07.2011

## test report 1626 - 99 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-11 (Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-11				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 98 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-10

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-10				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 97 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-9

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-9				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 96 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-8

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-8				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 95 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-7

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-7				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

Claudia Schick

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

Claudia Schick

date

28.07.2011

## test report 1626 - 94 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-6

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-6				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 93 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-5

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-5				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 92 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-4

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

---

Claudia Schick

~~Analytical Service Message~~

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-4				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 91 / 11

**client:** see address

**sample:** soil

sample id (client): 3193-3

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011

**start/end of analysis:** 21.07.2011 / 28.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-3				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible  
Claudia Schick

date  
28.07.2011

## test report 1626 - 90 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-2 (Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-2				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236  
**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Claudia Schick

28.07.2011

## test report 1626 - 148 / 11

**client:** see address  
**sample:** soil  
**sample id (client):** 3193-60

(Mat.-Id.: 100)

**date of receipt:** 21.07.2011  
**start/end of analysis:** 21.07.2011 / 28.07.2011  
**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_A)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

\_\_\_\_\_  
Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

page 1 of 2

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-60				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.

\_\_\_\_\_  
 Claudia Schick



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

## results

kind of sample	soil	amount	LOQ	LOD	unit
sample id (client):	3193-1				
	Chlordane-cis	<LOQ	1	0,5	µg/kg
	Chlordane-trans	<LOQ	1	0,5	µg/kg
	DDD-op	<LOQ	1	0,5	µg/kg
	DDD-pp	<LOQ	1	0,5	µg/kg
	DDE-op	<LOQ	1	0,5	µg/kg
	DDE-pp	<LOQ	1	0,5	µg/kg
	DDT-op	<LOQ	1	0,5	µg/kg
	DDT-pp	<LOQ	1	0,5	µg/kg
	Dieldrin	<LOQ	0,5	0,25	µg/kg
	Endrin	<LOQ	1	0,5	µg/kg
	HCH-alpha	<LOQ	0,3	0,15	µg/kg
	HCH-beta	<LOQ	0,3	0,15	µg/kg
	HCH-delta	<LOQ	0,3	0,15	µg/kg
	HCH-gamma	<LOQ	0,3	0,15	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

Claudia Schick

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 1 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

### Análise em amostras de sedimentos marinhos

Cliente : CEPEMAR  
Endereço : Av. Carlos Moreira Lima, nº 90  
Bento Ferreira - Vitória - ES  
Localização do Projeto : Ilhéus-BA  
Data da Coleta : 06 e 07.07.2011  
Entrega das amostras : 12.07.2011  
Início dos ensaios/extração : 12.07.2011  
Término dos ensaios : 02.08.2011

INNOLAB do Brasil Ltda.  
Rua Sacadura Cabral - 236  
Saúde - Rio de Janeiro - RJ  
Cep. 20221-161  
CNPJ. 04.183.043/0001-00  
Tel. (21) 3509-1750  
Fax (21) 2233-4621

Projeto : Monitoramento Bahia Mineração  
Gerente do Projeto : Marcelo Travassos

Parâmetro	P 03 TOPO A (mg/kg)	P 03 MEIO A (mg/kg)	P 03 BASE A (mg/kg)	P 05 TOPO A (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	32082	27383	29221	23869	EPA 3050B E 6010B	2	1
As	23	22	22	20	EPA 3050B E 6010B	2	1
Cd	0,6	0,8	0,9	0,5	EPA 3050B E 6010B	0,2	0,1
COT	8042	9615	1210	6091	MA-026-L2	80	40
Pb	15,3	11,5	13,1	13,1	EPA 3050B E 6010B	1	0,4
Cu	10,3	8,8	8,7	8,2	EPA 3050B E 6010B	0,2	0,1
Cr	35,3	33,4	36,9	30,2	EPA 3050B E 6010B	0,3	0,1
Fe	29348	26919	28904	25853	EPA 3050B E 6010B	3	2
P	365	285	329	296	Digestão *4500E	6	2
Mn	213,3	192,7	196,1	199,0	EPA 3050B E 6010B	1	0,3
Hg	< L.Q.	< L.Q.	0,08	nd	EPA 3050B e *3112B	0,05	0,02
Ni	11,8	10,9	11,5	9,9	EPA 3050B e 6010B	1	0,4
N-Total	725	694	694	449	MA-024-L2	2	1
Zn	34,4	31,5	34,5	30,6	EPA 3050B e 6010B	1	0,4



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 2 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

Parâmetro	P 05 MEIO A (mg/kg)	P 05 BASE A (mg/kg)	P 08 TOPO A (mg/kg)	P 08 MEIO A (mg/kg)	Ref. Método	L.Q. (mg/kg)	L.D. (mg/kg)
Al	20653	28459	13914	20404	EPA 3050B E 6010B	2	1
As	18	19	19	21	EPA 3050B E 6010B	2	1
Cd	0,5	0,6	0,6	0,6	EPA 3050B E 6010B	0,2	0,1
COT	7783	10176	2320	5695	MA-026-L2	80	40
Pb	10,4	11,3	7,7	10,4	EPA 3050B E 6010B	1	0,4
Cu	7,4	7,7	5,2	7,1	EPA 3050B E 6010B	0,2	0,1
Cr	30,2	31,8	23,2	29,0	EPA 3050B E 6010B	0,3	0,1
Fe	23133	29714	22077	24256	EPA 3050B E 6010B	3	2
P	300	307	215	218	Digestão *4500E	6	2
Mn	189,1	207,0	193,0	199,9	EPA 3050B E 6010B	1	0,3
Hg	0,08	< L.Q.	< L.Q.	nd	EPA 3050B e *3112B	0,05	0,02
Ni	8,8	10,4	7,2	9,4	EPA 3050B e 6010B	1	0,4
N-Total	583	645	176	405	MA-024-L2	2	1
Zn	29,2	32,8	26,0	29,5	EPA 3050B e 6010B	1	0,4



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 3 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

Parâmetro	P 08 BASE A (mg/kg)	P 12 TOPO A (mg/kg)	P 12 MEIO A (mg/kg)	P 12 BASE A (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	22553	18619	20697	20092	EPA 3050B E 6010B	2	1
As	24	25	23	22	EPA 3050B E 6010B	2	1
Cd	0,9	0,7	0,7	0,7	EPA 3050B E 6010B	0,2	0,1
COT	7410	3804	5066	5284	MA-026-L2	80	40
Pb	13,8	12,1	13,0	13,2	EPA 3050B E 6010B	1	0,4
Cu	8,3	7,6	8,1	7,4	EPA 3050B E 6010B	0,2	0,1
Cr	37,2	30,6	32,2	31,0	EPA 3050B E 6010B	0,3	0,1
Fe	25305	23223	25139	22847	EPA 3050B E 6010B	3	2
P	246	350	272	254	Digestão *4500E	6	2
Mn	219,9	223,2	215,3	202,6	EPA 3050B E 6010B	1	0,3
Hg	nd	0,11	nd	nd	EPA 3050B e *3112B	0,05	0,02
Ni	11,2	9,8	10,1	9,8	EPA 3050B e 6010B	1	0,4
N-Total	522	305	332	372	MA-024-L2	2	1
Zn	37,0	31,2	32,9	31,2	EPA 3050B e 6010B	1	0,4



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 4 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

Parâmetro	P 14 TOPO A (mg/kg)	P 14 MEIO A (mg/kg)	P 14 BASE A (mg/kg)	P 19 TOPO A (mg/kg)	Ref. Método	L.Q. (mg/kg)	L.D. (mg/kg)
Al	12706	13461	18710	12265	EPA 3050B E 6010B	2	1
As	27	23	20	24	EPA 3050B E 6010B	2	1
Cd	0,7	0,7	0,7	0,6	EPA 3050B E 6010B	0,2	0,1
COT	3229	1981	3818	1977	MA-026-L2	80	40
Pb	9,8	8,7	10,7	9,4	EPA 3050B E 6010B	1	0,4
Cu	5,6	5,4	7,1	5,9	EPA 3050B E 6010B	0,2	0,1
Cr	26,9	25,0	32,6	26,6	EPA 3050B E 6010B	0,3	0,1
Fe	23224	20315	23564	21664	EPA 3050B E 6010B	3	2
P	233	248	263	217	Digestão *4500E	6	2
Mn	190,7	180,3	208,1	198,4	EPA 3050B E 6010B	1	0,3
Hg	nd	< L.Q.	0,07	0,08	EPA 3050B e *3112B	0,05	0,02
Ni	8,1	7,4	10,0	8,3	EPA 3050B e 6010B	1	0,4
N-Total	104	112	297	110	MA-024-L2	2	1
Zn	28,8	25,5	33,8	29,1	EPA 3050B e 6010B	1	0,4



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 5 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

Parâmetro	P 19 MEIO A (mg/kg)	P 19 BASE A (mg/kg)	P 20 TOPO A (mg/kg)	P 20 MEIO A (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	10928	18466	14762	11628	EPA 3050B E 6010B	2	1
As	22	21	26	20	EPA 3050B E 6010B	2	1
Cd	0,6	0,7	0,8	0,7	EPA 3050B E 6010B	0,2	0,1
COT	1436	5987	2556	1303	MA-026-L2	80	40
Pb	7,6	20,2	8,8	7,9	EPA 3050B E 6010B	1	0,4
Cu	4,6	7,3	6,1	4,7	EPA 3050B E 6010B	0,2	0,1
Cr	23,7	32,3	27,4	22,8	EPA 3050B E 6010B	0,3	0,1
Fe	20286	23121	23400	22207	EPA 3050B E 6010B	3	2
P	211	230	253	222	Digestão *4500E	6	2
Mn	171,9	216,6	199,6	175,0	EPA 3050B E 6010B	1	0,3
Hg	nd	nd	< L.Q.	nd	EPA 3050B e *3112B	0,05	0,02
Ni	6,9	10,1	8,6	6,7	EPA 3050B e 6010B	1	0,4
N-Total	76	353	166	83	MA-024-L2	2	1
Zn	25,2	34,0	29,7	24,4	EPA 3050B e 6010B	1	0,4



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 6 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

Parâmetro	P 20 BASE A (mg/kg)	P 21 TOPO A (mg/kg)	P 21 MEIO A (mg/kg)	P 21 BASE A (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	12340	14011	12207	21707	EPA 3050B E 6010B	2	1
As	18	23	19	21	EPA 3050B E 6010B	2	1
Cd	0,6	0,7	0,6	0,8	EPA 3050B E 6010B	0,2	0,1
COT	1971	2001	2206	7221	MA-026-L2	80	40
Pb	7,7	10,0	8,0	11,8	EPA 3050B E 6010B	1	0,4
Cu	5,2	5,9	5,0	7,8	EPA 3050B E 6010B	0,2	0,1
Cr	22,6	25,5	23,3	34,7	EPA 3050B E 6010B	0,3	0,1
Fe	17111	20731	18763	25560	EPA 3050B E 6010B	3	2
P	217	225	226	287	Digestão *4500E	6	2
Mn	205,6	220,2	189,5	210,9	EPA 3050B E 6010B	1	0,3
Hg	nd	nd	< L.Q.	nd	EPA 3050B e *3112B	0,05	0,02
Ni	7,3	8,2	6,9	11,2	EPA 3050B e 6010B	1	0,4
N-Total	116	133	117	502	MA-024-L2	2	1
Zn	24,6	28,3	24,5	35,0	EPA 3050B e 6010B	1	0,4



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 7 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

Parâmetro	P 23 TOPO A (mg/kg)	P 23 MEIO A (mg/kg)	P 23 BASE A (mg/kg)	P 27 TOPO A (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	18062	13700	20054	10152	EPA 3050B E 6010B	2	1
As	25	22	22	23	EPA 3050B E 6010B	2	1
Cd	0,7	0,5	0,6	0,8	EPA 3050B E 6010B	0,2	0,1
COT	3226	2398	5646	1268	MA-026-L2	80	40
Pb	10,3	8,3	7,5	9,7	EPA 3050B E 6010B	1	0,4
Cu	7,3	5,7	5,6	7,9	EPA 3050B E 6010B	0,2	0,1
Cr	32,1	27,2	26,5	34,9	EPA 3050B E 6010B	0,3	0,1
Fe	24402	21427	26000	21543	EPA 3050B E 6010B	3	2
P	263	243	270	225	Digestão *4500E	6	2
Mn	230,4	198,9	194,1	221,3	EPA 3050B E 6010B	1	0,3
Hg	0,09	0,06	nd	nd	EPA 3050B e *3112B	0,05	0,02
Ni	10,4	8,4	7,9	10,9	EPA 3050B e 6010B	1	0,4
N-Total	248	109	400	83	MA-024-L2	2	1
Zn	34,0	30,0	29,0	36,4	EPA 3050B e 6010B	1	0,4



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 8 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

Parâmetro	P 27 MEIO A (mg/kg)	P 27 BASE A (mg/kg)	P 28 TOPO A (mg/kg)	P 28 MEIO A (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	19496	16362	12898	10981	EPA 3050B E 6010B	2	1
As	26	19	16	22	EPA 3050B E 6010B	2	1
Cd	0,8	0,7	0,7	0,8	EPA 3050B E 6010B	0,2	0,1
COT	3930	3254	1806	1578	MA-026-L2	80	40
Pb	11,8	9,8	8,2	7,7	EPA 3050B E 6010B	1	0,4
Cu	7,6	6,3	5,1	5,0	EPA 3050B E 6010B	0,2	0,1
Cr	32,7	26,5	23,5	24,1	EPA 3050B E 6010B	0,3	0,1
Fe	25453	20959	18360	19335	EPA 3050B E 6010B	3	2
P	246	196	234	239	Digestão *4500E	6	2
Mn	230,6	194,0	192,4	176,3	EPA 3050B E 6010B	1	0,3
Hg	0,13	nd	nd	0,07	EPA 3050B e *3112B	0,05	0,02
Ni	10,6	8,2	6,8	7,6	EPA 3050B e 6010B	1	0,4
N-Total	228	193	143	89	MA-024-L2	2	1
Zn	35,6	27,2	24,6	26,3	EPA 3050B e 6010B	1	0,4





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 9 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

Parâmetro	P 28 BASE A (mg/kg)	P 29 TOPO A (mg/kg)	P 29 MEIO A (mg/kg)	P 29 BASE A (mg/kg)	Ref. Método	L.Q. (mg/kg)	L.D. (mg/kg)
Al	20772	14291	16093	20093	EPA 3050B E 6010B	2	1
As	23	26	22	19	EPA 3050B E 6010B	2	1
Cd	0,7	0,7	0,7	0,6	EPA 3050B E 6010B	0,2	0,1
COT	6423	2537	3573	4843	MA-026-L2	80	40
Pb	12,9	9,0	10,1	11,2	EPA 3050B E 6010B	1	0,4
Cu	8,1	6,3	6,4	7,4	EPA 3050B E 6010B	0,2	0,1
Cr	34,6	29,0	27,5	32,3	EPA 3050B E 6010B	0,3	0,1
Fe	25370	25291	22451	23856	EPA 3050B E 6010B	3	2
P	272	304	257	283	Digestão *4500E	6	2
Mn	224,1	209,7	211,0	217,0	EPA 3050B E 6010B	1	0,3
Hg	0,13	< L.Q.	< L.Q.	< L.Q.	EPA 3050B e *3112B	0,05	0,02
Ni	11,1	9,2	8,9	10,1	EPA 3050B e 6010B	1	0,4
N-Total	402	133	218	357	MA-024-L2	2	1
Zn	36,1	32,4	29,8	33,3	EPA 3050B e 6010B	1	0,4



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 10 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

Parâmetro	P 30 TOPO A (mg/kg)	P 30 MEIO A (mg/kg)	P 30 BASE A (mg/kg)	P 31 TOPO A (mg/kg)	Ref. Método	L.Q. (mg/kg)	L.D. (mg/kg)
Al	12340	18540	11967	11923	EPA 3050B E 6010B	2	1
As	21	23	21	19	EPA 3050B E 6010B	2	1
Cd	0,8	0,7	0,6	0,8	EPA 3050B E 6010B	0,2	0,1
COT	2169	5161	1959	2383	MA-026-L2	80	40
Pb	11,1	10,8	8,7	9,8	EPA 3050B E 6010B	1	0,4
Cu	7,3	7,0	5,2	5,6	EPA 3050B E 6010B	0,2	0,1
Cr	32,3	31,1	25,1	24,8	EPA 3050B E 6010B	0,3	0,1
Fe	22340	23273	19116	20372	EPA 3050B E 6010B	3	2
P	254	270	233	217	Digestão *4500E	6	2
Mn	218,0	217,2	185,8	196,3	EPA 3050B E 6010B	1	0,3
Hg	0,10	< L.Q.	nd	< L.Q.	EPA 3050B e *3112B	0,05	0,02
Ni	10,0	9,7	7,2	7,5	EPA 3050B e 6010B	1	0,4
N-Total	121	323	166	126	MA-024-L2	2	1
Zn	33,3	32,0	25,8	27,0	EPA 3050B e 6010B	1	0,4



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 11 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

Parâmetro	P 31 MEIO A (mg/kg)	P 31 BASE A (mg/kg)	P 32 TOPO A (mg/kg)	P 32 MEIO A (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	16112	18379	11350	8605	EPA 3050B E 6010B	2	1
As	25	22	28	19	EPA 3050B E 6010B	2	1
Cd	0,7	0,8	0,8	0,6	EPA 3050B E 6010B	0,2	0,1
COT	4638	4157	1916	1408	MA-026-L2	80	40
Pb	11,4	12,3	8,6	7,4	EPA 3050B E 6010B	1	0,4
Cu	7,9	7,4	5,4	4,4	EPA 3050B E 6010B	0,2	0,1
Cr	31,0	33,2	27,2	22,8	EPA 3050B E 6010B	0,3	0,1
Fe	24266	24939	23970	19731	EPA 3050B E 6010B	3	2
P	315	275	274	238	Digestão *4500E	6	2
Mn	220,3	209,8	187,5	156,8	EPA 3050B E 6010B	1	0,3
Hg	0,09	0,10	nd	nd	EPA 3050B e *3112B	0,05	0,02
Ni	9,4	9,9	8,2	6,5	EPA 3050B e 6010B	1	0,4
N-Total	290	498	129	73	MA-024-L2	2	1
Zn	32,7	33,7	28,2	24,0	EPA 3050B e 6010B	1	0,4



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 12 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

Parâmetro	P 32 BASE A (mg/kg)	P 36 TOPO A (mg/kg)	P 36 MEIO A (mg/kg)	P 36 BASE A (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	9269	10296	7187	11130	EPA 3050B E 6010B	2	1
As	23	28	20	26	EPA 3050B E 6010B	2	1
Cd	0,6	0,8	0,5	0,7	EPA 3050B E 6010B	0,2	0,1
COT	914	1765	951	1580	MA-026-L2	80	40
Pb	6,1	7,2	6,3	8,0	EPA 3050B E 6010B	1	0,4
Cu	4,3	5,0	3,4	5,6	EPA 3050B E 6010B	0,2	0,1
Cr	22,2	25,6	19,9	26,7	EPA 3050B E 6010B	0,3	0,1
Fe	19364	22145	16452	20841	EPA 3050B E 6010B	3	2
P	201	221	634	288	Digestão *4500E	6	2
Mn	161,4	187,6	135,0	181,5	EPA 3050B E 6010B	1	0,3
Hg	0,06	0,06	0,06	< L.Q.	EPA 3050B e *3112B	0,05	0,02
Ni	6,7	6,9	5,7	8,0	EPA 3050B e 6010B	1	0,4
N-Total	48	125	67	116	MA-024-L2	2	1
Zn	23,5	26,0	20,3	28,7	EPA 3050B e 6010B	1	0,4



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 13 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

Parâmetro	P 38 TOPO A (mg/kg)	P 38 MEIO A (mg/kg)	P 38 BASE A (mg/kg)	P 42 TOPO A (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	9986	11626	19865	12894	EPA 3050B E 6010B	2	1
As	22	19	22	27	EPA 3050B E 6010B	2	1
Cd	0,7	0,6	0,8	0,9	EPA 3050B E 6010B	0,2	0,1
COT	1838	2550	6038	2842	MA-026-L2	80	40
Pb	8,1	8,9	12,8	10,6	EPA 3050B E 6010B	1	0,4
Cu	4,8	5,3	8,2	6,1	EPA 3050B E 6010B	0,2	0,1
Cr	25,1	26,0	35,2	29,3	EPA 3050B E 6010B	0,3	0,1
Fe	20921	19842	26516	24619	EPA 3050B E 6010B	3	2
P	296	279	249	262	Digestão *4500E	6	2
Mn	177,4	184,9	228,7	202,8	EPA 3050B E 6010B	1	0,3
Hg	nd	< L.Q.	0,10	nd	EPA 3050B e *3112B	0,05	0,02
Ni	7,1	7,6	10,9	9,1	EPA 3050B e 6010B	1	0,4
N-Total	29	196	457	182	MA-024-L2	2	1
Zn	25,8	26,7	37,6	31,3	EPA 3050B e 6010B	1	0,4



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 14 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

Parâmetro	P 42 MEIO A (mg/kg)	P 42 BASE A (mg/kg)	P 45 TOPO A (mg/kg)	P 45 MEIO A (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	12307	14738	14031	9953	EPA 3050B E 6010B	2	1
As	21	14	22	15	EPA 3050B E 6010B	2	1
Cd	0,7	0,2	0,3	0,3	EPA 3050B E 6010B	0,2	0,1
COT	2498	3354	3684	1848	MA-026-L2	80	40
Pb	8,5	7,0	8,7	7,0	EPA 3050B E 6010B	1	0,4
Cu	5,5	6,0	5,9	4,1	EPA 3050B E 6010B	0,2	0,1
Cr	25,2	23,5	26,4	18,9	EPA 3050B E 6010B	0,3	0,1
Fe	20104	23414	23240	18846	EPA 3050B E 6010B	3	2
P	245	265	296	266	Digestão *4500E	6	2
Mn	197,6	183,9	202,2	151,3	EPA 3050B E 6010B	1	0,3
Hg	0,09	nd	0,12	nd	EPA 3050B e *3112B	0,05	0,02
Ni	7,9	8,2	8,3	6,0	EPA 3050B e 6010B	1	0,4
N-Total	146	198	230	98	MA-024-L2	2	1
Zn	27,4	27,7	29,8	21,2	EPA 3050B e 6010B	1	0,4



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 15 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

Parâmetro	P 45 BASE A (mg/kg)	P 48 TOPO A (mg/kg)	P 48 MEIO A (mg/kg)	P 48 BASE A (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	15929	22288	19366	20371	EPA 3050B E 6010B	2	1
As	18	22	20	21	EPA 3050B E 6010B	2	1
Cd	0,4	0,4	0,3	0,3	EPA 3050B E 6010B	0,2	0,1
COT	2176	6897	6162	6487	MA-026-L2	80	40
Pb	9,1	14,1	9,3	9,7	EPA 3050B E 6010B	1	0,4
Cu	6,8	9,5	8,1	5,5	EPA 3050B E 6010B	0,2	0,1
Cr	27,7	30,4	28,3	27,2	EPA 3050B E 6010B	0,3	0,1
Fe	22343	25987	24804	24069	EPA 3050B E 6010B	3	2
P	266	316	317	298	Digestão *4500E	6	2
Mn	192,6	217,0	200,7	183,4	EPA 3050B E 6010B	1	0,3
Hg	< L.Q.	nd	nd	0,09	EPA 3050B e *3112B	0,05	0,02
Ni	9,2	10,4	9,6	9,9	EPA 3050B e 6010B	1	0,4
N-Total	381	411	450	435	MA-024-L2	2	1
Zn	30,0	33,1	30,7	30,9	EPA 3050B e 6010B	1	0,4



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 16 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

### Padrões de Controle Analítico (PCA)

	Concentração esperada (mg/kg)	Concentração obtida (mg/kg)
Al	33449,32	33218
As	20,1421	20
Cd	19,73	19,7
Pb	35,57	35,6
Cu	27,90	27,9
Cr	41,61	39,0
Fe	18903,97	18904
Mn	131,20	130,6
Hg	9,77	11,44
Ni	28,39	27,9
Zn	41,46	42,6
COT	8060	8060
N-Total	996	945
P	19	19





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 17 de 17

Resp. Téc.: **Gabriel Oliver**

Emitido em: **02.08.2011**

Lab-nº: **11/3194-Rev 1**

### Observações

1. Legenda
  - L.D. – Limite de detecção reportado
  - L.Q. – Limite de Quantificação reportado
  - na – Não analisado
  - nd – Não detectado
2. Foram realizadas duplicatas em 10% das amostras em lotes de 20 amostras e os resultados obtidos estão em conformidade com os critérios de aceitação estabelecidos.
3. Nos ensaios são utilizados padrões rastreáveis ao SI (Sistema Internacional de Medidas).
4. Foram utilizados Brancos de Controle conforme metodologia informada.
5. **O laboratório não é o responsável pela amostragem**, portanto, os resultados contidos neste boletim referem-se exclusivamente às amostras nele descritas, que foram coletadas e enviadas pelo solicitante.
6. Os métodos utilizados neste(s) ensaios(s) apresentam-se conformes em relação ao método referenciado. Caso o(s) ensaio(s) tenha(m) apresentado desvio(s), adições ou exclusões, estes estarão listados no item informações adicionais do relatório.
7. Os valores para amostras sólidas reportados são relativos à massa seca, salvo observações.
8. A Innolab garante que todas as análises foram executadas dentro do prazo de validade de cada parâmetro segundo a norma relativa a cada metodologia.
9. As metodologias utilizadas nos ensaios encontram-se referenciadas ao final de cada parâmetro. As metodologias acreditadas poderão ser localizadas no site do INMETRO sob CRL 03104.
10. Este Boletim de Ensaio só deverá ser reproduzido por completo.

FM-004-L2A – Rev.01 17/03/2011– Apr. MAR/11

conferido

  
José Antônio Pires de Mello  
Diretor  
B. Sc, Eng. Quím. e Quím. Industrial  
CRQ – 03311142 CREA - 791006469

  
Ms. S., Gabriel Oliver Gonçalves  
Chefe Lab. Inorgânico  
CRQ - 03211350



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 1 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

### Análise em amostras de sedimento marinho

Cliente : CEPEMAR-Serviços De Consultoria Em Meio Ambiente LTDA  
Endereço : Av. Carlos Moreira Lima, n° 90  
Bento Ferreira - Vitória - ES  
Localização do Projeto : Ilhéus-BA  
Data da Coleta : 06 e 07/07/2011  
Entrega das amostras : 12/07/2011  
Início dos ensaios/extração : 13/07/2011  
Término dos ensaios : 01/08/2011

INNOLAB do Brasil Ltda.  
Rua Sacadura Cabral - 236  
Saúde - Rio de Janeiro - RJ  
Cep. 20221-161  
CNPJ. 04.183.043/0001-00  
Tel. (21) 3509-1750  
Fax (21) 2233-4621

Projeto : Monitoramento Bahia Mineração  
Gerente do Projeto : Marcelo Travassos

Parâmetro	P 03 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 03 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 03 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			

\*Diluição (N.º vezes)



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 2 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 05 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 05 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 05 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	<0,01	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 3 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 08 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 08 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 08 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	<0,01	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 4 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 12 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 12 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 12 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 5 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 14 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 14 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 14 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	<0,01	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 6 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 19 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 19 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 19 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 7 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 20 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 20 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 20 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	<0,01	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 8 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 21 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 21 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 21 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	<0,01	-	0,01	<0,01	-	0,01	<0,01	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 9 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 23 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 23 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 23 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	<0,01	-	0,01	<0,01	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 10 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 27 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 27 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 27 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	<0,01	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 11 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 28 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 28 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 28 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	<0,01	-	0,01	<0,01	-	0,01	<0,01	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 12 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 29 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 29 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 29 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 13 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 30 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 30 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 30 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	<0,01	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 14 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 31 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 31 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 31 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	<0,01	-	0,01	nd	-	0,01	<0,01	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 15 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 32 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 32 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 32 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	<0,01	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 16 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 36 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 36 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 36 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	<0,01	-	0,01	<0,01	-	0,01	<0,01	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 17 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 38 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 38 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 38 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	<0,01	-	0,01	nd	-	0,01	<0,01	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 18 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 42 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 42 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 42 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	<0,01	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 19 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 45 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 45 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 45 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 20 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

Parâmetro	P 48 TOPO B (mg/kg)	D*	L.Q (mg/kg)	P 48 MEIO B (mg/kg)	D*	L.Q (mg/kg)	P 48 BASE B (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

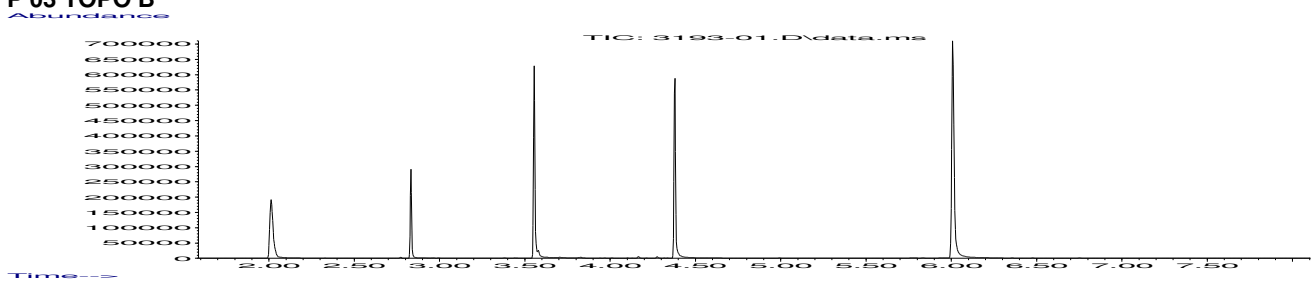
Pág. 21 de 37

Resp. Téc.: **Carina Casal**

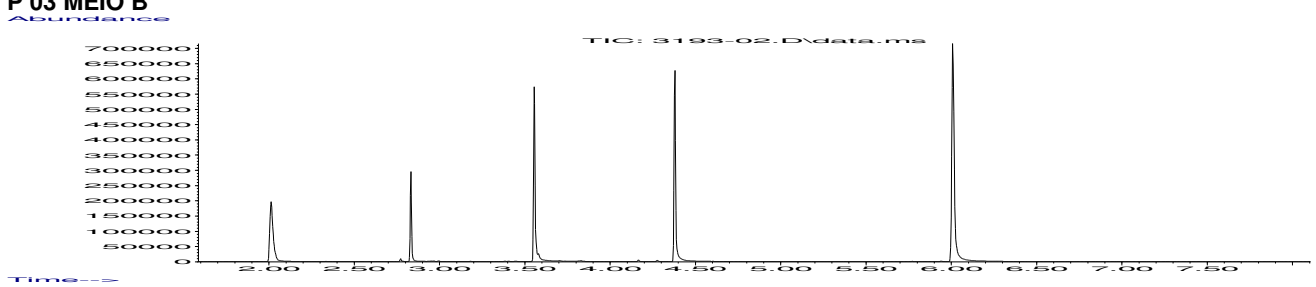
Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

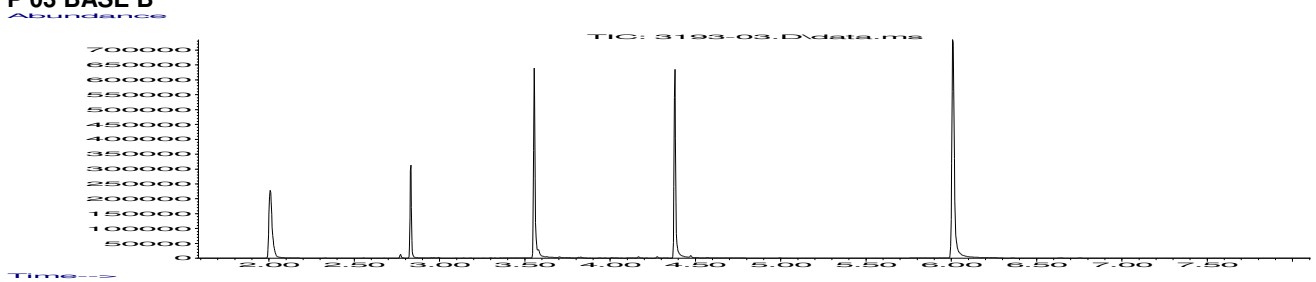
### P 03 TOPO B



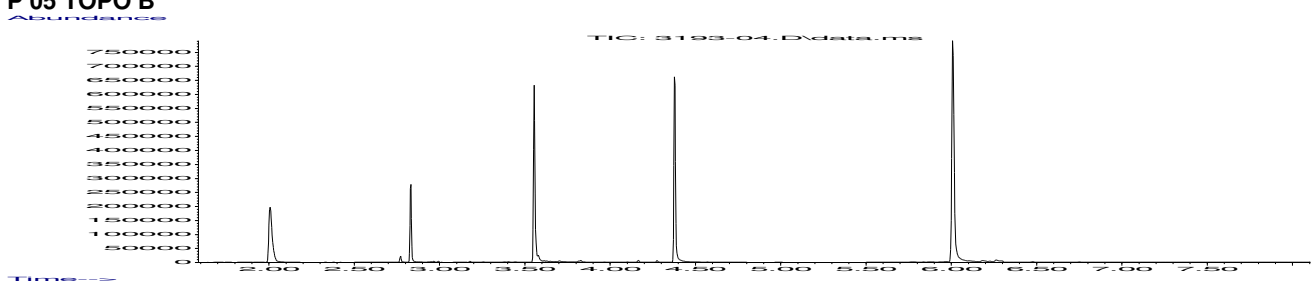
### P 03 MEIO B



### P 03 BASE B



### P 05 TOPO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

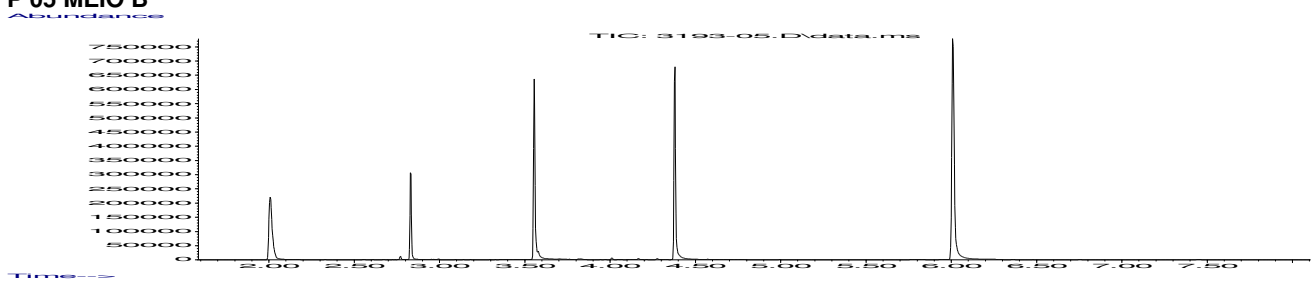
Pág. 22 de 37

Resp. Téc.: **Carina Casal**

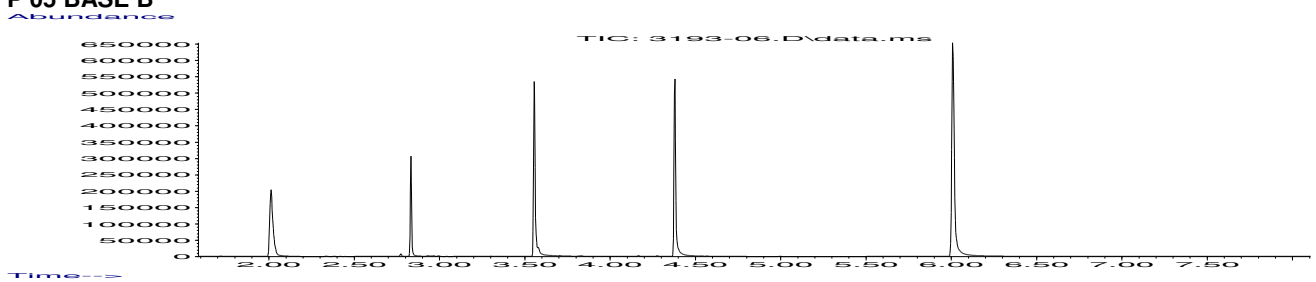
Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

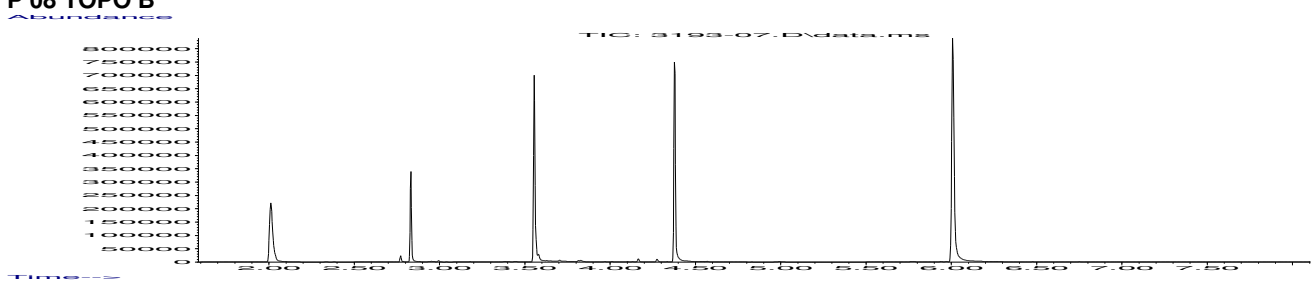
### P 05 MEIO B



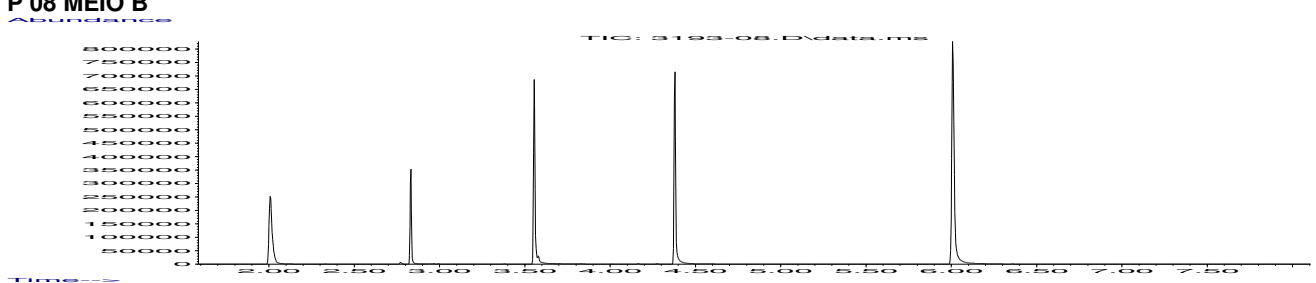
### P 05 BASE B



### P 08 TOPO B



### P 08 MEIO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

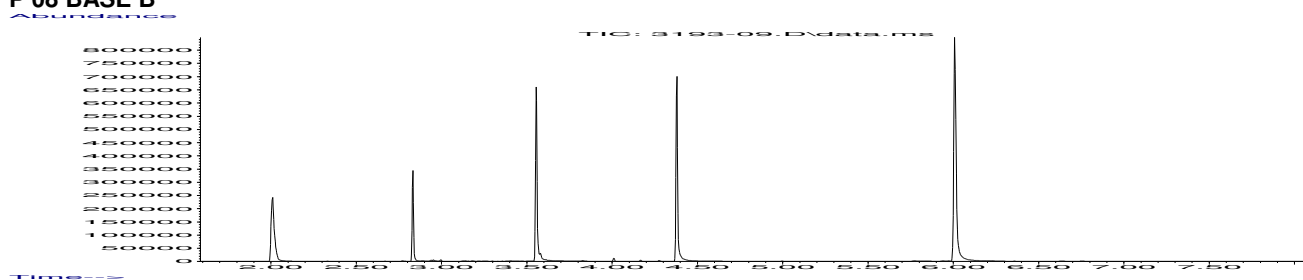
Pág. 23 de 37

Resp. Téc.: **Carina Casal**

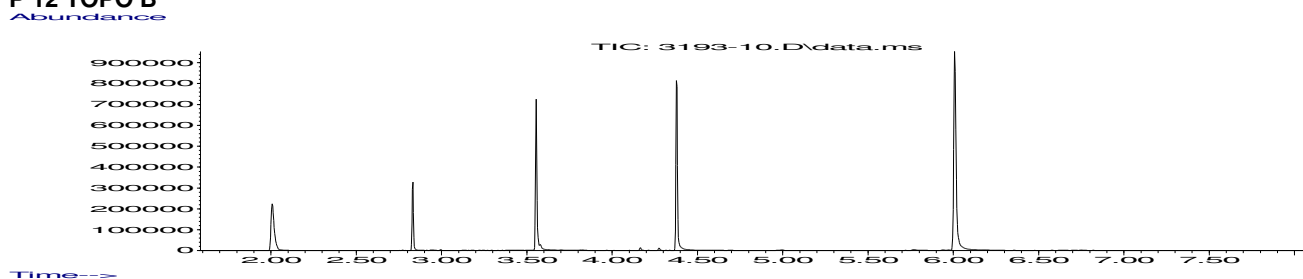
Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

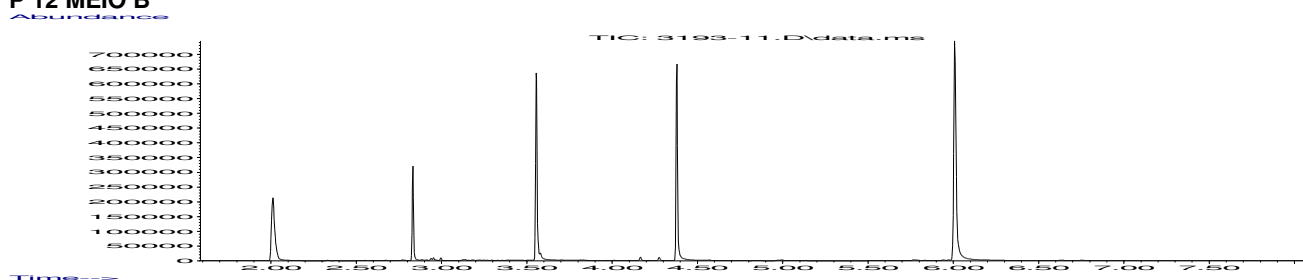
### P 08 BASE B



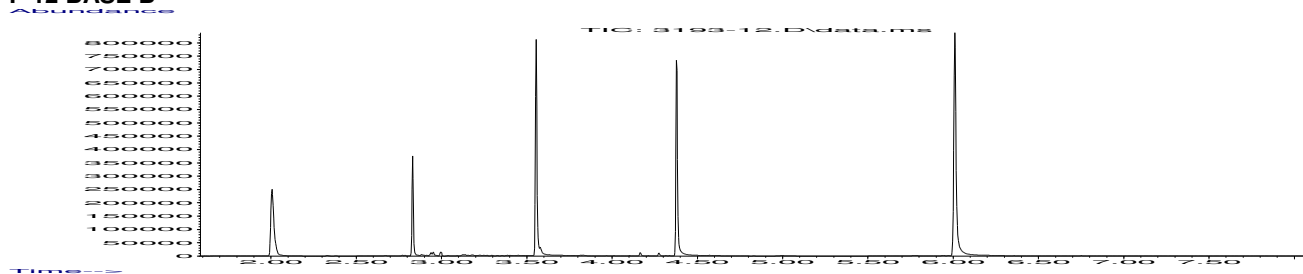
### P 12 TOPO B



### P 12 MEIO B



### P 12 BASE B







Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

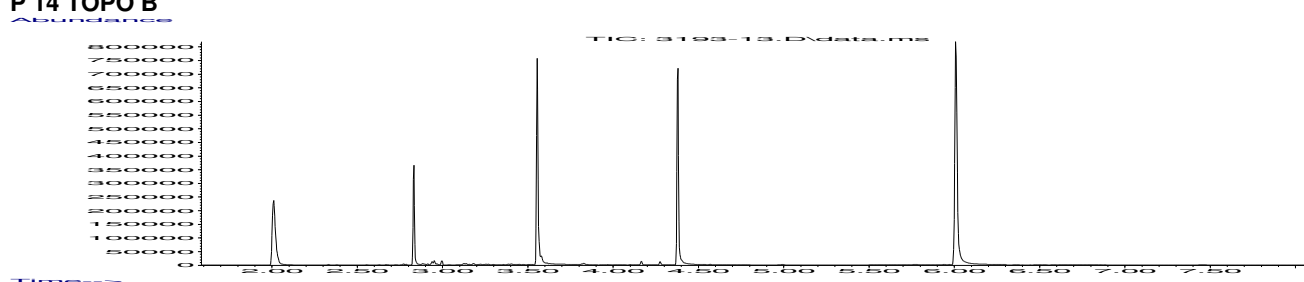
Pág. 24 de 37

Resp. Téc.: **Carina Casal**

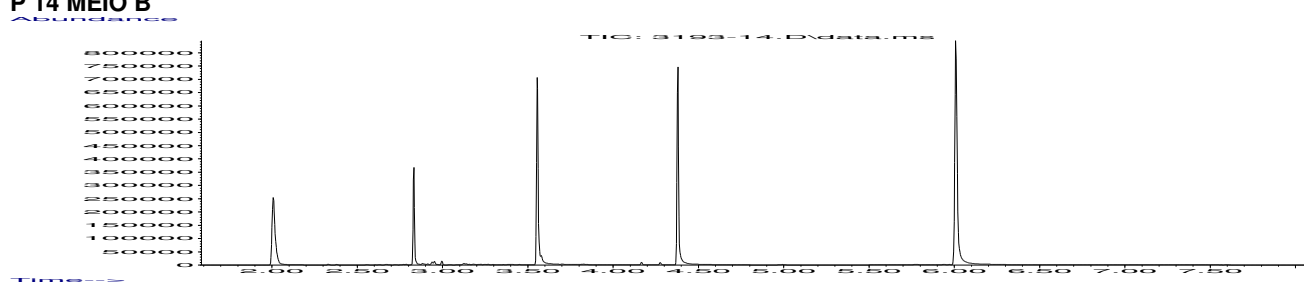
Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

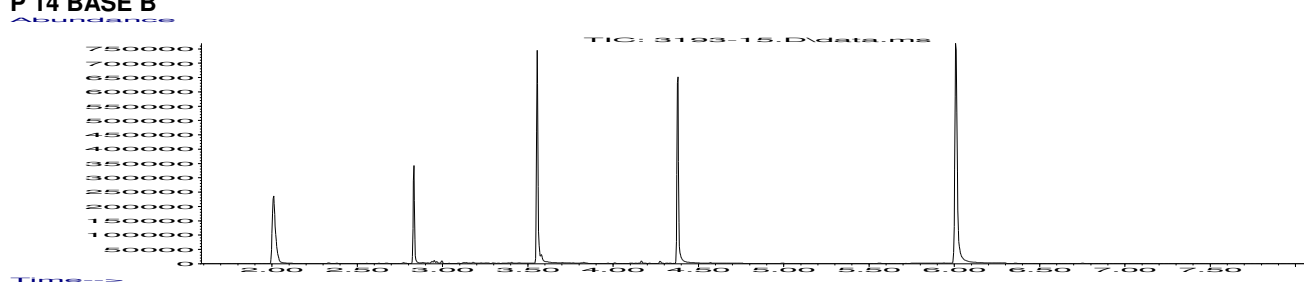
### P 14 TOPO B



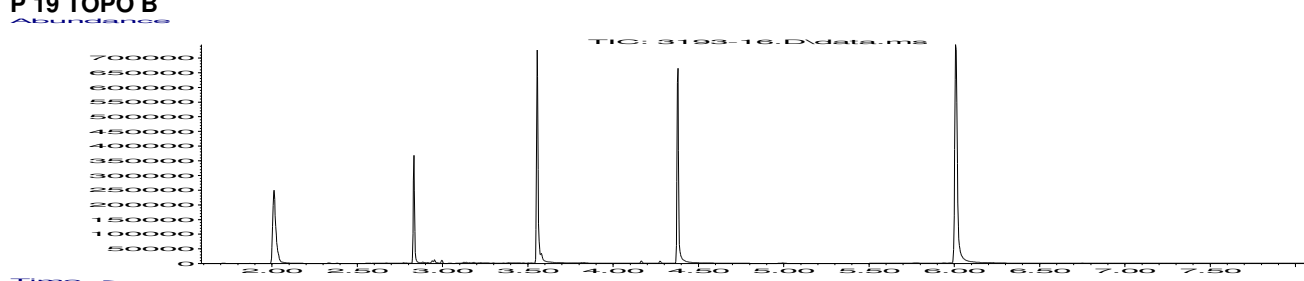
### P 14 MEIO B



### P 14 BASE B



### P 19 TOPO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

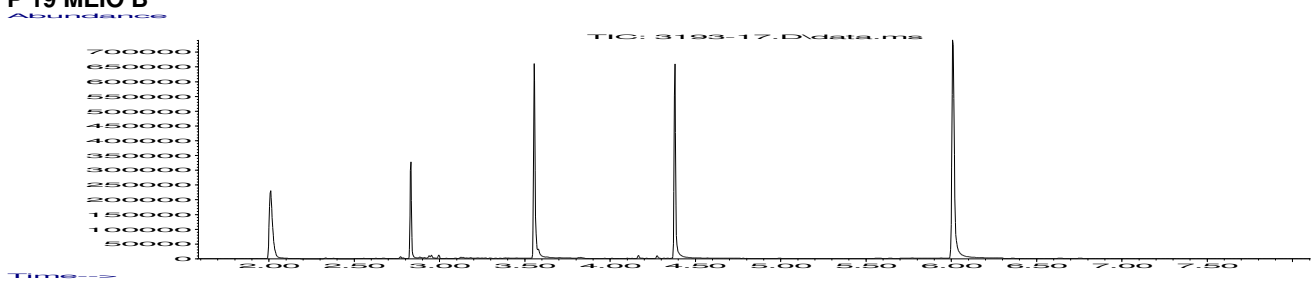
Pág. 25 de 37

Resp. Téc.: **Carina Casal**

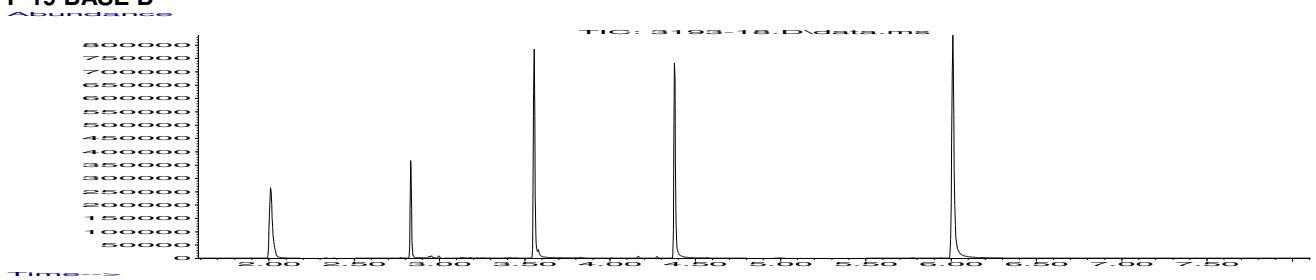
Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

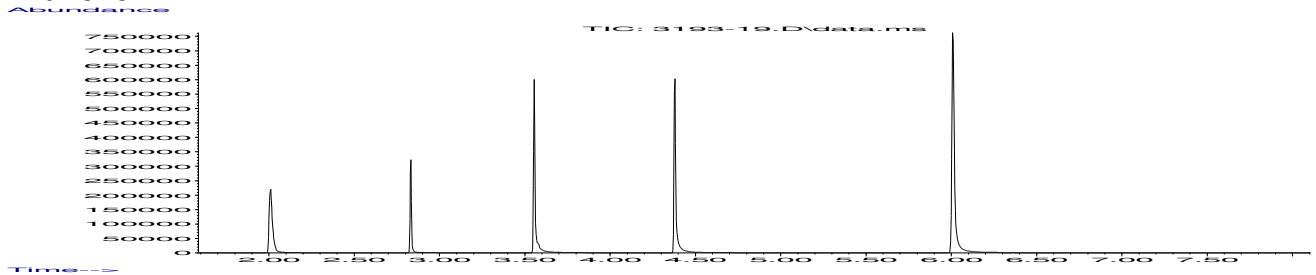
### P 19 MEIO B



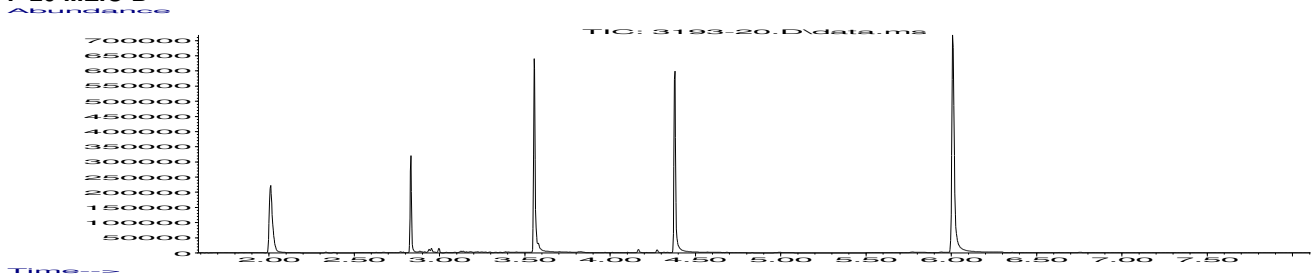
### P 19 BASE B



### P 20 TOPO B



### P 20 MEIO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

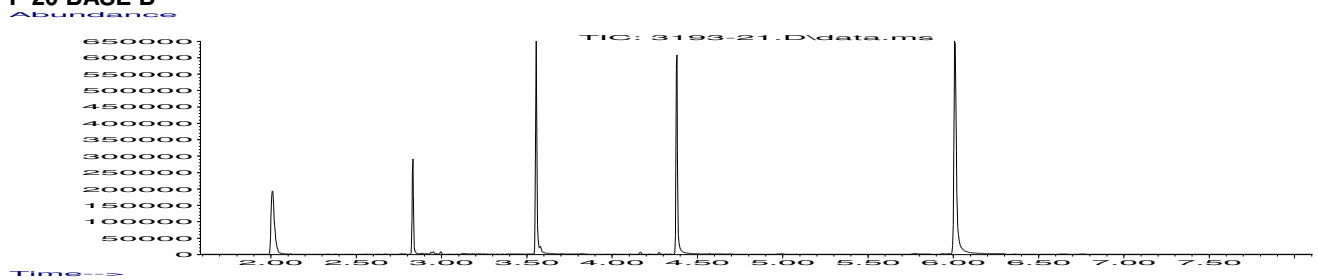
Pág. 26 de 37

Resp. Téc.: **Carina Casal**

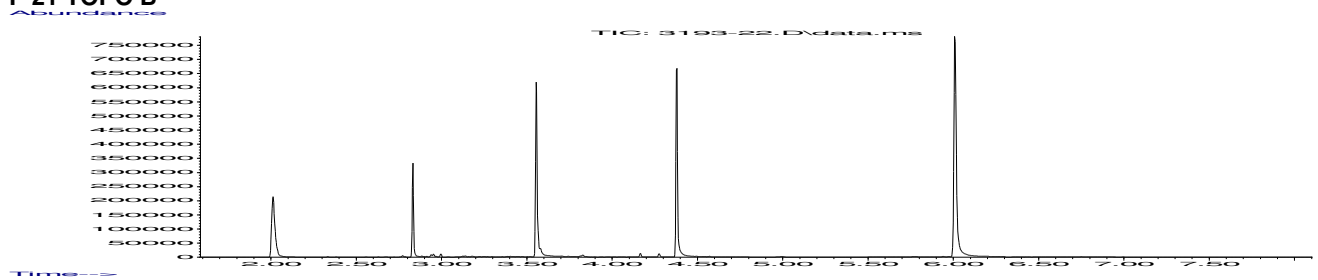
Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

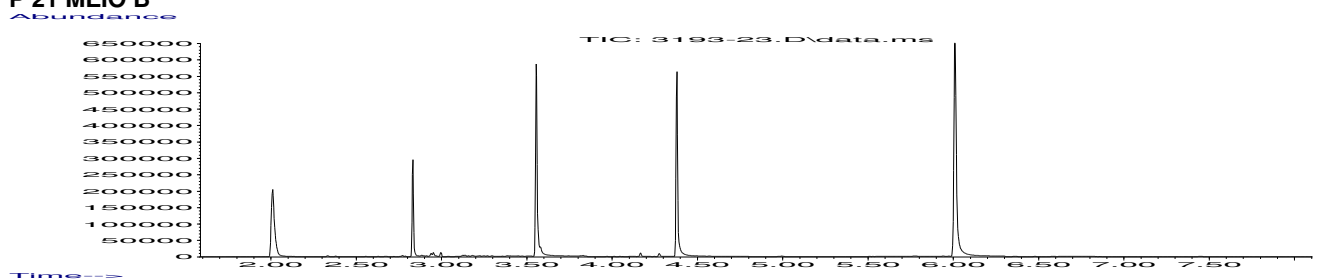
### P 20 BASE B



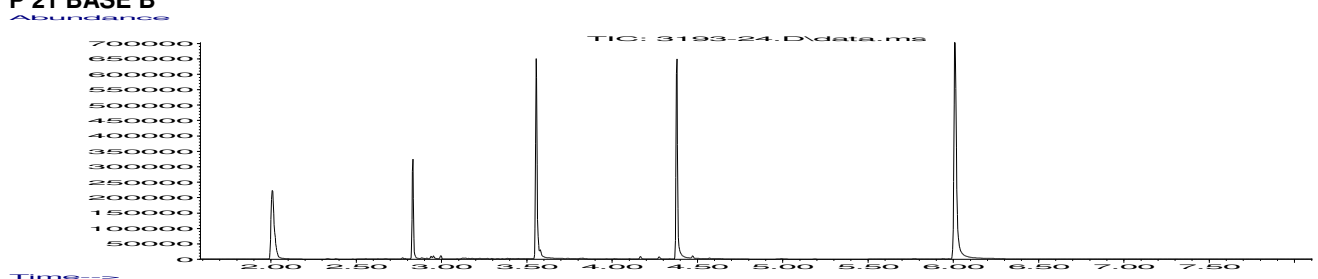
### P 21 TOPO B



### P 21 MEIO B



### P 21 BASE B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

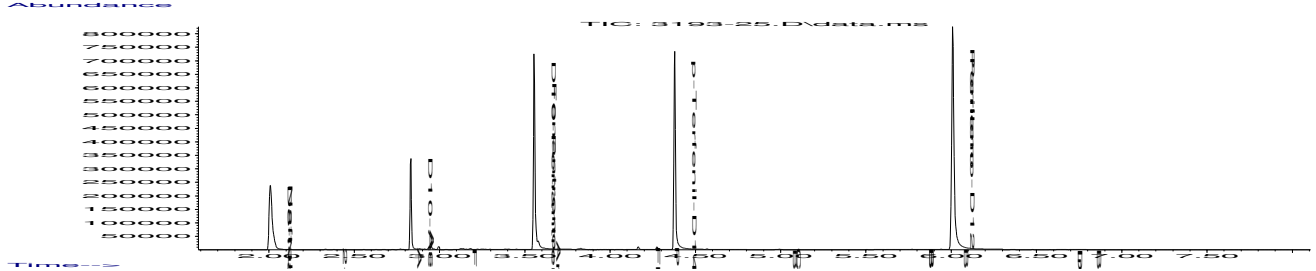
Pág. 27 de 37

Resp. Téc.: Carina Casal

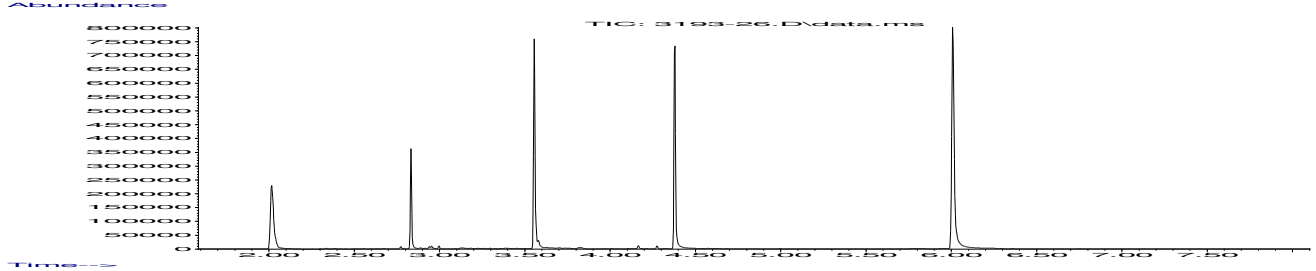
Emitido em: 01/08/2011

Lab-nº: 11/3193A

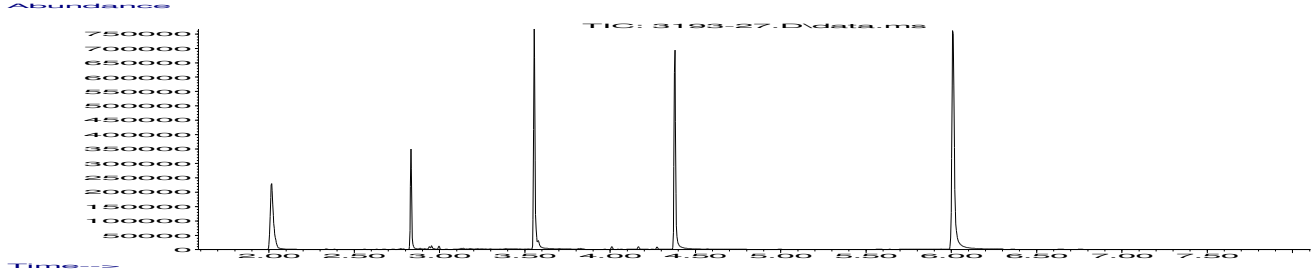
### P 23 TOPO B



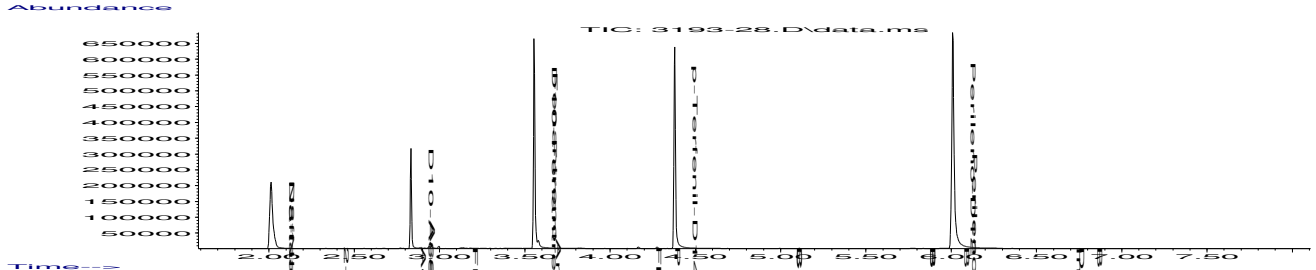
### P 23 MEIO B



### P 23 BASE B



### P 27 TOPO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

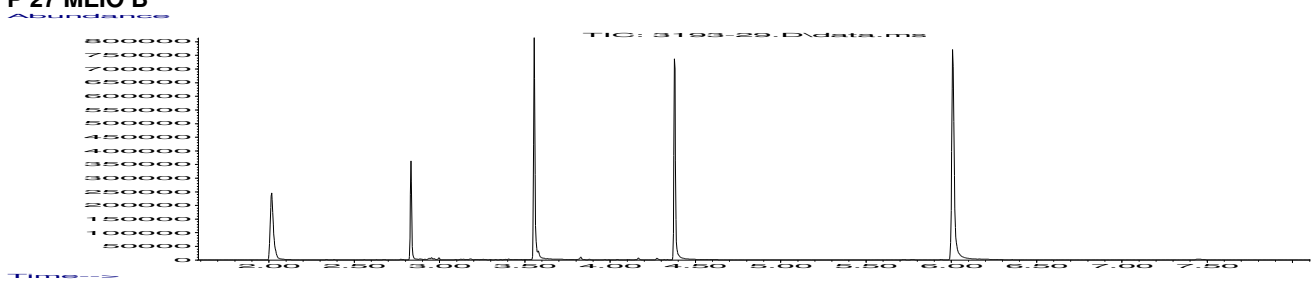
Pág. 28 de 37

Resp. Téc.: **Carina Casal**

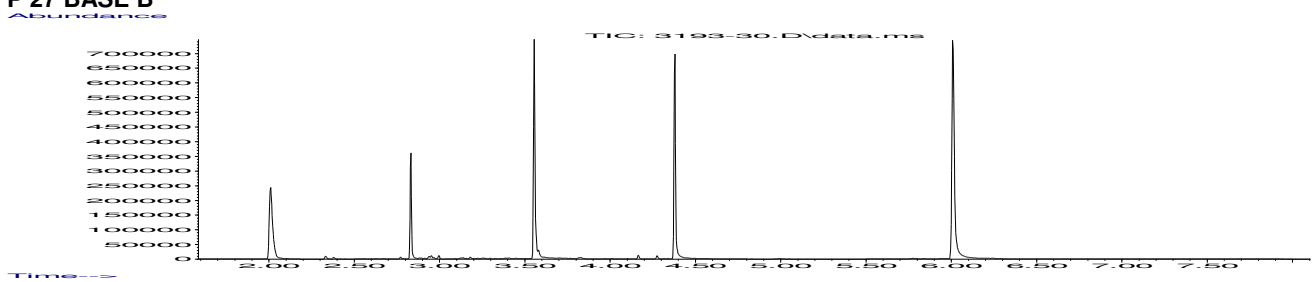
Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

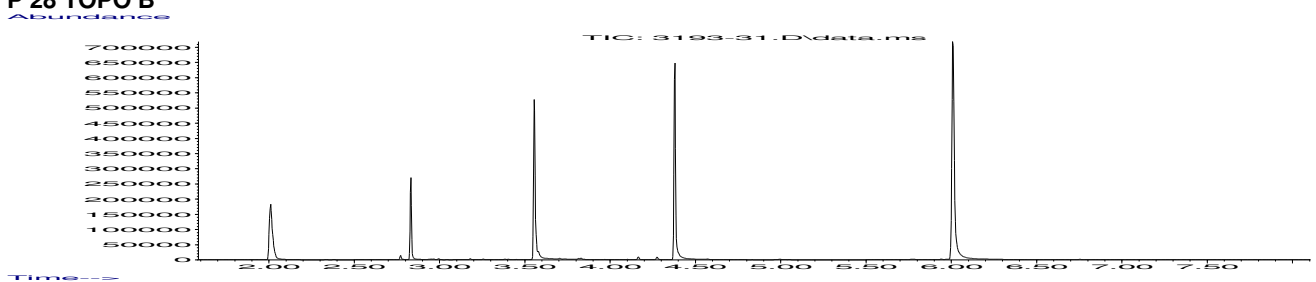
### P 27 MEIO B



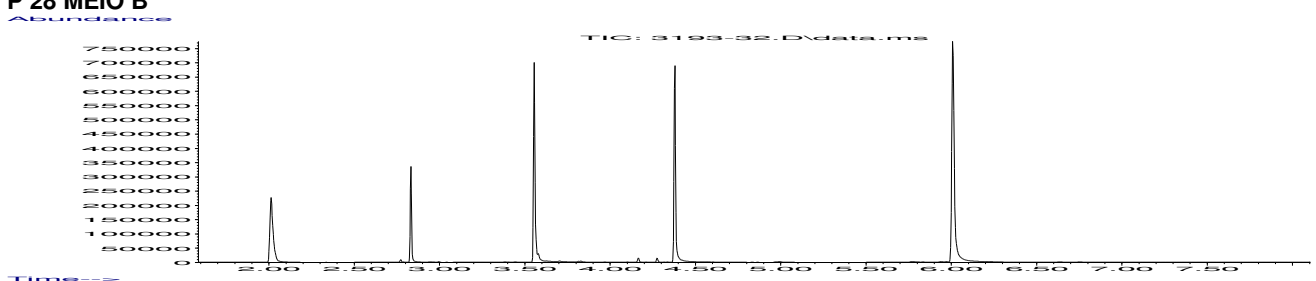
### P 27 BASE B



### P 28 TOPO B



### P 28 MEIO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

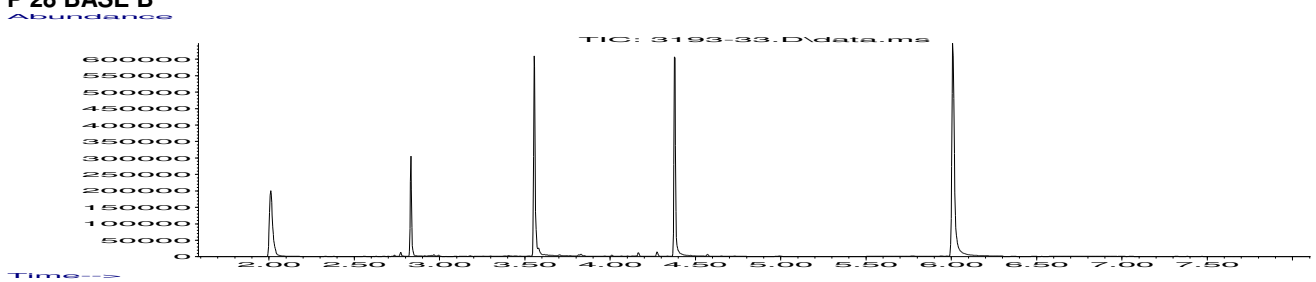
Pág. 29 de 37

Resp. Téc.: **Carina Casal**

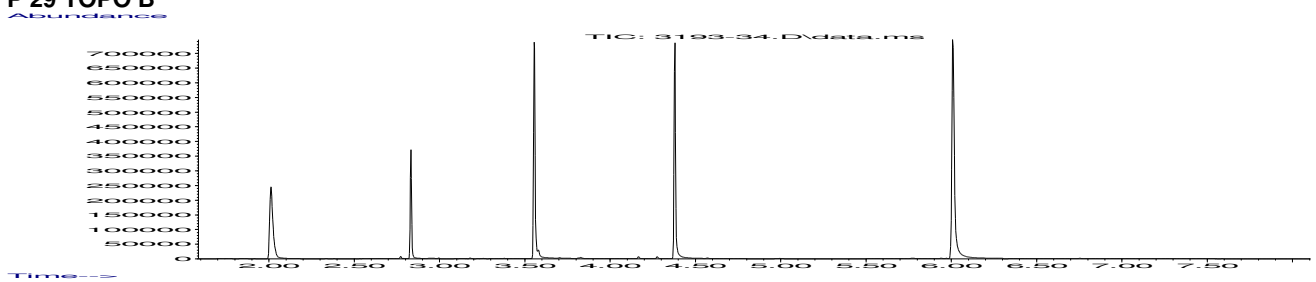
Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

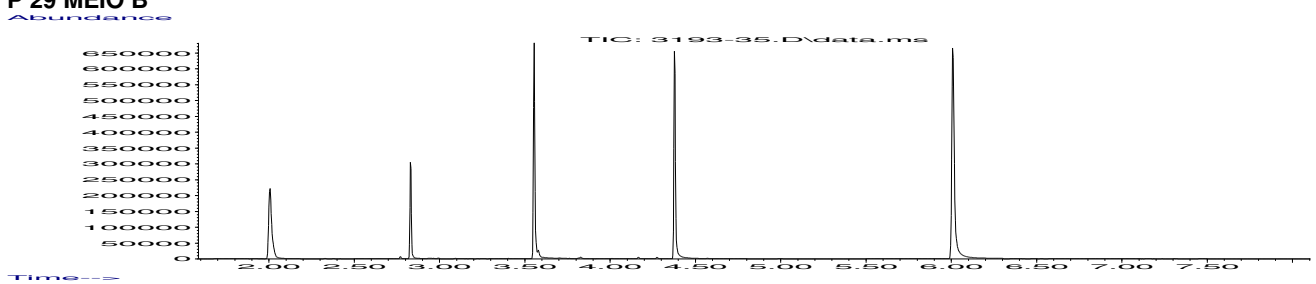
### P 28 BASE B



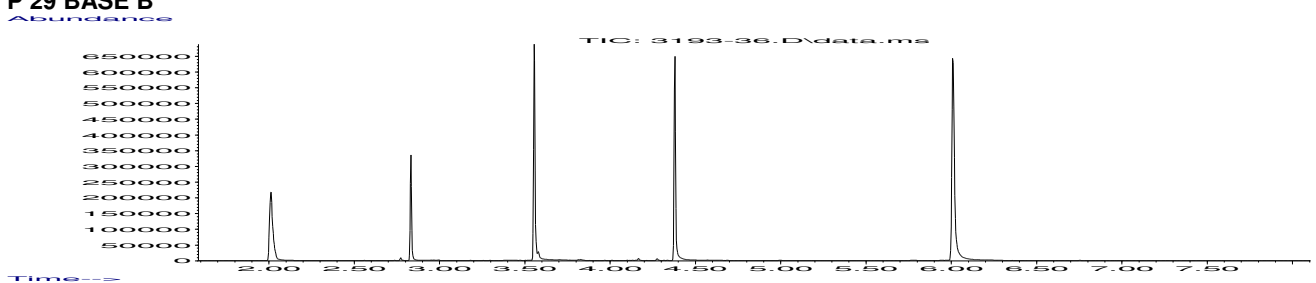
### P 29 TOPO B



### P 29 MEIO B



### P 29 BASE B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

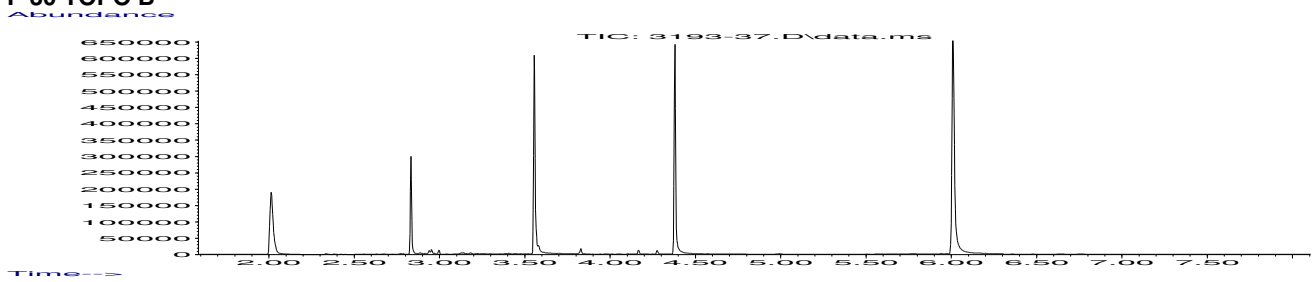
Pág. 30 de 37

Resp. Téc.: **Carina Casal**

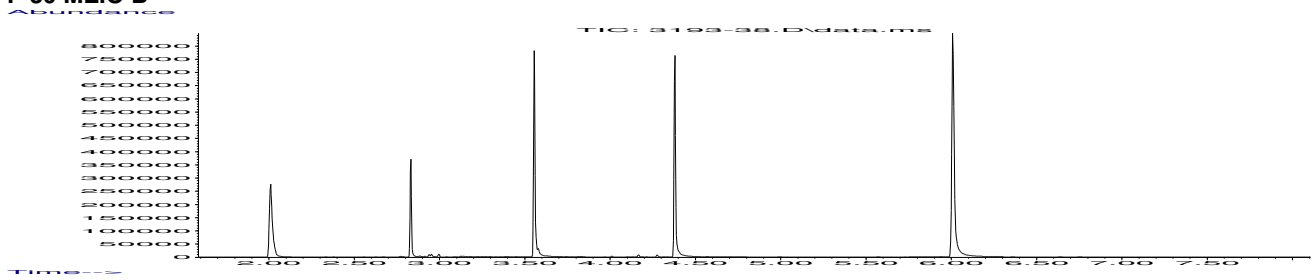
Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

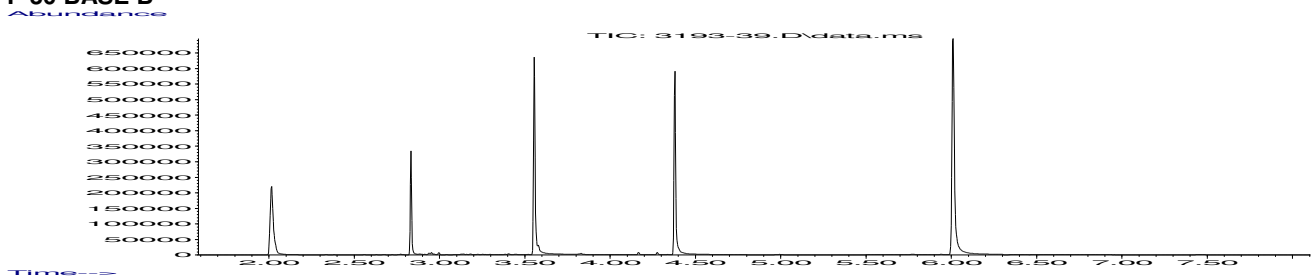
### P 30 TOPO B



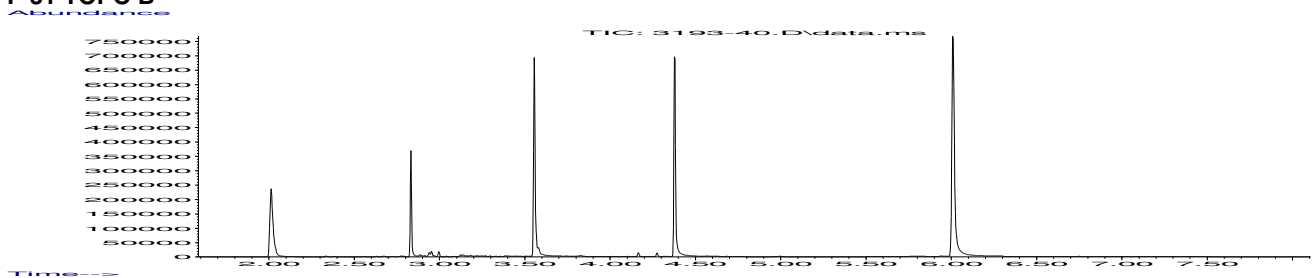
### P 30 MEIO B



### P 30 BASE B



### P 31 TOPO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

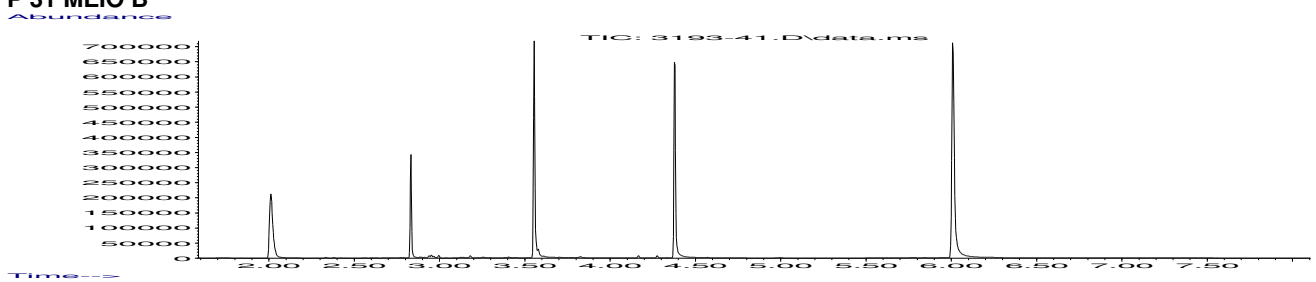
Pág. 31 de 37

Resp. Téc.: **Carina Casal**

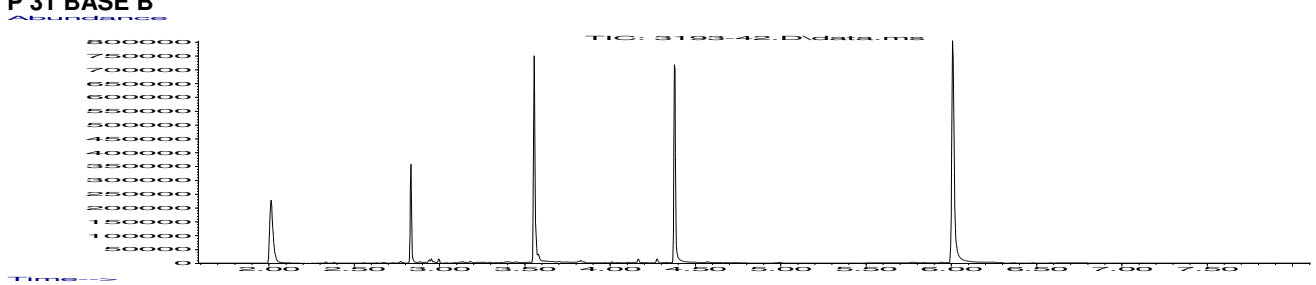
Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

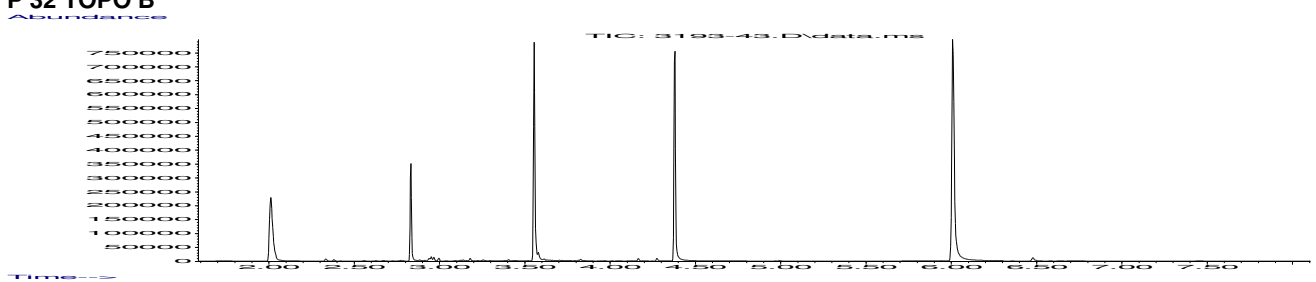
### P 31 MEIO B



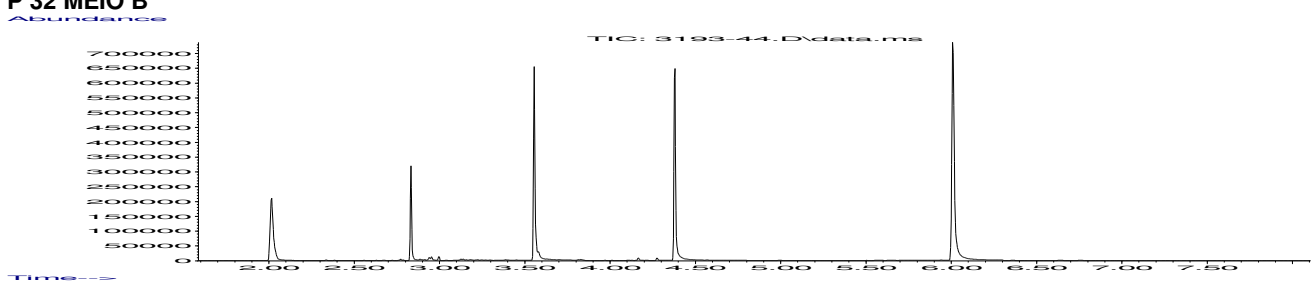
### P 31 BASE B



### P 32 TOPO B



### P 32 MEIO B







Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

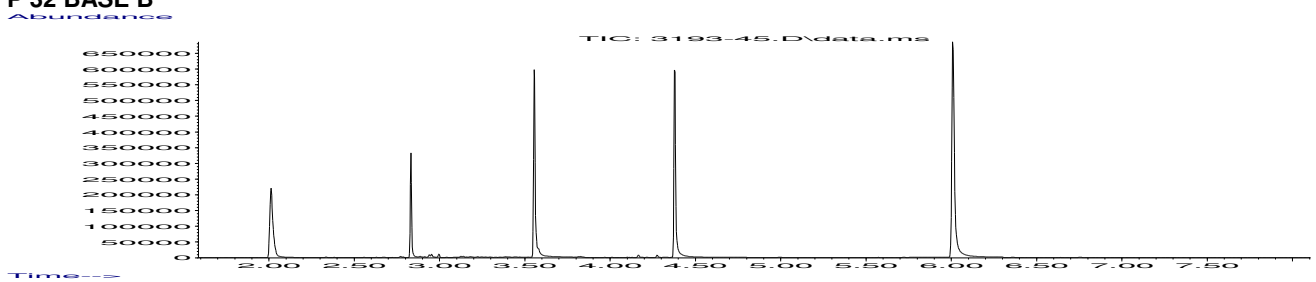
Pág. 32 de 37

Resp. Téc.: **Carina Casal**

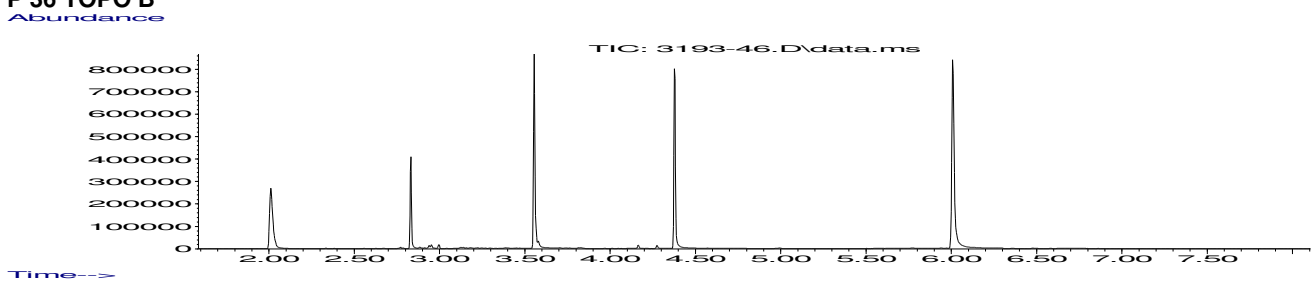
Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

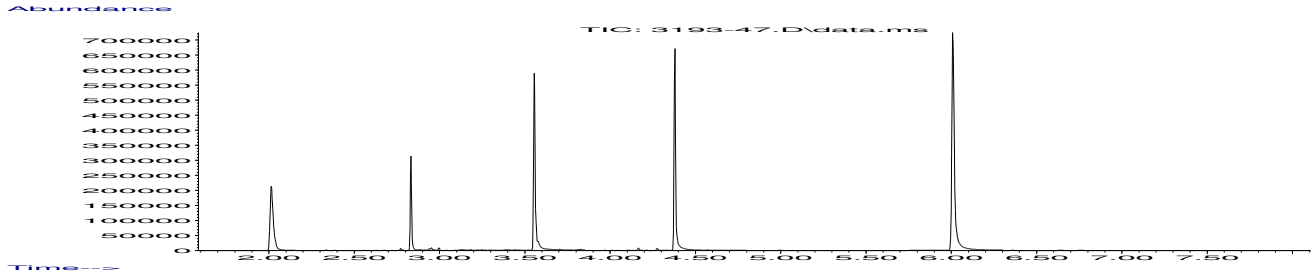
### P 32 BASE B



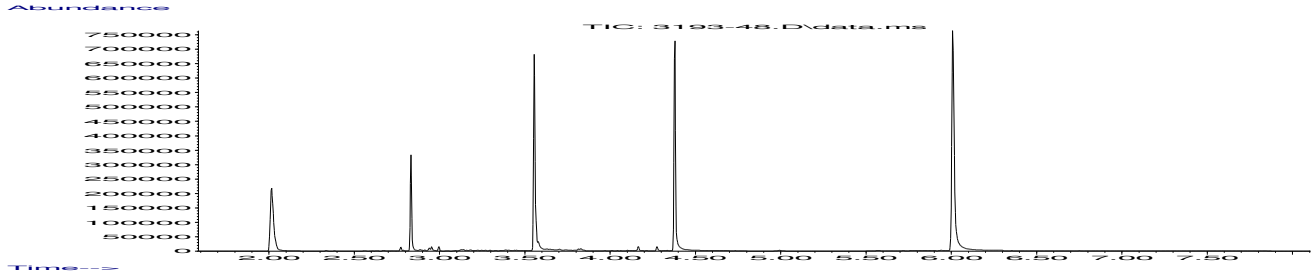
### P 36 TOPO B



### P 36 MEIO B



### P 36 BASE B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

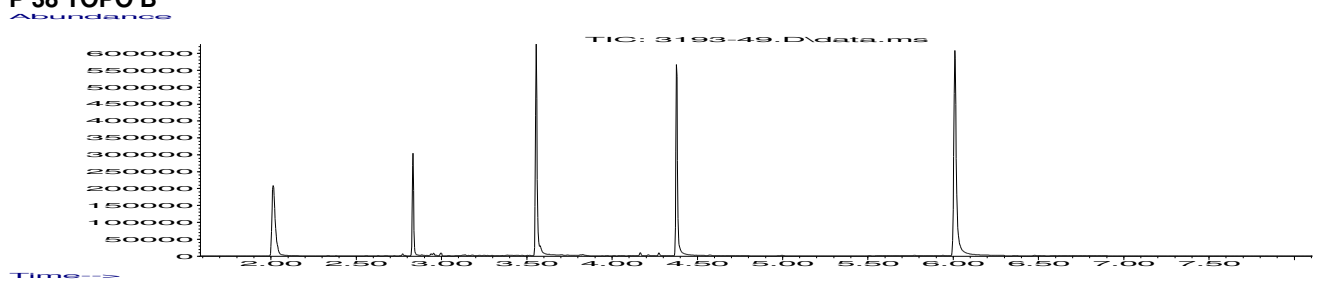
Pág. 33 de 37

Resp. Téc.: **Carina Casal**

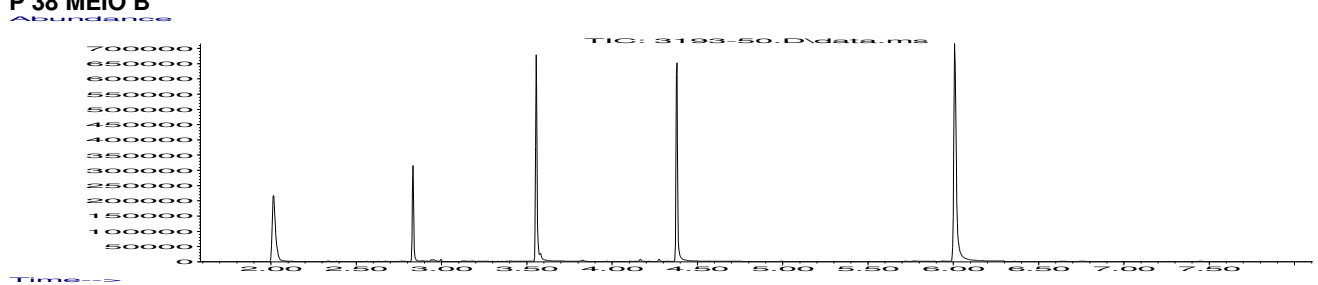
Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

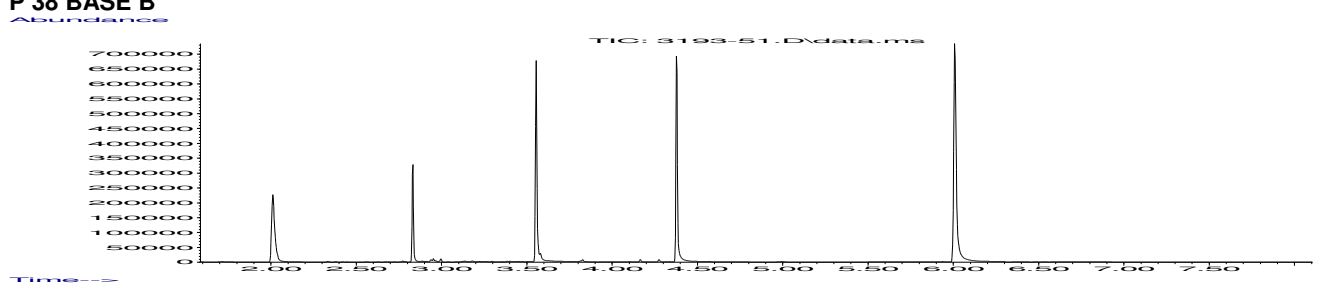
### P 38 TOPO B



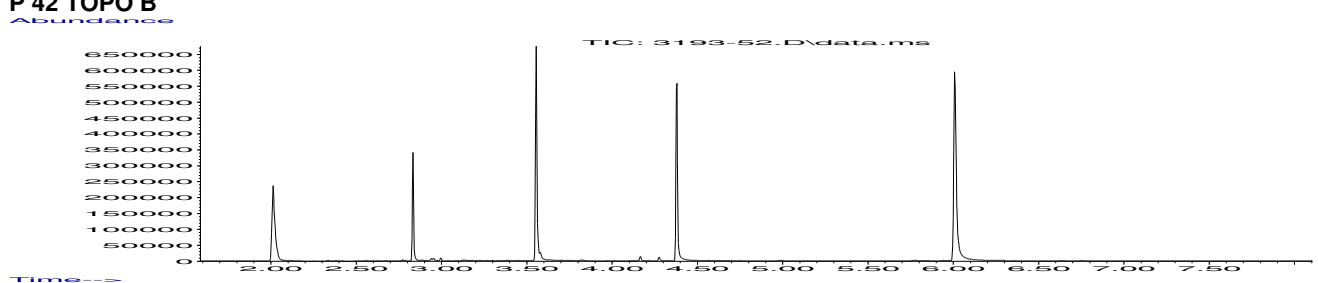
### P 38 MEIO B



### P 38 BASE B



### P 42 TOPO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

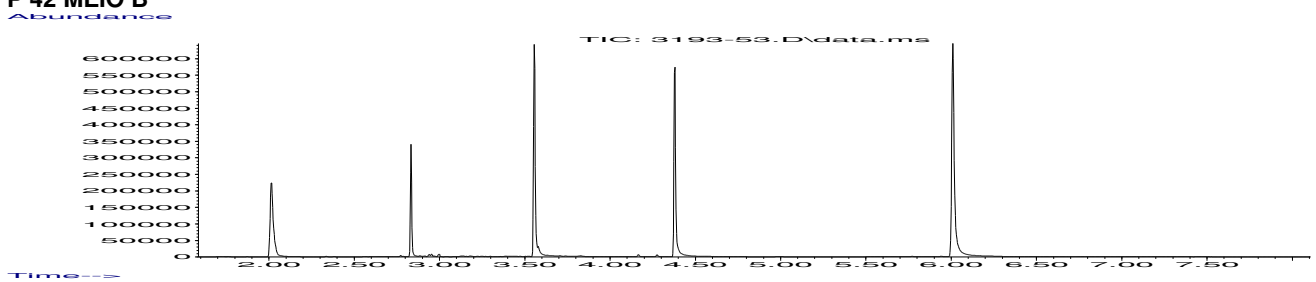
Pág. 34 de 37

Resp. Téc.: **Carina Casal**

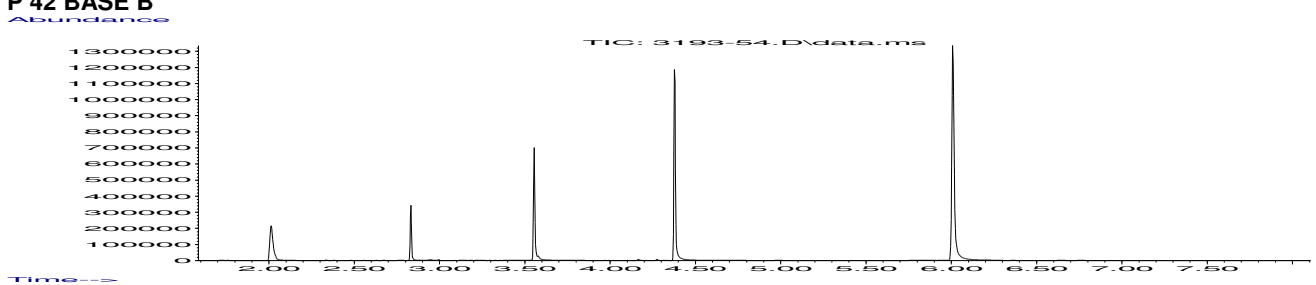
Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

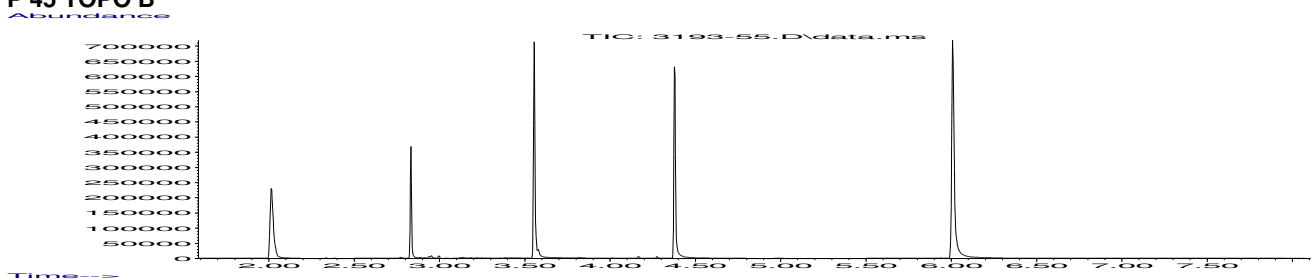
### P 42 MEIO B



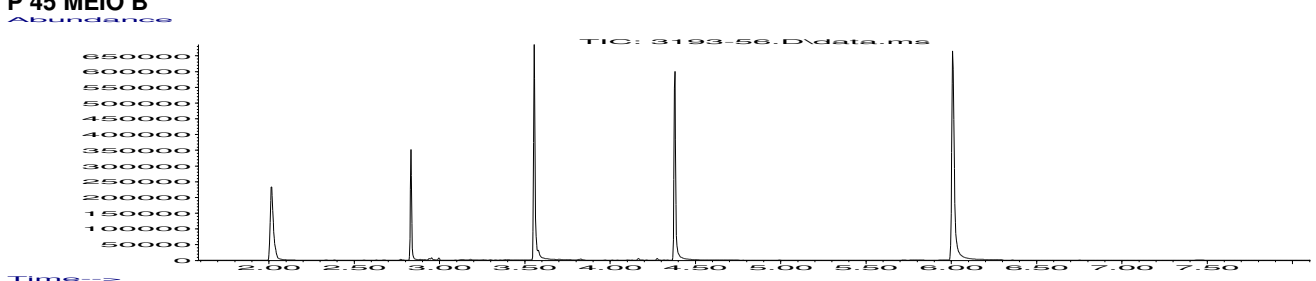
### P 42 BASE B



### P 45 TOPO B



### P 45 MEIO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

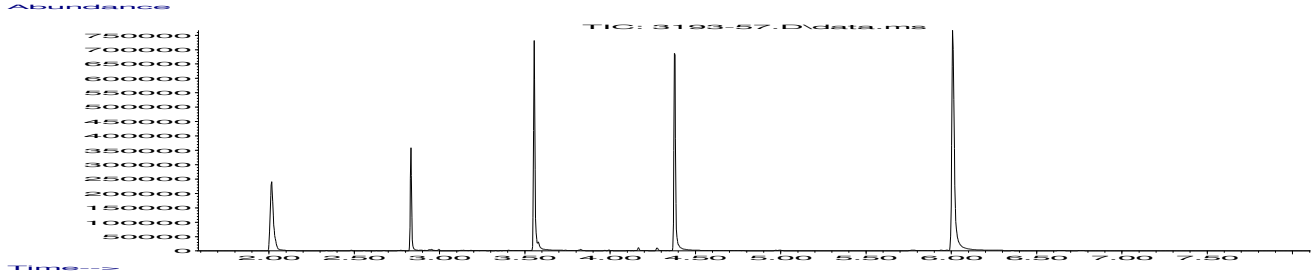
Pág. 35 de 37

Resp. Téc.: **Carina Casal**

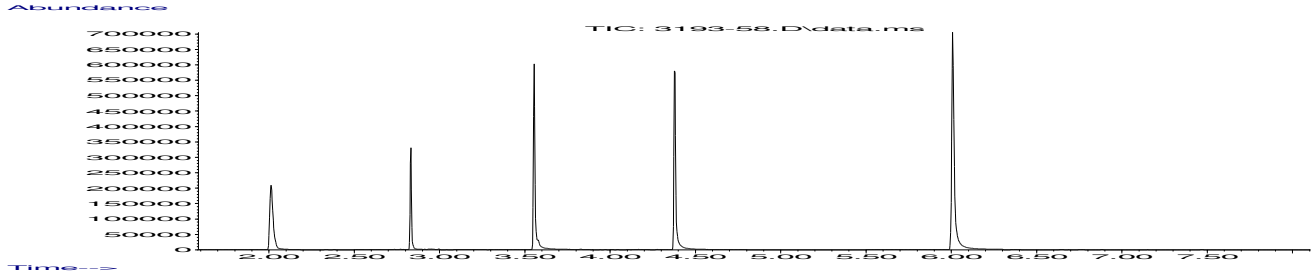
Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

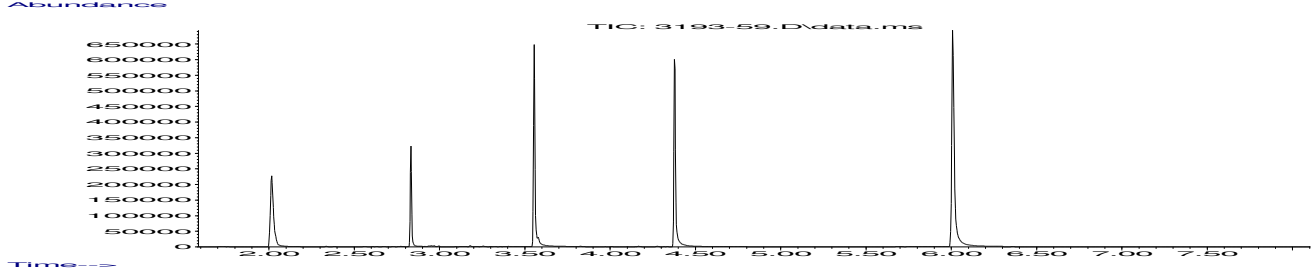
### P 45 BASE B



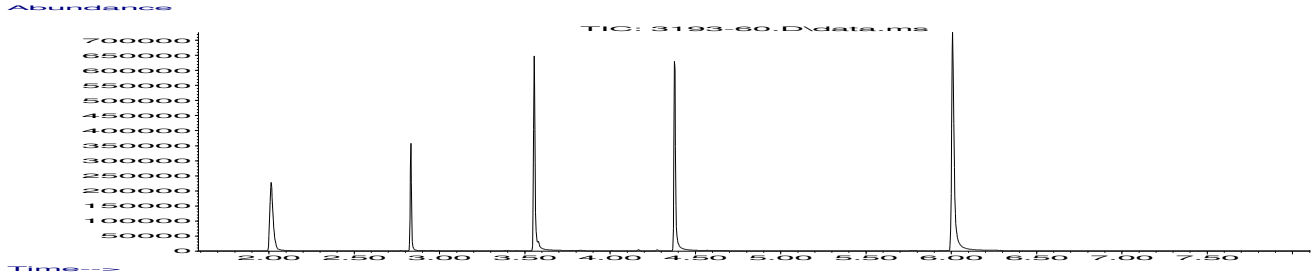
### P 48 TOPO B



### P 48 MEIO B



### P 48 BASE B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 36 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193A**

### Padrões de Controle Analítico – PCA (Surrogate)

Taxa de Recuperação (Faixa de Aceitação: 70-130%)  
(%)

---

Terfenil D14	130
Perileno D12	158

---



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 37 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

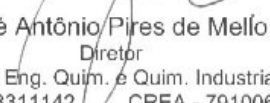
Lab-nº: **11/3193A**


### Observações

- Legenda
  - L.D. – Limite de detecção reportado
  - L.Q. – Limite de Quantificação reportado
  - na – Não analisado
  - nd – Não detectado
- Ref. Método – EPA 8270 (D):2007 / EPA 3550 (C):2007
- Foram realizadas duplicatas em 10% das amostras em lotes de 20 amostras e os resultados obtidos estão em conformidade com os critérios de aceitação estabelecidos.
- Nos ensaios são utilizados padrões rastreáveis ao SI (Sistema Internacional de Medidas).
- Foram utilizados Brancos de Controle conforme metodologia informada.
- O laboratório não é o responsável pela amostragem**, portanto, os resultados contidos neste boletim referem-se exclusivamente às amostras nele descritas, que foram coletadas e enviadas pelo solicitante.
- Os métodos utilizados neste(s) ensaios(s) apresentam-se conformes em relação ao método referenciado. Caso o(s) ensaio(s) tenha(m) apresentado desvio(s), adições ou exclusões, estes estarão listados no item informações adicionais do relatório.
- Os valores para amostras sólidas reportados são relativos à massa seca, salvo observações.
- A Innolab garante que todas as análises foram executadas dentro do prazo de validade de cada parâmetro segundo a norma relativa a cada metodologia.
- As metodologias utilizadas nos ensaios encontram-se referenciadas ao final de cada parâmetro. As metodologias acreditadas poderão ser localizadas no site do INMETRO sob CRL 03104.
- Este Boletim de Ensaio só deverá ser reproduzido por completo.

FM-004-L3A – Rev.01 17/03/2011– Apr. MAR/11

conferido

  
José Antônio Pires de Mello  
Diretor  
B. Sc, Eng. Quim. e Quim. Industrial  
CRQ – 03311142 CREA - 791006469

  
CARINA SANTOS CASAL  
Chefe Laboratório  
Químico  
CRQ - 03251114



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 1 de 25

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

### Análise em amostras de sedimento marinho

Cliente : CEPEMAR-Serviços De Consultoria Em Meio Ambiente LTDA  
 Endereço : Av. Carlos Moreira Lima, n° 90  
 Bento Ferreira - Vitória - ES  
 Localização do Projeto : Ilhéus-BA  
 Data da Coleta : 06 e 07/07/2011  
 Entrega das amostras : 12/07/2011  
 Início dos ensaios/extração : 13/07/2011  
 Término dos ensaios : 01/08/2011  
  
 Projeto : Monitoramento Bahia Mineração  
 Gerente do Projeto : Marcelo Travassos

INNOLAB do Brasil Ltda.  
 Rua Sacadura Cabral - 236  
 Saúde - Rio de Janeiro - RJ  
 Cep. 20221-161  
 CNPJ. 04.183.043/0001-00  
 Tel. (21) 3509-1750  
 Fax (21) 2233-4621

Parâmetro	P 03 TOPO B (mg/kg)	P 03 MEIO B (mg/kg)	P 03 BASE B (mg/kg)	P 05 TOPO B (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
-----------	------------------------	------------------------	------------------------	------------------------	----------------	-----------------

#### PCB

PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	nd	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		

Quantidade de amostra (g) 30 30 30 30

Diluição (N.º vezes) - - - -

Parâmetro	P 05 MEIO B (mg/kg)	P 05 BASE B (mg/kg)	P 08 TOPO B (mg/kg)	P 08 MEIO B (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
-----------	------------------------	------------------------	------------------------	------------------------	----------------	-----------------

#### PCB

PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	nd	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		

Quantidade de amostra (g) 30 30 30 30

Diluição (N.º vezes) - - - -



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 2 de 25

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

Parâmetro	P 08 BASE B (mg/kg)	P 12 TOPO B (mg/kg)	P 12 MEIO B (mg/kg)	P 12 BASE B (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	nd	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		
Quantidade de amostra (g)	30	30	30	30		
Diluição (N.º vezes)	-	-	-	-		

Parâmetro	P 14 TOPO B (mg/kg)	P 14 MEIO B (mg/kg)	P 14 BASE B (mg/kg)	P 19 TOPO B (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	nd	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		
Quantidade de amostra (g)	30	30	30	30		
Diluição (N.º vezes)	-	-	-	-		





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 3 de 25

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

Parâmetro	P 19 MEIO B (mg/kg)	P 19 BASE B (mg/kg)	P 20 TOPO B (mg/kg)	P 20 MEIO B (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	nd	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		
Quantidade de amostra (g)	30	30	30	30		
Diluição (N.º vezes)	-	-	-	-		

Parâmetro	P 20 BASE B (mg/kg)	P 21 TOPO B (mg/kg)	P 21 MEIO B (mg/kg)	P 21 BASE B (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	nd	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		
Quantidade de amostra (g)	30	30	30	30		
Diluição (N.º vezes)	-	-	-	-		



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 4 de 25

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

Parâmetro	P 23 TOPO B (mg/kg)	P 23 MEIO B (mg/kg)	P 23 BASE B (mg/kg)	P 27 TOPO B (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	nd	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		
Quantidade de amostra (g)	30	30	30	30		
Diluição (N.º vezes)	-	-	-	-		

Parâmetro	P 27 MEIO B (mg/kg)	P 27 BASE B (mg/kg)	P 28 TOPO B (mg/kg)	P 28 MEIO B (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	nd	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		
Quantidade de amostra (g)	30	30	30	30		
Diluição (N.º vezes)	-	-	-	-		



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 5 de 25

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

Parâmetro	P 28 BASE B (mg/kg)	P 29 TOPO B (mg/kg)	P 29 MEIO B (mg/kg)	P 29 BASE B (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	nd	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		

Quantidade de amostra (g) 30 30 30 30

Diluição (N.º vezes) - - - -

Parâmetro	P 30 TOPO B (mg/kg)	P 30 MEIO B (mg/kg)	P 30 BASE B (mg/kg)	P 31 TOPO B (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	nd	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		

Quantidade de amostra (g) 30 30 30 30

Diluição (N.º vezes) - - - -



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 6 de 25

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

Parâmetro	P 31 MEIO B (mg/kg)	P 31 BASE B (mg/kg)	P 32 TOPO B (mg/kg)	P 32 MEIO B (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	nd	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		

Quantidade de amostra (g) 30 30 30 30

Diluição (N.º vezes) - - - -

Parâmetro	P 32 BASE B (mg/kg)	P 36 TOPO B (mg/kg)	P 36 MEIO B (mg/kg)	P 36 BASE B (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	nd	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		

Quantidade de amostra (g) 30 30 30 30

Diluição (N.º vezes) - - - -



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 7 de 25

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

Parâmetro	P 38 TOPO B (mg/kg)	P 38 MEIO B (mg/kg)	P 38 BASE B (mg/kg)	P 42 TOPO B (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	nd	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		
Quantidade de amostra (g)	30	30	30	30		
Diluição (N.º vezes)	-	-	-	-		

Parâmetro	P 42 MEIO B (mg/kg)	P 42 BASE B (mg/kg)	P 45 TOPO B (mg/kg)	P 45 MEIO B (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	nd	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		
Quantidade de amostra (g)	30	30	30	30		
Diluição (N.º vezes)	-	-	-	-		



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 8 de 25

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

Parâmetro	P 45 BASE B (mg/kg)	P 48 TOPO B (mg/kg)	P 48 MEIO B (mg/kg)	P 48 BASE B (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	nd	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		
Quantidade de amostra (g)	30	30	30	30		
Diluição (N.º vezes)	-	-	-	-		



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

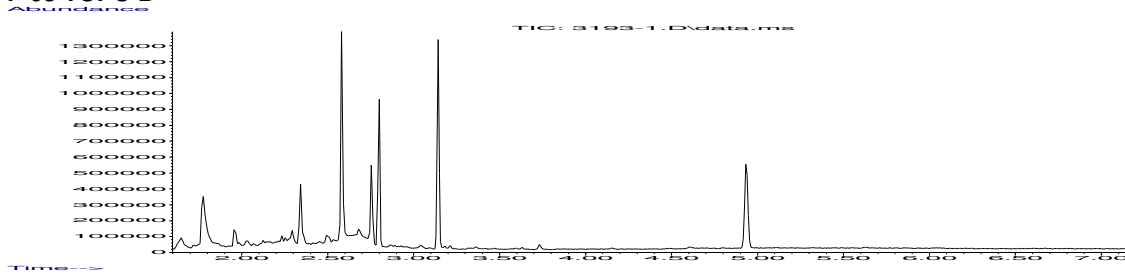
Pág. 9 de 25

Resp. Téc.: **Carina Casal**

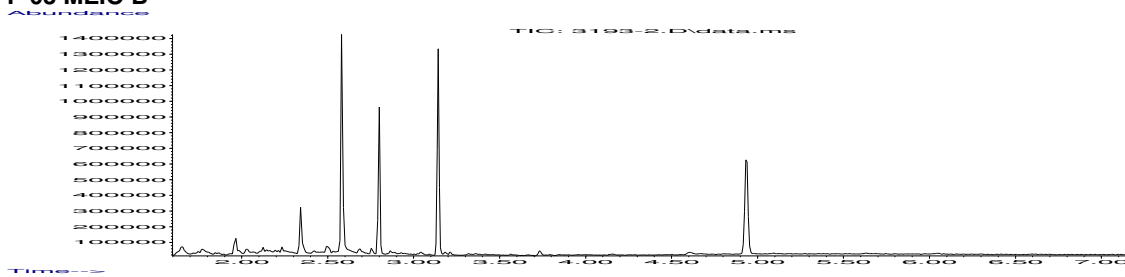
Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

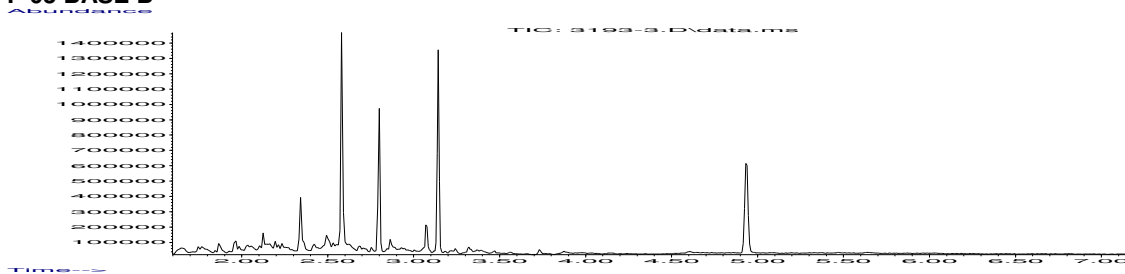
### P 03 TOPO B



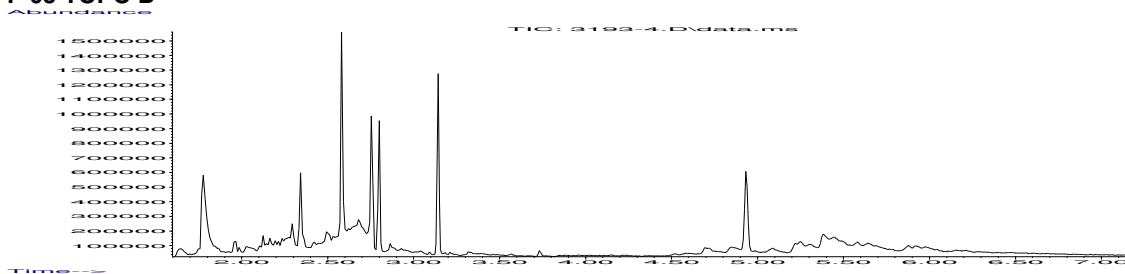
### P 03 MEIO B



### P 03 BASE B



### P 05 TOPO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

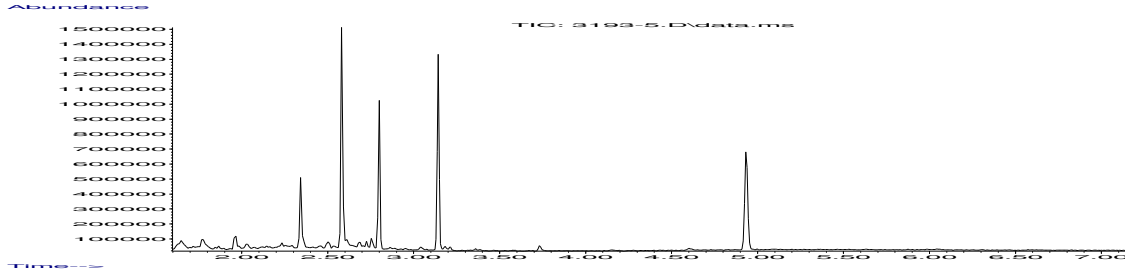
Pág. 10 de 25

Resp. Téc.: **Carina Casal**

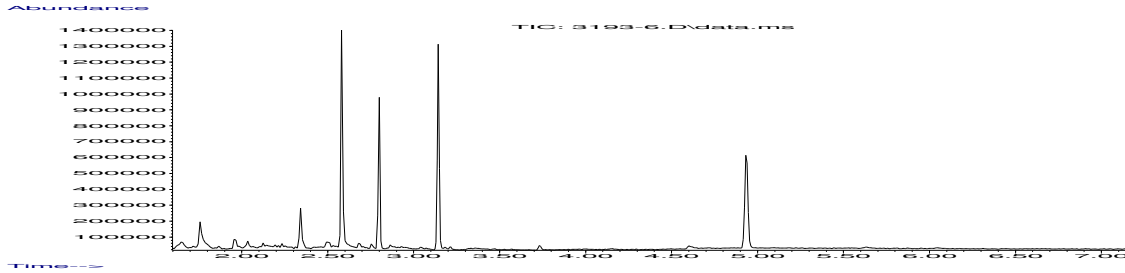
Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

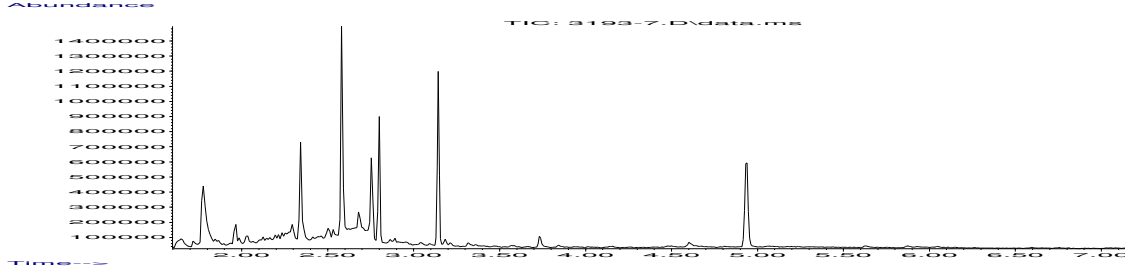
### P 05 MEIO B



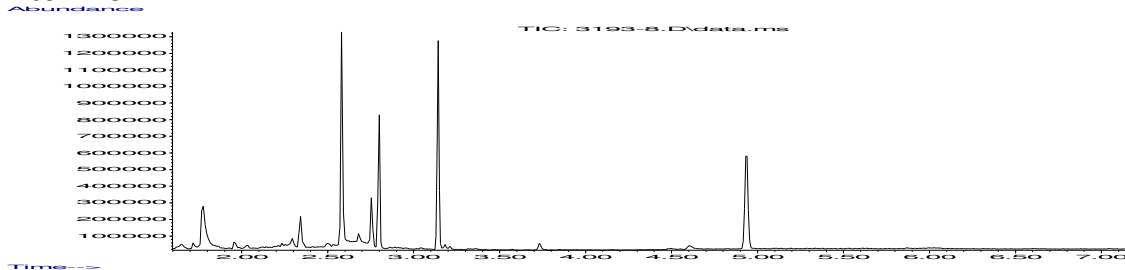
### P 05 BASE B



### P 08 TOPO B



### P 08 MEIO B







Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

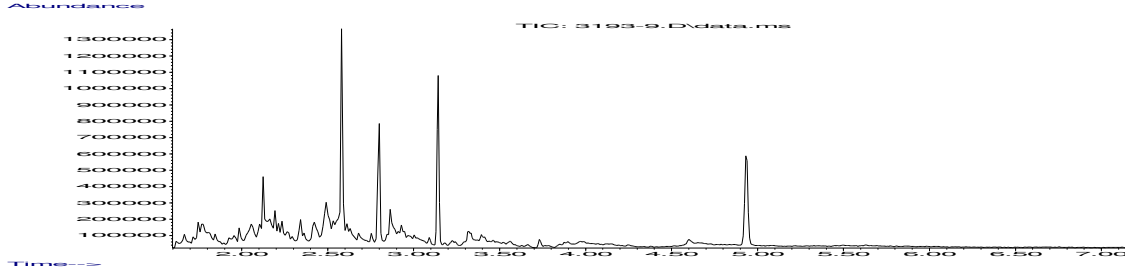
Pág. 11 de 25

Resp. Téc.: **Carina Casal**

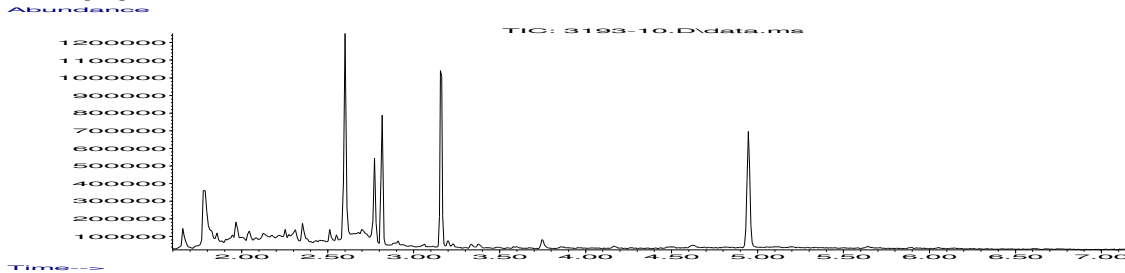
Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

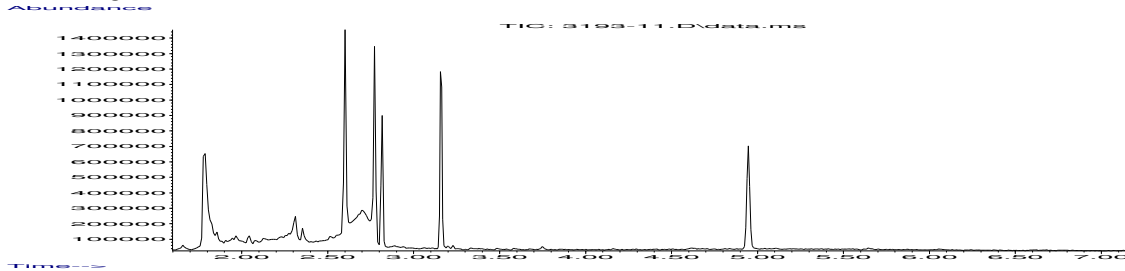
### P 08 BASE B



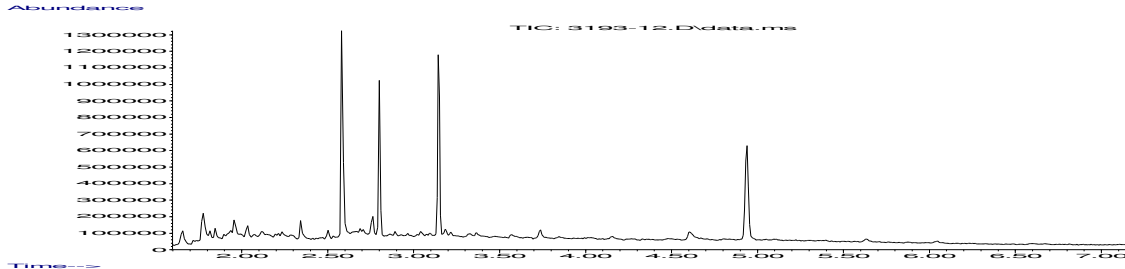
### P 12 TOPO B



### P 12 MEIO B



### P 12 BASE B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

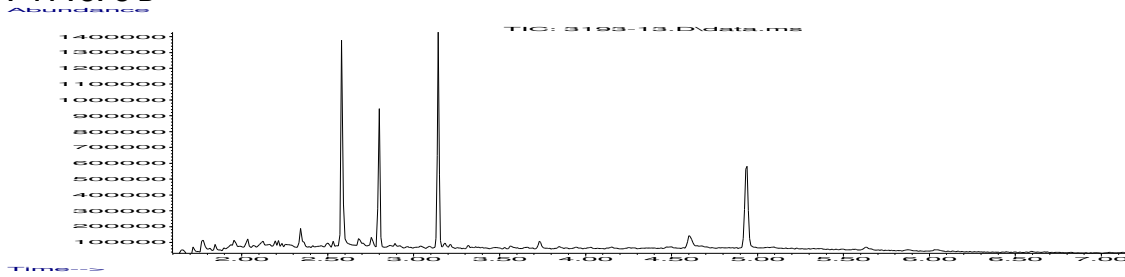
Pág. 12 de 25

Resp. Téc.: **Carina Casal**

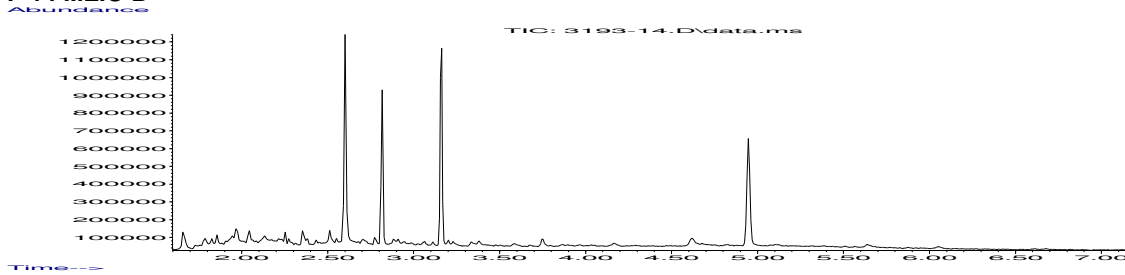
Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

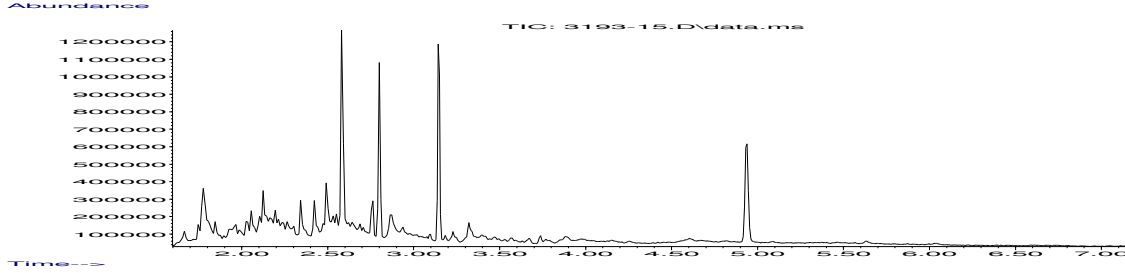
### P 14 TOPO B



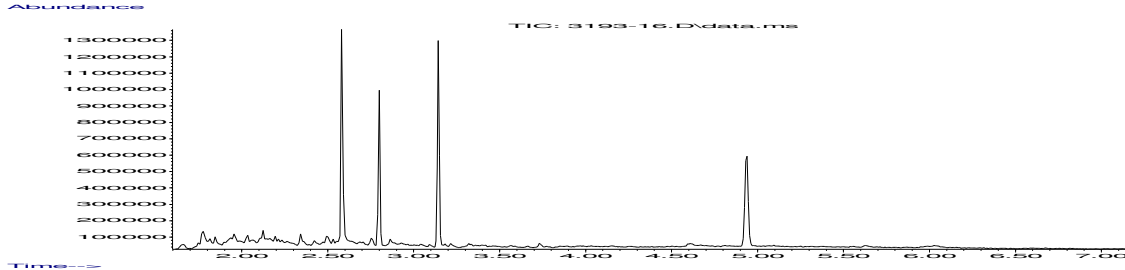
### P 14 MEIO B



### P 14 BASE B



### P 19 TOPO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

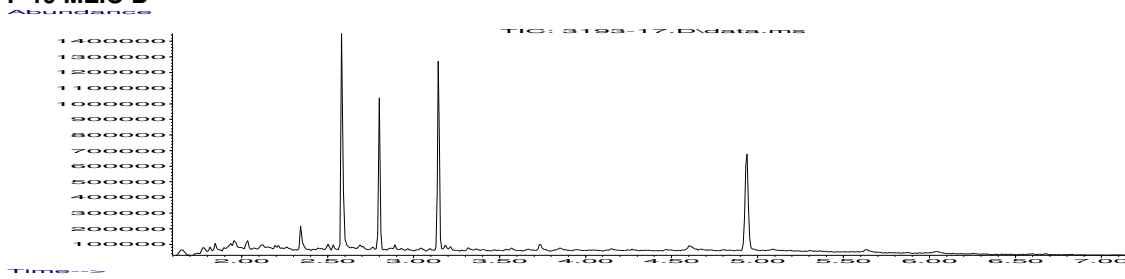
Pág. 13 de 25

Resp. Téc.: **Carina Casal**

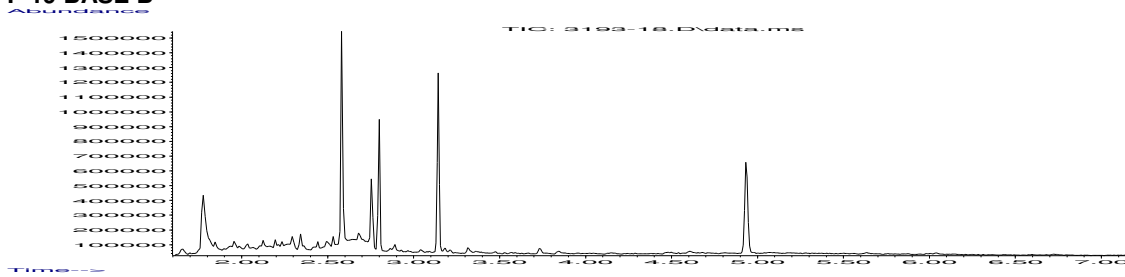
Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

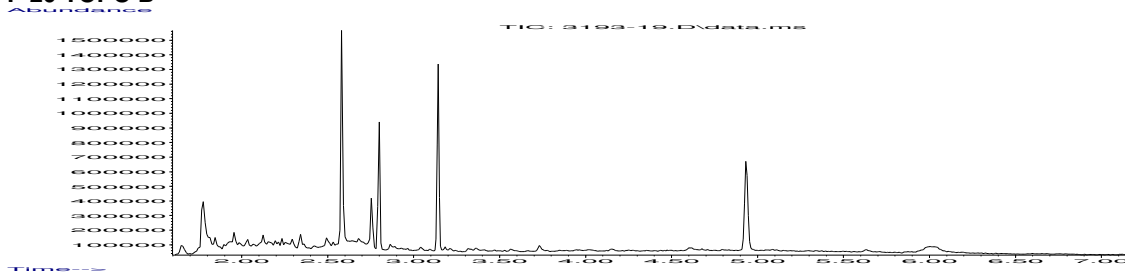
### P 19 MEIO B



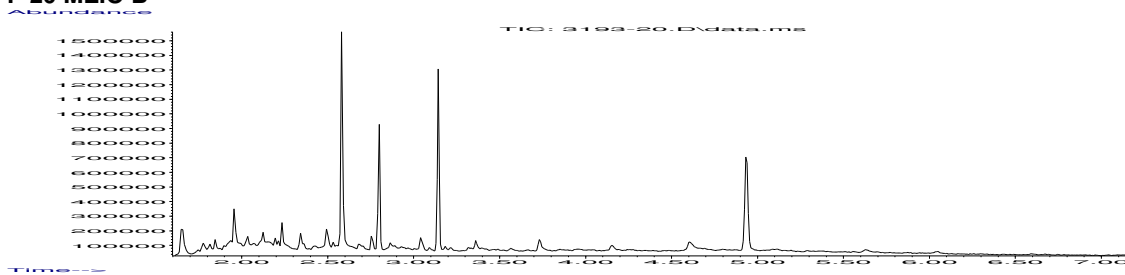
### P 19 BASE B



### P 20 TOPO B



### P 20 MEIO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 14 de 25

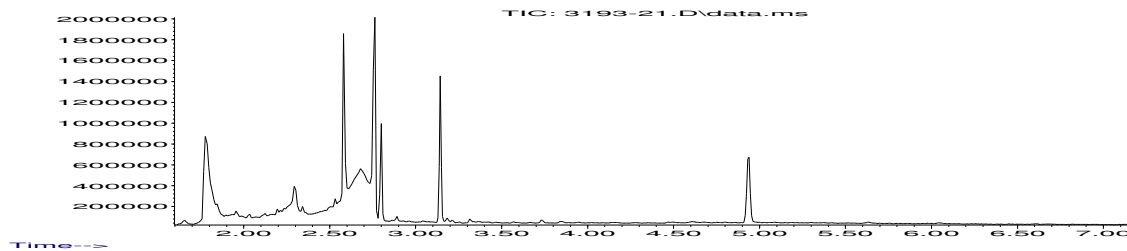
Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

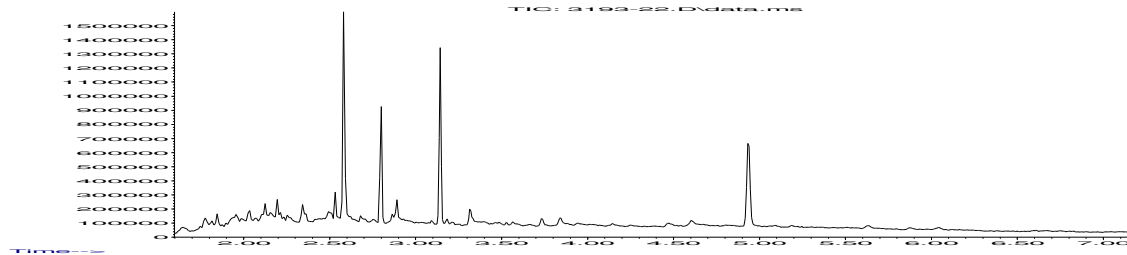
### P 20 BASE B

Abundance



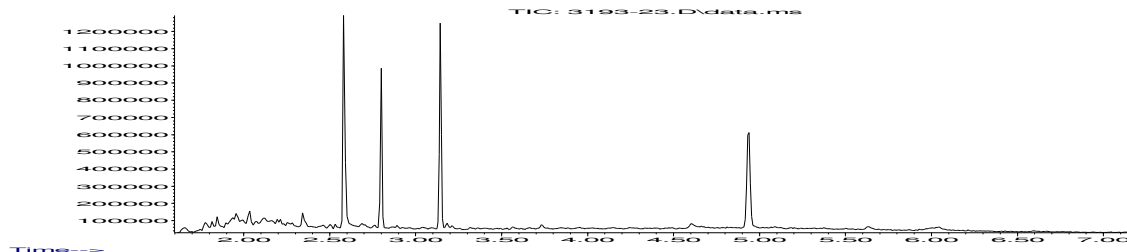
### P 21 TOPO B

Abundance



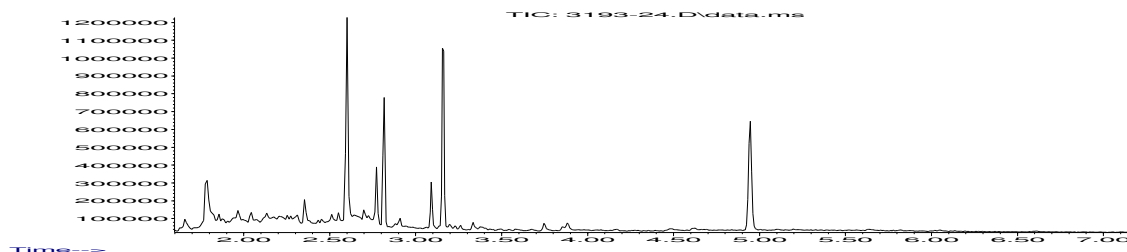
### P 21 MEIO B

Abundance



### P 21 BASE B

Abundance





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

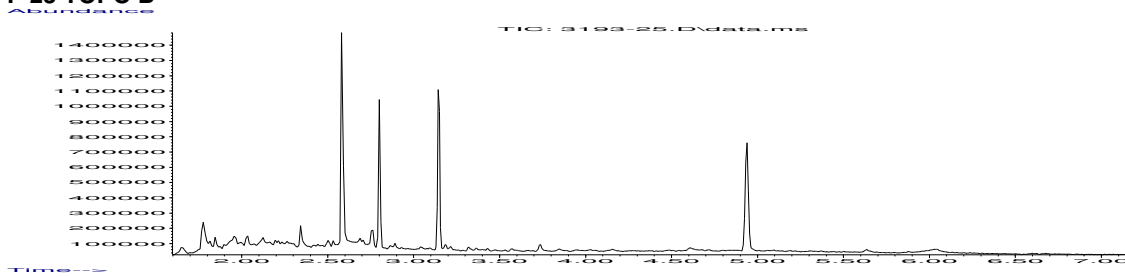
Pág. 15 de 25

Resp. Téc.: **Carina Casal**

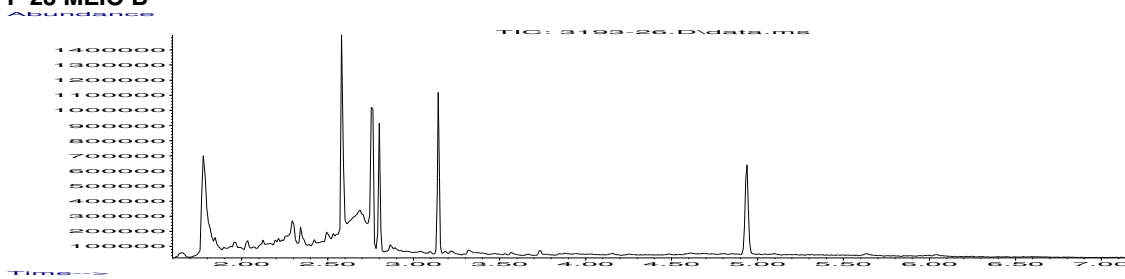
Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

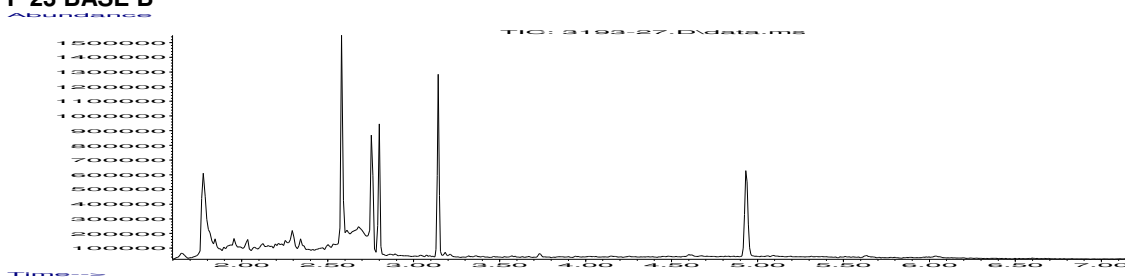
### P 23 TOPO B



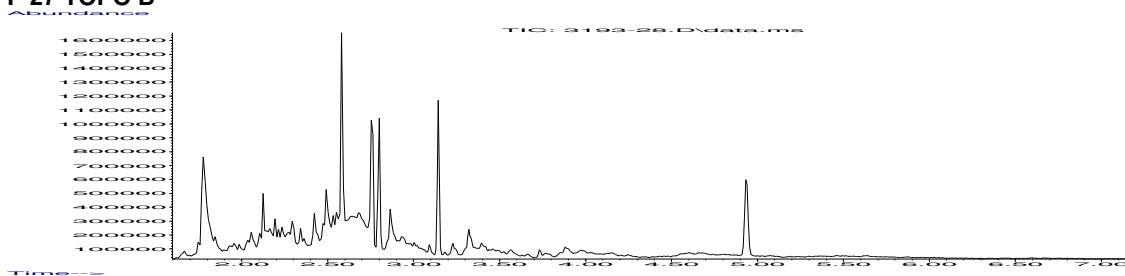
### P 23 MEIO B



### P 23 BASE B



### P 27 TOPO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

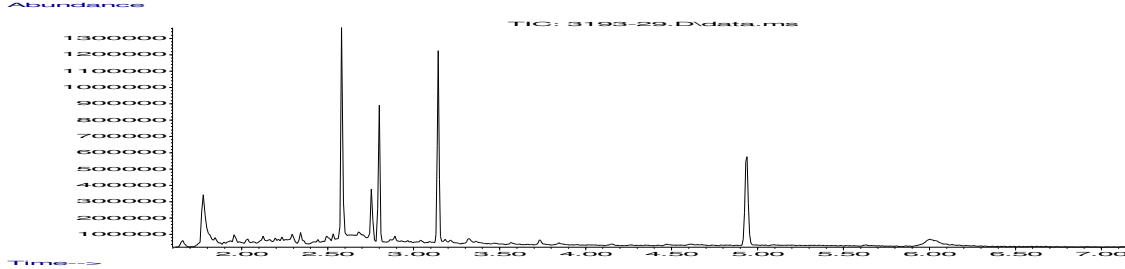
Pág. 16 de 25

Resp. Téc.: **Carina Casal**

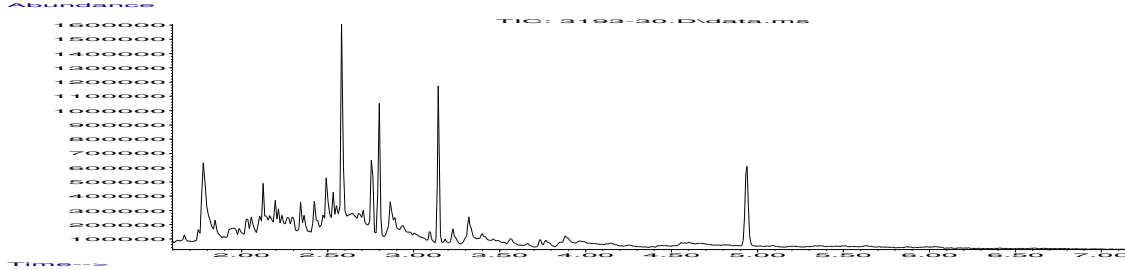
Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

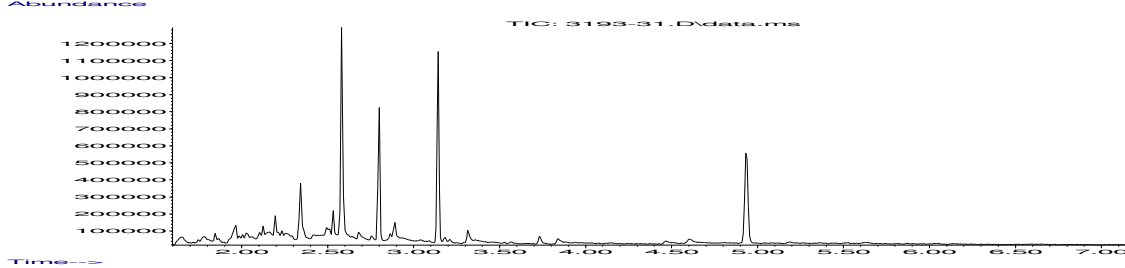
### P 27 MEIO B



### P 27 BASE B



### P 28 TOPO B



### P 28 MEIO B



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

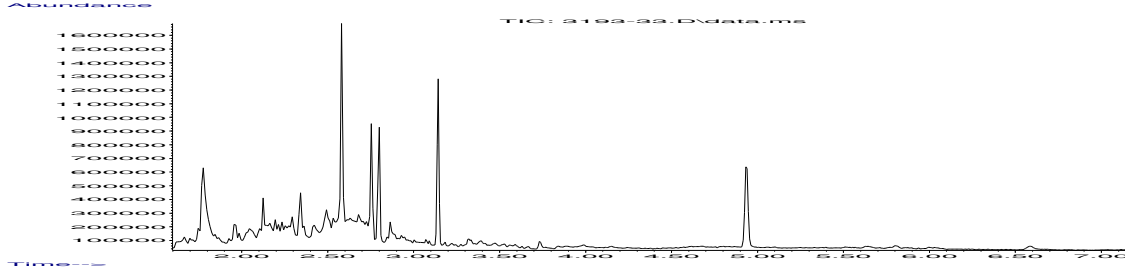
Pág. 17 de 25

Resp. Téc.: **Carina Casal**

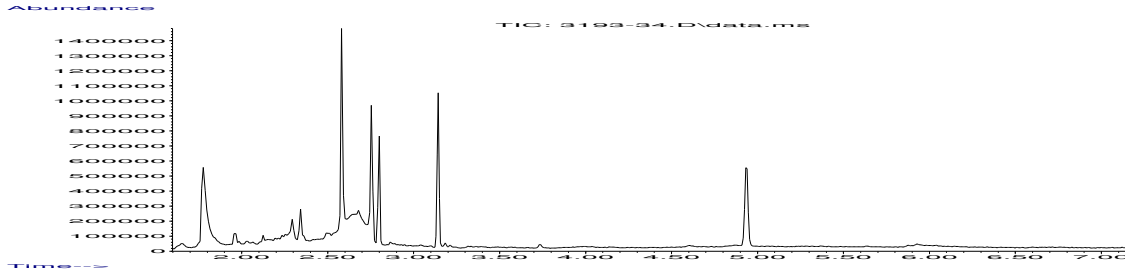
Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

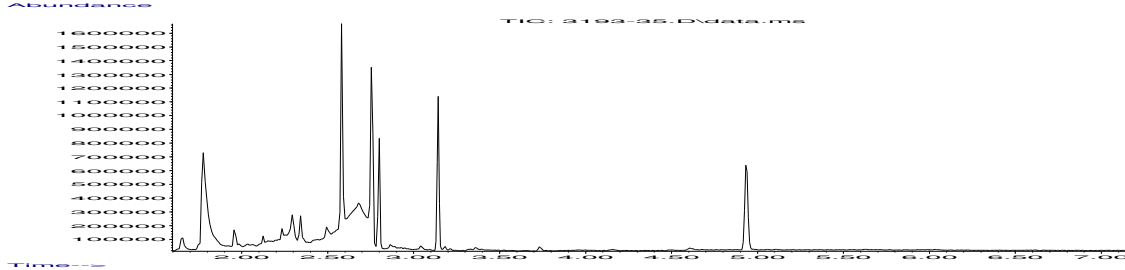
### P 28 BASE B



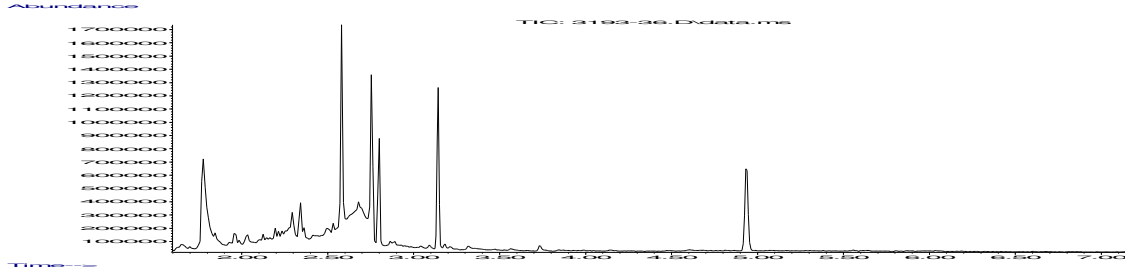
### P 29 TOPO B



### P 29 MEIO B



### P 29 BASE B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

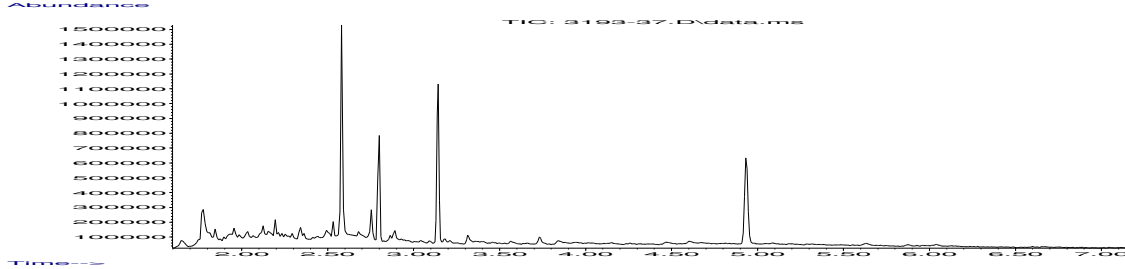
Pág. 18 de 25

Resp. Téc.: **Carina Casal**

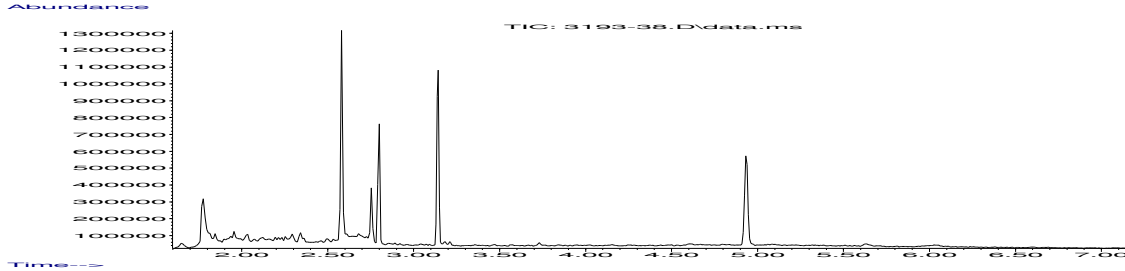
Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

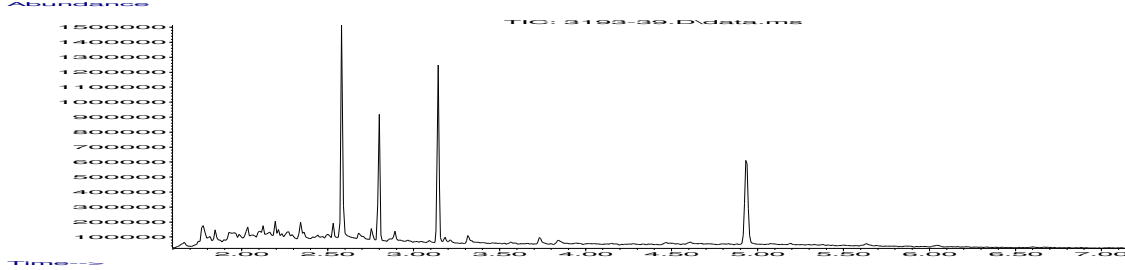
### P 30 TOPO B



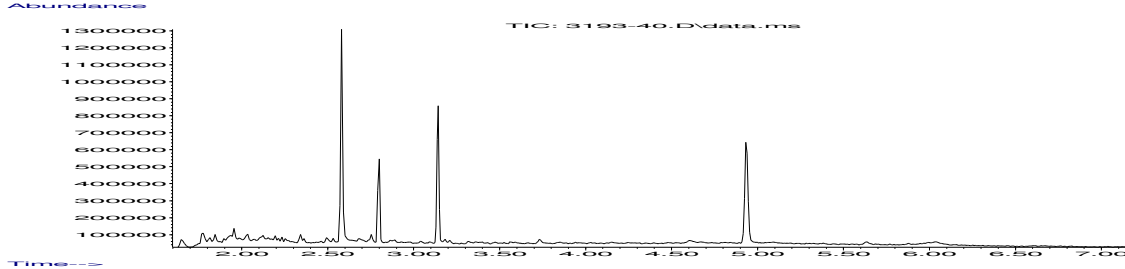
### P 30 MEIO B



### P 30 BASE B



### P 31 TOPO B







Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

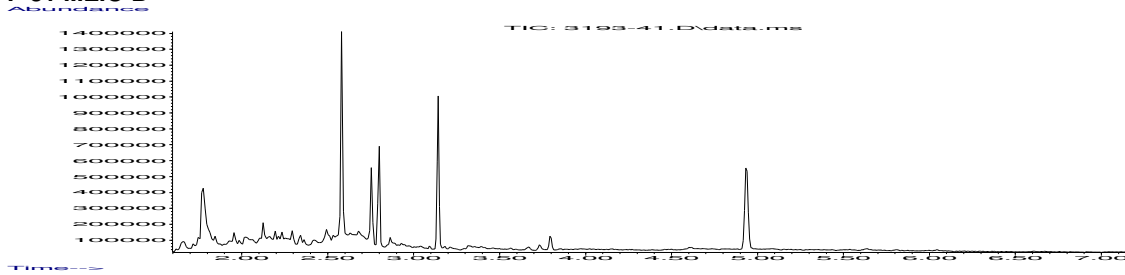
Pág. 19 de 25

Resp. Téc.: **Carina Casal**

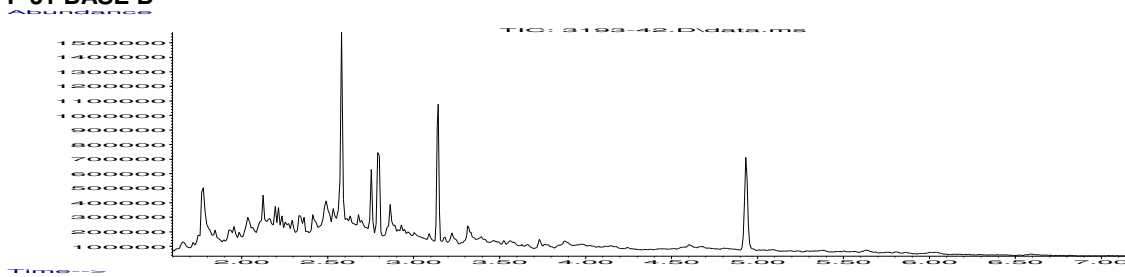
Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

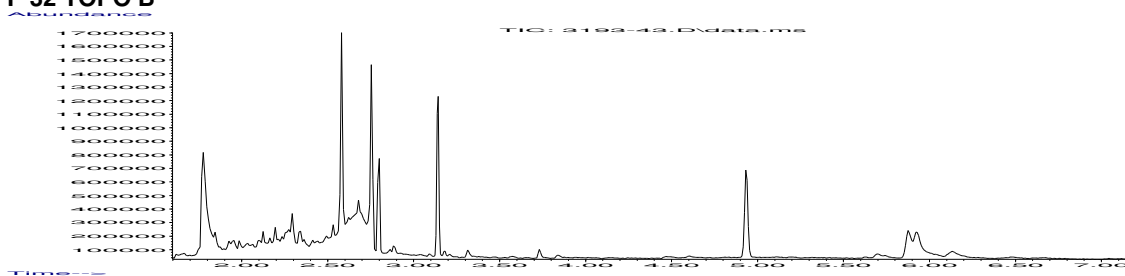
### P 31 MEIO B



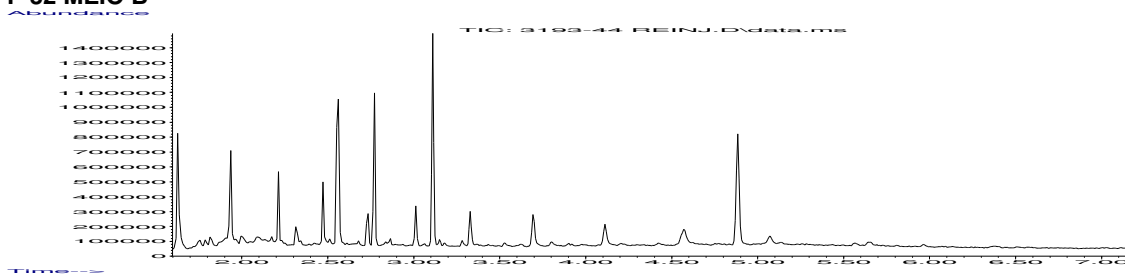
### P 31 BASE B



### P 32 TOPO B



### P 32 MEIO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

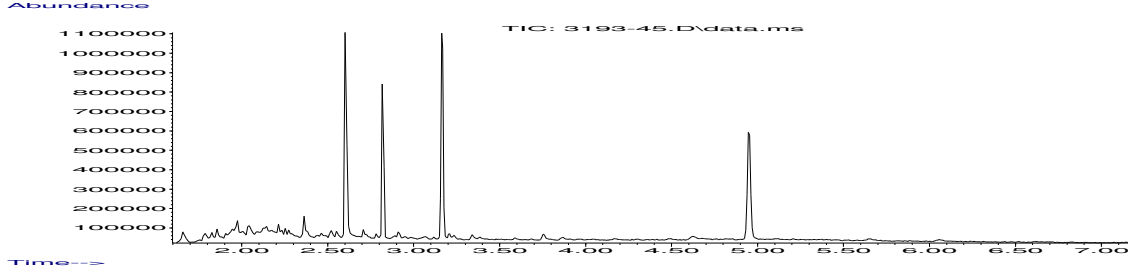
Pág. 20 de 25

Resp. Téc.: **Carina Casal**

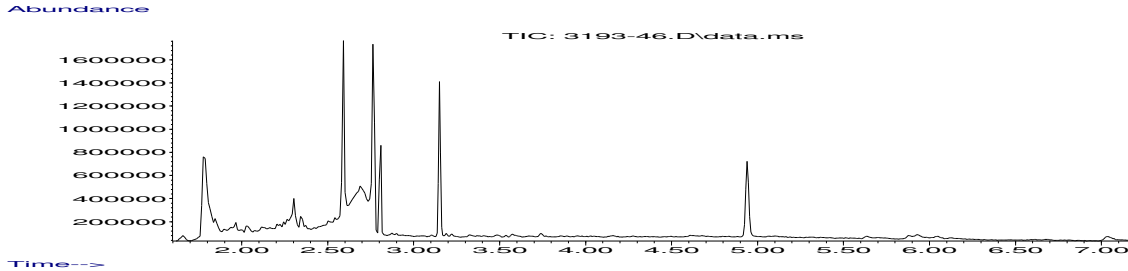
Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

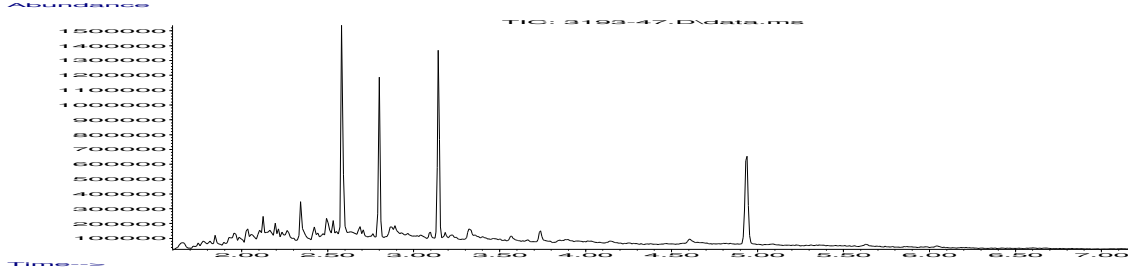
### P 32 BASE B



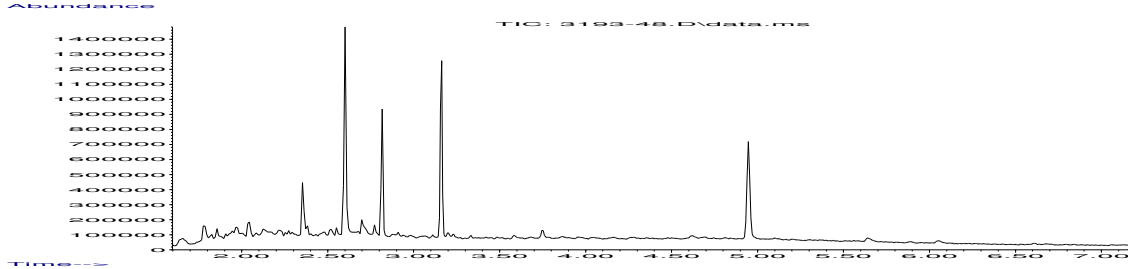
### P 36 TOPO B



### P 36 MEIO B



### P 36 BASE B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

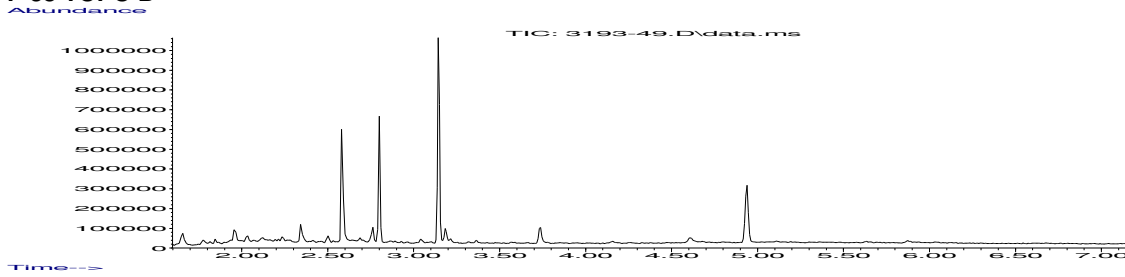
Pág. 21 de 25

Resp. Téc.: **Carina Casal**

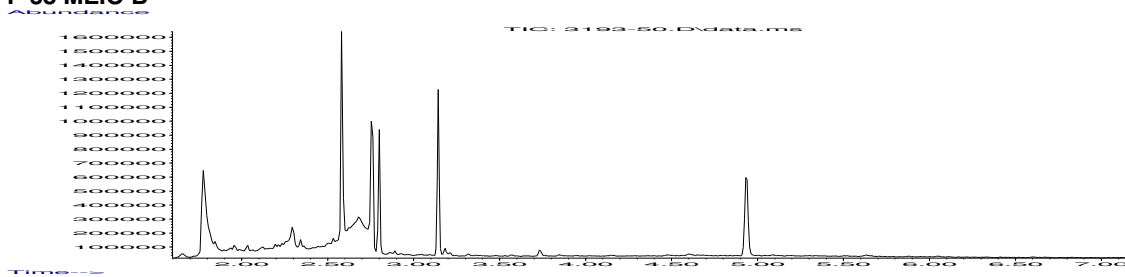
Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

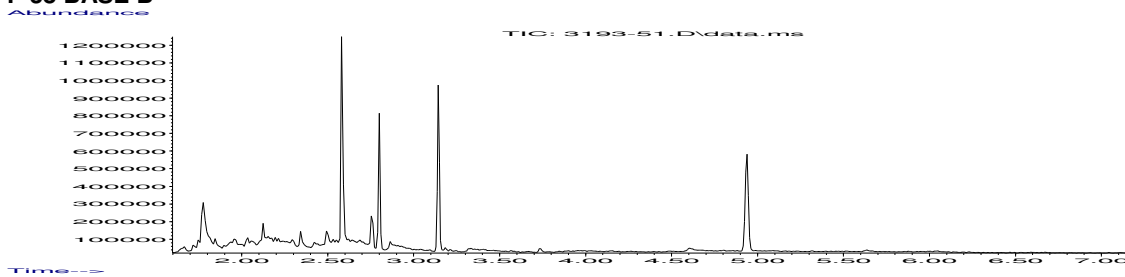
### P 38 TOPO B



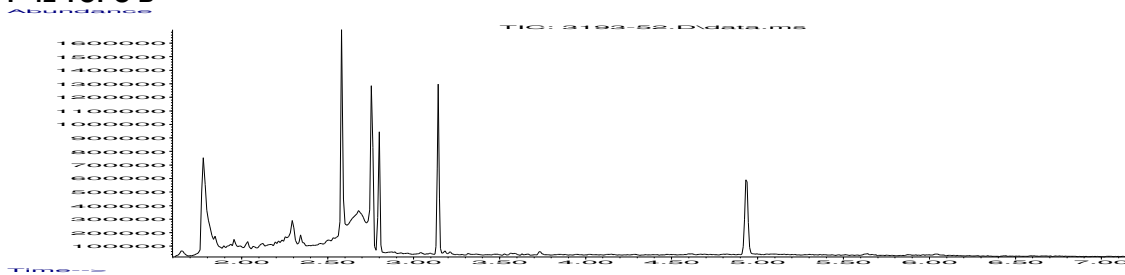
### P 38 MEIO B



### P 38 BASE B



### P 42 TOPO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

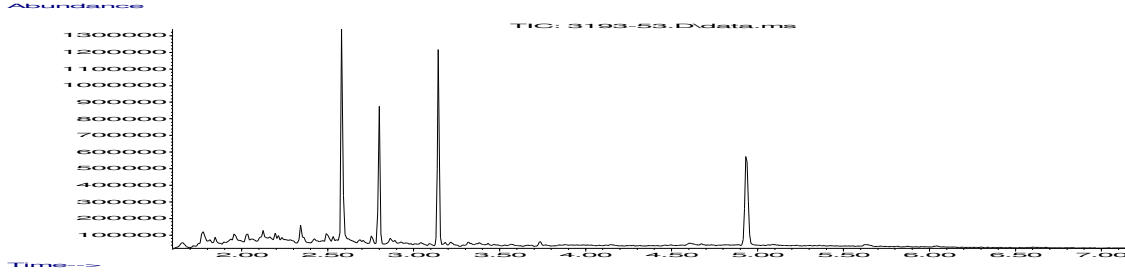
Pág. 22 de 25

Resp. Téc.: **Carina Casal**

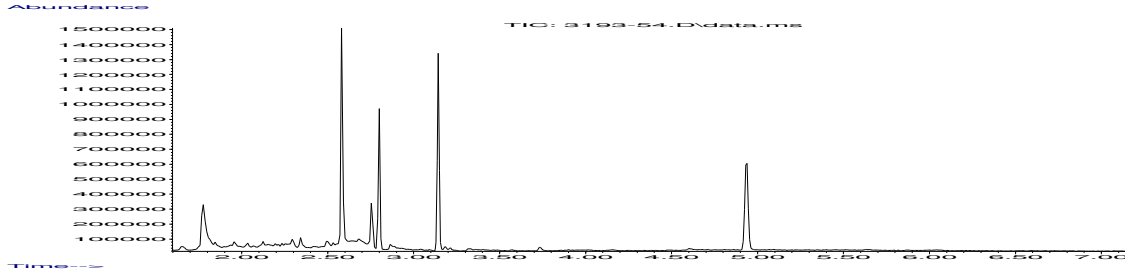
Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

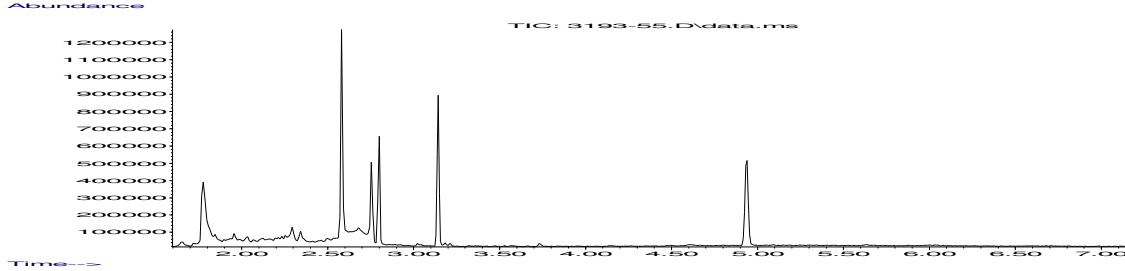
### P 42 MEIO B



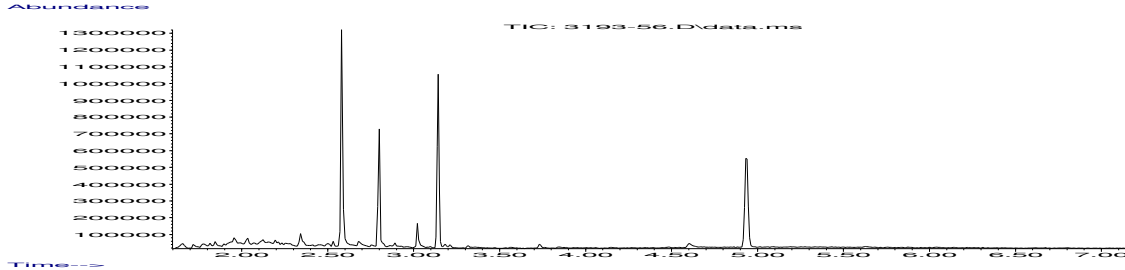
### P 42 BASE B



### P 45 TOPO B



### P 45 MEIO B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

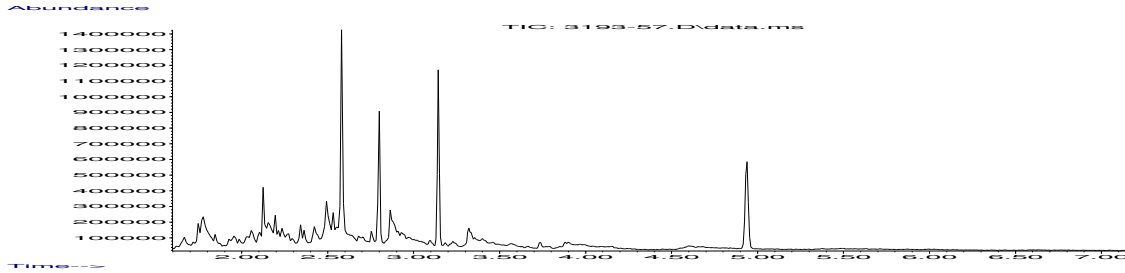
Pág. 23 de 25

Resp. Téc.: **Carina Casal**

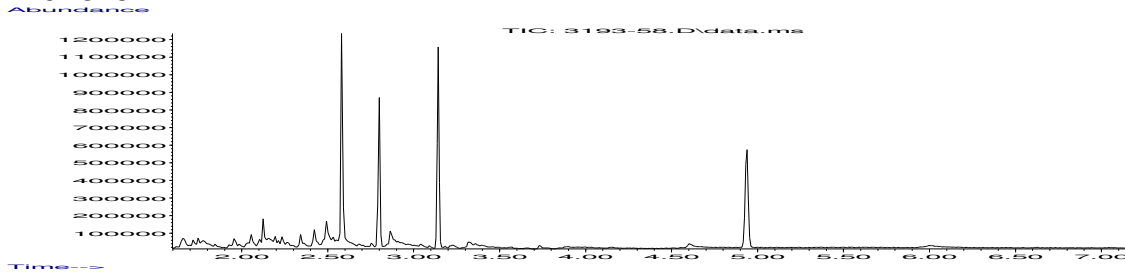
Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

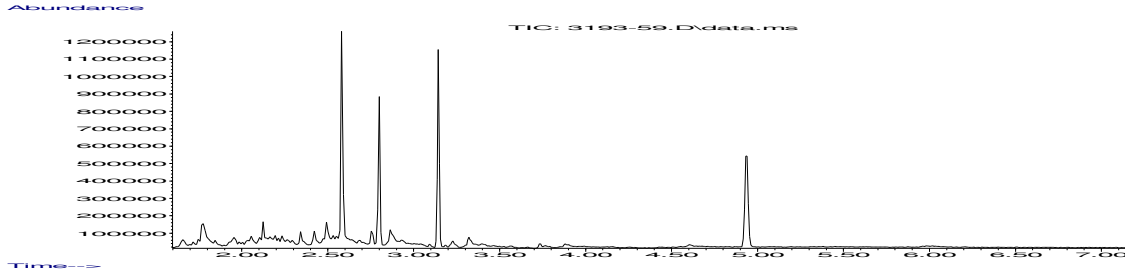
### P 45 BASE B



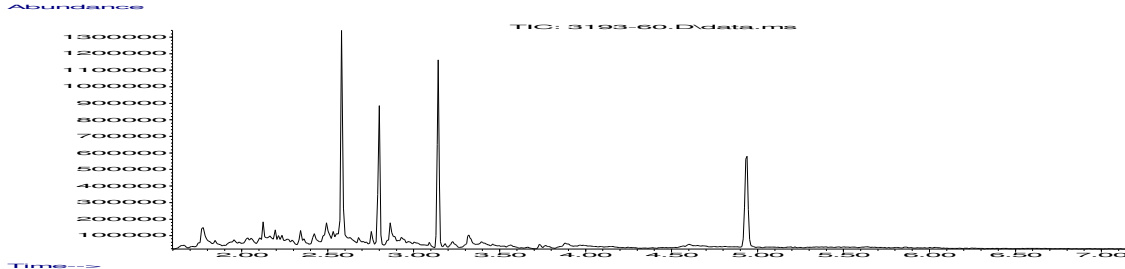
### P 48 TOPO B



### P 48 MEIO B



### P 48 BASE B





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 24 de 25

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

Lab-nº: **11/3193B**

### Padrões de Controle Analítico (PCA)

Taxa de Recuperação (Faixa de Aceitação: 70-130%)  
(%)

---

PCB 143	70
PCB 155	70

---



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 25 de 25

Resp. Téc.: **Carina Casal**

Emitido em: **01/08/2011**

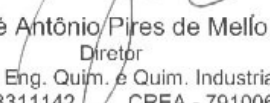
Lab-nº: **11/3193B**


### Observações

- Legenda
  - L.D. – Limite de detecção reportado
  - L.Q. – Limite de Quantificação reportado
  - na – Não analisado
  - nd – Não detectado
- Ref. Método – EPA 8270 (D):2007 / EPA 3550 (C):2007
- Foram realizadas duplicatas em 10% das amostras em lotes de 20 amostras e os resultados obtidos estão em conformidade com os critérios de aceitação estabelecidos.
- Nos ensaios são utilizados padrões rastreáveis ao SI (Sistema Internacional de Medidas).
- Foram utilizados Brancos de Controle conforme metodologia informada.
- O laboratório não é o responsável pela amostragem**, portanto, os resultados contidos neste boletim referem-se exclusivamente às amostras nele descritas, que foram coletadas e enviadas pelo solicitante.
- Os métodos utilizados neste(s) ensaios(s) apresentam-se conformes em relação ao método referenciado. Caso o(s) ensaio(s) tenha(m) apresentado desvio(s), adições ou exclusões, estes estarão listados no item informações adicionais do relatório.
- Os valores para amostras sólidas reportados são relativos à massa seca, salvo observações.
- A Innolab garante que todas as análises foram executadas dentro do prazo de validade de cada parâmetro segundo a norma relativa a cada metodologia.
- As metodologias utilizadas nos ensaios encontram-se referenciadas ao final de cada parâmetro. As metodologias acreditadas poderão ser localizadas no site do INMETRO sob CRL 03104.
- Este Boletim de Ensaio só deverá ser reproduzido por completo.

FM-004-L3A – Rev.01 17/03/2011– Apr. MAR/11

conferido

  
José Antônio Pires de Mello  
Diretor  
B. Sc, Eng. Quim. e Quim. Industrial  
CRQ – 03311142 CREA - 791006469

  
CARINA SANTOS CASAL  
Chefe Laboratório  
Químico  
CRQ - 03251114

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 84 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-29 P49

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-29 P49			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 83 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-28 P47

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-28 P47			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method n.d.: below the limit of quantification of the method n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 82 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-27 P46

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_1)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystischer Dienstleistungen



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-27 P46			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method n.d.: below the limit of quantification of the method n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 81 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-26 P44

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystischer Dienstleistungen



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-26 P44			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 80 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-25 P43

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystischer Dienstleistungen



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560

Bankverbindung

Geschäftsführer

Telefax 030/67798588

Nord/LB

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010

BLZ 25050000

Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863

Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-25 P43			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

  
Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 79 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-24 P42

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_/A)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystischer Dienstleistungen



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-24 P42			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method n.d.: below the limit of quantification of the method n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

  
Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 78 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-23 P41

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_1)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystischer Dienstleistungen



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-23 P41			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

  
Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 77 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-22 P40

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystischer Dienstleistungen



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-22 P40			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 76 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-21 P39

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_1)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystischer Dienstleistungen



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-21 P39			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)



Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 75 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-20 P37

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-20 P37			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 74 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-19 P35

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystischer Dienstleistungen



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-19 P35			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method n.d.: below the limit of quantification of the method n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 73 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-18 P34

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_1)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystischer Dienstleistungen



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-18 P34			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 72 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-17 P33

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystischer Dienstleistungen



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-17 P33			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 71 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-16 P26

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_1)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystischer Dienstleistungen



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-16 P26			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 70 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-15 P25

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_/A)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystischer Dienstleistungen



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-15 P25			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 69 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-14 P24

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_/A)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystischer Dienstleistungen



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-14 P24			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method n.d.: below the limit of quantification of the method n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 68 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-13 P22

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystischer Dienstleistungen



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail sofia@sofia-gmbh.de Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-13 P22			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

  
Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 67 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-12 P18

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-12 P18			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method n.d.: below the limit of quantification of the method n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

  
Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 66 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-11 P17

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_/A)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystical Services Manager



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-11 P17			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method n.d.: below the limit of quantification of the method n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 65 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-10 P16

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-10 P16			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
 Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

**AKS** Akkreditierung: AKS-PL-21109  
 Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
 Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

Katrin Rentsch

date

26.07.2011

## test report 1626 - 64 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-9 P15

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_/\_)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-9 P15			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch  
The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

Katrin Rentsch

date

26.07.2011

## test report 1626 - 63 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-8 P11

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_/\_)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-8 P11			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch  
The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

**AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**  
Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

Katrin Rentsch

date

26.07.2011

## test report 1626 - 62 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-7 P10

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_/\_)

**ext. measurement uncert.:** ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560

Bankverbindung

Geschäftsführer

Telefax 030/67798588

Nord/LB

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010

BLZ 25050000

Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863

Berlin Charlottenburg (HRB 45977)

page 1 of 2

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-7 P10			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

**AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 61 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-6 P09

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_ /

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-6 P09			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

**AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

Katrin Rentsch

date

26.07.2011

## test report 1626 - 60 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-5 P05

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_ /

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-5 P05			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch  
The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

Katrin Rentsch

date

26.07.2011

## test report 1626 - 59 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-4 P04

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_ /

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-4 P04			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

**AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

Katrin Rentsch

date

26.07.2011

## test report 1626 - 58 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-3 P03

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_/\_)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail sofia@sofia-gmbh.de Kto 199918863 Berlin Charlottenburg (HRB 45977)

page 1 of 2

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-3 P03			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

Katrin Rentsch

date

26.07.2011

## test report 1626 - 57 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-2 P02

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_ /

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-2 P02			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

**AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

Katrin Rentsch

date

26.07.2011

## test report 1626 - 56 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-1 P01

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_ /

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)



## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-1 P01			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method      n.d.: below the limit of quantification of the method      n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.

  
Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000

Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover

**sender:** SOFIA GmbH, im IGZ Adlershof,  
Rudower Chaussee 29, 12489 Berlin

Eurofins Innolab do Brasil Ltda.

Rua Sacadura Cabral, 236

**Saúde - Rio de Janeiro Cep 20221-161 (Brazil)**

**Untersuchung von:**

Lebensmitteln  
Bedarfsgegenständen  
Wasser  
Boden  
sonstigen Materialien  
auf Rückstände  
organischer Schadstoffe durch  
staatl. gepr. Lebensmittelchemiker  
(priv. Sachverständige im Land Berlin)

your sign

responsible

date

Katrin Rentsch

26.07.2011

## test report 1626 - 85 / 11

**client:** see address

**sample:** soil

sample id (client): 3096-30 P50

(Mat.-Id.: 70)

**date of receipt:** 11.07.2011

**start/end of analysis:** 11.07.2011 / 26.07.2011

**sample taken by:** client

order: Analysis of selected parameters

method: a) acc. to §64 LFGB L00.00-34 (up to 15 compounds out of the list) (Meth.-Id.: B\_)

ext. measurement uncert.: ± 50% (s. SANCO/2009/10684)

Katrin Rentsch

Dipl. Ing. Chemie

Analystical Services Manager



The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS: [HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH  
Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon 030/67798560 Bankverbindung Geschäftsführer

Telefax 030/67798588 Nord/LB Dr. Achim Bockhorn / Dr. Jürgen Lipinski

030/63926010 BLZ 25050000 Gerichtsstand

E-Mail [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de) Kto 199918863 Berlin Charlottenburg (HRB 45977)

## results

kind of sample	soil	amount	LOQ	unit
sample id (client):	3096-30 P50			
	Chlordane-cis	<LOQ	1	µg/kg
	Chlordane-trans	<LOQ	1	µg/kg
	DDD-op	<LOQ	1	µg/kg
	DDD-pp	<LOQ	1	µg/kg
	DDE-op	<LOQ	1	µg/kg
	DDE-pp	<LOQ	1	µg/kg
	DDT-op	<LOQ	1	µg/kg
	DDT-pp	<LOQ	1	µg/kg
	Dieldrin	<LOQ	0,5	µg/kg
	Endrin	<LOQ	1	µg/kg
	HCH-alpha	<LOQ	0,3	µg/kg
	HCH-beta	<LOQ	0,3	µg/kg
	HCH-delta	<LOQ	0,3	µg/kg
	HCH-gamma	<LOQ	0,3	µg/kg

LOQ: limit of quantification of the method n.d.: below the limit of quantification of the method n.a.=not analyzed  
Analysed was the compound spectrum with the limits of determination of the known list.



Katrin Rentsch

The test results relate only to the items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory. GTS:  
[HTTP://www.sofia-gmbh.de/en/agb.htm](http://www.sofia-gmbh.de/en/agb.htm)

SOFIA GmbH Chemisches Labor für Softwareentwicklung und Intelligente Analytik

Rudower Chaussee 29 (im IGZ-Adlershof), 12489 Berlin

Telefon: 030/67798560

Telefax: 030/67798588

030/63926010

E-Mail: [sofia@sofia-gmbh.de](mailto:sofia@sofia-gmbh.de)

Bankverbindung:

Nord/LB

BLZ 25050000


Kto 199918863

Geschäftsführer:

Dr. Achim Bockhorn / Dr. Jürgen Lipinski

Gerichtsstand

Berlin Charlottenburg (HRB 45977)

 **AKS** Akkreditierung: AKS-PL-21109  
Verzeichnis: [www.aks-hannover.de](http://www.aks-hannover.de)  
Staatliche Akkreditierungsstelle Hannover



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 1 de 10

Resp. Téc.: **Gabriel Oliver**

Emitido em: **26/07/2011**

Lab-nº: **11/3096C-Rev 1**

### Análise em amostras de sedimento marinho

Cliente : CEPEMAR-Serviços De Consultoria Em Meio Ambiente LTDA  
Endereço : Av. Carlos Moreira Lima, nº 90  
Bento Ferreira - Vitória - ES  
Localização do Projeto : Ilhéus-BA  
Data da Coleta : 05/07/2011  
Entrega das amostras : 07/07/2011  
Início dos ensaios/extração : 07/07/2011  
Término dos ensaios : 26/07/2011

INNOLAB do Brasil Ltda.  
Rua Sacadura Cabral - 236  
Saúde - Rio de Janeiro - RJ  
Cep. 20221-161  
CNPJ. 04.183.043/0001-00  
Tel. (21) 3509-1750  
Fax (21) 2233-4621

Projeto : Monitoramento Bahia Mineração  
Gerente do Projeto : Marcelo Travassos

Parâmetro	P 01(Sacola) (mg/kg)	P 02(Sacola) (mg/kg)	P 04(Sacola) (mg/kg)	P 06(Sacola) (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	40119	38239	32190	14917	EPA 3050B e 6010C	2	1
As	27	30	28	19	EPA 3050B e 6010C	2	1
Cd	1,2	1,2	1,1	0,8	EPA 3050B e 6010C	0,2	0,1
COT	6604	4066	7755	2657	MA-026-L2	80	40
Pb	14,8	15,3	13,3	6,5	EPA 3050B e 6010C	1	0,4
Cu	11,2	10,9	9,6	4,3	EPA 3050B e 6010C	0,2	0,1
Cr	82,3	80,2	74,3	41,5	EPA 3050B e 6010C	0,3	0,1
Fe	31359	31264	29202	18776	EPA 3050B e 6010C	3	2
P	411	403	361	230	Digestão *4500-P (E)	6	2
Mn	290,6	296,5	280,3	202,8	EPA 3050B e 6010B	1	0,3
Hg	< L.Q.	< L.Q.	nd	nd	EPA 3050B e *3112B	0,05	0,02
Ni	16,8	16,0	14,3	7,7	EPA 3050B e 6010B	1	0,4
Nitrogênio Kjeldahl	1259	1129	1030	421	MA-024-L2	2	1
Zn	48,7	47,3	44,6	26,2	EPA 3050B e 6010B	1	0,4

\*APHA-AWWA-21ª Ed.



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 2 de 10

Resp. Téc.: **Gabriel Oliver**

Emitido em: **26/07/2011**

Lab-nº: **11/3096C-Rev 1**

Parâmetro	P 07(Sacola) (mg/kg)	P 09(Sacola) (mg/kg)	P 10(Sacola) (mg/kg)	P 11(Sacola) (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	18222	24632	11920	13824	EPA 3050B e 6010C	2	1
As	23	18	20	18	EPA 3050B e 6010C	2	1
Cd	0,9	0,5	0,6	0,7	EPA 3050B e 6010C	0,2	0,1
COT	3669	2699	1271	2395	MA-026-L2	80	40
Pb	8,7	6,1	6,6	5,2	EPA 3050B e 6010C	1	0,4
Cu	5,6	4,1	3,7	4,3	EPA 3050B e 6010C	0,2	0,1
Cr	51,3	34,5	36,1	38,8	EPA 3050B e 6010C	0,3	0,1
Fe	20843	31495	19299	19773	EPA 3050B e 6010C	3	2
P	291	280	238	257	Digestão *4500-P (E)	6	2
Mn	206,9	189,3	174,3	195,3	EPA 3050B e 6010B	1	0,3
Hg	< L.Q.	nd	nd	nd	EPA 3050B e *3112B	0,05	0,02
Ni	9,9	6,8	7,0	7,9	EPA 3050B e 6010B	1	0,4
Nitrogênio Kjeldahl	403	355	229	253	MA-024-L2	2	1
Zn	30,9	23,6	23,8	27,0	EPA 3050B e 6010B	1	0,4

\*APHA-AWWA-21ª Ed.



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 3 de 10

Resp. Téc.: **Gabriel Oliver**

Emitido em: **26/07/2011**

Lab-nº: **11/3096C-Rev 1**

Parâmetro	P 15(Sacola) (mg/kg)	P 16(Sacola) (mg/kg)	P 17(Sacola) (mg/kg)	P 18(Sacola) (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	15295	13428	14296	12919	EPA 3050B e 6010C	2	1
As	24	21	18	22	EPA 3050B e 6010C	2	1
Cd	0,7	0,7	0,8	0,8	EPA 3050B e 6010C	0,2	0,1
COT	2778	2574	3125	2753	MA-026-L2	80	40
Pb	7,1	6,2	8,0	6,2	EPA 3050B e 6010C	1	0,4
Cu	4,4	4,3	4,7	3,8	EPA 3050B e 6010C	0,2	0,1
Cr	40,0	38,3	39,9	38,3	EPA 3050B e 6010C	0,3	0,1
Fe	22424	19952	17419	21577	EPA 3050B e 6010C	3	2
P	267	351	264	260	Digestão *4500-P (E)	6	2
Mn	192,1	187,2	200,0	174,2	EPA 3050B e 6010B	1	0,3
Hg	nd	nd	0,06	0,07	EPA 3050B e *3112B	0,05	0,02
Ni	8,2	7,7	8,4	7,7	EPA 3050B e 6010B	1	0,4
Nitrogênio Kjeldahl	269	261	348	176	MA-024-L2	2	1
Zn	29,0	26,7	27,3	25,8	EPA 3050B e 6010B	1	0,4

\*APHA-AWWA-21ª Ed.

conferido



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 4 de 10

Resp. Téc.: **Gabriel Oliver**

Emitido em: **26/07/2011**

Lab-nº: **11/3096C-Rev 1**

Parâmetro	P 22(Sacola) (mg/kg)	P 24(Sacola) (mg/kg)	P 25(Sacola) (mg/kg)	P 26(Sacola) (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	12865	12744	11288	16448	EPA 3050B e 6010C	2	1
As	23	21	22	22	EPA 3050B e 6010C	2	1
Cd	0,8	0,8	0,8	0,9	EPA 3050B e 6010C	0,2	0,1
COT	2261	2604	2472	3360	MA-026-L2	80	40
Pb	6,1	6,2	6,3	8,5	EPA 3050B e 6010C	1	0,4
Cu	3,9	3,9	3,5	5,3	EPA 3050B e 6010C	0,2	0,1
Cr	39,1	37,8	36,1	46,5	EPA 3050B e 6010C	0,3	0,1
Fe	21381	18931	18930	23098	EPA 3050B e 6010C	3	2
P	326	307	244	294	Digestão *4500-P (E)	6	2
Mn	173,2	184,7	177,3	229,2	EPA 3050B e 6010B	1	0,3
Hg	nd	nd	nd	nd	EPA 3050B e *3112B	0,05	0,02
Ni	8,0	7,6	6,7	10,0	EPA 3050B e 6010B	1	0,4
Nitrogênio Kjeldahl	201	221	230	341	MA-024-L2	2	1
Zn	26,7	26,2	22,9	33,9	EPA 3050B e 6010B	1	0,4

\*APHA-AWWA-21ª Ed.

conferido



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 5 de 10

Resp. Téc.: **Gabriel Oliver**

Emitido em: **26/07/2011**

Lab-nº: **11/3096C-Rev 1**

Parâmetro	P 33(Sacola) (mg/kg)	P 34(Sacola) (mg/kg)	P 35(Sacola) (mg/kg)	P 37(Sacola) (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	15166	15803	15899	13865	EPA 3050B e 6010C	2	1
As	26	23	26	22	EPA 3050B e 6010C	2	1
Cd	0,9	0,9	1,1	1,0	EPA 3050B e 6010C	0,2	0,1
COT	2960	2706	2548	2309	MA-026-L2	80	40
Pb	7,8	7,2	8,3	6,9	EPA 3050B e 6010C	1	0,4
Cu	4,8	4,6	4,9	4,3	EPA 3050B e 6010C	0,2	0,1
Cr	46,7	45,2	44,6	42,0	EPA 3050B e 6010C	0,3	0,1
Fe	22412	24028	22848	22309	EPA 3050B e 6010C	3	2
P	314	286	265	278	Digestão *4500-P (E)	6	2
Mn	200,9	196,3	204,6	192,1	EPA 3050B e 6010B	1	0,3
Hg	nd	0,06	nd	nd	EPA 3050B e *3112B	0,05	0,02
Ni	9,3	8,6	9,0	7,5	EPA 3050B e 6010B	1	0,4
Nitrogênio Kjeldahl	325	257	293	127	MA-024-L2	2	1
Zn	31,5	30,3	30,4	27,9	EPA 3050B e 6010B	1	0,4

\*APHA-AWWA-21ª Ed.

conferido





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 6 de 10

Resp. Téc.: **Gabriel Oliver**

Emitido em: **26/07/2011**

Lab-nº: **11/3096C-Rev 1**

Parâmetro	P 39(Sacola) (mg/kg)	P 40(Sacola) (mg/kg)	P 41(Sacola) (mg/kg)	P 42(Sacola) (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	13178	16471	16692	14449	EPA 3050B e 6010C	2	1
As	27	30	29	25	EPA 3050B e 6010C	2	1
Cd	0,9	1,0	0,9	0,9	EPA 3050B e 6010C	0,2	0,1
COT	2601	3082	3377	2555	MA-026-L2	80	40
Pb	7,4	7,5	8,3	7,0	EPA 3050B e 6010C	1	0,4
Cu	4,5	5,0	5,3	4,9	EPA 3050B e 6010C	0,2	0,1
Cr	46,3	48,8	51,4	46,8	EPA 3050B e 6010C	0,3	0,1
Fe	21740	24636	23537	21710	EPA 3050B e 6010C	3	2
P	281	282	297	314	Digestão *4500-P (E)	6	2
Mn	203,3	212,5	214,0	197,7	EPA 3050B e 6010B	1	0,3
Hg	nd	nd	0,09	nd	EPA 3050B e *3112B	0,05	0,02
Ni	9,2	9,4	10,5	9,2	EPA 3050B e 6010B	1	0,4
Nitrogênio Kjeldahl	238	285	313	256	MA-024-L2	2	1
Zn	31,1	33,8	36,1	32,3	EPA 3050B e 6010B	1	0,4

\*APHA-AWWA-21ª Ed.

conferido



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 7 de 10

Resp. Téc.: **Gabriel Oliver**

Emitido em: **26/07/2011**

Lab-nº: **11/3096C-Rev 1**

Parâmetro	P 43(Sacola) (mg/kg)	P 44(Sacola) (mg/kg)	P 46(Sacola) (mg/kg)	P 47(Sacola) (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	15248	16037	16754	15789	EPA 3050B e 6010C	2	1
As	24	25	21	21	EPA 3050B e 6010C	2	1
Cd	1,0	0,8	0,7	0,9	EPA 3050B e 6010C	0,2	0,1
COT	2763	3627	3754	3703	MA-026-L2	80	40
Pb	6,3	7,6	6,6	8,0	EPA 3050B e 6010C	1	0,4
Cu	4,7	4,9	5,1	5,2	EPA 3050B e 6010C	0,2	0,1
Cr	46,4	45,8	46,9	46,9	EPA 3050B e 6010C	0,3	0,1
Fe	21823	22405	22155	21717	EPA 3050B e 6010C	3	2
P	278	224	275	300	Digestão *4500-P (E)	6	2
Mn	213,2	201,7	204,9	213,6	EPA 3050B e 6010B	1	0,3
Hg	nd	nd	nd	nd	EPA 3050B e *3112B	0,05	0,02
Ni	8,9	9,2	9,5	9,3	EPA 3050B e 6010B	1	0,4
Nitrogênio Kjeldahl	337	1682	348	312	MA-024-L2	2	1
Zn	31,0	31,4	31,5	31,9	EPA 3050B e 6010B	1	0,4

\*APHA-AWWA-21ª Ed.

conferido



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 8 de 10

Resp. Téc.: **Gabriel Oliver**

Emitido em: **26/07/2011**

Lab-nº: **11/3096C-Rev 1**

Parâmetro	P 49(Sacola) (mg/kg)	P 50(Sacola) (mg/kg)	Ref. Método	L.Q (mg/kg)	L.D. (mg/kg)
Al	35597	42393	EPA 3050B e 6010C	2	1
As	32	26	EPA 3050B e 6010C	2	1
Cd	1,3	1,2	EPA 3050B e 6010C	0,2	0,1
COT	9411	7697	MA-026-L2	80	40
Pb	15,4	17,9	EPA 3050B e 6010C	1	0,4
Cu	10,5	12,1	EPA 3050B e 6010C	0,2	0,1
Cr	74,8	84,1	EPA 3050B e 6010C	0,3	0,1
Fe	30952	32759	EPA 3050B e 6010C	3	2
P	364	427	Digestão *4500-P (E)	6	2
Mn	307,6	322,9	EPA 3050B e 6010B	1	0,3
Hg	nd	nd	EPA 3050B e *3112B	0,05	0,02
Ni	15,7	17,6	EPA 3050B e 6010B	1	0,4
Nitrogênio Kjeldahl	1182	1350	MA-024-L2	2	1
Zn	47,5	52,8	EPA 3050B e 6010B	1	0,4

\*APHA-AWWA-21ª Ed.

conferido



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 9 de 10

Resp. Téc.: **Gabriel Oliver**

Emitido em: **26/07/2011**

Lab-nº: **11/3096C-Rev 1**

### Padrões de Controle Analítico (PCA)

	Concentração esperada (mg/kg)	Concentração obtida (mg/kg)
Al	33449,32	33449
As	20,1421	20
Cd	19,73	19,7
COT	8060	8060
Cr	41,61	41,6
Cu	27,90	27,9
Fe	18903,97	18904
Hg	12,72	12,72
Mn	131,20	133,0
Ni	28,39	28,0
Nitrogênio Kjeldahl	996	996
P	19	19
Pb	35,57	36,6
Zn	41,46	39,3



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 10 de 10

Resp. Téc.: **Gabriel Oliver**

Emitido em: **26/07/2011**

Lab-nº: **11/3096C-Rev 1**

### Observações

1. Legenda
  - L.D. – Limite de detecção reportado
  - L.Q. – Limite de Quantificação reportado
  - na – Não analisado
  - nd – Não detectado
2. Foram realizadas duplicatas em 10% das amostras em lotes de 20 amostras e os resultados obtidos estão em conformidade com os critérios de aceitação estabelecidos.
3. Nos ensaios são utilizados padrões rastreáveis ao SI (Sistema Internacional de Medidas).
4. Foram utilizados Brancos de Controle conforme metodologia informada.
5. **O laboratório não é o responsável pela amostragem**, portanto, os resultados contidos neste boletim referem-se exclusivamente às amostras nele descritas, que foram coletadas e enviadas pelo solicitante.
6. Os métodos utilizados neste(s) ensaios(s) apresentam-se conformes em relação ao método referenciado. Caso o(s) ensaio(s) tenha(m) apresentado desvio(s), adições ou exclusões, estes estarão listados no item informações adicionais do relatório.
7. Os valores para amostras sólidas reportados são relativos à massa seca, salvo observações.
8. A Innolab garante que todas as análises foram executadas dentro do prazo de validade de cada parâmetro segundo a norma relativa a cada metodologia.
9. As metodologias utilizadas nos ensaios encontram-se referenciadas ao final de cada parâmetro. As metodologias acreditadas poderão ser localizadas no site do INMETRO sob CRL 03104.
10. Este Boletim de Ensaio só deverá ser reproduzido por completo.

FM-004-L2A – Rev.01 17/03/2011– Apr. MAR/11

conferido

  
José Antônio Pires de Mello  
Diretor  
B. Sc, Eng. Quím. e Quím. Industrial  
CRQ – 03311142 CREA - 791006469

  
Ms. S., Gabriel Oliver Gonçalves  
Chefe Lab. Inorgânico  
CRQ - 03211350



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 1 de 20

Resp. Téc.: **Carina Casal**

Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

### Análise em amostras de sedimento marinho

INNOLAB do Brasil Ltda.  
Rua Sacadura Cabral - 236  
Saúde - Rio de Janeiro - RJ  
Cep. 20221-161  
CNPJ. 04.183.043/0001-00  
Tel. (21) 3509-1750  
Fax (21) 2233-4621

Cliente : CEPEMAR-Serviços De Consultoria Em Meio Ambiente LTDA  
Endereço : Av. Carlos Moreira Lima, n° 90  
Bento Ferreira - Vitória - ES  
Localização do Projeto : Ilhéus-BA  
Data da Coleta : 05/07/2011  
Entrega das amostras : 07/07/2011  
Início dos ensaios/extração : 11/07/2011  
Término dos ensaios : 25/07/2011

Projeto : Monitoramento Bahia Mineração  
Gerente do Projeto : Marcelo Travassos

Parâmetro	P 01(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 02(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 04(Sacola) (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			

\*Diluição (N.º vezes)



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 2 de 20

Resp. Téc.: **Carina Casal**

Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

Parâmetro	P 06(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 07(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 09(Sacola) (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	<0,01	-	0,01	nd	-	0,01	<0,01	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 3 de 20

Resp. Téc.: **Carina Casal**

Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

Parâmetro	P 10(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 11(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 15(Sacola) (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	<0,01	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 4 de 20

Resp. Téc.: **Carina Casal**

Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

Parâmetro	P 16(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 17(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 18(Sacola) (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	<0,01	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	<0,01	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	<0,01	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	<0,01	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 5 de 20

Resp. Téc.: **Carina Casal**

Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

Parâmetro	P 22(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 24(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 25(Sacola) (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 6 de 20

Resp. Téc.: **Carina Casal**

Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

Parâmetro	P 26(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 33(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 34(Sacola) (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 7 de 20

Resp. Téc.: **Carina Casal**

Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

Parâmetro	P 35(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 37(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 39(Sacola) (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 8 de 20

Resp. Téc.: **Carina Casal**

Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

Parâmetro	P 40(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 41(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 42(Sacola) (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 9 de 20

Resp. Téc.: **Carina Casal**

Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

Parâmetro	P 43(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 44(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 46(Sacola) (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 10 de 20

Resp. Téc.: **Carina Casal**

Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

Parâmetro	P 47(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 49(Sacola) (mg/kg)	D*	L.Q (mg/kg)	P 50(Sacola) (mg/kg)	D*	L.Q (mg/kg)	L.D. (mg/kg)
<b>PAH</b>										
Naftaleno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenaftileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Acenafteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoreno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fenantreno	nd	-	0,01	<0,01	-	0,01	nd	-	0,01	0,005
Antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Criseno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(b)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(k)fluoranteno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(a)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Indeno(123-cd)pireno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Dibenzo(a,h)antraceno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
Benzo(ghi)perileno	nd	-	0,01	nd	-	0,01	nd	-	0,01	0,005
<b>Total</b>	<b>nd</b>			<b>nd</b>			<b>nd</b>			
Quantidade de amostra (g)	30			30			30			
*Diluição (N.º vezes)										



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

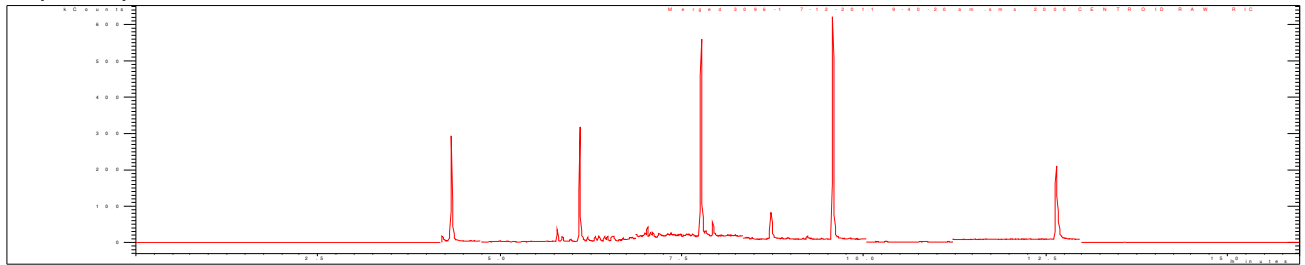
Pág. 11 de 20

Resp. Téc.: **Carina Casal**

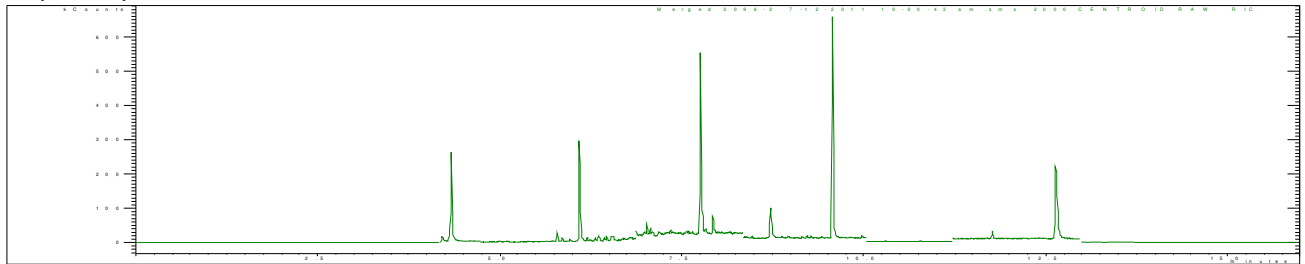
Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

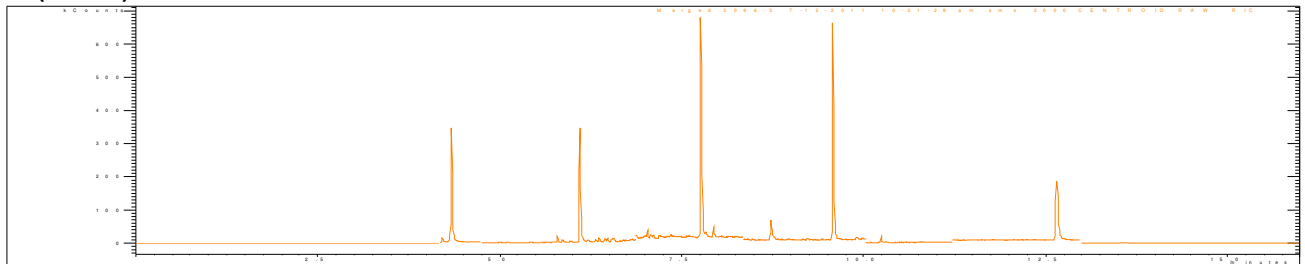
**P 01(Sacola)**



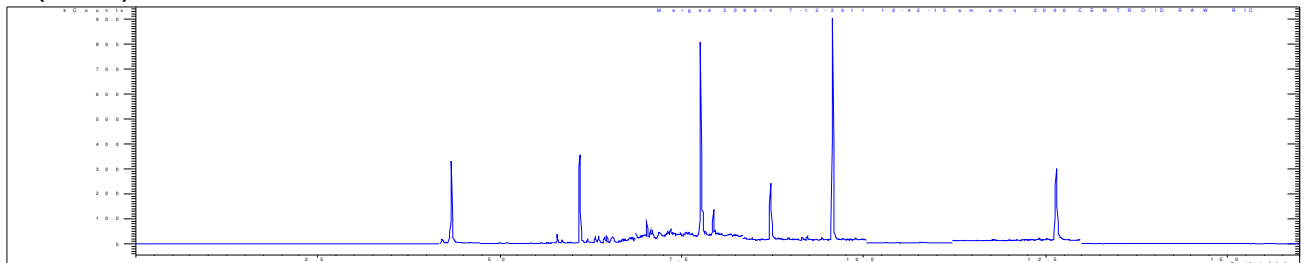
**P 02(Sacola)**



**P 04(Sacola)**



**P 06(Sacola)**







Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

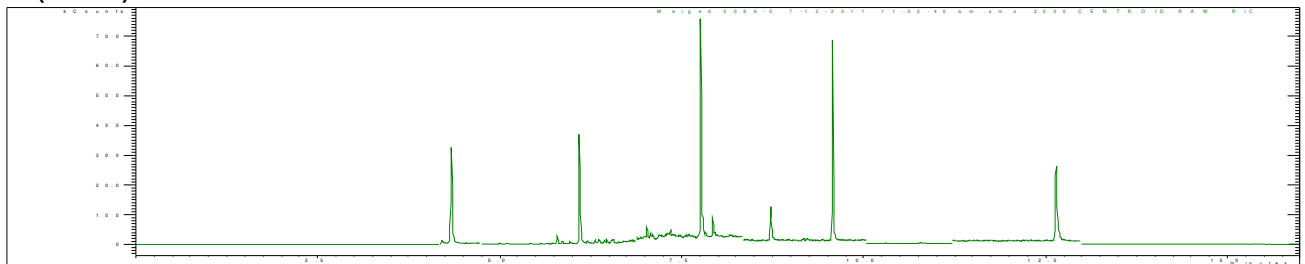
Pág. 12 de 20

Resp. Téc.: **Carina Casal**

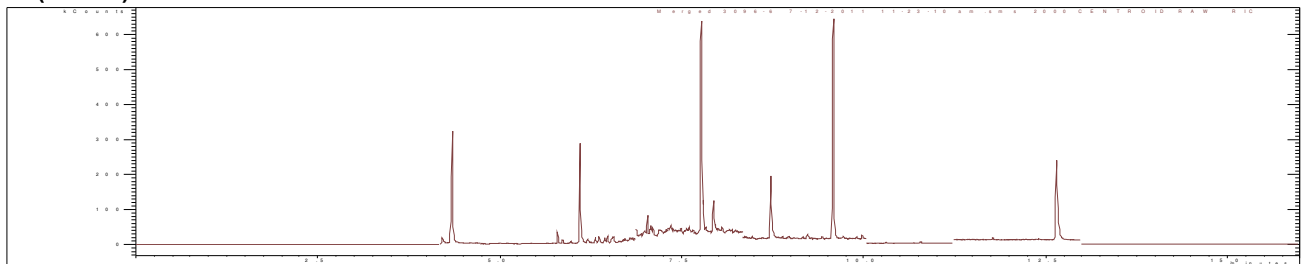
Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

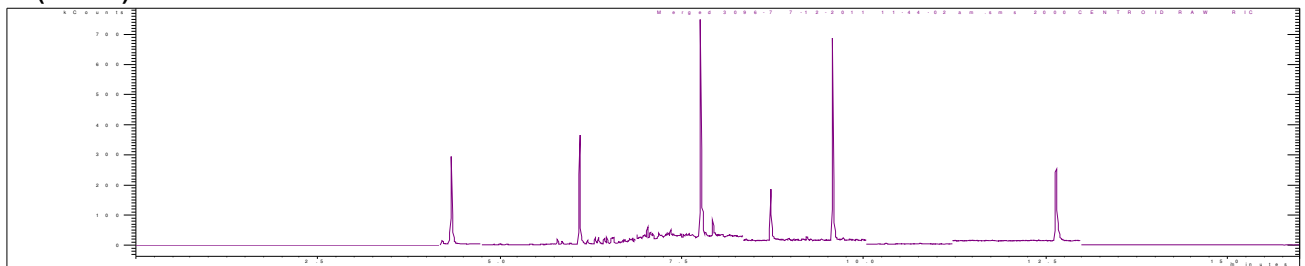
**P 07(Sacola)**



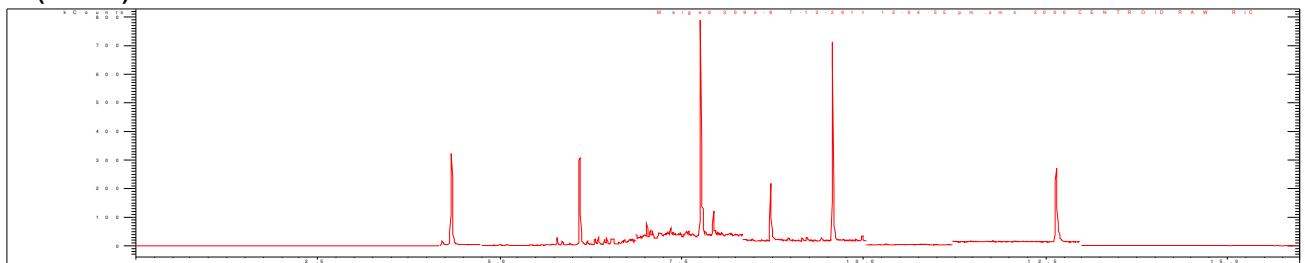
**P 09(Sacola)**



**P 10(Sacola)**



**P 11(Sacola)**





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

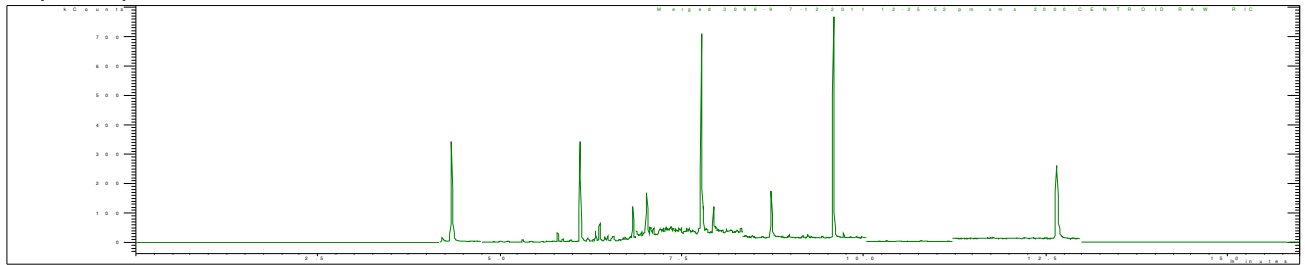
Pág. 13 de 20

Resp. Téc.: **Carina Casal**

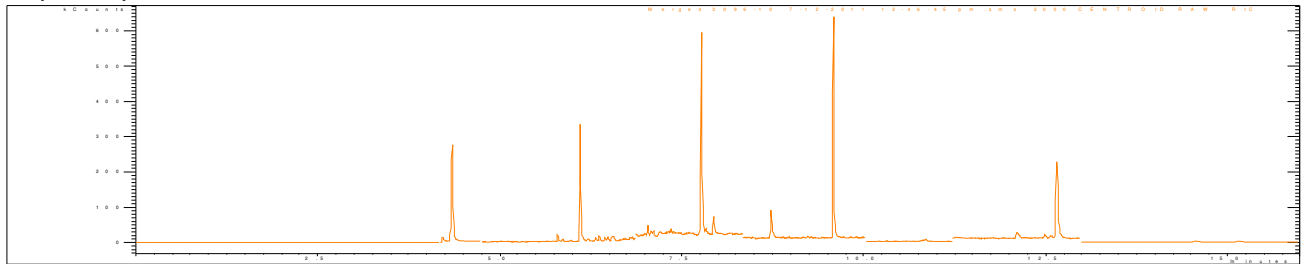
Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

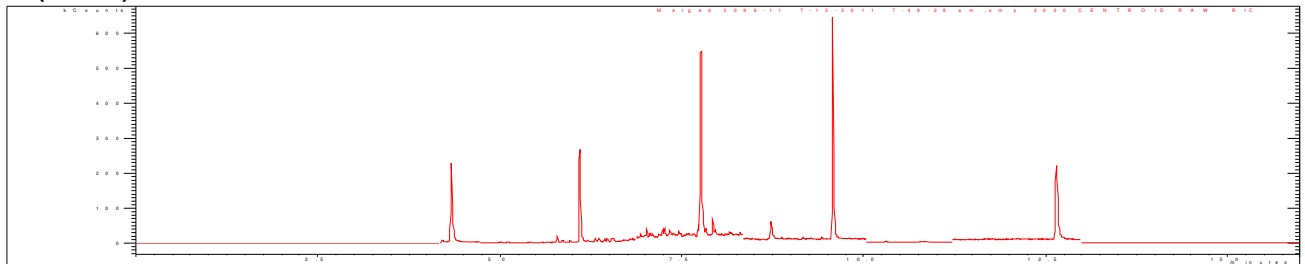
**P 15(Sacola)**



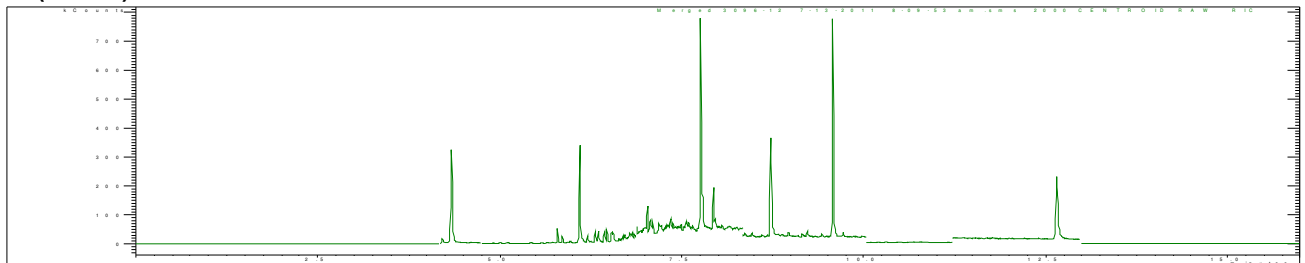
**P 16(Sacola)**



**P 17(Sacola)**



**P 18(Sacola)**





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

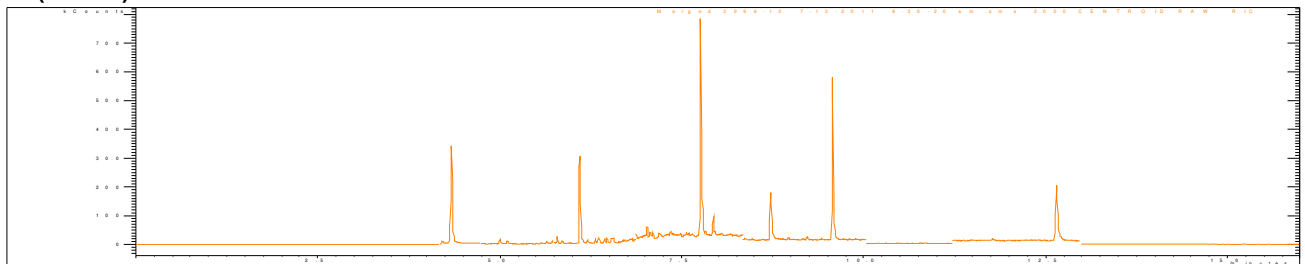
Pág. 14 de 20

Resp. Téc.: **Carina Casal**

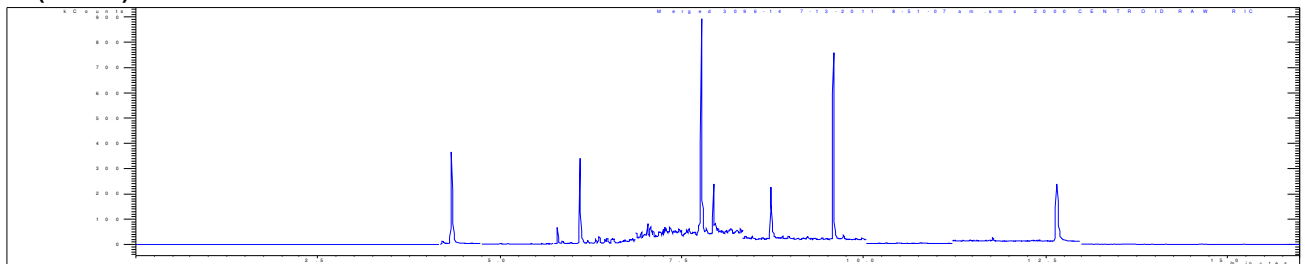
Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

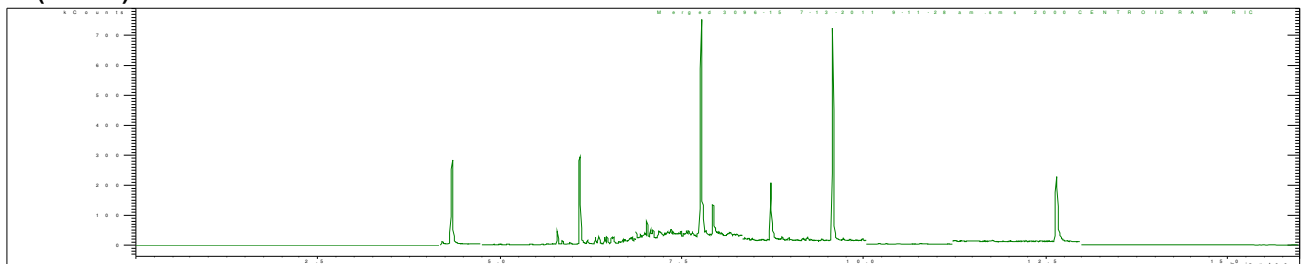
**P 22(Sacola)**



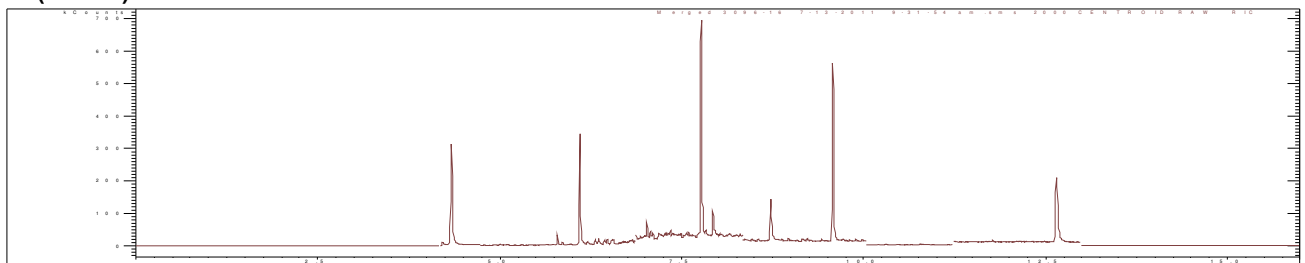
**P 24(Sacola)**



**P 25(Sacola)**



**P 26(Sacola)**





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

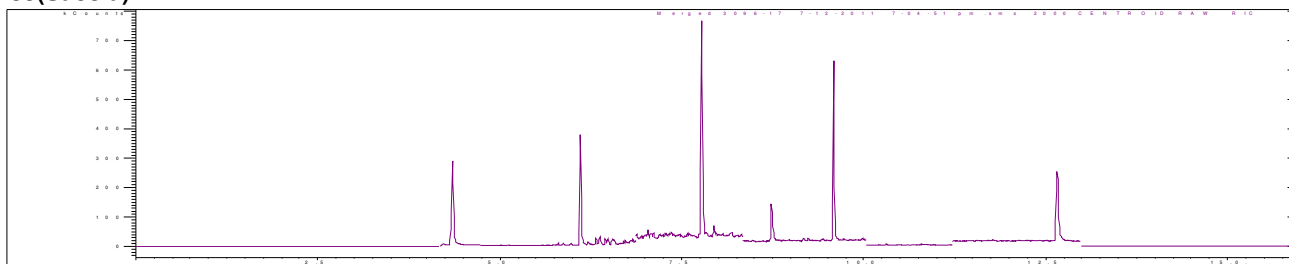
Pág. 15 de 20

Resp. Téc.: **Carina Casal**

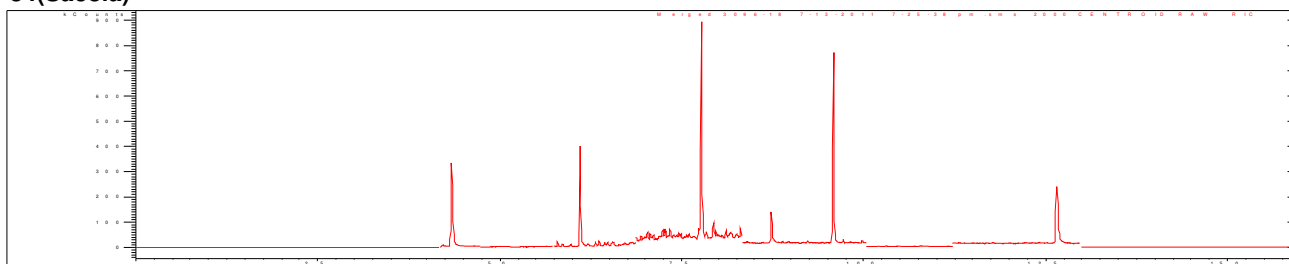
Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

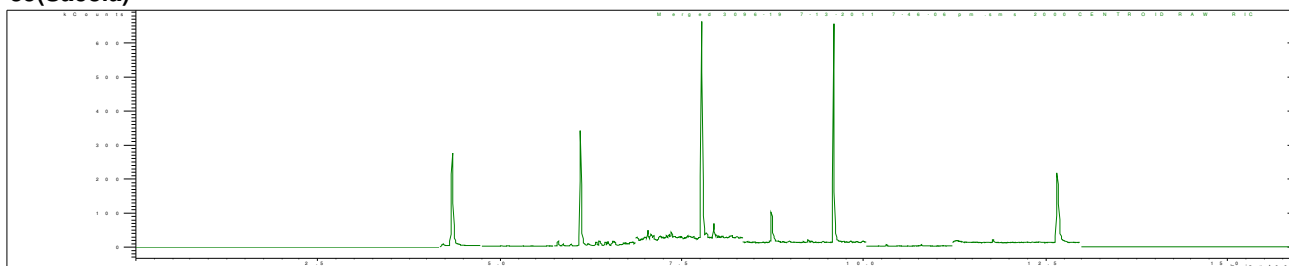
**P 33(Sacola)**



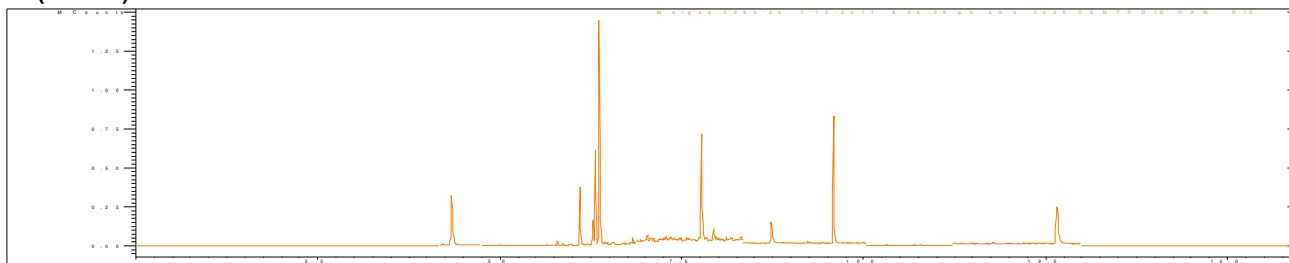
**P 34(Sacola)**



**P 35(Sacola)**



**P 37(Sacola)**





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

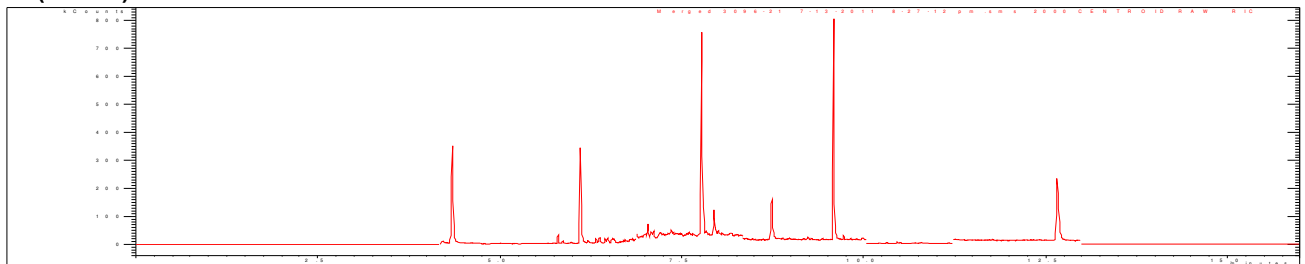
Pág. 16 de 20

Resp. Téc.: **Carina Casal**

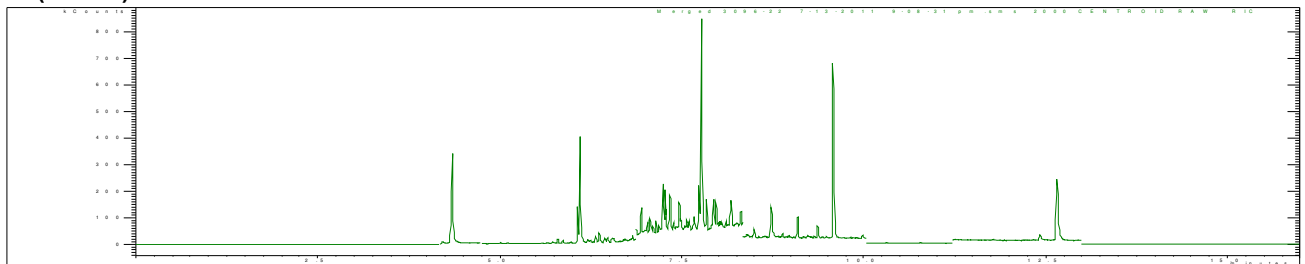
Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

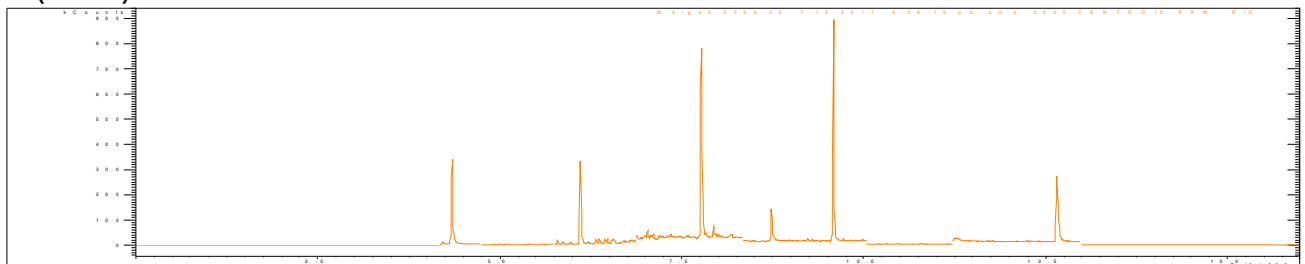
**P 39(Sacola)**



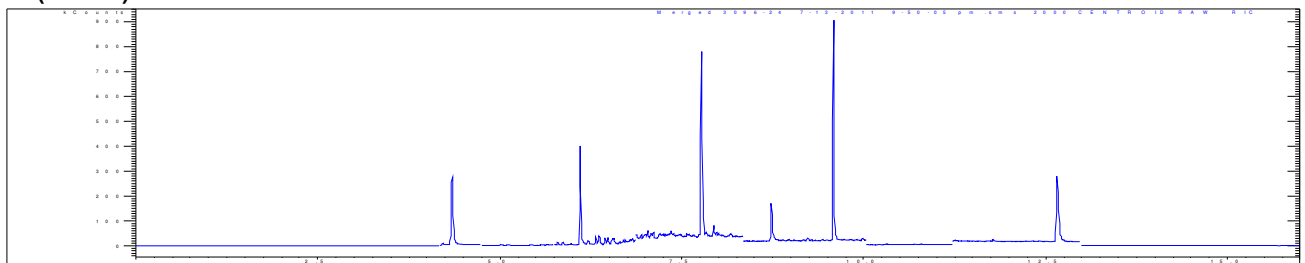
**P 40(Sacola)**



**P 41(Sacola)**



**P 42(Sacola)**





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

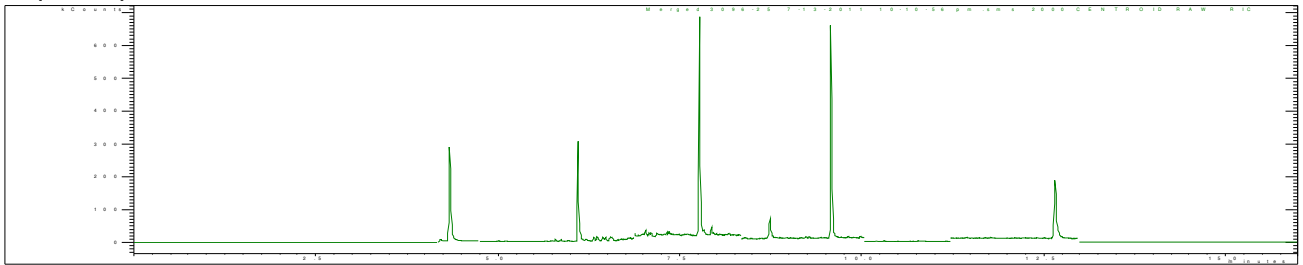
Pág. 17 de 20

Resp. Téc.: **Carina Casal**

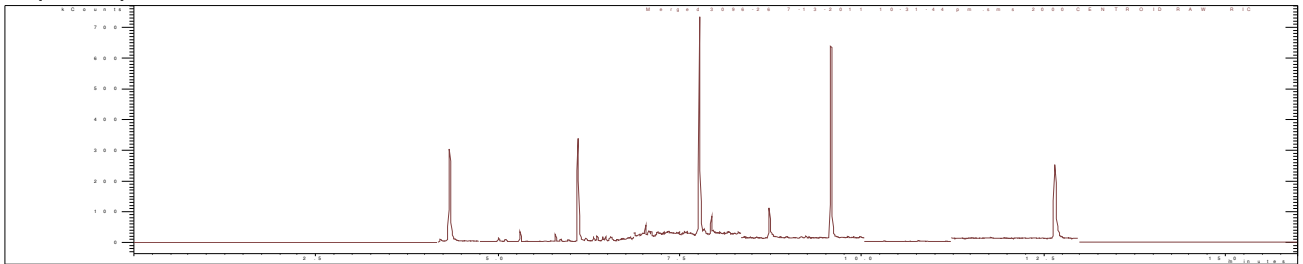
Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

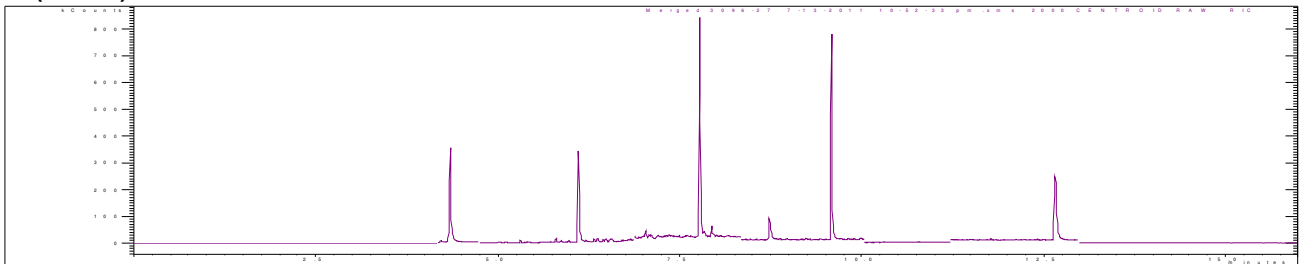
**P 43(Sacola)**



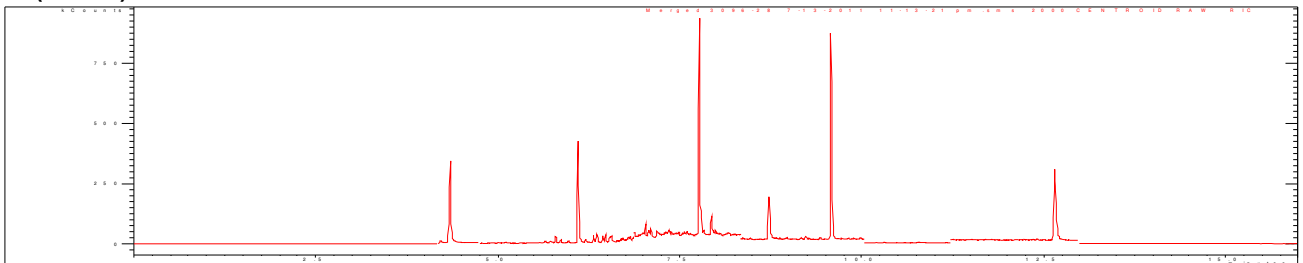
**P 44(Sacola)**



**P 46(Sacola)**



**P 47(Sacola)**





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

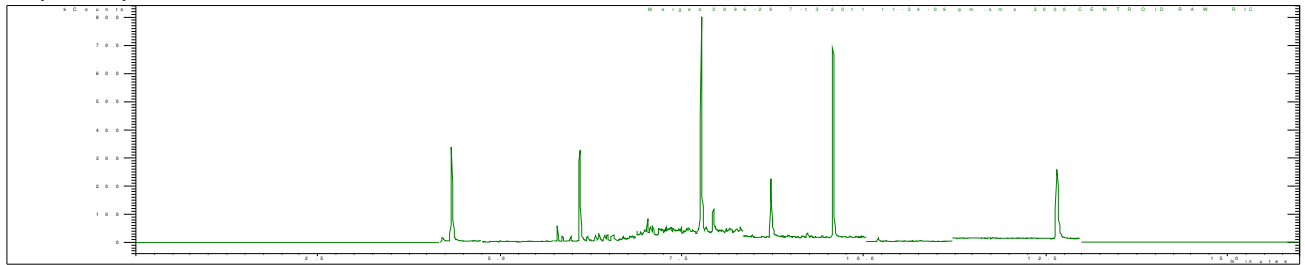
Pág. 18 de 20

Resp. Téc.: **Carina Casal**

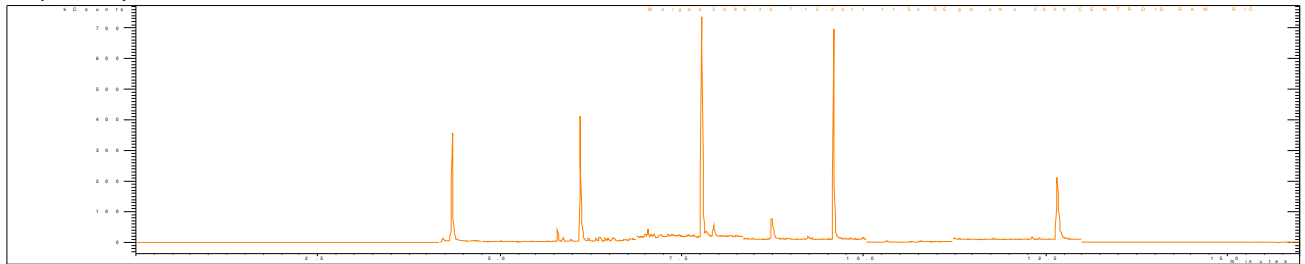
Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

### P 49(Sacola)



### P 50(Sacola)





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 19 de 20

Resp. Téc.: **Carina Casal**

Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

### Padrões de Controle Analítico – PCA (Surrogate)

Taxa de Recuperação (Faixa de Aceitação: 70-130%)  
(%)

---

Terfenil D14	115
Perileno D12	114

---





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 20 de 20

Resp. Téc.: **Carina Casal**

Emitido em: **25/07/2011**

Lab-nº: **11/3096A**

### Observações

1. Legenda

- L.D. – Limite de detecção reportado
- L.Q. – Limite de Quantificação reportado
- na – Não analisado
- nd – Não detectado

2. Ref. Método – EPA 8270 (D):2007 / EPA 3550 (C):2007

3. Foram realizadas duplicatas em 10% das amostras em lotes de 20 amostras e os resultados obtidos estão em conformidade com os critérios de aceitação estabelecidos.

4. Nos ensaios são utilizados padrões rastreáveis ao SI (Sistema Internacional de Medidas).

5. Foram utilizados Brancos de Controle conforme metodologia informada.

6. **O laboratório não é o responsável pela amostragem**, portanto, os resultados contidos neste boletim referem-se exclusivamente às amostras nele descritas, que foram coletadas e enviadas pelo solicitante.

7. Os métodos utilizados neste(s) ensaios(s) apresentam-se conformes em relação ao método referenciado. Caso o(s) ensaio(s) tenha(m) apresentado desvio(s), adições ou exclusões, estes estarão listados no item informações adicionais do relatório.

8. Os valores para amostras sólidas reportados são relativos à massa seca, salvo observações.

9. A Innolab garante que todas as análises foram executadas dentro do prazo de validade de cada parâmetro segundo a norma relativa a cada metodologia.


10. As metodologias utilizadas nos ensaios encontram-se referenciadas ao final de cada parâmetro. As metodologias acreditadas poderão ser localizadas no site do INMETRO sob CRL 03104.

11. Este Boletim de Ensaio só deverá ser reproduzido por completo.

FM-004-L3A – Rev.01 17/03/2011– Apr. MAR/11

conferido

  
José Antônio Pires de Mello  
Diretor  
B. Sc, Eng. Quim. e Quim. Industrial  
CRQ – 03311142 CREA - 791006469

  
CARINA SANTOS CASAL  
Chefe Laboratório  
Químico  
CRQ - 03251114



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 1 de 13

Resp. Téc.: **Carina Casal**

Emitido em: **26/07/2011**

Lab-nº: **11/3096B**

### Análise em amostras de sedimento marinho

Cliente : CEPEMAR-Serviços De Consultoria Em Meio Ambiente LTDA  
Endereço : Av. Carlos Moreira Lima, n° 90  
Bento Ferreira - Vitória - ES  
Localização do Projeto : Ilhéus-BA  
Data da Coleta : 05/07/2011  
Entrega das amostras : 07/07/2011  
Início dos ensaios/extração : 11/07/2011  
Término dos ensaios : 26/07/2011

INNOLAB do Brasil Ltda.  
Rua Sacadura Cabral - 236  
Saúde - Rio de Janeiro - RJ  
Cep. 20221-161  
CNPJ. 04.183.043/0001-00  
Tel. (21) 3509-1750  
Fax (21) 2233-4621

Projeto : monitoramento Bahia Mineração  
Gerente do Projeto : Marcelo Travassos

Parâmetro	P 01(Sacola) (mg/kg)	P 02(Sacola) (mg/kg)	P 04(Sacola) (mg/kg)	P 06(Sacola) (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
-----------	-------------------------	-------------------------	-------------------------	-------------------------	----------------	-----------------

#### PCB

PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	<0,003	<0,003	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		

Quantidade de amostra (g) 30 30 30 30

Diluição (N.º vezes) - - - -

Parâmetro	P 07(Sacola) (mg/kg)	P 09(Sacola) (mg/kg)	P 10(Sacola) (mg/kg)	P 11(Sacola) (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
-----------	-------------------------	-------------------------	-------------------------	-------------------------	----------------	-----------------

#### PCB

PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	<0,003	nd	<0,003	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		

Quantidade de amostra (g) 30 30 30 30

Diluição (N.º vezes) - - - -

conferido



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 2 de 13

Resp. Téc.: **Carina Casal**

Emitido em: **26/07/2011**

Lab-nº: **11/3096B**

Parâmetro	P 15(Sacola) (mg/kg)	P 16(Sacola) (mg/kg)	P 17(Sacola) (mg/kg)	P 18(Sacola) (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	<0,003	<0,003	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		

Quantidade de amostra (g) 30 30 30 30

Diluição (N.º vezes) - - - -

Parâmetro	P 22(Sacola) (mg/kg)	P 24(Sacola) (mg/kg)	P 25(Sacola) (mg/kg)	P 26(Sacola) (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	<0,003	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		

Quantidade de amostra (g) 30 30 30 30

Diluição (N.º vezes) - - - -



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 3 de 13

Resp. Téc.: **Carina Casal**

Emitido em: **26/07/2011**

Lab-nº: **11/3096B**

Parâmetro	P 33(Sacola) (mg/kg)	P 34(Sacola) (mg/kg)	P 35(Sacola) (mg/kg)	P 37(Sacola) (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	<0,003	<0,003	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		
Quantidade de amostra (g)	30	30	30	30		
Diluição (N.º vezes)	-	-	-	-		
Parâmetro	P 39(Sacola) (mg/kg)	P 40(Sacola) (mg/kg)	P 41(Sacola) (mg/kg)	P 42(Sacola) (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	nd	nd	<0,003	nd	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		
Quantidade de amostra (g)	30	30	30	30		
Diluição (N.º vezes)	-	-	-	-		



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 4 de 13

Resp. Téc.: **Carina Casal**

Emitido em: **26/07/2011**

Lab-nº: **11/3096B**

Parâmetro	P 43(Sacola) (mg/kg)	P 44(Sacola) (mg/kg)	P 46(Sacola) (mg/kg)	P 47(Sacola) (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>						
PCB 28	nd	nd	nd	nd	0,003	0,001
PCB 52	nd	nd	nd	nd	0,003	0,001
PCB 101	nd	nd	nd	nd	0,003	0,001
PCB 118	<0,003	nd	<0,003	<0,003	0,003	0,001
PCB 138	nd	nd	nd	nd	0,003	0,001
PCB 153	nd	nd	nd	nd	0,003	0,001
PCB 180	nd	nd	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>	<b>nd</b>		
Quantidade de amostra (g)	30	30	30	30		
Diluição (N.º vezes)	-	-	-	-		

Parâmetro	P 49(Sacola) (mg/kg)	P 50(Sacola) (mg/kg)	L.Q (mg/kg)	L.D. (mg/kg)
<b>PCB</b>				
PCB 28	nd	nd	0,003	0,001
PCB 52	nd	nd	0,003	0,001
PCB 101	nd	nd	0,003	0,001
PCB 118	nd	<0,003	0,003	0,001
PCB 138	nd	nd	0,003	0,001
PCB 153	nd	nd	0,003	0,001
PCB 180	nd	nd	0,003	0,001
<b>Total</b>	<b>nd</b>	<b>nd</b>		
Quantidade de amostra (g)	30	30		
Diluição (N.º vezes)	-	-		



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

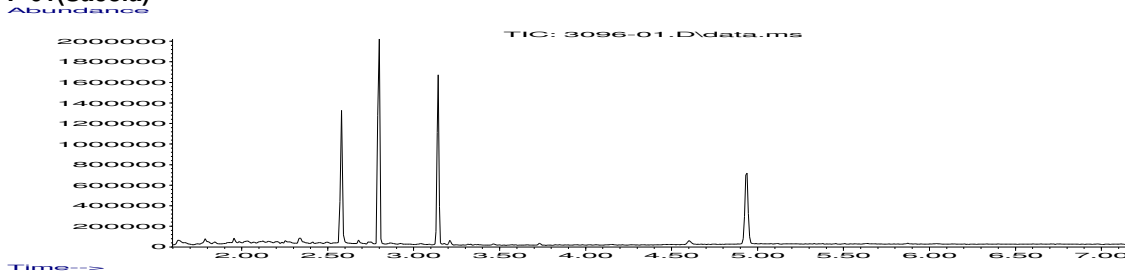
Pág. 5 de 13

Resp. Téc.: **Carina Casal**

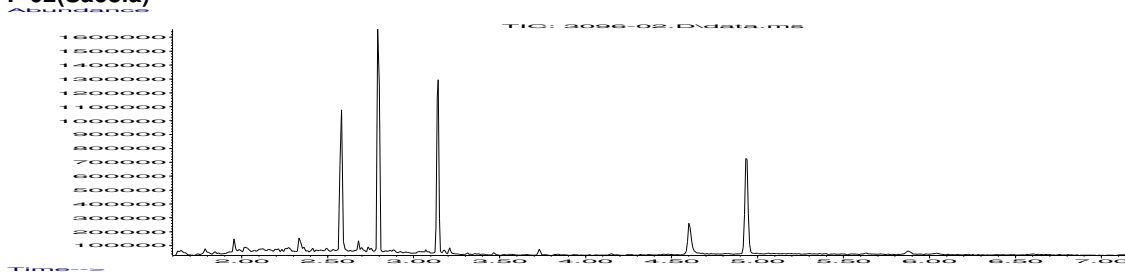
Emitido em: **26/07/2011**

Lab-nº: **11/3096B**

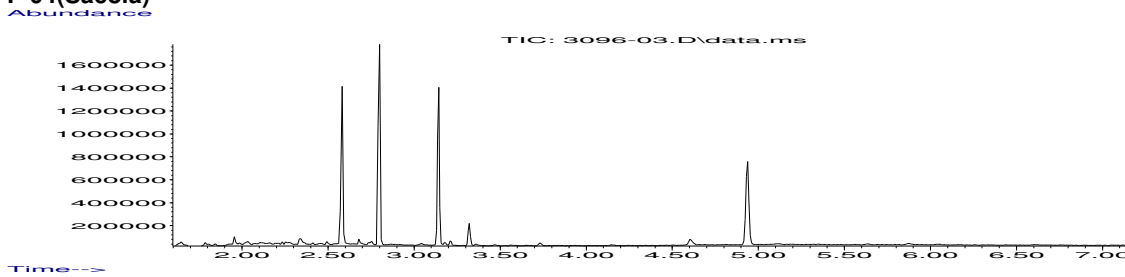
### P 01(Sacola)



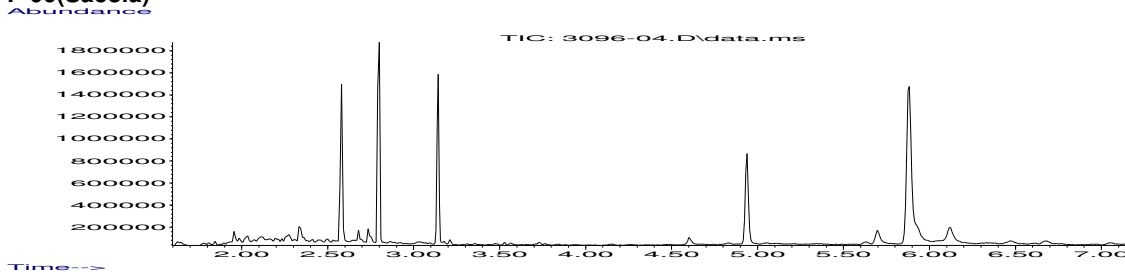
### P 02(Sacola)



### P 04(Sacola)



### P 06(Sacola)





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

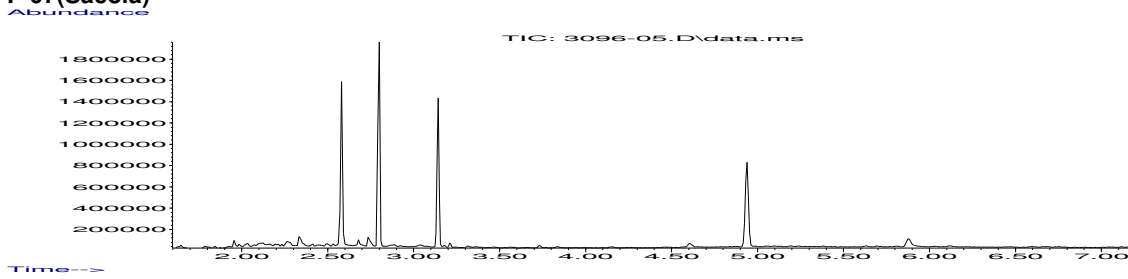
Pág. 6 de 13

Resp. Téc.: **Carina Casal**

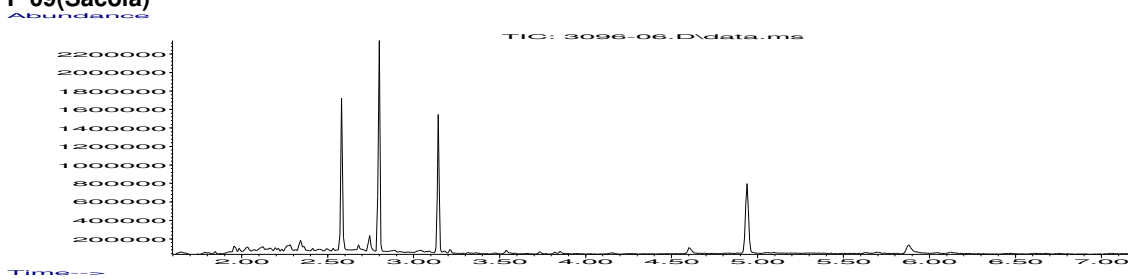
Emitido em: **26/07/2011**

Lab-nº: **11/3096B**

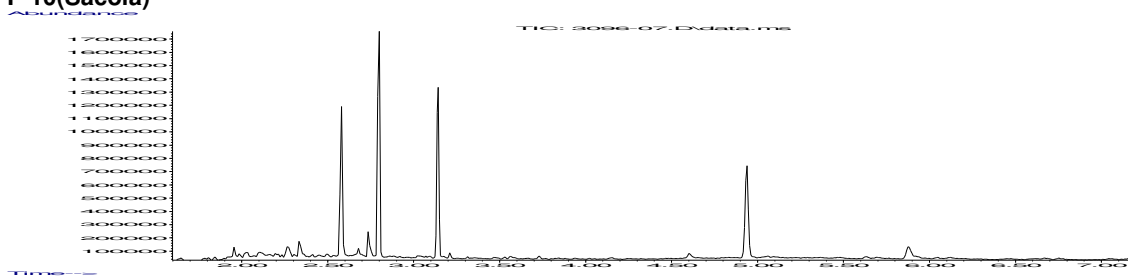
### P 07(Sacola)



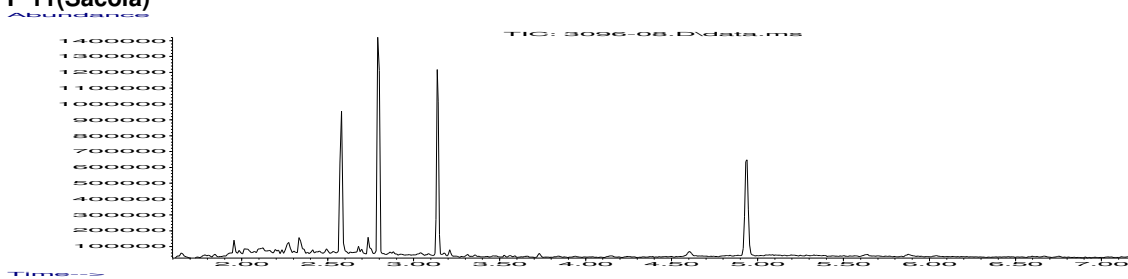
### P 09(Sacola)



### P 10(Sacola)



### P 11(Sacola)





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

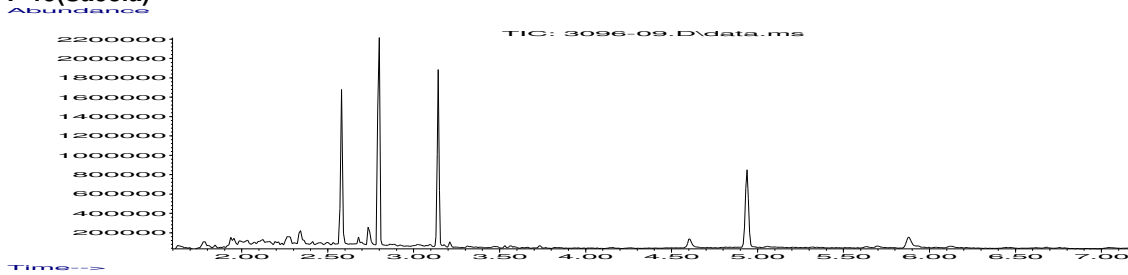
Pág. 7 de 13

Resp. Téc.: **Carina Casal**

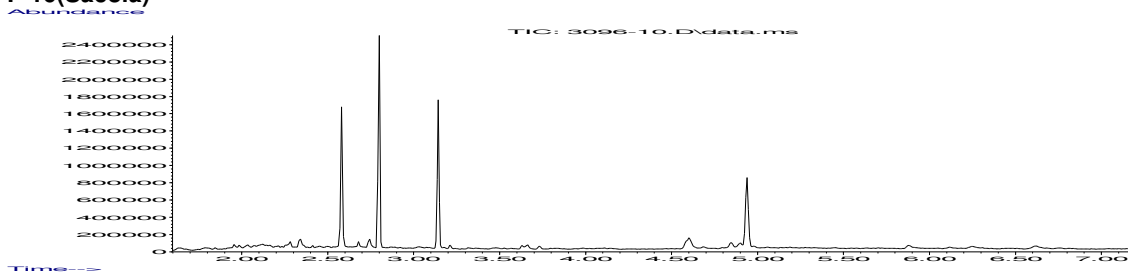
Emitido em: **26/07/2011**

Lab-nº: **11/3096B**

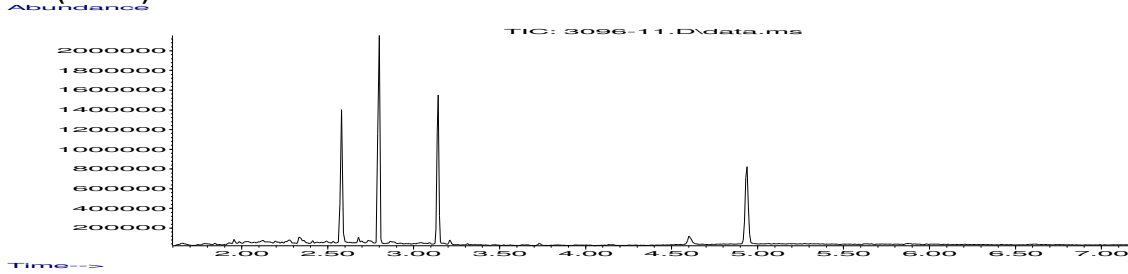
### P 15(Sacola)



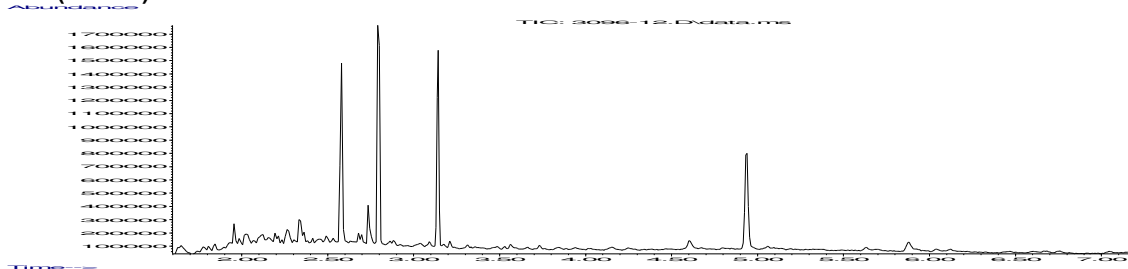
### P 16(Sacola)



### P 17(Sacola)



### P 18(Sacola)







Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 8 de 13

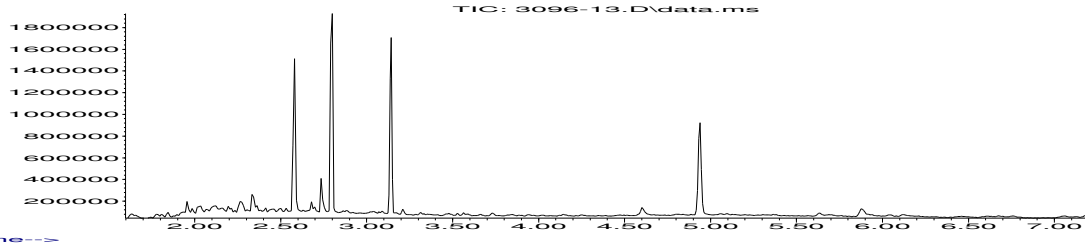
Resp. Téc.: **Carina Casal**

Emitido em: **26/07/2011**

Lab-nº: **11/3096B**

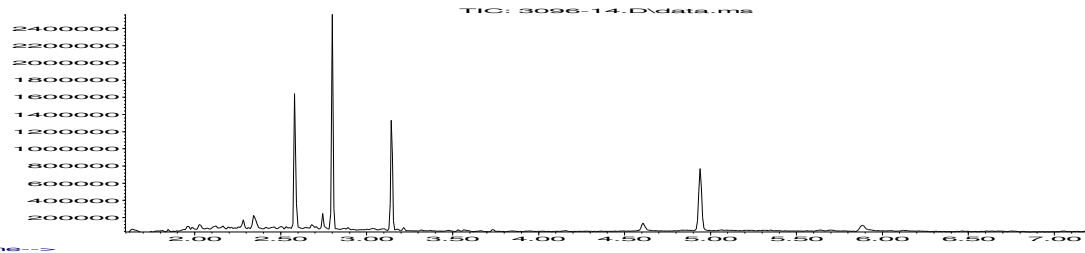
### P 22(Sacola)

Abundance



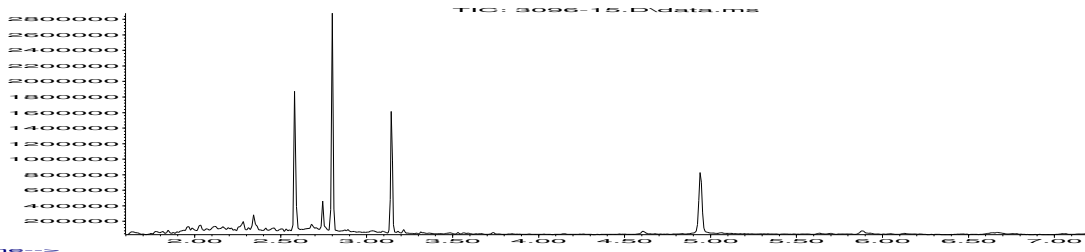
### P 24(Sacola)

Abundance



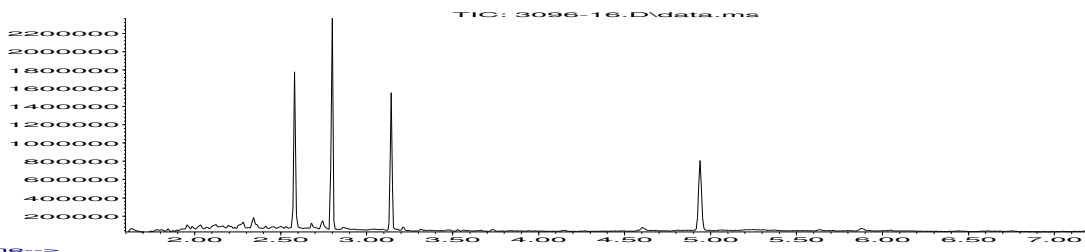
### P 25(Sacola)

Abundance



### P 26(Sacola)

Abundance





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 9 de 13

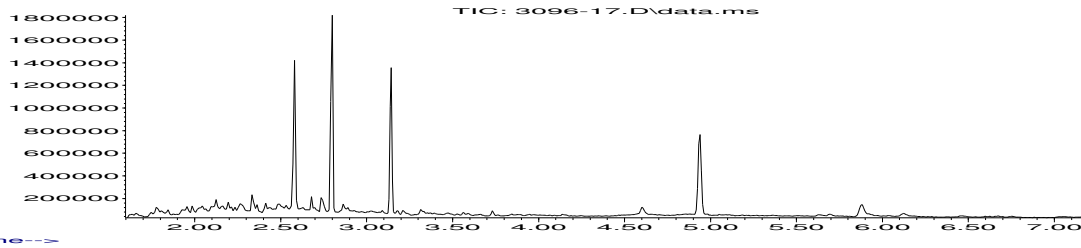
Resp. Téc.: **Carina Casal**

Emitido em: **26/07/2011**

Lab-nº: **11/3096B**

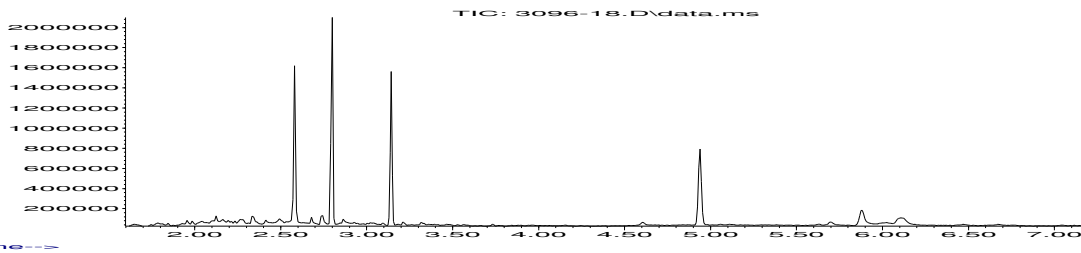
### P 33(Sacola)

Abundance



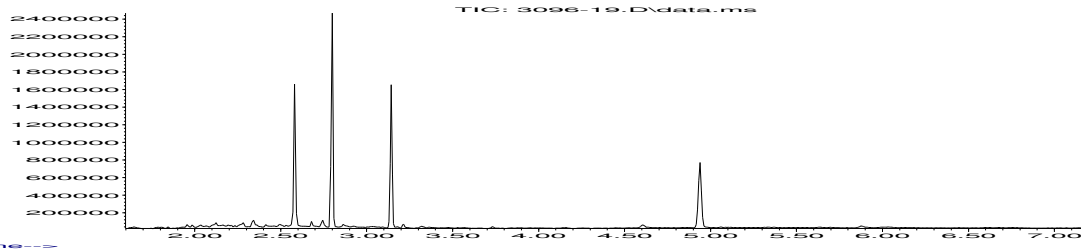
### P 34(Sacola)

Abundance



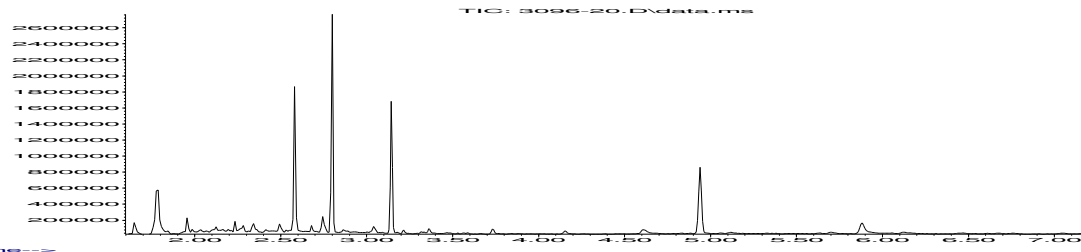
### P 35(Sacola)

Abundance



### P 37(Sacola)

Abundance





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

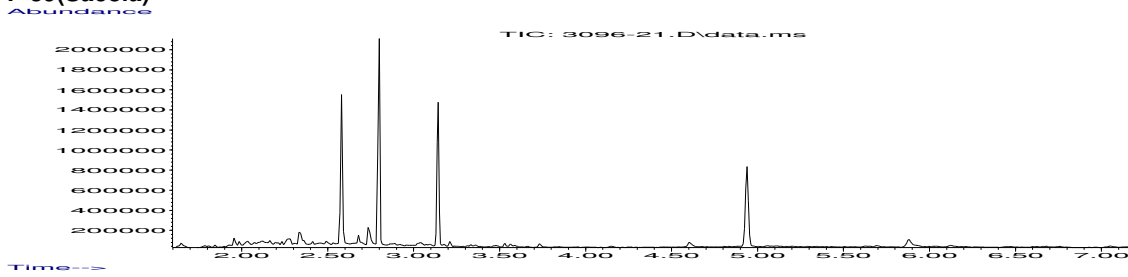
Pág. 10 de 13

Resp. Téc.: **Carina Casal**

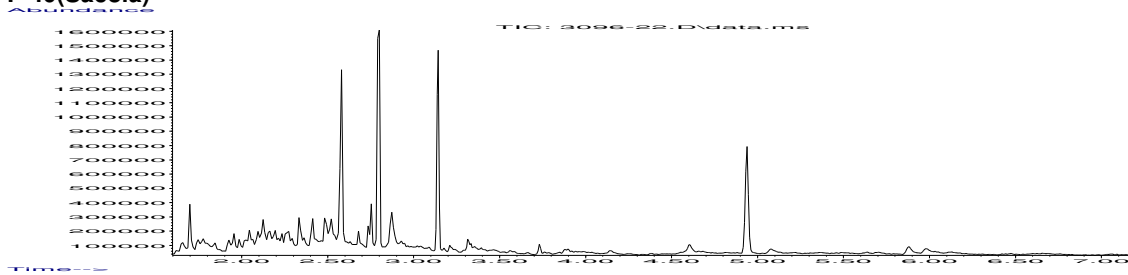
Emitido em: **26/07/2011**

Lab-nº: **11/3096B**

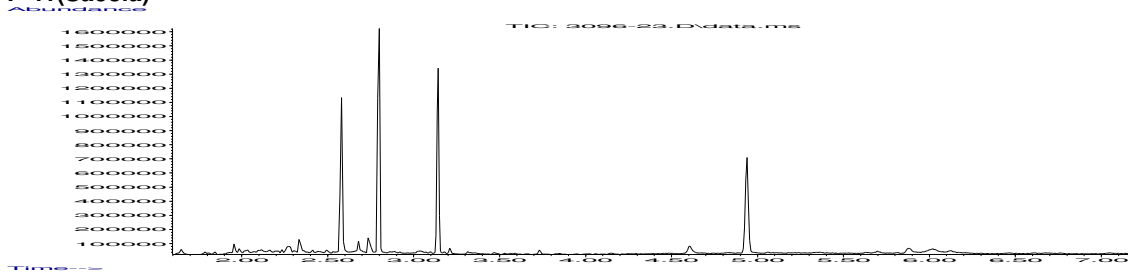
### P 39(Sacola)



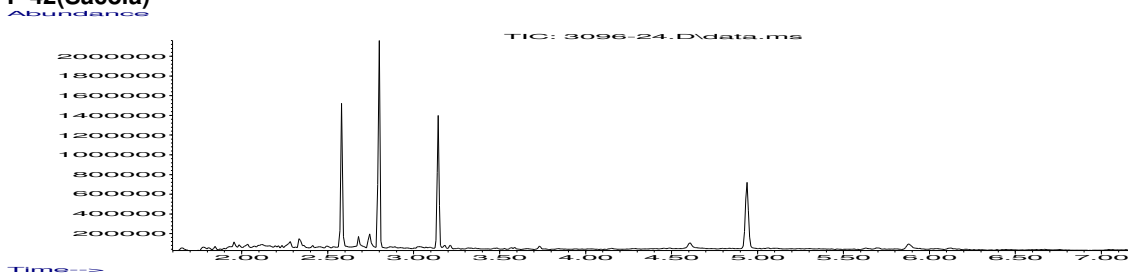
### P 40(Sacola)



### P 41(Sacola)



### P 42(Sacola)





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 11 de 13

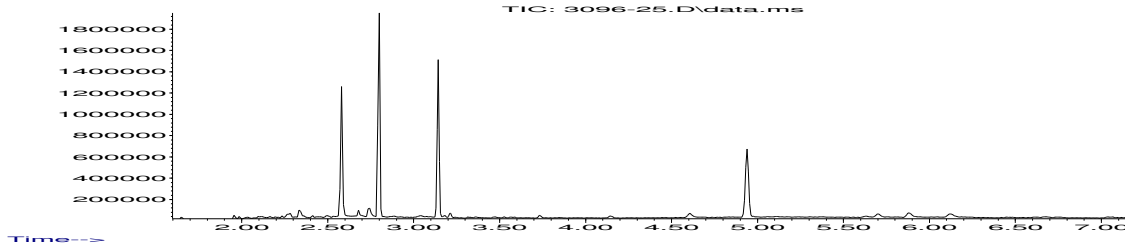
Resp. Téc.: **Carina Casal**

Emitido em: **26/07/2011**

Lab-nº: **11/3096B**

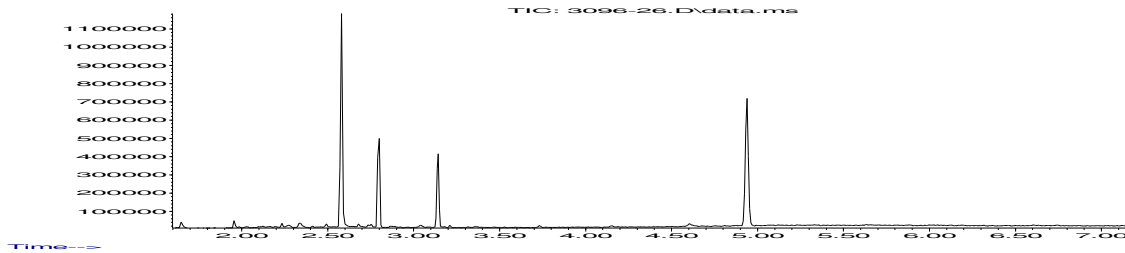
### P 43(Sacola)

Abundance



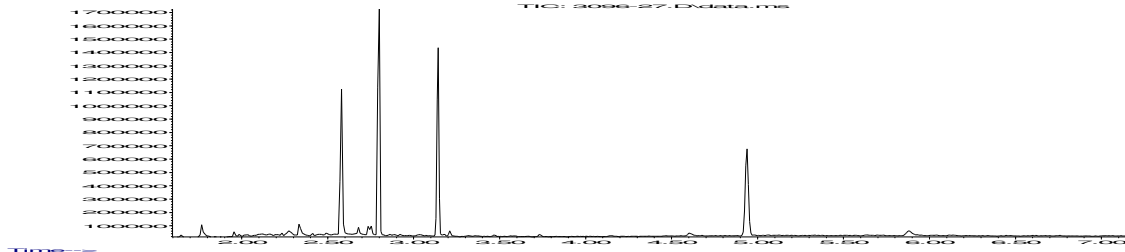
### P 44(Sacola)

Abundance



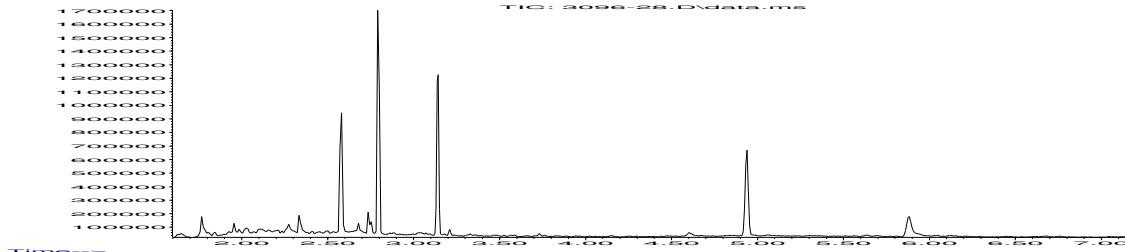
### P 46(Sacola)

Abundance



### P 47(Sacola)

Abundance





Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

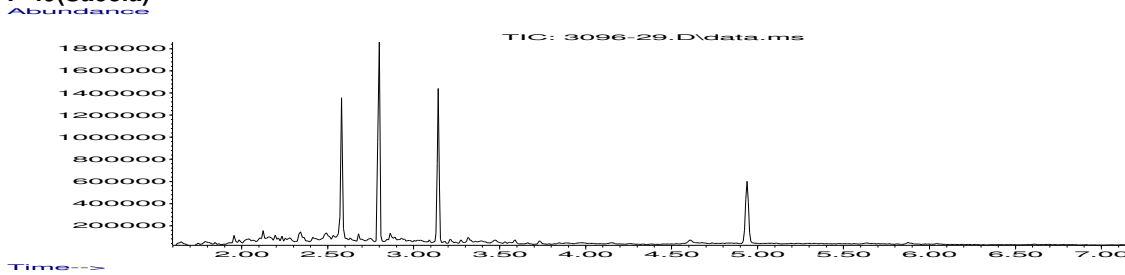
Pág. 12 de 13

Resp. Téc.: **Carina Casal**

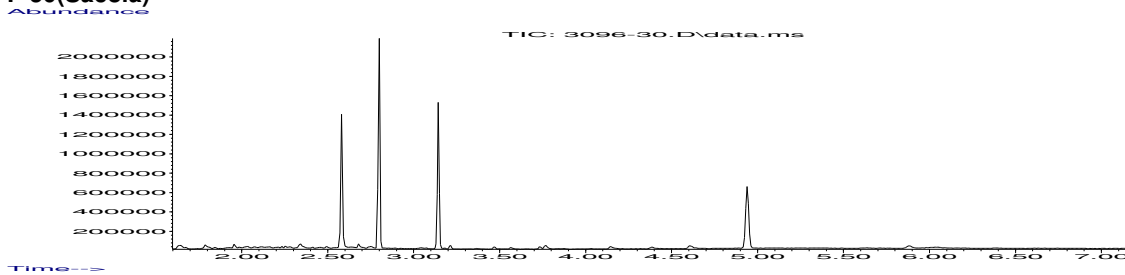
Emitido em: **26/07/2011**

Lab-nº: **11/3096B**

### P 49(Sacola)



### P 50(Sacola)



### Padrões de Controle Analítico (PCA)

Taxa de Recuperação (Faixa de Aceitação: 70-130%)  
(%)

---

PCB 143	70
PCB 155	70

---



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



Innolab

## Boletim de Ensaio

Pág. 13 de 13

Resp. Téc.: **Carina Casal**

Emitido em: **26/07/2011**

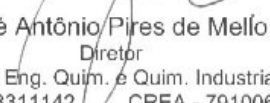
Lab-nº: **11/3096B**


### Observações

- Legenda
  - L.D. – Limite de detecção reportado
  - L.Q. – Limite de Quantificação reportado
  - na – Não analisado
  - nd – Não detectado
- Ref. Método – EPA 8270 (D):2007 / EPA 3550 (C):2007
- Foram realizadas duplicatas em 10% das amostras em lotes de 20 amostras e os resultados obtidos estão em conformidade com os critérios de aceitação estabelecidos.
- Nos ensaios são utilizados padrões rastreáveis ao SI (Sistema Internacional de Medidas).
- Foram utilizados Brancos de Controle conforme metodologia informada.
- O laboratório não é o responsável pela amostragem**, portanto, os resultados contidos neste boletim referem-se exclusivamente às amostras nele descritas, que foram coletadas e enviadas pelo solicitante.
- Os métodos utilizados neste(s) ensaios(s) apresentam-se conformes em relação ao método referenciado. Caso o(s) ensaio(s) tenha(m) apresentado desvio(s), adições ou exclusões, estes estarão listados no item informações adicionais do relatório.
- Os valores para amostras sólidas reportados são relativos à massa seca, salvo observações.
- A Innolab garante que todas as análises foram executadas dentro do prazo de validade de cada parâmetro segundo a norma relativa a cada metodologia.
- As metodologias utilizadas nos ensaios encontram-se referenciadas ao final de cada parâmetro. As metodologias acreditadas poderão ser localizadas no site do INMETRO sob CRL 03104.
- Este Boletim de Ensaio só deverá ser reproduzido por completo.

FM-004-L3A – Rev.01 17/03/2011– Apr. MAR/11

conferido

  
José Antônio Pires de Mello  
Diretor  
B. Sc, Eng. Quim. e Quim. Industrial  
CRQ – 03311142 CREA - 791006469

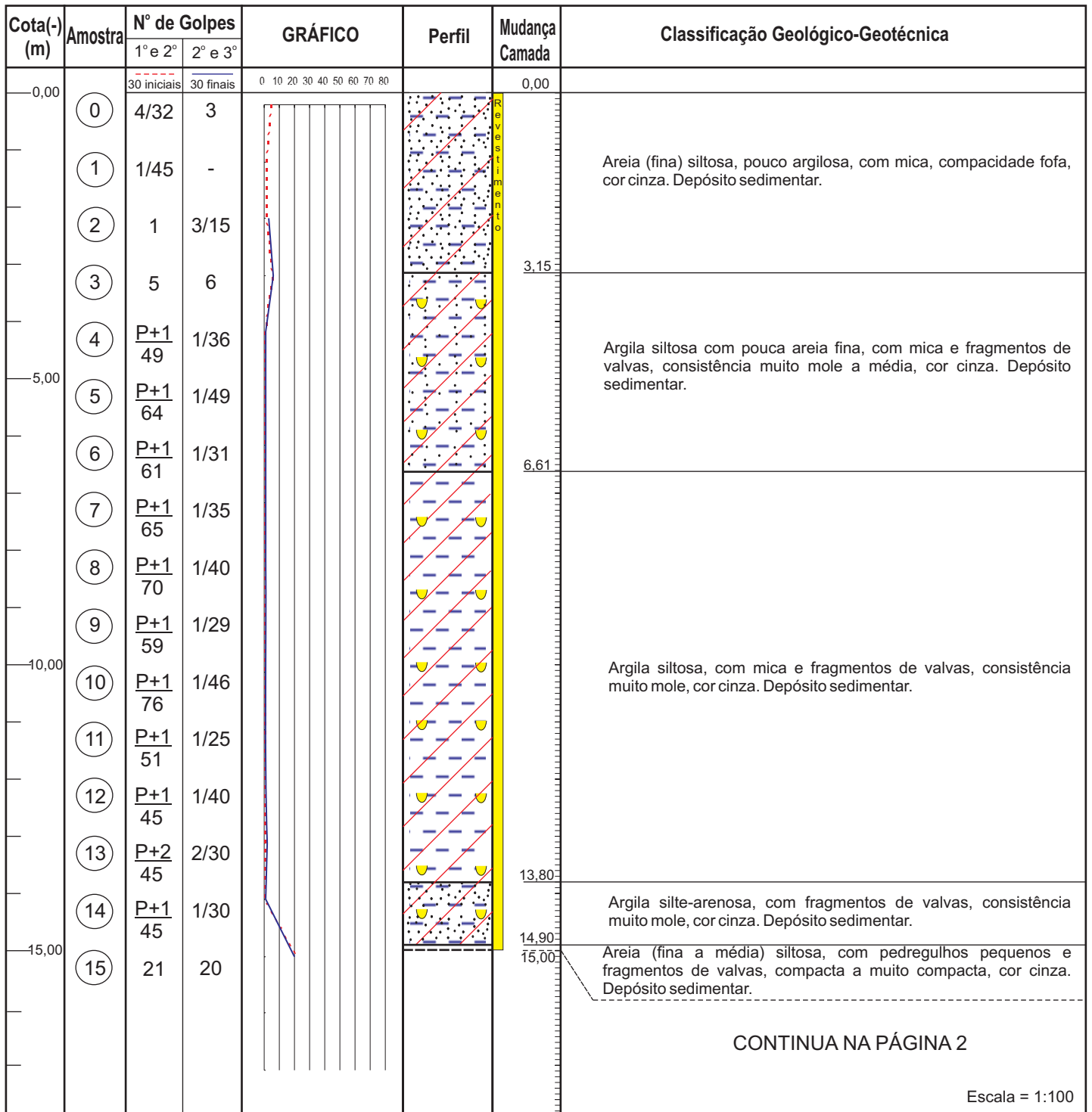
  
CARINA SANTOS CASAL  
Chefe Laboratório  
Químico  
CRQ - 03251114

#### **8.1.7.4.3 SONDAGENS GEOTÉCNICAS**

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00001 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 32,00 m	Coordenadas: N: 8.376.898,00 E: 495.899,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		19/11/2010 02/12/2010



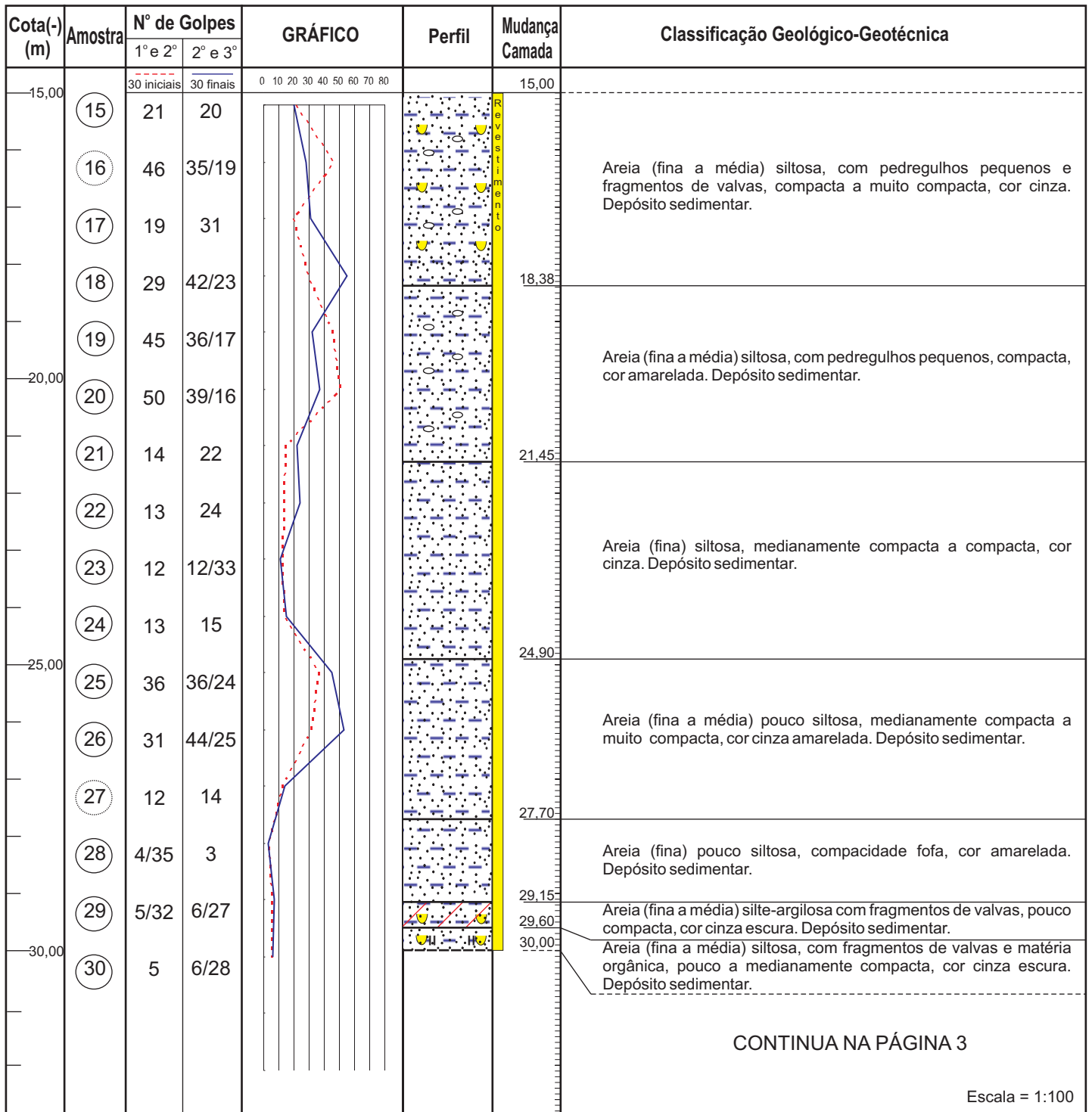
Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo <b>Manoel T. de Queiroz Neto</b>
	-	-	-	10	0/n - Penetração de n cm sob o peso das hastas	Responsável Técnico:
	-	-	-	10	P/n - Penetração de n cm sob o peso das hastas + batente	<b>Geraldo de Oliveira Almeida</b> CREA - 86 - 1 - 05312 - 6
	-	-	-	10		Fiscalização:
Obs: Amostras 16, 27 e 32 foram recuperadas na lavagem.	Lâmina d'água: 19/11 às 07:39 - 16,00 metros				<b>Legenda</b>	<b>GEODRILL</b> Engenharia Ltda (21) 2427-6939
					AS Amostra de sedimento	



# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00001 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 32,00 m	Coordenadas: N: 8.376.898,00 E: 495.899,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		19/11/2010 02/12/2010

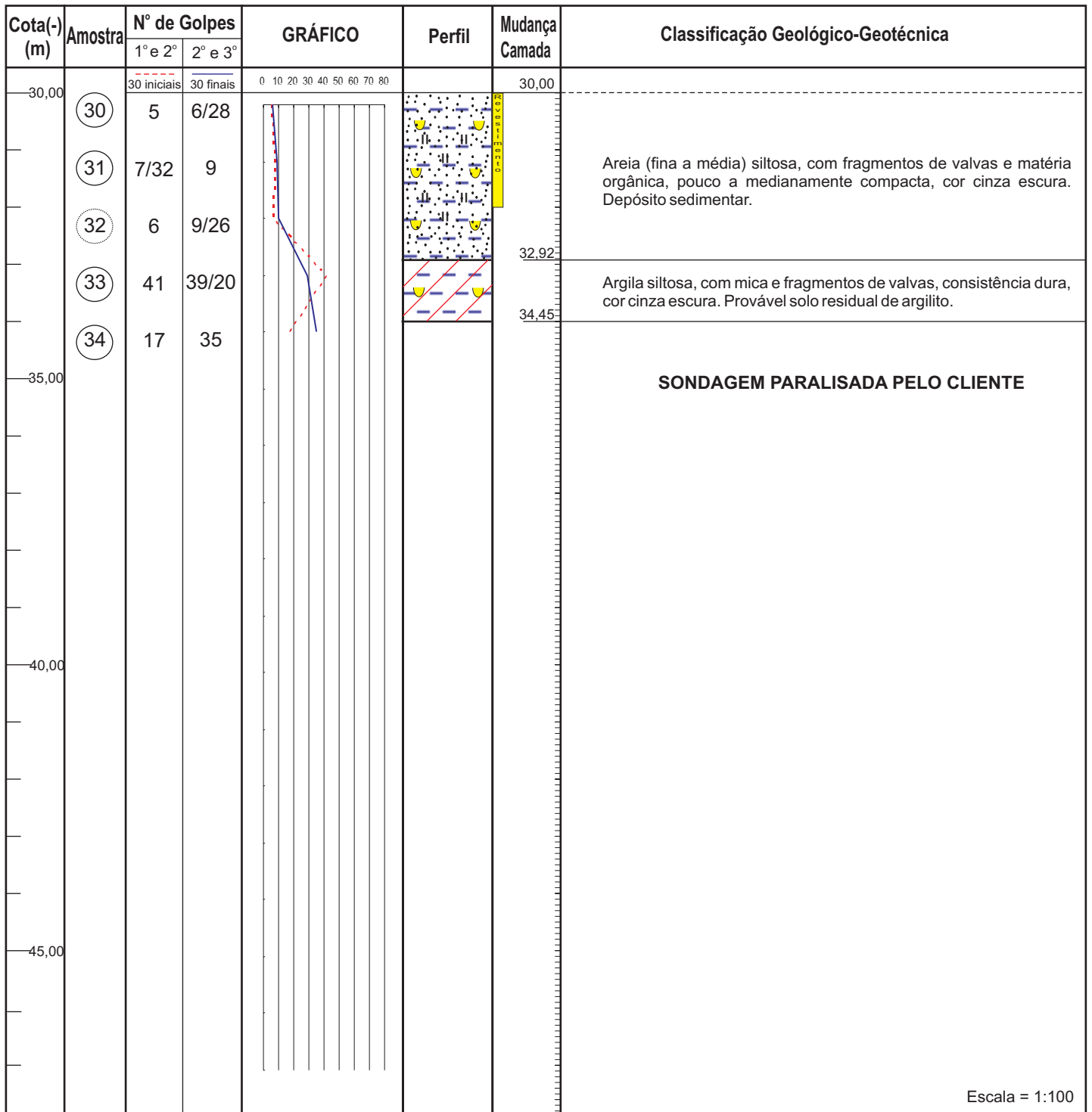


Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo Manoel T. de Queiroz Neto
	-	-	-	10	0/n - Penetração de n cm sob o peso das hastes	Responsável Técnico:
	-	-	-	10	P/n - Penetração de n cm sob o peso das hastes + batente	Geraldo de Oliveira Almeida CREA - 86 - 1 - 05312 - 6
	-	-	-	10		Fiscalização:
Obs: Amostras 16, 27 e 32 foram recuperadas na lavagem.	Lâmina d'água:				<b>Legenda</b>	
	19/11 às 07:39 - 16,00 metros				AS Amostra de sedimento	

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00001 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 32,00 m	Coordenadas: N: 8.376.898,00 E: 495.899,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		19/11/2010 02/12/2010

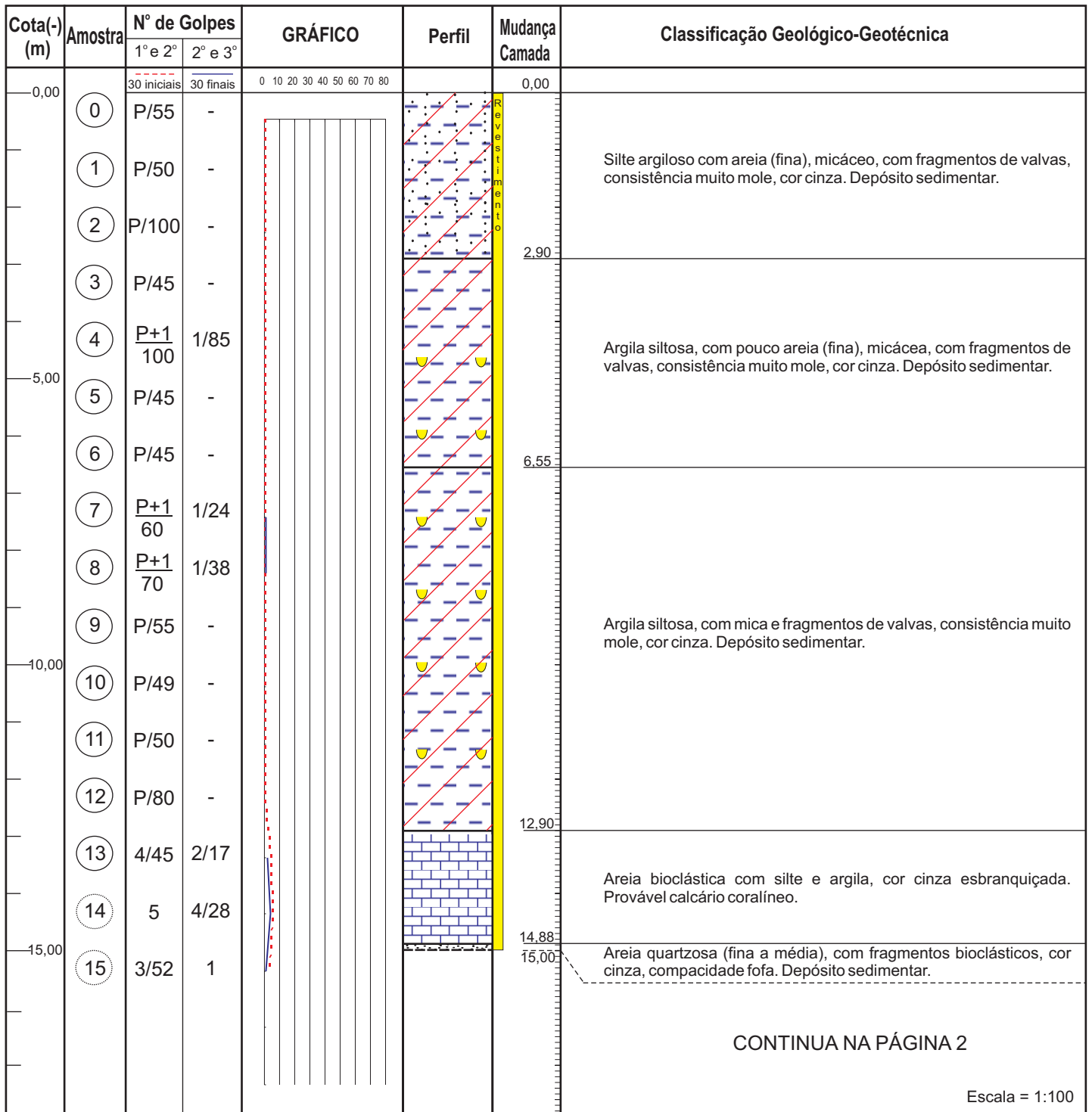



Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo : Manoel T. de Queiroz Neto
	-	-	-	10	0/n - Penetração de n cm sob o peso das hastes	Responsável Técnico:
	-	-	-	10	P/n - Penetração de n cm sob o peso das hastes + batente	Geraldo de Oliveira Almeida CREA - 86 - 1 - 05312 - 6
	-	-	-	10		Fiscalização:
Obs: Amostras 16, 27 e 32 foram recuperadas na lavagem.	Lâmina d'água:				<b>Legenda</b>	<p><b>GEODRILL</b> Engenharia Ltda (21) 2427-6939</p>
	19/11 às 07:39 - 16,00 metros				Amostra de sedimento	

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00012 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 42,00 m	Coordenadas: N: 8.378.604,00 E: 496.467,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO ARITAGUÁ - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		06/04/2011 20/04/2011

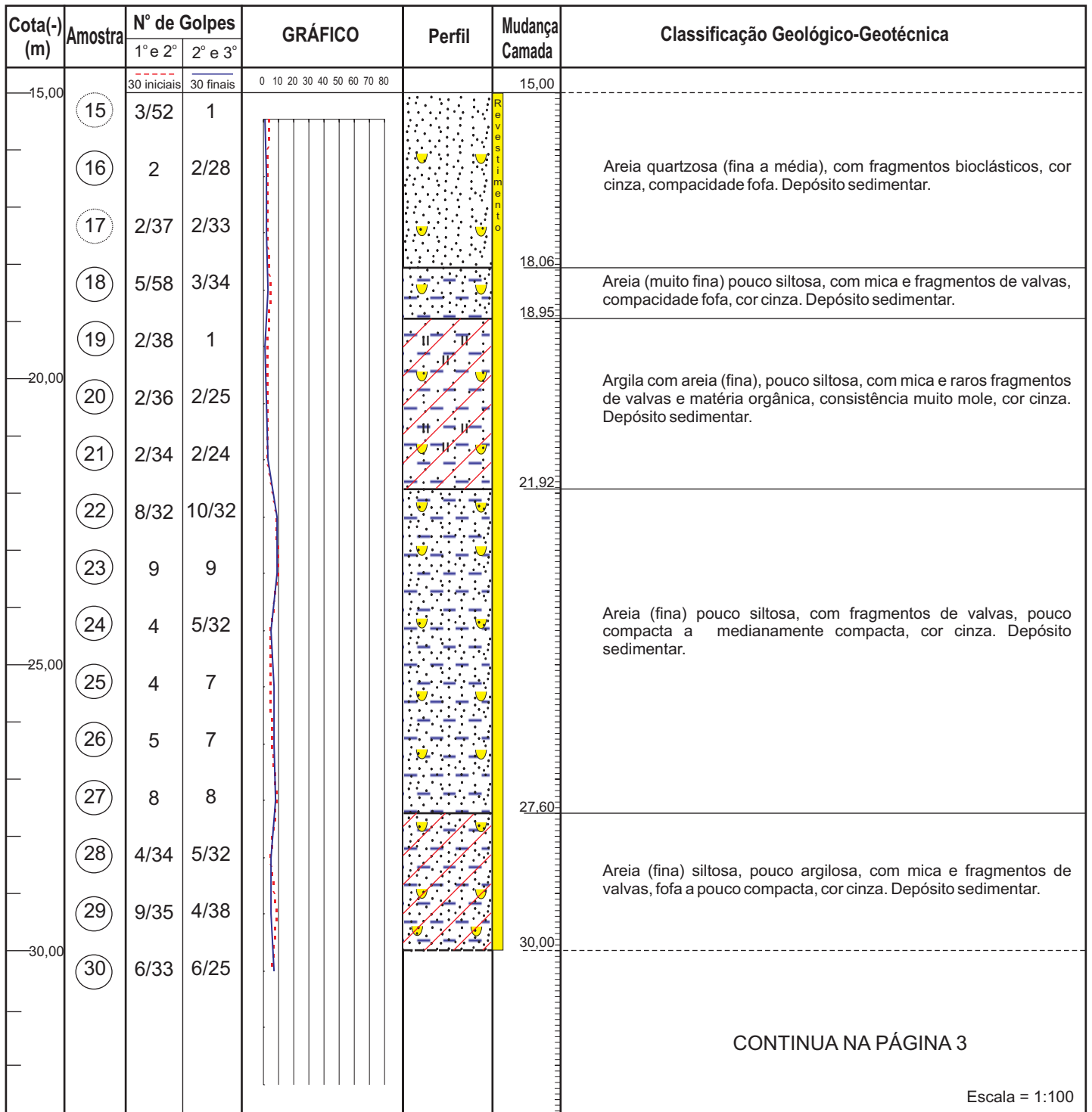


Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo <b>Manoel T. de Queiroz Neto</b>
	48,10	48,14	4,00	10	0/n - Penetração de n cm sob o peso das hastas	Responsável Técnico:
	48,14	48,17	3,00	10	P/n - Penetração de n cm sob o peso das hastas + batente	<b>Geraldo de Oliveira Almeida</b> CREA - 86 - 1 - 05312 - 6
	48,17	48,20	3,00	10		Fiscalização:
Obs: Amostras 14,15 e 17 foram recuperadas na lavagem. Amostra 48 não recuperou.	Lâmina d'água: 06/04 às 09:00 - 20,00 metros				<b>Legenda</b>	
					AS Amostra de sedimento	

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00012 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 42,00 m	Coordenadas: N: 8.378.604,00 E: 496.467,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO ARITAGUÁ - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		06/04/2011 20/04/2011

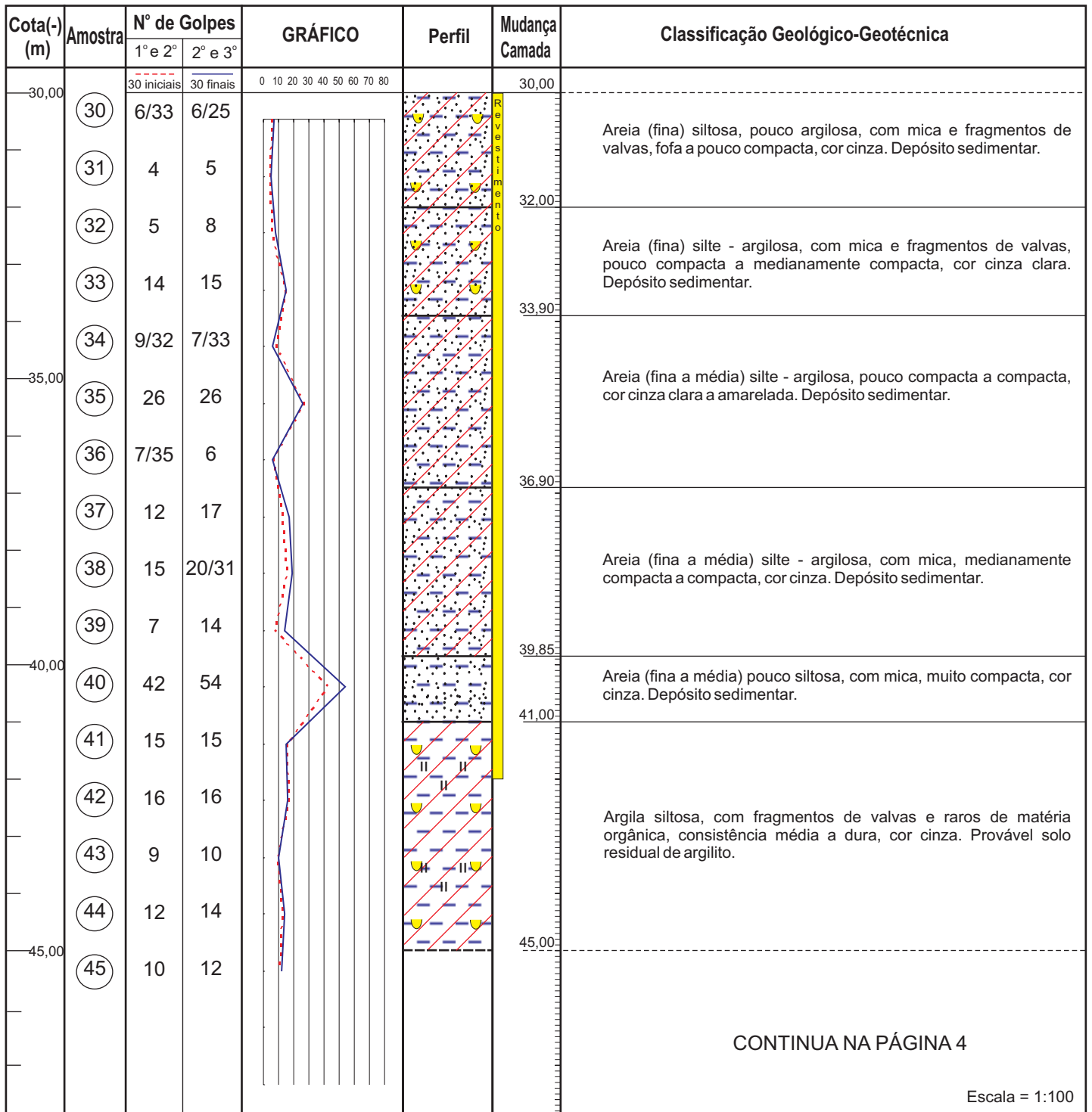


Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo <b>Manoel T. de Queiroz Neto</b>
	48,10	48,14	4,00	10	0/n - Penetração de n cm sob o peso das hastes	Responsável Técnico:
	48,14	48,17	3,00	10	P/n - Penetração de n cm sob o peso das hastes + batente	<b>Geraldo de Oliveira Almeida</b> CREA - 86 - 1 - 05312 - 6
	48,17	48,20	3,00	10		Fiscalização:
Obs: Amostras 14,15 e 17 foram recuperadas na lavagem. Amostra 48 não recuperou.	Lâmina d'água: 06/04 às 09:00 - 20,00 metros				<b>Legenda</b>	
					AS Amostra de sedimento	

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00012 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 42,00 m	Coordenadas: N: 8.378.604,00 E: 496.467,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIAS DA DUTRA BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		06/04/2011 20/04/2011



Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo: <b>Manoel T. de Queiroz Neto</b>
	48,10	48,14	4,00	10	0/n - Penetração de n cm sob o peso das hastas	Responsável Técnico:
	48,14	48,17	3,00	10	P/n - Penetração de n cm sob o peso das hastas + batente	<b>Geraldo de Oliveira Almeida</b> CREA - 86 - 1 - 05312 - 6
	48,17	48,20	3,00	10		Fiscalização:
Obs: Amostras 14,15 e 17 foram recuperadas na lavagem. Amostra 48 não recuperou.	Lâmina d'água: 06/04 às 09:00 - 20,00 metros				<b>Legenda</b>	
					(AS) Amostra de sedimento	

# Perfil Individual de Sondagem à Percussão

Furo: ARI 00012 SPR

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 42,00 m	Coordenadas: N: 8.378.604,00 E: 496.467,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIAS DA AGULHA BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		06/04/2011 20/04/2011

Cota(-) (m)	Amostra	N° de Golpes		GRÁFICO	Perfil	Mudança Camada	Classificação Geológico-Geotécnica
		1° e 2°	2° e 3°				
45,00	(45)	10	12			45,00	<p>Argila siltosa, com fragmentos de valvas e raros de matéria orgânica, consistência média a dura, cor cinza. Provável solo residual de argilito.</p>
	(46)	12	15/32				
	(47)	11	14				
	(48)	30/10	-				
48,20						48,20	<p><b>Sondagem Paralisada Segundo Norma NBR 6484/2001, item 6.4.3.3. Impenetrável ao trépano de lavagem.</b></p>
50,00							
55,00							
60,00							

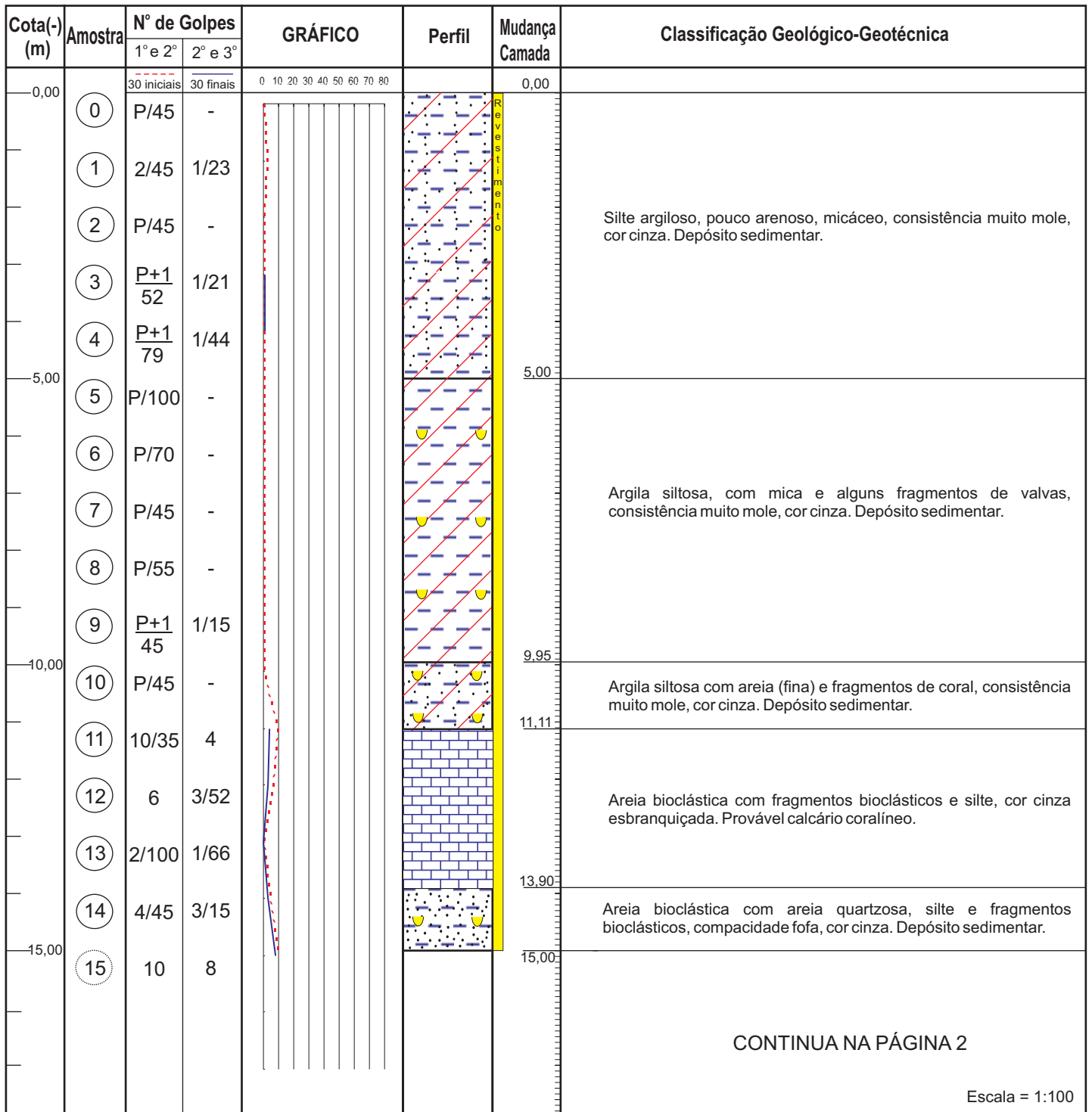
Escala = 1:100


Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo : Manoel T. de Queiroz Neto
	48,10	48,14	4,00	10	0/n - Penetração de n cm sob o peso das hastes	Responsável Técnico:
	48,14	48,17	3,00	10	P/n - Penetração de n cm sob o peso das hastes + batente	Geraldo de Oliveira Almeida CREA - 86 - 1 - 05312 - 6
	48,17	48,20	3,00	10		Fiscalização:
Obs: Amostras 14,15 e 17 foram recuperadas na lavagem. Amostra 48 não recuperou.	Lâmina d'água: 06/04 às 09:00 - 20,00 metros				<b>Legenda</b>	<p><b>GEODRILL</b> Engenharia Ltda (21) 2427-6939</p>
					○ AS Amostra de sedimento	

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00010 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 21,63 m	Coordenadas: N: 8.378.079,00 E: 496.468,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		28/03/2011 04/04/2011

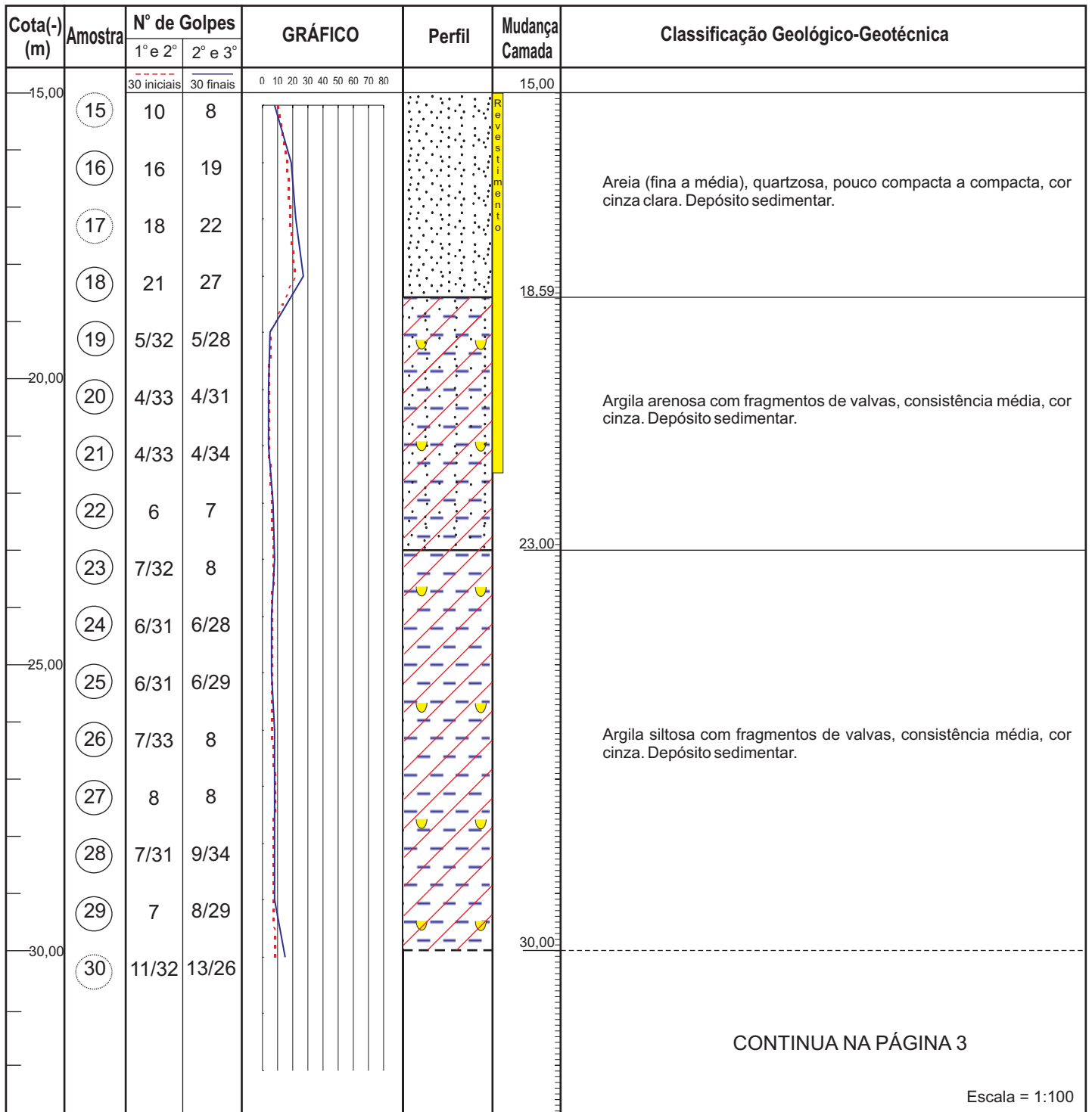


Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo Manoel T. de Queiroz Neto
	-	-	-	10	0/n - Penetração de n cm sob o peso das hastes	Responsável Técnico:
	-	-	-	10	P/n - Penetração de n cm sob o peso das hastes + batente	Geraldo de Oliveira Almeida CREA - 86 - 1 - 05312 - 6
	-	-	-	10		Fiscalização:
Obs: Amostras 15, 17 e 30 foram recuperadas na lavagem.	Lâmina d'água: 28/03 às 07:31 - 19,80 metros				<b>Legenda</b>	
					AS Amostra de sedimento	

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00010 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 21,63 m	Coordenadas: N: 8.378.079,00 E: 496.468,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		28/03/2011 04/04/2011



Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo Manoel T. de Queiroz Neto
	-	-	-	10	0/n - Penetração de n cm sob o peso das hastes	Responsável Técnico:
	-	-	-	10	P/n - Penetração de n cm sob o peso das hastes + batente	Geraldo de Oliveira Almeida CREA - 86 - 1 - 05312 - 6
	-	-	-	10		Fiscalização:
Obs: Amostras 15, 17 e 30 foram recuperadas na lavagem.	Lâmina d'água: 28/03 às 07:31 - 19,80 metros				<b>Legenda</b> AS Amostra de sedimento	<b>GEODRILL</b> Engenharia Ltda (21) 2427-6939



# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00010 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 21,63 m	Coordenadas: N: 8.378.079,00 E: 496.468,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		28/03/2011 04/04/2011

Cota(-) (m)	Amostra	N° de Golpes		GRÁFICO	Perfil	Mudança Camada	Classificação Geológico-Geotécnica
		1° e 2°	2° e 3°				
30,00	30	11/32	13/26			30,00	Argila siltosa com fragmentos de valvas, consistência média, cor cinza. Depósito sedimentar.
	31	20	27			30,19	Areia (fina) pouco siltosa, com fragmentos de valvas, medianamente compacta a compacta, cor cinza. Depósito sedimentar.
	32	24	33			32,60	
	33	9	11/29			34,00	Argila siltosa, pouco arenosa, com fragmentos de valvas, consistência média, cor cinza. Depósito sedimentar.
	34	15	20				
35,00	35	14	21			37,00	Argila siltosa, com fragmentos de matéria orgânica e valvas, consistência rija a dura, cor cinza. Depósito sedimentar.
	36	15	19				
<b>SONDAGEM PARALISADA PELO CLIENTE</b>							
40,00							
45,00							

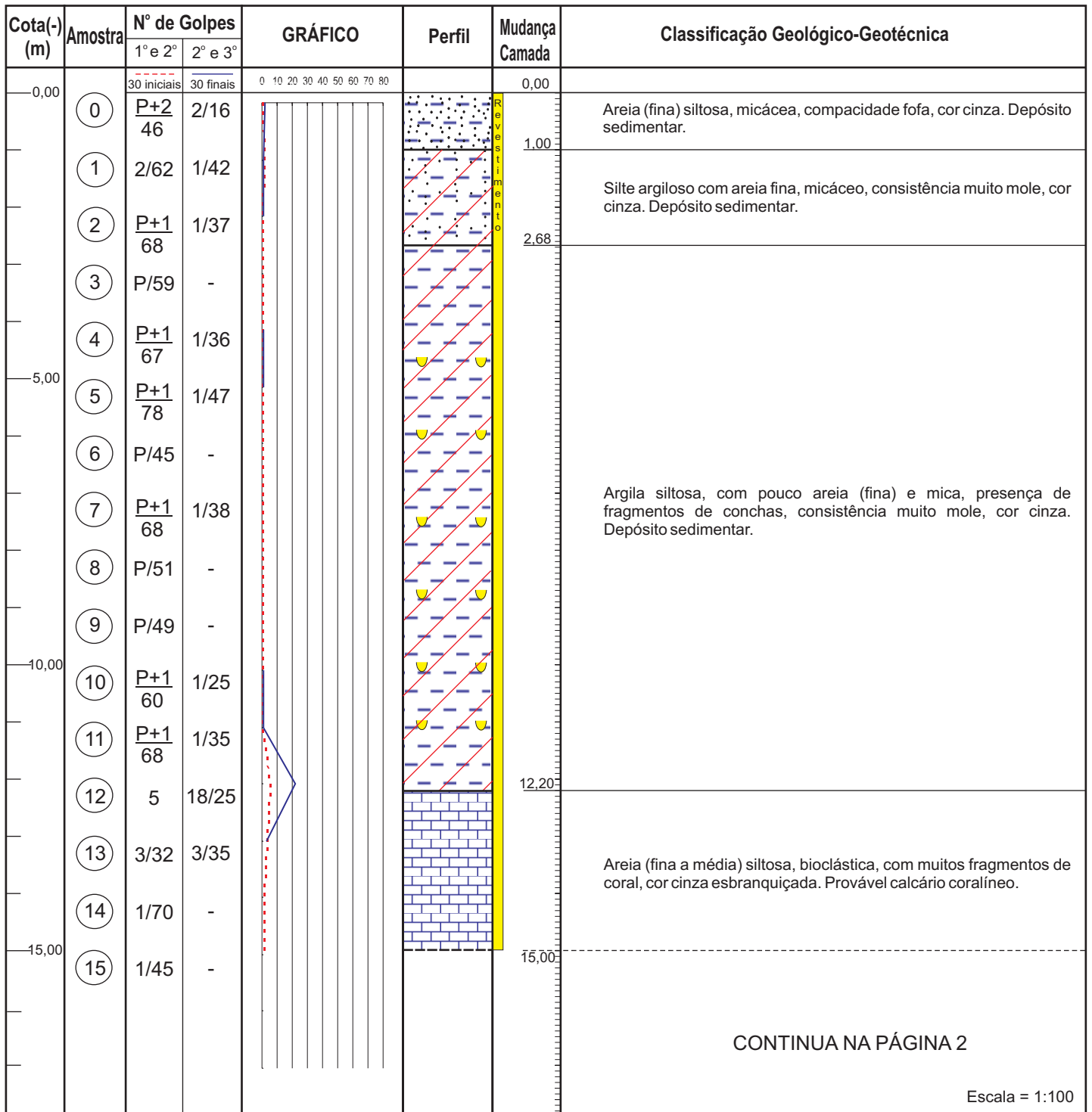
Escala = 1:100



Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada 0/n - Penetração de n cm sob o peso das hastas P/n - Penetração de n cm sob o peso das hastas + batente	Geólogo : Manoel T. de Queiroz Neto
	-	-	-	10		Responsável Técnico:
	-	-	-	10		Geraldo de Oliveira Almeida CREA - 86 - 1 - 05312 - 6
	-	-	-	10		Fiscalização:
Obs: Amostras 15, 17 e 30 foram recuperadas na lavagem.	Lâmina d'água: 28/03 às 07:31 - 19,80 metros				<b>Legenda</b> AS Amostra de sedimento	<p><b>GEODRILL</b> Engenharia Ltda (21) 2427-6939</p>

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00006 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 49,00 m	Coordenadas: N: 8.376.883,00 E: 496.472,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		19/01/2011 02/02/2011

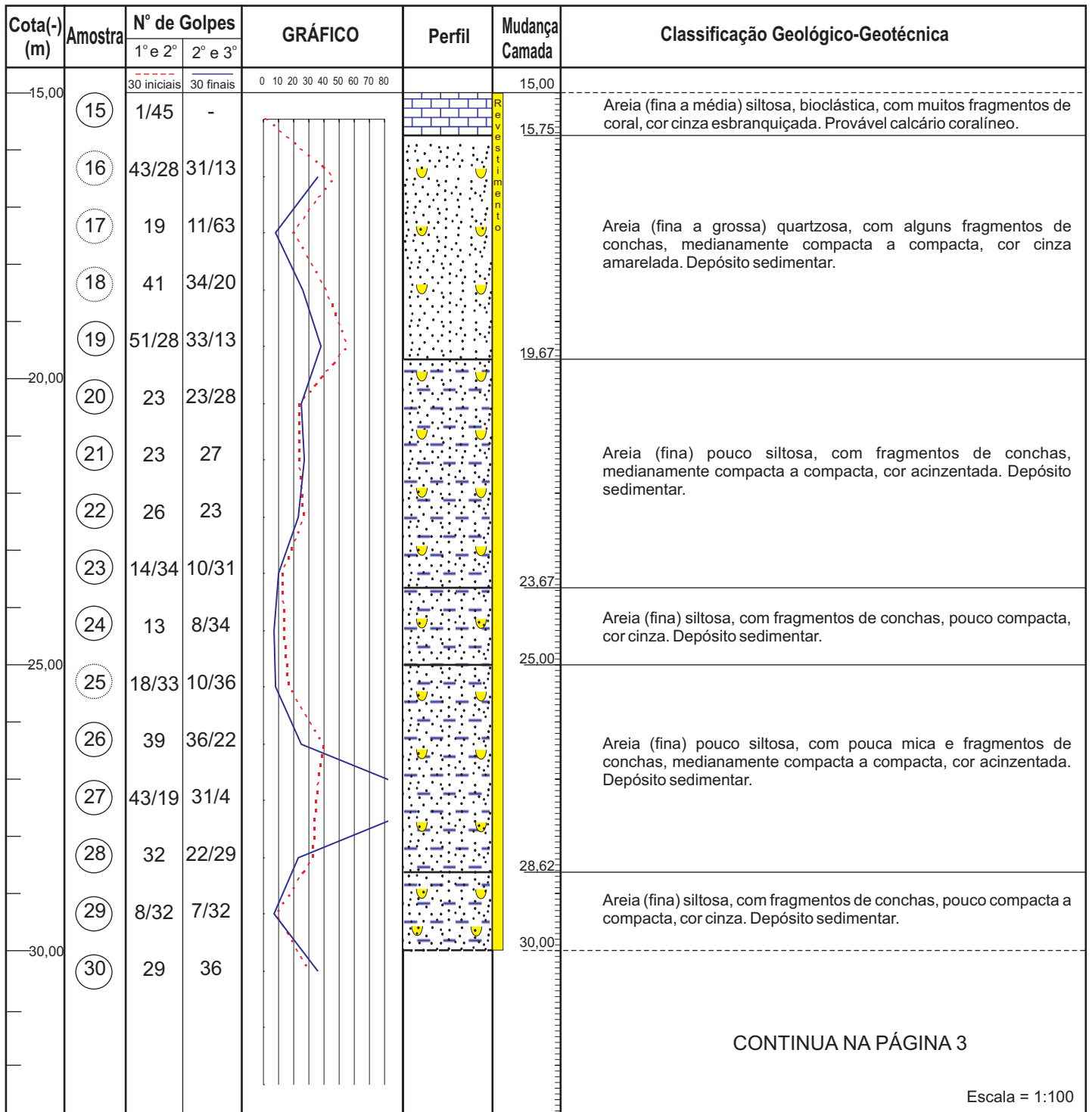


Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo <b>Manoel T. de Queiroz Neto</b>
	-	-	-	10	0/n - Penetração de n cm sob o peso das hastas	Responsável Técnico:
	-	-	-	10	P/n - Penetração de n cm sob o peso das hastas + batente	<b>Geraldo de Oliveira Almeida</b> CREA - 86 - 1 - 05312 - 6
	-	-	-	10		Fiscalização:
Obs: Amostras 16,17,18 e 25 foram recuperadas na lavagem.	Lâmina d'água:				<b>Legenda</b>	
	19/01 às 08:20 - 19,80 metros				 Amostra de sedimento	

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00006 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 49,00 m	Coordenadas: N: 8.376.883,00 E: 496.472,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		19/01/2011 02/02/2011

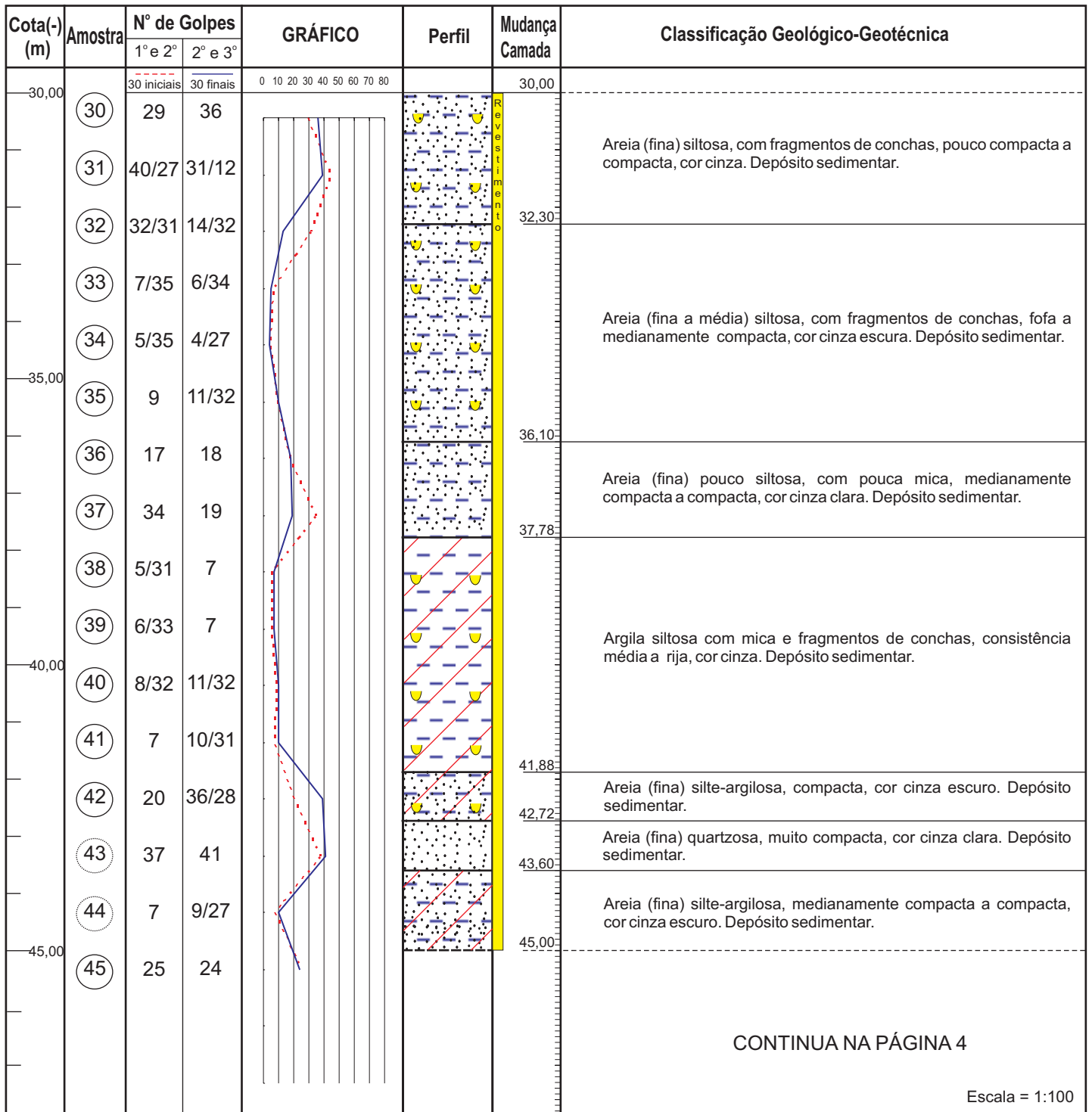


Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo Manoel T. de Queiroz Neto
	-	-	-	10	0/n - Penetração de n cm sob o peso das hastes	Responsável Técnico:
	-	-	-	10	P/n - Penetração de n cm sob o peso das hastes + batente	Geraldo de Oliveira Almeida CREA - 86 - 1 - 05312 - 6
	-	-	-	10		Fiscalização:
Obs: Amostras 16,17,18 e 25 foram recuperadas na lavagem.	Lâmina d'água:				<b>Legenda</b>	
	19/01 às 08:20 - 19,80 metros				AS Amostra de sedimento	

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00006 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 49,00 m	Coordenadas: N: 8.376.883,00 E: 496.472,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		19/01/2011 02/02/2011



Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo: <b>Manoel T. de Queiroz Neto</b>
	-	-	-	10	0/n - Penetração de n cm sob o peso das hastes	Responsável Técnico:
	-	-	-	10	P/n - Penetração de n cm sob o peso das hastes + batente	<b>Geraldo de Oliveira Almeida</b> CREA - 86 - 1 - 05312 - 6
	-	-	-	10		Fiscalização:
Obs: Amostras 16,17,18 e 25 foram recuperadas na lavagem.	Lâmina d'água:				<b>Legenda</b>	
	19/01 às 08:20 - 19,80 metros				Amostra de sedimento	

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00006 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 49,00 m	Coordenadas: N: 8.376.883,00 E: 496.472,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		19/01/2011 02/02/2011

Cota(-) (m)	Amostra	Nº de Golpes		GRÁFICO	Perfil	Mudança Camada	Classificação Geológico-Geotécnica
		1º e 2º	2º e 3º				
45,00		30 iniciais	30 finais	0 10 20 30 40 50 60 70 80		45,00	
	45	25	24			45,22	Areia (fina) silte-argilosa, medianamente compacta a compacta, cor cinza escuro. Depósito sedimentar.
	46	20	33			45,40	Areia (fina) pouco siltosa, compacta, cor cinza. Depósito sedimentar.
	47	27	43/24			46,25	Argila siltosa, com mica, cor cinza escuro. Depósito sedimentar.
	48	47/29	31/14			46,90	Areia (fina) pouco siltosa, compacta, cor cinza. Depósito sedimentar.
	49	31/14	-			47,62	Areia (fina a média) com fragmentos de matéria orgânica, muito compacta, cor cinza. Depósito sedimentar.
	50	12	18			48,75	Areia (fina a média), compacta, cor cinza. Depósito sedimentar.
						49,05	Areia (fina) argilosa, compacta, cor cinza. Depósito sedimentar.
50,00						49,80	Areia (fina), compacta, cor cinza. Depósito sedimentar.
						49,80	Areia (fina) siltosa, pouco argilosa, com mica, medianamente compacta, cor cinza. Depósito sedimentar.
						50,45	
							<b>LIMITE PROGRAMADO</b>
55,00							
60,00							

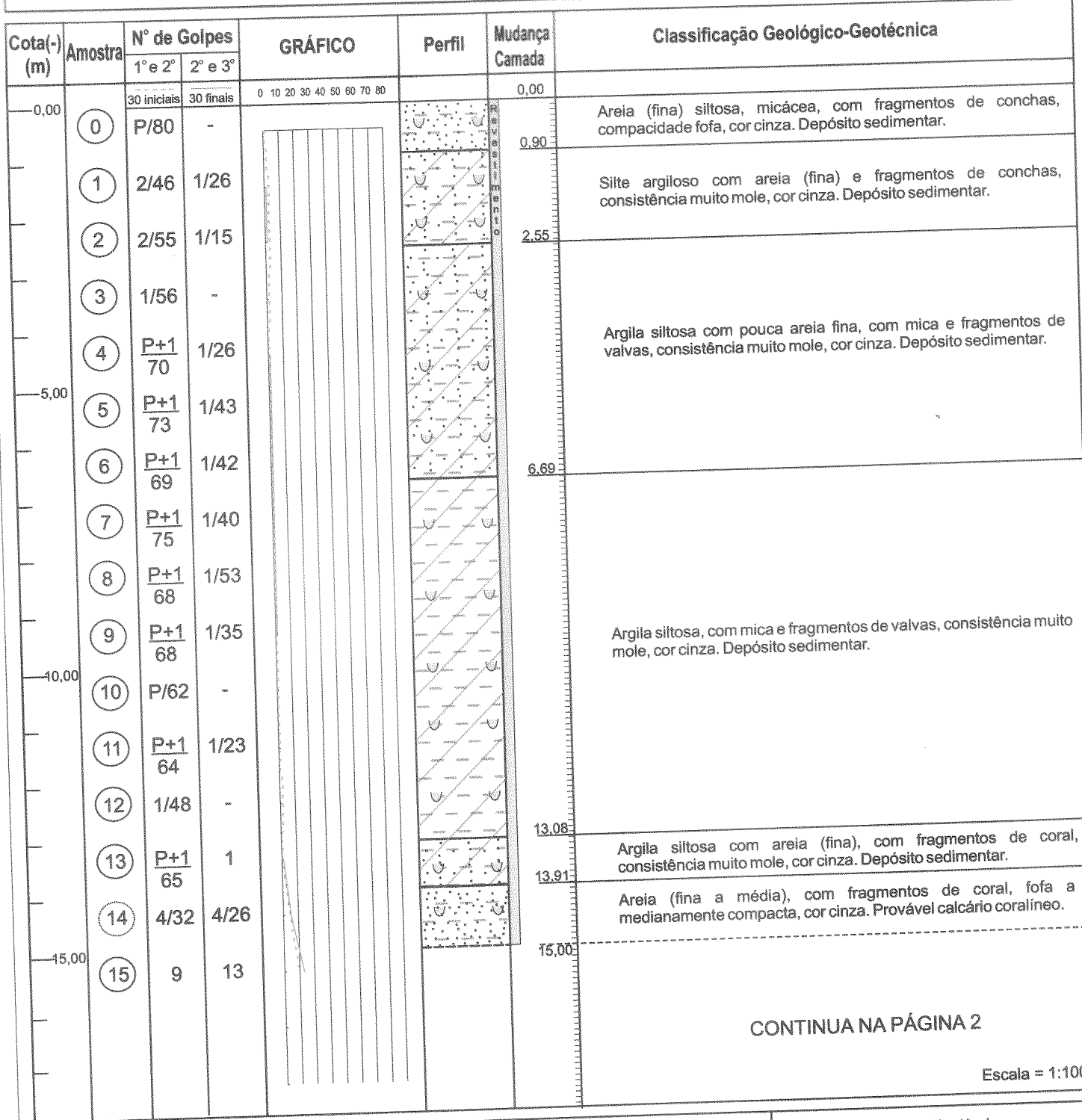
Escala = 1:100

Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo : Manoel T. de Queiroz Neto
	-	-	-	10	0/n - Penetração de n cm sob o peso das hastes	Responsável Técnico:
	-	-	-	10	P/n - Penetração de n cm sob o peso das hastes + batente	Geraldo de Oliveira Almeida CREA - 86 - 1 - 05312 - 6
	-	-	-	10		Fiscalização:
Obs: Amostras 16,17,18 e 25 foram recuperadas na lavagem.	Lâmina d'água:				<b>Legenda</b>	
	19/01 às 08:20 - 19,80 metros				Amostra de sedimento	

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00002 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: <b>36,34 m</b>	Coordenadas: N: 8.377.192,00 E: 496.169,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: <b>0,00</b>	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: <b>0,00 - DHN</b>	Data de Início: <b>Data de Término:</b>
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		<b>06/12/2010</b> <b>18/12/2010</b>



CONTINUA NA PÁGINA 2

Escala = 1:100

Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológica/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada 0/n - Penetração de n cm sob o peso das hastes P/n - Penetração de n cm sob o peso das hastes + batente	Geólogo Manoel T. de Queiroz Neto
	-	-	-	10		Responsável Técnico:
	-	-	-	10		Geraldo de Oliveira Almeida CREA - 86 - 1 - 05312 - 6
	-	-	-	10		Fiscalização: <i>Manoel T. de Queiroz Neto</i>
Obs: Amostras 00 não foi recuperada e foi coletada em um furo ao lado.	Lâmina d'água: 06/12 às 08:40 - 17,30 metros				<b>Legenda</b> AS Amostra de sedimento	<b>II GEODRILL</b> Engenharia Ltda CREA - BA 050 66 87 180

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00002 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 36,34 m	Coordenadas: N: 8.377.192,00 E: 496.169,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		06/12/2010 18/12/2010

Cota(-) (m)	Amostra	N° de Golpes		GRÁFICO	Perfil	Mudança Camada	Classificação Geológico-Geotécnica		
		1° e 2°	2° e 3°						
-15,00	(15)	9	13			15,00	Areia (fina a média), com fragmentos de coral, fofa a medianamente compacta, cor cinza. Provável calcário coralíneo.		
	(16)	2/54	1/18			15,69	Silte argiloso com areia e fragmentos de coral, consistência muito mole, cor cinza clara. Depósito sedimentar.		
	(17)	14/31	9/31			16,81	Areia (fina a média) pouco siltosa, com fragmentos de coral, medianamente compacta, cor cinza. Depósito sedimentar.		
	(18)	11/32	17			17,70	Areia (fina) pouco siltosa, com fragmentos de coral, pouco a medianamente compacta, cor cinza. Depósito sedimentar.		
	(19)	8	6/26						
-20,00	(20)	7	14/27			20,67			
	(21)	27	32/28			21,70	Areia (fina a média) pouco siltosa, com fragmentos de conchas, compacta, cor cinza. Depósito sedimentar.		
	(22)	33	37			22,60	Areia (fina) pouco siltosa, com mica e alguns fragmentos de conchas, compacta, cor bege. Depósito sedimentar.		
	(23)	13	15			24,80	Areia (fina) siltosa, com mica e fragmentos de conchas pouco a medianamente compacta, cor cinza. Depósito sedimentar.		
	(24)	7/32	6/33						
-25,00	(25)	4/35	4/25				26,70	Areia (fina a média) pouco siltosa, com fragmentos de conchas, fofa a compacta, cor acinzentada. Depósito sedimentar.	
	(26)	19	25			27,81	Areia (média a grossa) pouco siltosa, com fragmentos de conchas, compacta, cor cinza. Depósito sedimentar.		
	(27)	25	34			30,00	Areia (fina a média) pouco siltosa, com fragmentos de conchas, compacta, cor cinza. Depósito sedimentar.		
	(28)	27	34						
	(29)	43	28/22						
-30,00	(30)	24	19						

CONTINUA NA PÁGINA 3

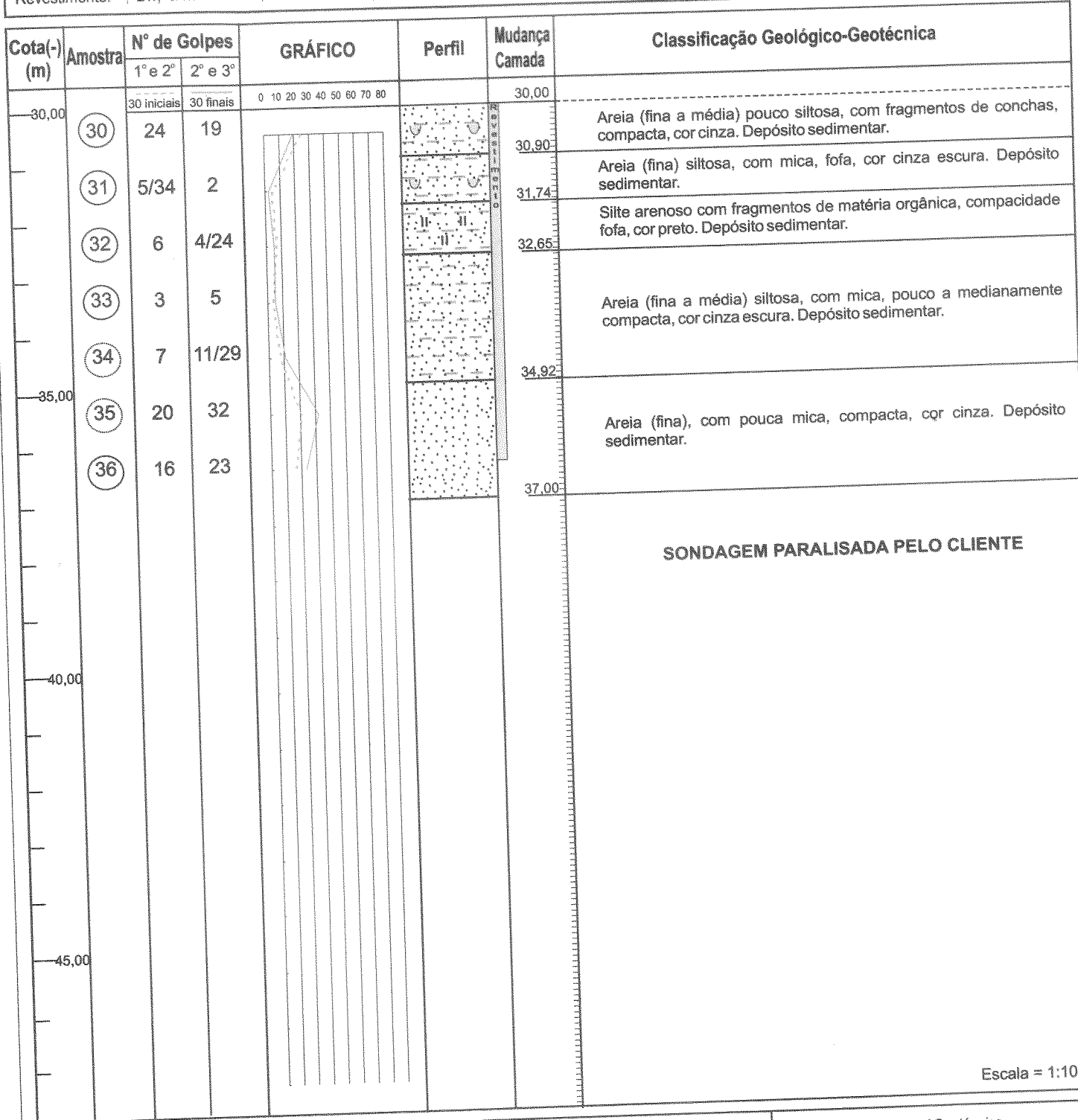
Escala = 1:100

Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada 0/n - Penetração de n cm sob o peso das hastas P/n - Penetração de n cm sob o peso das hastas + batente	Geólogo <b>Manoel T. de Queiroz Neto</b>
	-	-	-	10		Responsável Técnico:
	-	-	-	10		<b>Geraldo de Oliveira Almeida</b> CREA - 86 - 1 - 05312 - 6
	-	-	-	10		Fiscalização: <i>Montandon</i>
Obs: Amostras 14 e 35 foram recuperadas na lavagem. Amostra 34 não foi recuperada.	Lâmina d'água: 06/12 às 08:40 - 17,30 metros				<b>Legenda</b> (AS) Amostra de sedimento	<b>III GEODRILL</b> Engenharia Ltda (21) 2427-6939 CREA - BA 050 56 87 180

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00002 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 36,34 m	Coordenadas: N: 8.377.192,00 E: 496.169,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		06/12/2010 18/12/2010



Escala = 1:100

<b>Observação</b> Amostra Sedimento (1Kg)	<b>Lavagem por Tempo</b>				<b>MEDIDAS RELACIONADAS À BOCA DO FURO</b> ○ - Amostra não recuperada ou lavada O/n - Penetração de n cm sob o peso das hastas P/n - Penetração de n cm sob o peso das hastas + batente	Classificação Geológico/ Geotécnica
	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)		Geólogo : Manoel T. de Queiroz Neto
	-	-	-	10		Responsável Técnico:
	-	-	-	10		Geraldo de Oliveira Almeida CREA - 86 - 1 - 05312 - 6
Obs: Amostras 14 e 35 foram recuperadas na lavagem. Amostra 34 não foi recuperada.	Lâmina d'água: 06/12 às 08:40 - 17,30 metros				Fiscalização: <i>[Assinatura]</i>	<b>III GEODRILL</b> Engenharia Ltda (21) 2427-6939 CREA - BA 050 56 87 180



**BOLETIM DE SONDAGEM A PERCUSSÃO**  
**III GEODRILL Engenharia Ltda**

SONDAGEM Nº SP AR10002 S1212  
 COTA (m)  
 Cliente: **BANIN** IG:  
 R.N.  
 Obra: **ILHEUS BA**  
 DATAS INICIO: **06-12-2010** TERMINO: **18-12-10**  
 Local: **TERMINAL PORTO DA TULHA**  
 COORDENADAS N:  
 S:

AVANÇO	PROFUNDIDADE REVESTIMENTO (cm)	AMOSTRA	REVESTIMENTO φ					PROFUNDIDADE DE MUDANÇA (m)	PROFUNDIDADE DO NÍVEL D'ÁGUA			
			AMOSTRADOR φ int 34,90 mm φ ext 50,80 mm						DATA	MEDIDA (m)	DATA	MEDIDA (m)
			PROFUNDIDADE (m)		ENSAIO DE PENETRAÇÃO (Nº DE GOLPES)				CLASSIFICAÇÃO DO MATERIAL			
Nº	TIPO	DE	A	/15 cm	/15 cm	/15 cm						
P	100	0 R	00	0,80	P/80	—	—	00	SILTE AREILHOZO COM AREIA			
L	100		080	100	LA	VA	DO		FINA COM CINZA CLÁREA			
P	100	1 R	100	1,46	1/20	1/26	—	0,90				
L	100		146	200	LA	VA	DO					
P	100	2 R	200	3,55	1/40	1/15	—		IDEM			
L	100		255	300	LA	VA	DO					
P	100	3 R	300	3,56	1/56	—	—					
L	100		356	400	LA	VA	DO					
P	100	4 R	400	4,70	P/44	1/26			IDEM			
L			470	500	LA	VA	DO					
P		5 R	500	5,73	P/30	1/43	—					
L			573	600	LA	VA	DO					
P		6 R	600	6,69	P/27	1/42	—					
L			669	700	LAVADO							
P		7 R	700	7,75	P/35	1/40	—					
L			775	800	LA	VA	DO	7,77	SILTE AREILHOZO COM POUCA			
P		8 R	800	8,68	P/15	1/53	—		MICA COM CINZA CLÁREA.			

Observações:  
 OBS AMOSTRA DE 00-A 080 NÃO RECORREU  
 PELO TUBO DO LADO DO FUNDO  
 OBS: LÂMINA D'ÁGUA 17,30m AS 08:40 DIA  
 06/12/2010.

Ensaio		
Tempo	Avanço	
10 minutos		
10 minutos		
10 minutos		

NOTAS:  
 1) Na coluna AVANÇO indicar "T" (trado), "L" (lavagem) ou "P" (penetração)  
 2) Na coluna AMOSTRA, indicar a direção do Nº o tipo de cada amostra, "R" (representativa),  
 "L" (lavada), "S" (shelby)

Responsável  
**MANOEL MESSIAS**  
 Sondador

**BOLETIM DE SONDAÇÃO A PERCUSSÃO**  
**/// GEODRILL Engenharia Ltda**

SONDAÇÃO Nº **SP A210002 SPI2**

COTA (m)

Cliente: **BAMIN**

IG:

R.N.

Obra: **ILHEUS BA**

DATA:

INÍCIO:

**06-12-2010**

Local: **TERMINAL PONTA DA TULHA**

TERMINO:

**18-12-2010**

AVANÇO	PROFUNDIDADE REVESTIMENTO (m)	AMOSTRA	REVESTIMENTO $\phi$ <b>BW</b>		ENSAIO DE PENETRAÇÃO (Nº DE GOLPES)			PROFUNDIDADE DE AMOSTRAGEM (m)	PROFUNDIDADE DO NÍVEL D'ÁGUA								
			AMOSTRADOR $\phi$ int 34,90 mm $\phi$ ext 50,80 mm		PROFUNDIDADE (m)				DATA	MEDIDA (m)	DATA	MEDIDA (m)					
			Nº	TIPO	DE	A	/15 cm		/15 cm	/15 cm	CLASSIFICAÇÃO DO MATERIAL						
L 9	00		8.68	9.00	LA	VA	DO										
P 10	9	R	9.00	9.68	P/33	1/35		9.84	SILTE ARGILOSO COM -								
L 11			9.68	10.00	LA	VA	DO		FRAGMENTO DE CONCHA -								
P 12	10	R	10.00	10.62	P/62	-	-		COM POUCA MICA COM CINZA								
L 13			10.62	11:00	LA	VA	DO		CLARA.								
P 14	11	R	11.00	11.64	P/41	1/23	-	11.84	IDEM ARGILOSO COM MICA								
L 15			11.64	12.00	LA	VA	DO		COM CINZA CLARA.								
P 16	12	R	12.00	12.48	1/48	-	-										
L 17			12.48	13.00	LA	VA	DO										
P 13	R		13.00	13.65	P/35	1/30	-	13.08	SILTE ARGILOSO e POUCA								
L 13			13.65	14.00	LA	VA	DO		AREIA FINA COM CORAL								
P 14	L		14.00	14.45	2/19	2/13	2/13	13.81	AREIA FINA e FRAGMENTO								
L 14			14.45	15.00	LA	VA	DO		DE CORAL								
P 15	R		15.00	15.50	2/20	7/10	6/20	15.69	SILTE ARGILOSO COM MICA								
L 15			15.50	16:00	LA	VA	DO		COM FRAGMENTO DE CORAL COM								
P 16	R		16.00	16.54	1/36	1/18	-		CINZA.								
L 16			16.54	17:00	LA	VA	DO										

Observações

BOLETIM DO SONDADOR

Ensaio

5 minutos

Avanço

10 minutos

10 minutos

10 minutos

NOTAS

- 1) Na coluna AVANÇO indicar "T" (trado), "L" (lavagem) ou "P" (penetração)
- 2) Na coluna AMOSTRA, indicar a direita do Nº o tipo de cada amostra: "R" (representativa)
- 3) "S" (shelby)

**MANOEL MESSIAS**  
Sondador

Responsavel

**BOLETIM DE SONDAÇÃO A PERCUSSÃO**  
**GEODRILL Engenharia Ltda**

SONDAÇÃO Nº **SP AR10002SP11**

Cliente: **BANIR** IG: \_\_\_\_\_

COT. Nº \_\_\_\_\_

Obra: **ILHÉUS 130**

R.N. \_\_\_\_\_

Local: **TERMINAL PONTA DATULHA**

DATA: INÍCIO: **06-12-2010**  
 TÉRMINO: \_\_\_\_\_

AVANÇO	PROFUNDIDADE REVESTIMENTO (cm)	AMOSTRA	REVESTIMENTO φ <b>BW</b>		ENSAIO DE PENETRAÇÃO (Nº DE GOLPES)			PROFUNDIDADE DE MUDANÇA (m)	PROFUNDIDADE DO NÍVEL D'ÁGUA			
			AMOSTRADOR φ int 34,90 mm φ ext 50,60 mm		PROFUNDIDADE (m)				DATA	MEDIDA (m)	DATA	MEDIDA (m)
			Nº	TIPO	DE	A	/15 cm		/15 cm	/15 cm	CLASSIFICAÇÃO DO MATERIAL	
P 17	17	R	17.00	17.63	10/16	4/15	5/16	16.81	AREIA FINA MEDIA POUCA			
P 17	17	R	17.00	17.47	10/16	4/15	5/16		SILTOSA COM ENCHA DE MA			
P 100	18	R	18.00	18.45	3/15	8/17	9/13		2 ISCO CÔR CINZA			
L 100			18.45	18.00	LA	VA	DO	17.40	AREIA FINA POUCA SILTOSA			
P 100	19	R	19.00	19.45	6/19	3/11	4/15		CÔR CINZA			
L 100			19.45	20.00	LA	VA	DO	18.82	AREIA FINA SILTOSA CÔR CINZA			
P 100	20	R	20.00	20.45	2/18	5/13	9/15	20.67	IDEM CÔR BEGE			
P 100	21	R	21.00	21.45	4/17	13/13	13/15					
L 100		L	21.45	22.00	LAVA	DO		22.60	AREIA FINA POUCA SILTOSA			
P 25	22	R	22.00	22.45	9	24	13		COM MICA CÔR CINZA			
P 26	23	R	23.00	23.45	7	6	9	23.72	IDEM FINA POUCA SILTOSA			
L 27			23.45	24.00	LA	VA	DO		COM FRAGMENTO DE CONCHA			
P 24	24	R	24.00	24.50	4/17	3/15	3/18		DE MARISCO COM MICA CÔR			
L 24			24.50	25.00	LA	VA	DO		CINZA			
P 25	25	R	25.00	25.35	2/20	2/15	2/10					
L 25			25.45	26.00	LA	VA	DO	26.00	IDEM COMPACTA			
P 26	26	R	26.00	26.45	9	10	15					

12.47  
18.58

24

REVI  
PIU

Observações	BOLETIM DO SONDADOR		Ensaio	
	Tempo	Avanço		
	10 minutos			
	10 minutos			
	10 minutos			

NOTAS  
 1) Na coluna AVANÇO indicar "T" (trado), "L" (lavagem) ou "P" (penetração)  
 2) Na coluna AMOSTRA, indicar a direita do Nº o tipo de cada amostra. "R" (representativa)  
 "L" (lavada), "S" (shelby)

Responsavel: \_\_\_\_\_  
 Sondador: **donerl messias**

**BOLETIM DE SONDAÇÃO A PERCUSSÃO**  
**III GEODRILL Engenharia Ltda**

SONDAÇÃO Nº **SP AIR 0002 SP12**

COTA (m)

Cliente: **BAMIN** IG:

R.N.

Obra: **ZLHEUS BA**

DATAS INÍCIO: **6-12-10** TÉRMINO: **18-12-10**

Local: **FEZMINA DE MINÉRIO PONTA DA FULHA**

COORDENADAS  
 N:  
 S:

AVANÇO	PROFUNDIDADE REVESTIMENTO (m)	AMOSTRA	REVESTIMENTO $\phi$ <b>13W</b>		AMOSTRADOR $\phi$ int 34,90 mm $\phi$ ext 50,80 mm			PROFUNDIDADE DE MUDANÇA (m)	PROFUNDIDADE DO NÍVEL D'ÁGUA			
			PROFUNDIDADE (m)		ENSAIO DE PENETRAÇÃO (Nº DE GOLPES)				DATA	MEDIDA (m)	DATA	MEDIDA (m)
			Nº	TIPO	DE	A	115 cm		115 cm	115 cm	CLASSIFICAÇÃO DO MATERIAL	
L 27	-	-	26,45	27,00	LA	VA	20	26,70	AREIA GROSSA FINA MEDIA			
P 28	27	12	27,00	27,45	10	15	19		POUCA SILTOZA E FRAGMENTO			
L			27,45	28,00	LA	VA	20		TO DE MANISCO COMPACTA COM			
P 29	28	12	28,00	28,45	10	17	17		CINZA.			
L			28,45	29,00	LA	VA	20	27,81	AREIA FINA SILTOZA COM			
P 30	29	12	29,00	29,37	23	20	8/07		MICA COMPACTA COM CINZA			
L			29,37	30,00	LA	VA	20		ESCUVA.			
P 31	30	12	30,00	30,45	15	9	10	29,22	AREIA FINA MEDIA POUCA			
L			30,45	31,00	LA	VA	20		SILTOZA COMPACTA COM CINZA.			
P 32	31	R	31,00	31,45	4	1/19	1/11	29,6	AREIA FINA MEDIA GROSSA			
L			31,45	32,00	LA	VA	20		POUCA SILTOZA E			
P 33	32	12	32,00	32,45	5/21	4/09	3/15		PI MICA COM CINZA COM.			
L			32,45	33,00	LA	VA	20		FRAGMENTO DE MANISCO.			
P 34	33	12	33,00	33,46	1/16	2/14	3/16	30,90	AREIA FINA PI SILTOZA COM			
									PI MICA COM CINZA ESCUR.			
								31,44	AREIA E VEIOS DE			
									AREIA COM MICA E FRAG- MENTO DE MANILHA COM ESCUR.			

Observações:  
 BOLETIM DO SONDADOR

Ensaio	
Tempo	Avanço
10 minutos	
10 minutos	
10 minutos	

NOTAS:  
 1) Na coluna AVANÇO indicar "T" (tracó), "L" (lavagem) ou "P" (penetração)  
 2) Na coluna AMOSTRA, indicar a direita do Nº o tipo de cada amostra. "R" (representativa), "L" (lavada), "S" (sheelby)

Responsável:  
**MANOEL MESSIAS**  
 Sondador

**BOLETIM DE SONDAGEM A PERCUSSÃO**  
**/// GEODRILL Engenharia Ltda**

SONDAGEM Nº **SP AR 0002 SP 12**

COTA (m)

Cliente: **BAMIN** IG:

R.N.

Obra: **ILHEUS BA**

DATAS INICIO: **6-12-2010** TÉRMINO: **18-12-10**

Local: **TERMINAL DE MINÉRIO PONTA DA TULHA.**

COORDENADAS N:  
S:

AVANÇO	PROFUNDIDADE REVESTIMENTO (m)	AMOSTRA	REVESTIMENTO # <b>13W</b>		AMOSTRADOR			PROFUNDIDADE DE QUEDANÇA (m)	PROFUNDIDADE DO NÍVEL D'ÁGUA			
			± int	± ext	± int	± ext	DATA		MEDIDA (m)	DATA	MEDIDA (m)	
			PROFUNDIDADE (m)		ENSAIO DE PENETRAÇÃO (Nº DE GOLPES)				CLASSIFICAÇÃO DO MATERIAL			
Nº	TIPO	DE	A	/15 cm	/15 cm	/15 cm						
L	34	-	3346	3400	LA	VA	DO	3265	AREIA GROSSA FINA MÚLTA			
P	34	R	3400	3446	3/17	4/13	7/16		POUCA SILTOSA c/ pouca mica com escurec.			
L	35		3446	35,00	LA	VA	DO					
P	35	L	35,00	35,45	6	14	18/15	3492	AREIA FINA c/ pouca mica			
L			35,45	3600	LA	VA	DO		COMPACTA com cizoa clara.			
P	36	R	36,00	3646	6	10	13					
L			3646	37,00	LA	VA	DO					
			37,00									

Observações: **OBS AMOSTRA Nº 34 CAIU QUANDO SUBIU O COLETOR NA SUPERFICIA.**

Ensaio		
Tempo	Avanço	
10 minutos		
20 minutos		
30 minutos		

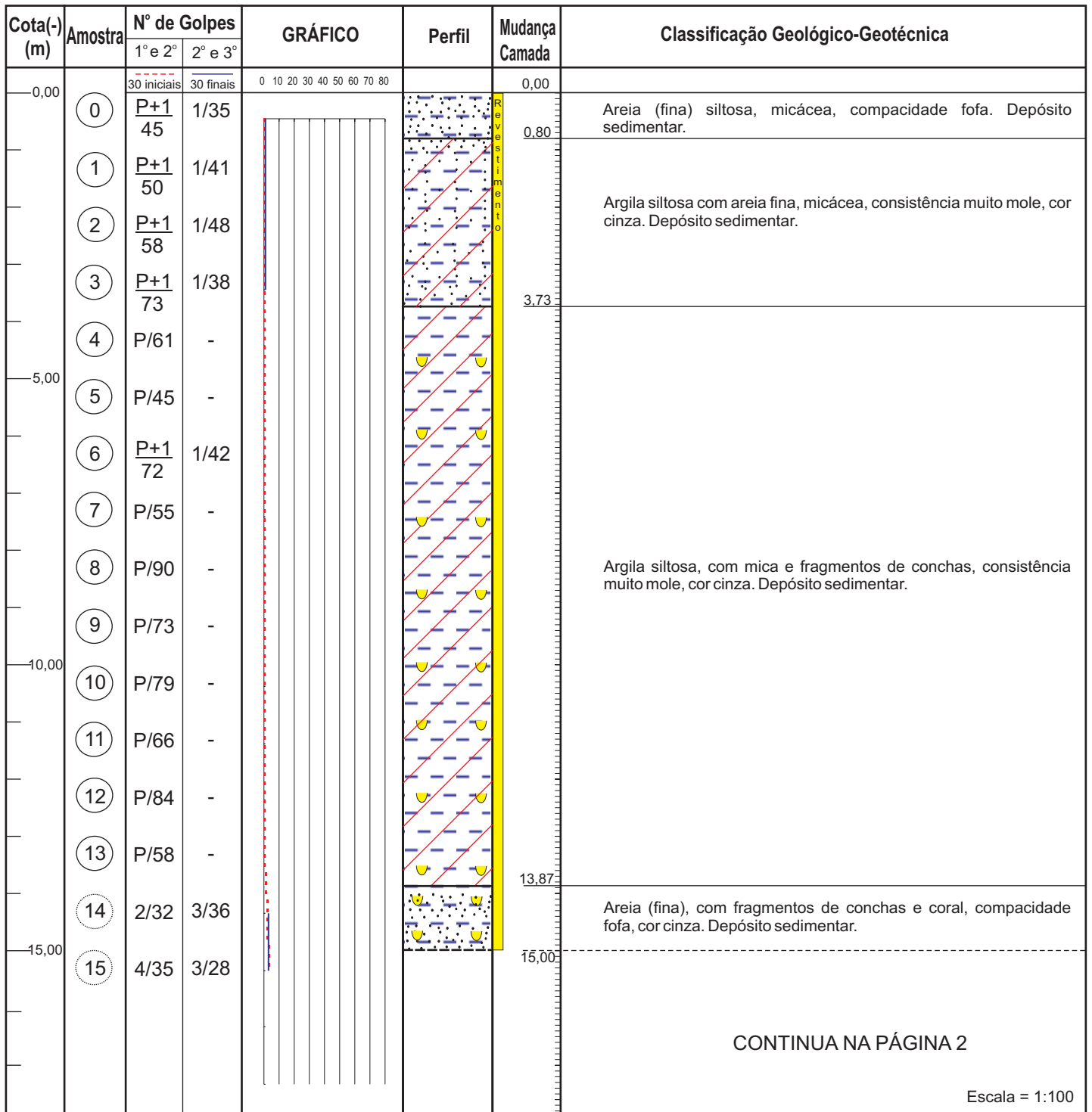
NOTAS:  
 1) Na coluna AVANÇO indicar "T" (trado), "L" (lavagem) ou "P" (penetração)  
 2) Na coluna AMOSTRA, indicar a direita do Nº o tipo de cada amostra, "R" (representativa), "L" (lavada), "S" (shelby)

Responsável:  
**MANOEL MESSIAS**  
 Sondador

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00003 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 29,00 m	Coordenadas: N: 8.377.489,00 E: 496.480,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		20/12/2010 15/01/2011

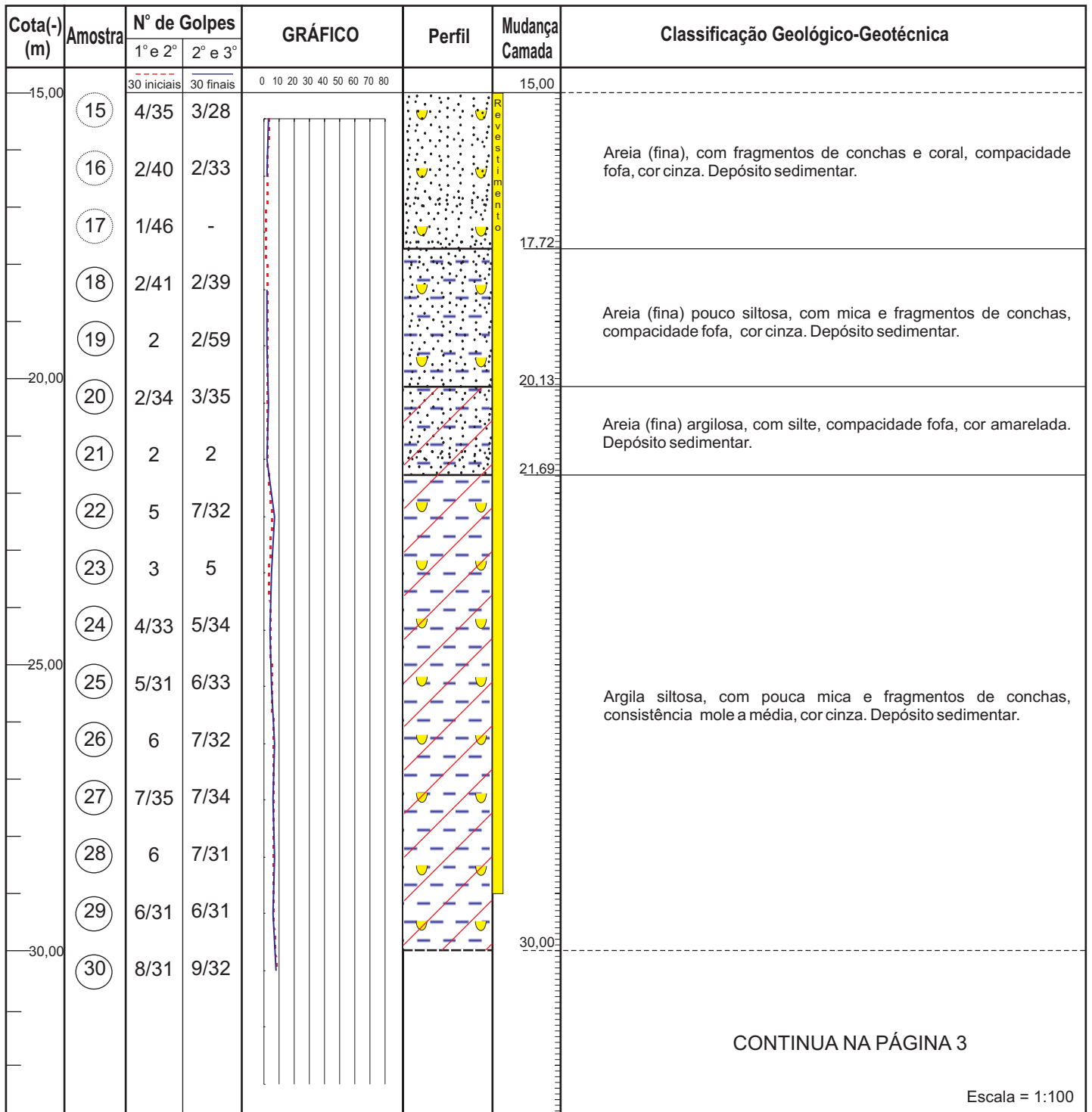


Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo Manoel T. de Queiroz Neto
	-	-	-	10	0/n - Penetração de n cm sob o peso das hastas	Responsável Técnico:
	-	-	-	10	P/n - Penetração de n cm sob o peso das hastas + batente	Geraldo de Oliveira Almeida CREA - 86 - 1 - 05312 - 6
	-	-	-	10		Fiscalização:
Obs: Amostras 14 e 15 foram recuperadas na lavagem. Amostras 16 e 17 não foram recuperadas.	Lâmina d'água:				<b>Legenda</b>	
	20/12 às 08:30 - 18,30 metros				⊙ AS Amostra de sedimento	

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00003 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 29,00 m	Coordenadas: N: 8.377.489,00 E: 496.480,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		20/12/2010 15/01/2011

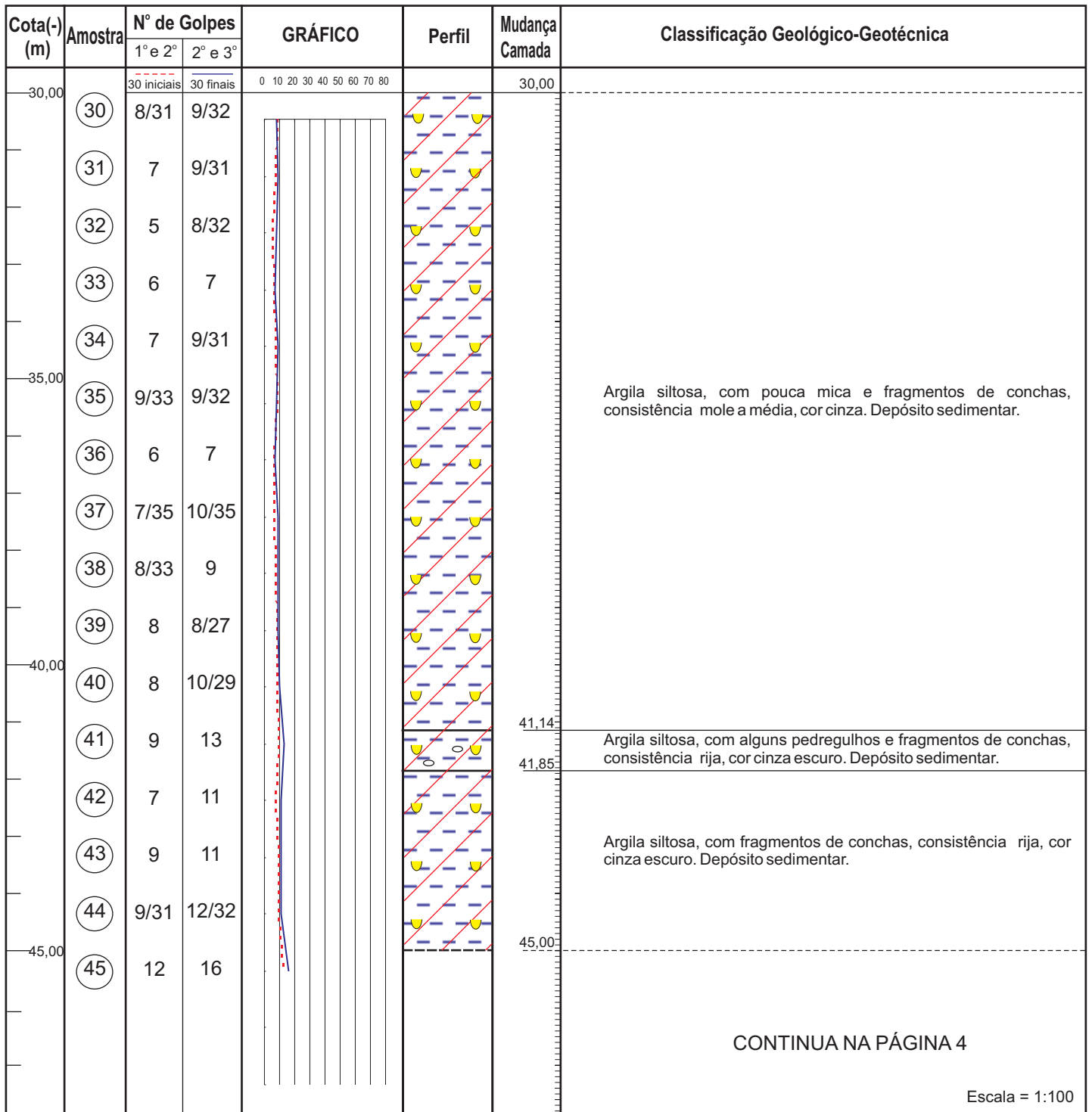


Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo Manoel T. de Queiroz Neto
	-	-	-	10	0/n - Penetração de n cm sob o peso das hastas	Responsável Técnico:
	-	-	-	10	P/n - Penetração de n cm sob o peso das hastas + batente	Geraldo de Oliveira Almeida CREA - 86 - 1 - 05312 - 6
	-	-	-	10		Fiscalização:
Obs: Amostras 14 e 15 foram recuperadas na lavagem. Amostras 16 e 17 não foram recuperadas.	Lâmina d'água:				<b>Legenda</b>	
	20/12 às 08:30 - 18,30 metros				Amostra de sedimento	

# Perfil Individual de Sondagem à Percussão

Furo: **ARI 00003 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 29,00 m	Coordenadas: N: 8.377.489,00 E: 496.480,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		20/12/2010 15/01/2011



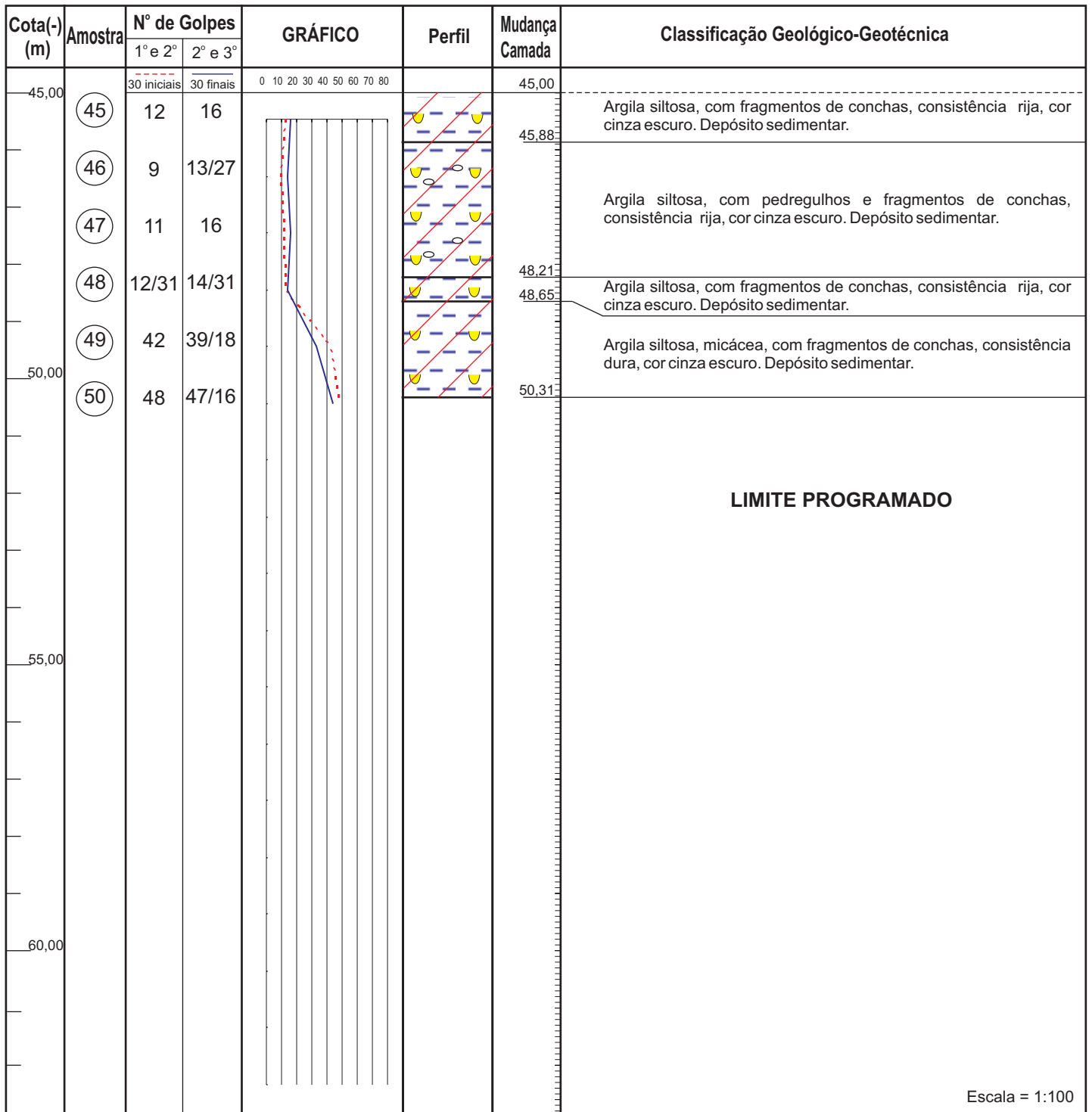
Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada	Geólogo : Manoel T. de Queiroz Neto
	-	-	-	10	0/n - Penetração de n cm sob o peso das hastes	Responsável Técnico:
	-	-	-	10	P/n - Penetração de n cm sob o peso das hastes + batente	Geraldo de Oliveira Almeida CREA - 86 - 1 - 05312 - 6
	-	-	-	10		Fiscalização:
Obs: Amostras 14 e 15 foram recuperadas na lavagem. Amostras 16 e 17 não foram recuperadas.	Lâmina d'água:				<b>Legenda</b>	 (21) 2427-6939
	20/12 às 08:30 - 18,30 metros				⊙ AS Amostra de sedimento	



# Perfil Individual de Sondagem à Percussão

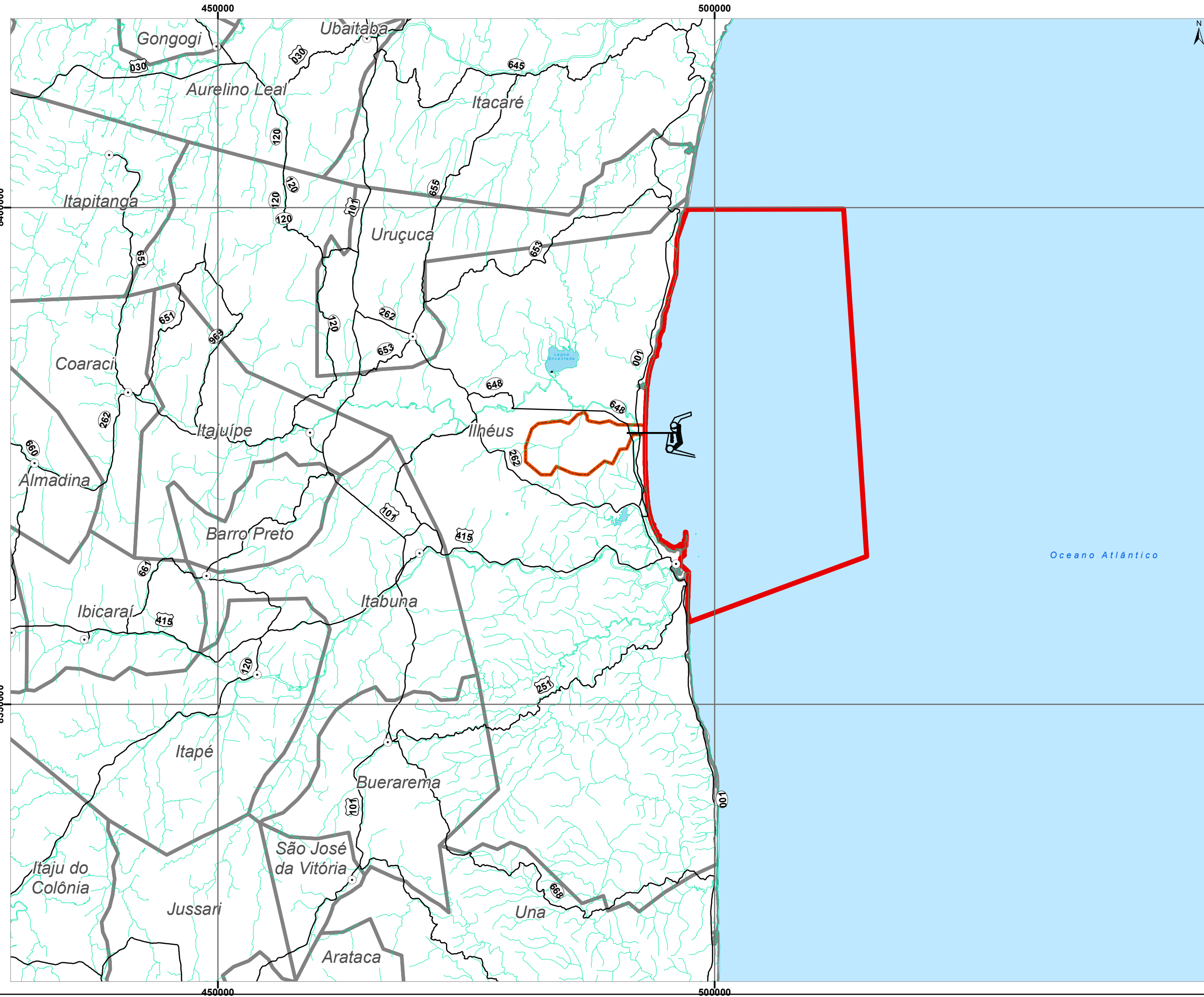
Furo: **ARI 00003 SPR**

Cliente: <b>BAHIA MINERAÇÃO</b>	Revestimento: 29,00 m	Coordenadas: N: 8.377.489,00 E: 496.480,00
Obra/I.G.: <b>SONDAGEM GEOTÉCNICA SUBAQUÁTICA</b>	Inclin. c/ vertical: 0,00	
Local: <b>TERMINAL DE MINÉRIO PONTA DA TULHA - BA</b>	R.N.: 0,00 - DHN	Data de Início: Data de Término:
Revestimento: $\phi$ Bw, amostrador: $\phi$ int. 34,90 mm $\phi$ ext. 50,80 mm, peso de 65 kg c/ altura de queda de 75 cm		20/12/2010 15/01/2011



Observação	Lavagem por Tempo				MEDIDAS RELACIONADAS À BOCA DO FURO	Classificação Geológico/ Geotécnica
Amostra Sedimento (1Kg)	Inicial (m)	Final (m)	Diferença(cm)	Tempo (min)	○ - Amostra não recuperada ou lavada 0/n - Penetração de n cm sob o peso das hastas P/n - Penetração de n cm sob o peso das hastas + batente	Geólogo : Manoel T. de Queiroz Neto Responsável Técnico: Geraldo de Oliveira Almeida CREA - 86 - 1 - 05312 - 6 Fiscalização:
	-	-	-	10		
	-	-	-	10		
	-	-	-	10		
Obs: Amostras 14 e 15 foram recuperadas na lavagem. Amostras 16 e 17 não foram recuperadas.	Lâmina d'água: 20/12 às 08:30 - 18,30 metros				<b>Legenda</b> AS Amostra de sedimento	

#### **8.1.8.1.1 DOMÍNIO DO MODELO**



- Legenda**
- Sede Municipal
  - Arranjo Offshore
  - Rodovias
  - Hidrografia
  - Domínio do Modelo
  - ADA do Ambiente Terrestre
  - Limite Municipal



CONTRATANTE

REALIZAÇÃO

DATA

24/08/2011

TÍTULO

DOMÍNIO DO MODELO

PROJETO

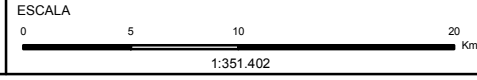
Estudo de Impacto Ambiental e Relatório de Impacto Ambiental do Porto Sul

INFORMAÇÕES CARTOGRÁFICAS

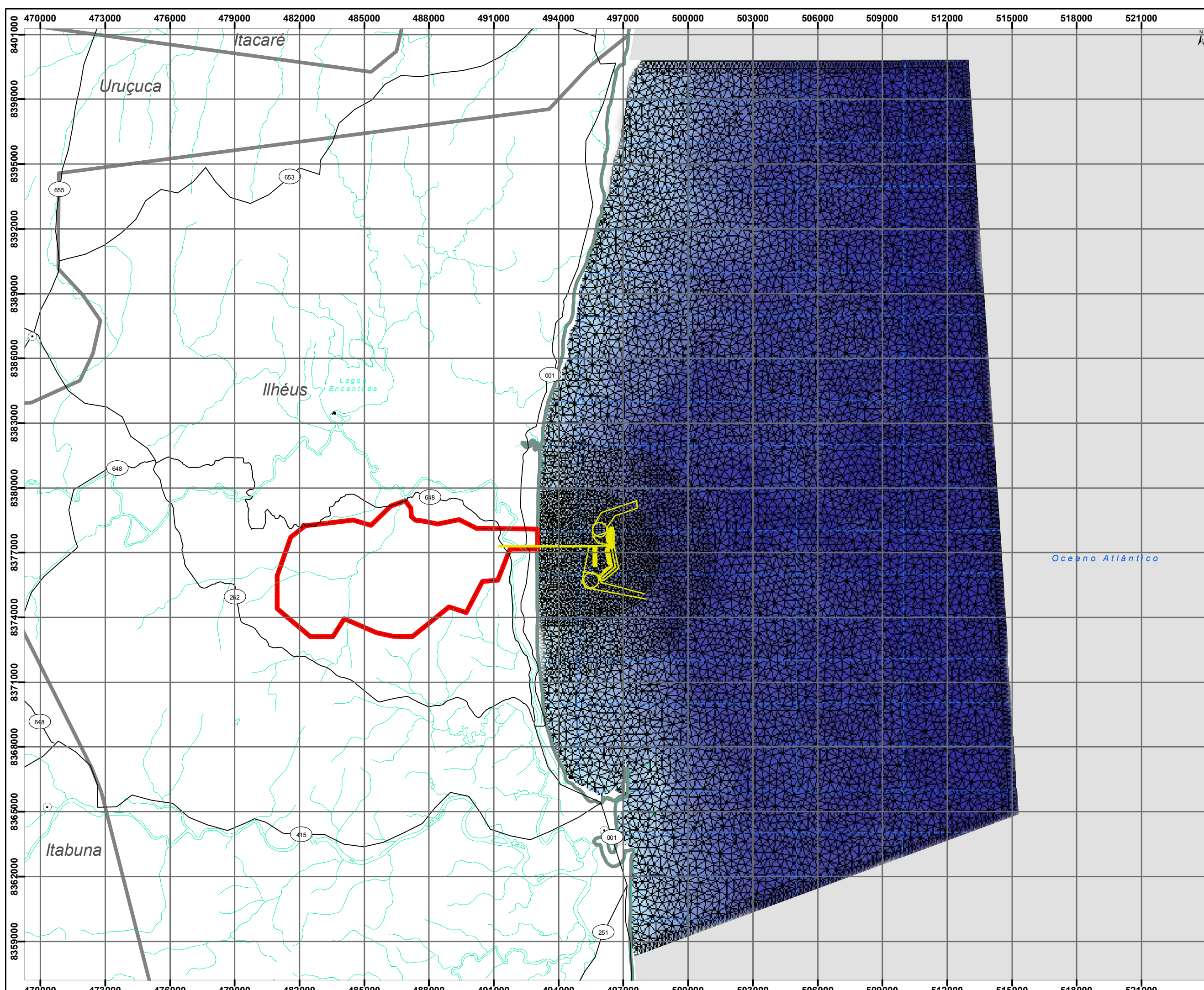
Sistema de Coordenadas: UTM, Fuso 24S.  
Sistema de Referência: Datum SAD 69.

FONTE

DERBA, 2009.



#### **8.1.8.1.2 MALHA UTILIZADA NOS ESTUDOS DE MODELAGEM**

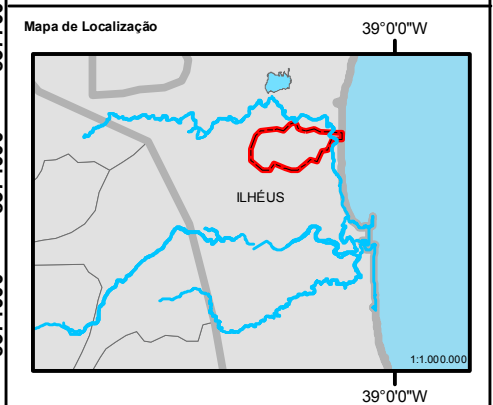


**Legenda**

- Sede Municipal
- Sistema Viário
- Hidrografia
- Arranjo Offshore
- ADA do Ambiente Terrestre
- Municípios

**Batimetria (mMSL)**

- Acima de -6
- 8 -6
- 10 -8
- 12 -10
- 14 -12
- 16 -14
- 18 -16
- 20 -18
- 22 -20
- 24 -22
- 26 -24
- 28 -26
- 30 -28
- 40 -30
- 50 -40
- Abaixo de -50
- Valor Indefinido



CONTRATANTE	
REALIZAÇÃO	
DATA	24/08/2011
TÍTULO	MALHA UTILIZADA NOS ESTUDOS DE MODELAGEM
PROJETO	Estudo de Impacto Ambiental e Relatório de Impacto Ambiental do Porto Sul
INFORMAÇÕES CARTOGRÁFICAS	Sistema de Coordenadas: UTM, Fuso 24S. Sistema de Referência: Datum SAD 69.
FONTE	DERBA, 2009.
ESCALA	0 1 2 4 Km 1:160.000