

Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **20/04/2010**

Lab-nº: **09/3802C-Rev1**

Análise em amostras de solo

Cliente : Fundação Bio-Rio / Petrobras – UN-BS
Endereço : Av. Carlos Chagas Filho, nº 791
Cidade Universitária - Rio de Janeiro - RJ
Localização do Projeto : Bacia de Santos
Data da Coleta : 15/12/2009
Entrega das amostras : 18/12/2009
Início dos ensaios/extração : 18/12/2009 14:01
Término dos ensaios : 20/03/2010

INNOLAB do Brasil Ltda.
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Projeto : PAI - Projeto de Avaliação de Impactos da Bacia de Santos
Gerente do Projeto : Cristina Falcão

Parâmetro	SPS# 11-R1(0-2 cm) (µg/kg)	SPS# 11-R2(0-2 cm) (µg/kg)	SPS# 11-R3(0- 2cm) (µg/kg)	SPS# 12-R1(0- 2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	<10	41	10	5
n-C11	12	19	<10	25	10	5
n-C12	23	22	18	68	10	5
n-C13	14	13	12	43	10	5
n-C14	<10	<10	<10	31	10	5
n-C15	nd	nd	nd	56	10	5
n-C16	nd	<10	<10	23	10	5
n-C17	12	14	10	16	10	5
Pristano	19	<10	13	<10	10	5
n-C18	Nd	Nd	Nd	23	10	5
Fitano	nd	<10	10	nd	10	5
n-C19	28	12	<10	11	10	5
n-C20	<10	<10	16	18	10	5
n-C21	<10	<10	<10	<10	10	5
n-C22	nd	nd	nd	<10	10	5
n-C23	nd	nd	<10	<10	10	5
n-C24	nd	nd	nd	<10	10	5
n-C25	nd	<10	nd	nd	10	5
n-C26	<10	nd	nd	<10	10	5
n-C27	<10	nd	nd	nd	10	5
n-C28	nd	<10	nd	<10	10	5
n-C29	<10	nd	19	<10	10	5
n-C30	nd	nd	<10	10	10	5

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Parâmetro	SPS# 11-R1(0-2 cm) (µg/kg)	SPS# 11-R2(0-2 cm) (µg/kg)	SPS# 11-R3(0- 2cm) (µg/kg)	SPS# 12-R1(0- 2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	nd	23	24	33	10	5
n-C32	nd	nd	nd	nd	10	5
n-C33	56	nd	nd	82	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	12	nd	<10	27	10	5
n-C36	34	32	30	126	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	nd	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5

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Parâmetro	SPS# 12-R2(0-2cm) (µg/kg)	SPS# 12-R3(0-2cm) (µg/kg)	SPS# 13-R1(0-2cm) (µg/kg)	SPS# 13-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	19	16	31	<10	10	5
n-C11	12	53	39	33	10	5
n-C12	23	91	90	85	10	5
n-C13	19	59	56	59	10	5
n-C14	<10	25	43	50	10	5
n-C15	nd	nd	75	73	10	5
n-C16	<10	12	35	41	10	5
n-C17	10	13	21	29	10	5
Pristano	nd	nd	19	18	10	5
n-C18	Nd	<10	37	37	10	5
Fitano	nd	nd	nd	<10	10	5
n-C19	nd	<10	10	11	10	5
n-C20	nd	<10	26	22	10	5
n-C21	<10	<10	nd	<10	10	5
n-C22	nd	nd	13	<10	10	5
n-C23	nd	nd	nd	<10	10	5
n-C24	nd	nd	<10	10	10	5
n-C25	nd	nd	<10	<10	10	5
n-C26	nd	<10	nd	<10	10	5
n-C27	<10	<10	<10	<10	10	5
n-C28	nd	<10	nd	<10	10	5
n-C29	13	13	<10	<10	10	5
n-C30	nd	<10	<10	nd	10	5

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Parâmetro	SPS# 12-R2(0-2cm) (µg/kg)	SPS# 12-R3(0-2cm) (µg/kg)	SPS# 13-R1(0-2cm) (µg/kg)	SPS# 13-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	10	28	22	20	10	5
n-C32	nd	nd	nd	nd	10	5
n-C33	nd	nd	nd	nd	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	32	28	nd	14	10	5
n-C36	62	119	158	187	10	5
n-C37	<10	nd	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	nd	nd	nd	10	5
n-C40	nd	nd	nd	<10	10	5

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Parâmetro	SPS# 13-R3(0-2cm) (µg/kg)	SPS# 14-R1(0-2cm) (µg/kg)	SPS# 14-R2(0-2cm) (µg/kg)	SPS# 14-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	23	nd	nd	nd	10	5
n-C11	84	20	37	15	10	5
n-C12	148	37	94	24	10	5
n-C13	104	16	62	11	10	5
n-C14	58	13	54	10	10	5
n-C15	64	nd	79	nd	10	5
n-C16	83	<10	45	nd	10	5
n-C17	116	22	30	25	10	5
Pristano	59	44	20	56	10	5
n-C18	116	13	40	13	10	5
Fitano	48	<10	10	<10	10	5
n-C19	65	99	12	30	10	5
n-C20	14	39	23	28	10	5
n-C21	15	41	<10	<10	10	5
n-C22	<10	nd	<10	nd	10	5
n-C23	nd	16	<10	17	10	5
n-C24	nd	nd	11	nd	10	5
n-C25	nd	nd	<10	nd	10	5
n-C26	nd	nd	<10	nd	10	5
n-C27	10	15	<10	nd	10	5
n-C28	nd	12	<10	nd	10	5
n-C29	24	19	<10	25	10	5
n-C30	17	12	<10	nd	10	5

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Parâmetro	SPS# 13-R3(0-2cm) (µg/kg)	SPS# 14-R1(0-2cm) (µg/kg)	SPS# 14-R2(0-2cm) (µg/kg)	SPS# 14-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	32	13	22	25	10	5
n-C32	<10	nd	nd	<10	10	5
n-C33	nd	nd	nd	nd	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	39	11	15	<10	10	5
n-C36	137	19	187	39	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	nd	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5

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Parâmetro	SPS# 21-R1(0-2cm) (µg/kg)	SPS# 21-R2(0-2cm) (µg/kg)	SPS# 21-R3(0-2cm) (µg/kg)	SPS# 22-R1(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	14	nd	10	5
n-C11	15	27	62	19	10	5
n-C12	26	60	134	31	10	5
n-C13	nd	38	83	nd	10	5
n-C14	11	34	77	12	10	5
n-C15	nd	43	92	nd	10	5
n-C16	nd	23	48	nd	10	5
n-C17	<10	13	21	<10	10	5
Pristano	<10	nd	14	nd	10	5
n-C18	<10	15	40	<10	10	5
Fitano	<10	nd	10	nd	10	5
n-C19	nd	nd	<10	nd	10	5
n-C20	<10	nd	30	nd	10	5
n-C21	nd	nd	<10	nd	10	5
n-C22	nd	nd	16	nd	10	5
n-C23	nd	nd	<10	nd	10	5
n-C24	nd	nd	<10	nd	10	5
n-C25	nd	nd	<10	<10	10	5
n-C26	nd	nd	13	<10	10	5
n-C27	nd	nd	<10	<10	10	5
n-C28	nd	nd	<10	<10	10	5
n-C29	nd	nd	<10	<10	10	5
n-C30	<10	nd	<10	<10	10	5

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Parâmetro	SPS#21-R1(0-2cm) (µg/kg)	SPS# 21-R2(0-2cm) (µg/kg)	SPS# 21-R3(0-2cm) (µg/kg)	SPS# 22-R1(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	13	11	13	18	10	5
n-C32	<10	nd	nd	<10	10	5
n-C33	nd	nd	nd	nd	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	12	<10	15	23	10	5
n-C36	45	118	177	92	10	5
n-C37	nd	nd	nd	16	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	nd	nd	<10	10	5
n-C40	nd	nd	nd	nd	10	5

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Parâmetro	SPS# 22-R2(0-2cm) (µg/kg)	SPS# 22-R3(0-2cm) (µg/kg)	SPS# 23-R1(0-2cm) (µg/kg)	SPS# 23-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	35	nd	10	5
n-C11	19	18	32	29	10	5
n-C12	35	36	64	52	10	5
n-C13	19	23	41	32	10	5
n-C14	<10	14	22	16	10	5
n-C15	nd	nd	nd	nd	10	5
n-C16	nd	nd	<10	<10	10	5
n-C17	<10	<10	11	11	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	Nd	Nd	<10	<10	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	nd	nd	nd	<10	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	nd	nd	nd	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	<10	nd	<10	nd	10	5
n-C27	<10	<10	<10	<10	10	5
n-C28	10	<10	<10	<10	10	5
n-C29	12	<10	13	15	10	5
n-C30	<10	<10	12	<10	10	5

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Parâmetro	SPS# 22-R2(0-2cm) (µg/kg)	SPS# 22-R3(0-2cm) (µg/kg)	SPS# 23-R1(0-2cm) (µg/kg)	SPS# 23-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	12	19	43	34	10	5
n-C32	<10	13	16	13	10	5
n-C33	nd	nd	nd	nd	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	22	nd	29	22	10	5
n-C36	24	56	33	56	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	nd	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5

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Parâmetro	SPS# 23-R3(0-2cm) (µg/kg)	SPS# 24-R1(0-2cm) (µg/kg)	SPS# 24-R2(0-2cm) (µg/kg)	SPS# 24-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	10	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	25	nd	<10	nd	10	5
n-C11	76	nd	18	nd	10	5
n-C12	167	nd	32	nd	10	5
n-C13	106	nd	17	nd	10	5
n-C14	91	12	12	<10	10	5
n-C15	133	nd	nd	nd	10	5
n-C16	64	nd	nd	nd	10	5
n-C17	31	nd	<10	nd	10	5
Pristano	19	nd	nd	<10	10	5
n-C18	45	nd	Nd	nd	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	10	56	nd	57	10	5
n-C20	32	nd	nd	nd	10	5
n-C21	11	nd	<10	nd	10	5
n-C22	19	nd	nd	nd	10	5
n-C23	<10	nd	nd	nd	10	5
n-C24	11	21	nd	16	10	5
n-C25	43	28	nd	24	10	5
n-C26	14	nd	<10	nd	10	5
n-C27	12	nd	<10	nd	10	5
n-C28	12	nd	<10	<10	10	5
n-C29	20	11	17	13	10	5
n-C30	11	<10	12	<10	10	5

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Parâmetro	SPS# 23-R3(0-2cm) (µg/kg)	SPS# 24-R1(0-2cm) (µg/kg)	SPS# 24-R2(0-2cm) (µg/kg)	SPS# 24-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	35	27	35	31	10	5
n-C32	nd	104	<10	158	10	5
n-C33	nd	50	nd	79	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	30	15	30	20	10	5
n-C36	287	19	20	35	10	5
n-C37	nd	<10	nd	<10	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	nd	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5

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Parâmetro	SPS# 31-R1(0-2cm) (µg/kg)	SPS# 31-R2(0-2cm) (µg/kg)	SPS# 31-R3(0-2cm) (µg/kg)	SPS# 32-R1(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	<10	69	12	<10	10	5
n-C11	16	29	28	25	10	5
n-C12	32	52	54	41	10	5
n-C13	17	31	34	22	10	5
n-C14	14	19	20	17	10	5
n-C15	nd	nd	nd	nd	10	5
n-C16	<10	<10	<10	<10	10	5
n-C17	10	11	<10	<10	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	Nd	Nd	Nd	Nd	10	5
Fitano	13	15	12	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	<10	12	<10	11	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	<10	10	5
n-C24	nd	nd	nd	nd	10	5
n-C25	<10	<10	<10	<10	10	5
n-C26	<10	<10	<10	10	10	5
n-C27	11	<10	<10	<10	10	5
n-C28	<10	<10	<10	36	10	5
n-C29	21	20	20	54	10	5
n-C30	13	13	12	26	10	5

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Parâmetro	SPS# 31-R1(0-2cm) (µg/kg)	SPS# 31-R2(0-2cm) (µg/kg)	SPS# 31-R3(0-2cm) (µg/kg)	SPS# 32-R1(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	44	47	46	54	10	5
n-C32	98	97	86	207	10	5
n-C33	113	150	101	210	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	28	36	21	59	10	5
n-C36	114	51	80	36	10	5
n-C37	<10	nd	nd	<10	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	nd	nd	63	10	5
n-C40	nd	nd	nd	nd	10	5

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Parâmetro	SPS# 32-R2(0-2cm) (µg/kg)	SPS# 32-R3(0-2cm) (µg/kg)	SPS# 33-R1(0-2cm) (µg/kg)	SPS # 33-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	nd	nd	<10	<10	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	11	54	108	10	10	5
n-C11	35	60	64	77	10	5
n-C12	85	145	145	171	10	5
n-C13	54	96	103	125	10	5
n-C14	45	82	88	109	10	5
n-C15	46	101	104	106	10	5
n-C16	30	57	64	79	10	5
n-C17	17	23	28	27	10	5
Pristano	<10	12	20	22	10	5
n-C18	22	40	51	57	10	5
Fitano	nd	<10	<10	<10	10	5
n-C19	nd	<10	<10	<10	10	5
n-C20	16	31	44	48	10	5
n-C21	<10	21	11	12	10	5
n-C22	<10	17	19	22	10	5
n-C23	<10	<10	<10	<10	10	5
n-C24	12	22	13	12	10	5
n-C25	nd	12	nd	nd	10	5
n-C26	<10	12	16	14	10	5
n-C27	<10	<10	<10	<10	10	5
n-C28	19	25	18	19	10	5
n-C29	17	30	35	13	10	5
n-C30	<10	11	14	18	10	5

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Parâmetro	SPS# 32-R2(0-2cm) (µg/kg)	SPS# 32-R3(0-2cm) (µg/kg)	SPS# 33-R1(0-2cm) (µg/kg)	SPS# 33-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	19	22	36	27	10	5
n-C32	78	51	98	51	10	5
n-C33	78	61	83	58	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	10	28	nd	nd	10	5
n-C36	120	198	209	220	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	29	24	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5

Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **20/04/2010**

Lab-nº: **09/3802C-Rev1**

Parâmetro	SPS# 33-R3(0-2cm) (µg/kg)	SPS# 34-R1(0-2cm) (µg/kg)	SPS# 34-R2(0-2cm) (µg/kg)	SPS# 34-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	<10	<10	<10	<10	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	78	<10	19	56	10	5
n-C11	34	18	35	22	10	5
n-C12	73	42	79	29	10	5
n-C13	50	26	52	15	10	5
n-C14	43	29	45	<10	10	5
n-C15	59	33	66	nd	10	5
n-C16	30	18	30	nd	10	5
n-C17	18	10	18	nd	10	5
Pristano	11	<10	<10	nd	10	5
n-C18	24	17	28	<10	10	5
Fitano	nd	14	<10	nd	10	5
n-C19	nd	10	nd	nd	10	5
n-C20	21	17	25	nd	10	5
n-C21	12	<10	<10	<10	10	5
n-C22	<10	nd	<10	nd	10	5
n-C23	<10	<10	<10	nd	10	5
n-C24	nd	nd	<10	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	10	<10	11	nd	10	5
n-C27	nd	nd	nd	nd	10	5
n-C28	17	<10	13	nd	10	5
n-C29	35	16	37	11	10	5
n-C30	13	12	17	<10	10	5

Boletim de Ensaio

Pág. 18 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **20/04/2010**

Lab-nº: **09/3802C-Rev1**

Parâmetro	SPS# 33-R3(0-2cm) (µg/kg)	SPS# 34-R1(0-2cm) (µg/kg)	SPS# 34-R2(0-2cm) (µg/kg)	SPS# 34-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	65	28	55	16	10	5
n-C32	262	132	224	109	10	5
n-C33	191	74	121	57	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	nd	21	45	<10	10	5
n-C36	193	125	164	nd	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	nd	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5

Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **20/04/2010**

Lab-nº: **09/3802C-Rev1**

Parâmetro	SPS# 41-R1(0-2cm) (µg/kg)	SPS# 41-R2(0-2cm) (µg/kg)	SPS# 41-R3(0-2cm) (µg/kg)	SPS# 42-R1(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	<10	<10	<10	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	85	36	<10	10	5
n-C11	22	22	12	35	10	5
n-C12	34	34	21	62	10	5
n-C13	15	16	13	33	10	5
n-C14	<10	<10	<10	14	10	5
n-C15	nd	nd	nd	nd	10	5
n-C16	<10	nd	nd	<10	10	5
n-C17	<10	nd	<10	<10	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	12	<10	<10	Nd	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	13	<10	<10	nd	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	nd	nd	nd	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	nd	nd	nd	nd	10	5
n-C27	11	<10	<10	nd	10	5
n-C28	10	nd	<10	<10	10	5
n-C29	25	14	23	13	10	5
n-C30	26	11	15	nd	10	5

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Resp. Téc.: **Carina Casal**

Emitido em: **20/04/2010**

Lab-nº: **09/3802C-Rev1**

Parâmetro	SPS# 41-R1(0-2cm) (µg/kg)	SPS# 41-R2(0-2cm) (µg/kg)	SPS# 41-R3(0-2cm) (µg/kg)	SPS# 42-R1(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	44	21	35	25	10	5
n-C32	137	70	123	57	10	5
n-C33	106	47	77	nd	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	34	17	25	28	10	5
n-C36	15	26	46	44	10	5
n-C37	nd	nd	<10	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	nd	nd	nd	10	5
n-C40	nd	nd	nd	20	10	5

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Resp. Téc.: **Carina Casal**

Emitido em: **20/04/2010**

Lab-nº: **09/3802C-Rev1**

Parâmetro	SPS# 42-R2(0-2cm) (µg/kg)	SPS# 42-R3(0-2cm) (µg/kg)	SPS# 43-R1(0-2cm) (µg/kg)	SPS# 43-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	12	<10	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	43	nd	nd	10	5
n-C11	nd	21	22	30	10	5
n-C12	16	41	39	70	10	5
n-C13	12	25	23	44	10	5
n-C14	<10	23	10	42	10	5
n-C15	nd	nd	nd	64	10	5
n-C16	nd	<10	<10	26	10	5
n-C17	<10	18	<10	20	10	5
Pristano	nd	10	nd	13	10	5
n-C18	Nd	<10	Nd	29	10	5
Fitano	nd	16	nd	11	10	5
n-C19	nd	11	nd	nd	10	5
n-C20	nd	22	<10	18	10	5
n-C21	nd	nd	nd	<10	10	5
n-C22	nd	nd	nd	<10	10	5
n-C23	10	<10	nd	<10	10	5
n-C24	nd	<10	nd	<10	10	5
n-C25	14	nd	nd	nd	10	5
n-C26	<10	<10	nd	<10	10	5
n-C27	<10	<10	nd	<10	10	5
n-C28	12	15	12	13	10	5
n-C29	28	46	35	21	10	5
n-C30	13	17	12	19	10	5

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Resp. Téc.: **Carina Casal**

Emitido em: **20/04/2010**

Lab-nº: **09/3802C-Rev1**

Parâmetro	SPS# 42-R2(0-2cm) (µg/kg)	SPS# 42-R3(0-2cm) (µg/kg)	SPS# 43-R1(0-2cm) (µg/kg)	SPS# 43-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	23	37	33	46	10	5
n-C32	39	210	137	83	10	5
n-C33	29	103	78	73	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	23	21	15	29	10	5
n-C36	149	61	39	163	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	nd	nd	nd	10	5
n-C40	<10	nd	nd	nd	10	5

Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **20/04/2010**

Lab-nº: **09/3802C-Rev1**

Parâmetro	SPS# 43-R3(0-2cm) (µg/kg)	SPS# 44-R1(0-2cm) (µg/kg)	SPS# 44-R2(0-2cm) (µg/kg)	SPS# 44-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	nd	nd	<10	15	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	72	nd	10	5
n-C11	15	27	56	nd	10	5
n-C12	42	69	138	<10	10	5
n-C13	26	48	96	<10	10	5
n-C14	20	38	76	nd	10	5
n-C15	33	53	100	nd	10	5
n-C16	15	26	51	<10	10	5
n-C17	12	18	32	15	10	5
Pristano	nd	<10	14	nd	10	5
n-C18	<10	27	44	23	10	5
Fitano	nd	<10	<10	18	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	16	13	31	20	10	5
n-C21	<10	<10	<10	11	10	5
n-C22	nd	<10	20	nd	10	5
n-C23	<10	<10	<10	<10	10	5
n-C24	nd	<10	12	<10	10	5
n-C25	nd	nd	<10	nd	10	5
n-C26	<10	<10	12	11	10	5
n-C27	<10	<10	<10	11	10	5
n-C28	14	16	14	21	10	5
n-C29	25	24	29	30	10	5
n-C30	<10	<10	11	24	10	5

Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **20/04/2010**

Lab-nº: **09/3802C-Rev1**

Parâmetro	SPS# 43-R3(0-2cm) (µg/kg)	SPS# 44-R1(0-2cm) (µg/kg)	SPS# 44-R2(0-2cm) (µg/kg)	SPS# 44-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	83	34	48	58	10	5
n-C32	73	70	65	217	10	5
n-C33	nd	51	62	147	10	5
n-C34	29	nd	nd	nd	10	5
n-C35	163	27	28	37	10	5
n-C36	nd	160	200	118	10	5
n-C37	nd	nd	nd	32	10	5
n-C38	nd	nd	nd	<10	10	5
n-C39	nd	nd	nd	nd	10	5
n-C40	nd	nd	nd	<10	10	5

Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **20/04/2010**

Lab-nº: **09/3802C-Rev1**

Parâmetro	SPS# 51-R1(0-2cm) (µg/kg)	SPS# 51-R2(0-2cm) (µg/kg)	SPS# 51-R3(0-2cm) (µg/kg)	SPS# 52-R1(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	11	10	16	13	10	5
n-C11	20	25	32	31	10	5
n-C12	45	46	55	77	10	5
n-C13	31	30	35	53	10	5
n-C14	26	16	22	48	10	5
n-C15	32	nd	nd	73	10	5
n-C16	19	<10	10	39	10	5
n-C17	14	11	14	25	10	5
Pristano	<10	nd	nd	15	10	5
n-C18	19	Nd	15	30	10	5
Fitano	nd	<10	nd	<10	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	<10	nd	nd	19	10	5
n-C21	<10	<10	<10	11	10	5
n-C22	nd	nd	nd	12	10	5
n-C23	nd	nd	nd	<10	10	5
n-C24	nd	nd	nd	12	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	<10	<10	nd	11	10	5
n-C27	<10	<10	<10	<10	10	5
n-C28	<10	13	14	13	10	5
n-C29	12	22	43	15	10	5
n-C30	15	16	23	15	10	5

Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **20/04/2010**

Lab-nº: **09/3802C-Rev1**

Parâmetro	SPS# 51-R1(0-2cm) (µg/kg)	SPS# 51-R2(0-2cm) (µg/kg)	SPS# 51-R3(0-2cm) (µg/kg)	SPS# 52-R1(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	37	37	80	24	10	5
n-C32	180	161	368	79	10	5
n-C33	75	98	96	61	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	12	19	21	15	10	5
n-C36	93	58	40	134	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	nd	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5

Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **20/04/2010**

Lab-nº: **09/3802C-Rev1**

Parâmetro	SPS# 52-R2(0-2cm) (µg/kg)	SPS# 52-R3(0-2cm) (µg/kg)	SPS# 53-R1(0-2cm) (µg/kg)	SPS# 53-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	50	18	<10	15	10	5
n-C11	47	29	18	24	10	5
n-C12	93	64	45	42	10	5
n-C13	66	43	30	22	10	5
n-C14	32	41	29	17	10	5
n-C15	nd	47	33	nd	10	5
n-C16	16	29	19	<10	10	5
n-C17	16	18	19	<10	10	5
Pristano	nd	<10	nd	nd	10	5
n-C18	Nd	21	10	Nd	10	5
Fitano	<10	<10	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	<10	<10	nd	10	5
n-C21	10	<10	<10	<10	10	5
n-C22	nd	<10	nd	nd	10	5
n-C23	<10	nd	nd	nd	10	5
n-C24	nd	<10	<10	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	<10	<10	<10	nd	10	5
n-C27	<10	<10	<10	nd	10	5
n-C28	13	<10	15	10	10	5
n-C29	22	16	19	18	10	5
n-C30	15	12	18	<10	10	5

Boletim de Ensaio

Pág. 28 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **20/04/2010**

Lab-nº: **09/3802C-Rev1**

Parâmetro	SPS# 52-R2(0-2cm) (µg/kg)	SPS# 52-R3(0-2cm) (µg/kg)	SPS# 53-R1(0-2cm) (µg/kg)	SPS# 53-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	27	27	49	29	10	5
n-C32	74	54	198	115	10	5
n-C33	25	35	114	73	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	30	13	44	28	10	5
n-C36	73	144	122	66	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	nd	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5

Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **20/04/2010**

Lab-nº: **09/3802C-Rev1**

Parâmetro	SPS# 53-R3(0-2cm) (µg/kg)	SPS# 54-R1(0-2cm) (µg/kg)	SPS# 54-R2(0-2cm) (µg/kg)	SPS# 54-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	nd	13	14	13	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	<10	44	12	39	10	5
n-C11	16	<10	40	31	10	5
n-C12	40	18	93	54	10	5
n-C13	27	12	65	35	10	5
n-C14	26	12	56	26	10	5
n-C15	34	nd	76	11	10	5
n-C16	15	<10	37	21	10	5
n-C17	17	13	25	27	10	5
Pristano	nd	nd	<10	<10	10	5
n-C18	<10	Nd	19	13	10	5
Fitano	nd	nd	nd	10	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	<10	nd	36	<10	10	5
n-C21	<10	15	14	22	10	5
n-C22	nd	nd	11	<10	10	5
n-C23	nd	nd	<10	<10	10	5
n-C24	nd	<10	11	<10	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	<10	<10	14	12	10	5
n-C27	<10	<10	14	16	10	5
n-C28	17	22	28	35	10	5
n-C29	24	48	57	73	10	5
n-C30	13	22	22	28	10	5

Boletim de Ensaio

Pág. 30 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **20/04/2010**

Lab-nº: **09/3802C-Rev1**

Parâmetro	SPS# 53-R3(0-2cm) (µg/kg)	SPS# 54-R1(0-2cm) (µg/kg)	SPS# 54-R2(0-2cm) (µg/kg)	SPS# 54-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	44	54	71	99	10	5
n-C32	214	254	264	421	10	5
n-C33	116	149	159	230	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	35	46	46	48	10	5
n-C36	138	59	153	58	10	5
n-C37	nd	nd	nd	<10	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	nd	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5

Padrões de Controle Analítico – (PCA)
(Faixa de Aceitação: 70-130%)

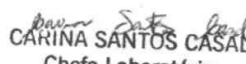
Taxa de Recuperação (%)	
PCA	79

FM-004-L3N – Rev.00 18/02/2009– Apr. FEV/09

Observações

1. Ref. Método – ISO 16703:2001
2. Foram utilizados Brancos de Controle conforme metodologia informada conferido


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