

Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **19/03/2010**

Lab-nº: **09/3774B**

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 : 12, 13 e 14/12/2009
 Entrega das amostras : 18/12/2009
 Início dos ensaios/extração : 18/12/2009 14:01
 Término dos ensaios : 19/03/2010

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	RS-BS #1-R1(0-2 cm) (µg/kg)	RS-BS #1-R2(0-2 cm) (µg/kg)	RS-BS #1-R3(0-2 cm) (µg/kg)	RS-BS #2-R1(0-2 cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	nd	nd	nd	11	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	<10	nd	nd	nd	10	5
n-C11	nd	<10	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	<10	nd	nd	10	5
n-C14	<10	40	<10	<10	10	5
n-C15	12	25	<10	<10	10	5
n-C16	10	15	11	11	10	5
n-C17	24	22	19	17	10	5
Pristano	nd	<10	nd	nd	10	5
n-C18	24	28	24	24	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	<10	10	5
n-C22	nd	<10	nd	nd	10	5
n-C23	<10	<10	<10	<10	10	5
n-C24	<10	<10	<10	<10	10	5
n-C25	16	20	15	12	10	5
n-C26	10	11	<10	<10	10	5
n-C27	34	46	44	21	10	5
n-C28	39	36	30	25	10	5
n-C29	47	58	34	37	10	5
n-C30	21	27	13	11	10	5

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Resp. Téc.: **Carina Casal**

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Lab-nº: **09/3774B**

Parâmetro	RS-BS #1-R1(0-2 cm) (µg/kg)	RS-BS #1-R2(0-2 cm) (µg/kg)	RS-BS #1-R3(0- 2cm) (µg/kg)	RS-BS #2-R1(0- 2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	145	138	95	85	10	5
n-C32	519	371	369	170	10	5
n-C33	321	273	248	162	10	5
n-C34	17	18	12	15	10	5
n-C35	156	114	90	77	10	5
n-C36	34	44	37	15	10	5
n-C37	23	41	22	31	10	5
n-C38	<10	11	nd	<10	10	5
n-C39	<10	<10	nd	nd	10	5
n-C40	<10	10	nd	nd	10	5

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Resp. Téc.: **Carina Casal**

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Parâmetro	RS-BS #2-R2(0-2cm) (µg/kg)	RS-BS #2-R3(0-2cm) (µg/kg)	RS-BS #3-R1(0-2cm) (µg/kg)	RS-BS #3-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	nd	nd	11	11	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	<10	nd	nd	18	10	5
n-C11	<10	nd	nd	<10	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	31	<10	<10	15	10	5
n-C15	20	<10	<10	<10	10	5
n-C16	14	14	10	14	10	5
n-C17	27	17	14	22	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	30	35	22	28	10	5
Fitano	<10	<10	nd	<10	10	5
n-C19	<10	<10	nd	nd	10	5
n-C20	<10	<10	nd	<10	10	5
n-C21	12	12	<10	12	10	5
n-C22	<10	<10	nd	<10	10	5
n-C23	<10	<10	<10	<10	10	5
n-C24	<10	<10	<10	<10	10	5
n-C25	19	17	16	18	10	5
n-C26	11	11	11	<10	10	5
n-C27	<10	nd	33	44	10	5
n-C28	31	33	27	33	10	5
n-C29	44	52	39	47	10	5
n-C30	<10	<10	11	14	10	5

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Resp. Téc.: **Carina Casal**

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Lab-nº: **09/3774B**

Parâmetro	RS-BS #2-R2(0-2cm) (µg/kg)	RS-BS #2-R3(0-2cm) (µg/kg)	RS-BS #3-R1(0-2cm) (µg/kg)	RS-BS #3-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	143	140	108	133	10	5
n-C32	326	287	225	402	10	5
n-C33	228	286	180	299	10	5
n-C34	13	16	17	18	10	5
n-C35	125	122	107	148	10	5
n-C36	61	17	21	30	10	5
n-C37	33	39	27	31	10	5
n-C38	<10	<10	<10	nd	10	5
n-C39	<10	<10	<10	nd	10	5
n-C40	nd	<10	<10	nd	10	5

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Resp. Téc.: **Carina Casal**

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Parâmetro	RS-BS #3-R3(0-2cm) (µg/kg)	RS-BS #4-R1(0-2cm) (µg/kg)	RS-BS #4-R2(0-2cm) (µg/kg)	RS-BS #4-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	11	<10	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	10	<10	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	<10	nd	nd	<10	10	5
n-C14	36	18	11	42	10	5
n-C15	24	17	12	29	10	5
n-C16	16	22	11	12	10	5
n-C17	20	30	13	14	10	5
Pristano	<10	nd	nd	nd	10	5
n-C18	30	Nd	Nd	Nd	10	5
Fitano	<10	<10	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	<10	nd	nd	nd	10	5
n-C21	<10	nd	12	<10	10	5
n-C22	<10	nd	nd	nd	10	5
n-C23	<10	nd	nd	<10	10	5
n-C24	<10	nd	nd	<10	10	5
n-C25	21	nd	13	12	10	5
n-C26	14	nd	<10	<10	10	5
n-C27	47	nd	28	23	10	5
n-C28	49	nd	23	17	10	5
n-C29	48	nd	46	41	10	5
n-C30	14	nd	16	15	10	5

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Parâmetro	RS-BS #3-R3(0-2cm) (µg/kg)	RS-BS #4-R1(0-2cm) (µg/kg)	RS-BS #4-R2(0-2cm) (µg/kg)	RS-BS #4-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	93	nd	102	102	10	5
n-C32	130	nd	397	84	10	5
n-C33	134	nd	194	85	10	5
n-C34	13	nd	15	<10	10	5
n-C35	44	nd	143	79	10	5
n-C36	32	nd	20	25	10	5
n-C37	30	nd	<10	<10	10	5
n-C38	<10	nd	<10	<10	10	5
n-C39	<10	nd	<10	nd	10	5
n-C40	<10	nd	nd	<10	10	5

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Parâmetro	RS-BS #5-R1(0-2cm) (µg/kg)	RS-BS #5-R2(0-2cm) (µg/kg)	RS-BS #5-R3(0-2cm) (µg/kg)	RS-BS #6-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	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	27	23	nd	nd	10	5
n-C15	25	21	<10	<10	10	5
n-C16	12	10	<10	nd	10	5
n-C17	15	13	11	nd	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	Nd	Nd	Nd	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	<10	<10	<10	nd	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	<10	<10	<10	nd	10	5
n-C24	<10	<10	<10	nd	10	5
n-C25	13	11	13	<10	10	5
n-C26	10	<10	<10	<10	10	5
n-C27	22	18	29	11	10	5
n-C28	22	19	22	14	10	5
n-C29	52	44	40	19	10	5
n-C30	20	17	14	<10	10	5

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Parâmetro	RS-BS #5-R1(0-2cm) (µg/kg)	RS-BS #5-R2(0-2cm) (µg/kg)	RS-BS #5-R3(0-2cm) (µg/kg)	RS-BS #6-R1(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	132	112	118	29	10	5
n-C32	273	232	336	20	10	5
n-C33	149	126	141	19	10	5
n-C34	18	15	<10	nd	10	5
n-C35	83	71	85	12	10	5
n-C36	35	30	<10	10	10	5
n-C37	<10	11	13	nd	10	5
n-C38	<10	<10	nd	nd	10	5
n-C39	<10	<10	nd	nd	10	5
n-C40	<10	<10	nd	nd	10	5

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Parâmetro	RS-BS #6-R2(0-2cm) (µg/kg)	RS-BS #6-R3(0-2cm) (µg/kg)	RS-BS #7-R1(0-2cm) (µg/kg)	RS-BS #7-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	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	12	nd	14	18	10	5
n-C15	11	<10	14	19	10	5
n-C16	13	12	11	<10	10	5
n-C17	18	17	13	12	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	<10	<10	Nd	Nd	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	<10	<10	<10	nd	10	5
n-C21	14	<10	<10	nd	10	5
n-C22	<10	<10	<10	nd	10	5
n-C23	<10	<10	<10	nd	10	5
n-C24	<10	<10	<10	nd	10	5
n-C25	16	12	12	<10	10	5
n-C26	<10	<10	<10	<10	10	5
n-C27	31	22	28	13	10	5
n-C28	41	24	21	14	10	5
n-C29	59	32	39	30	10	5
n-C30	20	12	13	10	10	5

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Lab-nº: **09/3774B**

Parâmetro	RS-BS #6-R2(0-2cm) (µg/kg)	RS-BS #6-R3(0-2cm) (µg/kg)	RS-BS #7-R1(0-2cm) (µg/kg)	RS-BS #7-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	89	77	96	72	10	5
n-C32	512	212	149	107	10	5
n-C33	235	135	92	85	10	5
n-C34	28	19	19	<10	10	5
n-C35	116	96	61	36	10	5
n-C36	<10	<10	15	<10	10	5
n-C37	nd	nd	14	<10	10	5
n-C38	<10	nd	<10	nd	10	5
n-C39	<10	nd	<10	nd	10	5
n-C40	nd	nd	<10	nd	10	5

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Resp. Téc.: **Carina Casal**

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Parâmetro	RS-BS #7-R3(0-2cm) (µg/kg)	RS-BS #8-R1(0-2cm) (µg/kg)	RS-BS #8-R2(0-2cm) (µg/kg)	RS-BS #8-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	nd	nd	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	<10	nd	<10	26	10	5
n-C15	<10	<10	<10	17	10	5
n-C16	10	<10	11	14	10	5
n-C17	12	12	14	18	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	Nd	15	24	27	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	<10	nd	nd	nd	10	5
n-C21	11	<10	13	<10	10	5
n-C22	<10	nd	<10	<10	10	5
n-C23	<10	nd	<10	<10	10	5
n-C24	<10	nd	nd	nd	10	5
n-C25	17	<10	15	13	10	5
n-C26	13	17	<10	17	10	5
n-C27	34	17	31	32	10	5
n-C28	33	20	41	22	10	5
n-C29	50	<10	37	39	10	5
n-C30	19	<10	13	nd	10	5

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Resp. Téc.: **Carina Casal**

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Lab-nº: **09/3774B**

Parâmetro	RS-BS #7-R3(0-2cm) (µg/kg)	RS-BS #8-R1(0-2cm) (µg/kg)	RS-BS #8-R2(0-2cm) (µg/kg)	RS-BS #8-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	130	98	127	111	10	5
n-C32	327	118	185	198	10	5
n-C33	164	85	94	100	10	5
n-C34	20	35	66	41	10	5
n-C35	92	60	85	55	10	5
n-C36	12	<10	15	16	10	5
n-C37	12	nd	<10	24	10	5
n-C38	<10	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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Resp. Téc.: **Carina Casal**

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Parâmetro	RS-BS #9-R1(0-2cm) (µg/kg)	RS-BS #9-R2(0-2cm) (µg/kg)	RS-BS #9-R3(0-2cm) (µg/kg)	RS-BS #10-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	nd	nd	10	5
n-C11	nd	nd	nd	<10	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	<10	10	5
n-C14	<10	18	19	37	10	5
n-C15	<10	16	15	25	10	5
n-C16	12	15	14	19	10	5
n-C17	14	11	16	23	10	5
Pristano	nd	nd	nd	<10	10	5
n-C18	12	<10	19	19	10	5
Fitano	nd	nd	nd	<10	10	5
n-C19	<10	nd	<10	nd	10	5
n-C20	<10	nd	<10	<10	10	5
n-C21	nd	nd	<10	<10	10	5
n-C22	<10	nd	<10	nd	10	5
n-C23	nd	<10	<10	nd	10	5
n-C24	nd	<10	10	nd	10	5
n-C25	nd	<10	23	<10	10	5
n-C26	nd	<10	16	<10	10	5
n-C27	<10	14	34	23	10	5
n-C28	<10	19	<10	18	10	5
n-C29	<10	30	36	42	10	5
n-C30	nd	13	22	12	10	5

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Resp. Téc.: **Carina Casal**

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Parâmetro	RS-BS #9-R1(0-2cm) (µg/kg)	RS-BS #9-R2(0-2cm) (µg/kg)	RS-BS #9-R3(0-2cm) (µg/kg)	RS-BS #10-R1(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	54	57	96	103	10	5
n-C32	110	143	230	256	10	5
n-C33	77	78	128	147	10	5
n-C34	28	20	45	52	10	5
n-C35	24	35	53	96	10	5
n-C36	28	31	55	11	10	5
n-C37	nd	nd	17	<10	10	5
n-C38	nd	nd	<10	nd	10	5
n-C39	nd	nd	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5

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Parâmetro	RS-BS #10-R2(0-2cm) (µg/kg)	RS-BS #10-R3(0-2cm) (µg/kg)	RS-BS #11-R1(0-2cm) (µg/kg)	RS-BS #11-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	nd	nd	10	5
n-C11	<10	<10	nd	<10	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	<10	nd	<10	10	5
n-C14	27	37	16	30	10	5
n-C15	22	33	30	36	10	5
n-C16	18	21	24	21	10	5
n-C17	22	25	18	23	10	5
Pristano	nd	<10	13	10	10	5
n-C18	27	20	16	13	10	5
Fitano	<10	<10	13	<10	10	5
n-C19	nd	nd	<10	<10	10	5
n-C20	<10	<10	13	11	10	5
n-C21	11	<10	<10	<10	10	5
n-C22	<10	nd	<10	<10	10	5
n-C23	<10	<10	<10	<10	10	5
n-C24	<10	nd	15	11	10	5
n-C25	12	<10	12	14	10	5
n-C26	13	<10	<10	<10	10	5
n-C27	36	26	13	27	10	5
n-C28	29	20	17	24	10	5
n-C29	51	39	25	43	10	5
n-C30	22	14	10	17	10	5

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Resp. Téc.: **Carina Casal**

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Parâmetro	RS-BS #10-R2(0-2cm) (µg/kg)	RS-BS #10-R3(0-2cm) (µg/kg)	RS-BS #11-R1(0-2cm) (µg/kg)	RS-BS #11-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	147	93	93	113	10	5
n-C32	290	184	198	268	10	5
n-C33	194	110	95	115	10	5
n-C34	86	35	nd	13	10	5
n-C35	143	62	56	86	10	5
n-C36	34	28	<10	36	10	5
n-C37	13	<10	<10	29	10	5
n-C38	<10	<10	nd	<10	10	5
n-C39	nd	nd	nd	<10	10	5
n-C40	nd	nd	nd	nd	10	5

Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **19/03/2010**

Lab-nº: **09/3774B**

Parâmetro	RS-BS #11-R3(0-2cm) (µg/kg)	RS-BS #12-R1(0-2cm) (µg/kg)	RS-BS #12-R2(0-2cm) (µg/kg)	RS-BS #12-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	nd	nd	nd	nd	10	5
n-C11	<10	nd	<10	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	<10	nd	<10	nd	10	5
n-C14	39	14	30	12	10	5
n-C15	34	33	37	19	10	5
n-C16	18	26	27	13	10	5
n-C17	21	28	21	21	10	5
Pristano	nd	15	13	<10	10	5
n-C18	<10	22	18	14	10	5
Fitano	nd	12	15	11	10	5
n-C19	nd	<10	<10	<10	10	5
n-C20	<10	11	11	<10	10	5
n-C21	<10	<10	11	<10	10	5
n-C22	nd	12	<10	nd	10	5
n-C23	<10	<10	<10	nd	10	5
n-C24	<10	<10	<10	<10	10	5
n-C25	41	<10	13	<10	10	5
n-C26	10	11	12	<10	10	5
n-C27	31	14	22	<10	10	5
n-C28	25	16	22	12	10	5
n-C29	46	23	45	22	10	5
n-C30	17	11	19	<10	10	5

Boletim de Ensaio

Pág. 18 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **19/03/2010**

Lab-nº: **09/3774B**

Parâmetro	RS-BS #11-R3(0-2cm) (µg/kg)	RS-BS #12-R1(0-2cm) (µg/kg)	RS-BS #12-R2(0-2cm) (µg/kg)	RS-BS #12-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	111	78	101	99	10	5
n-C32	231	68	244	81	10	5
n-C33	128	76	153	84	10	5
n-C34	11	<10	20	<10	10	5
n-C35	86	23	54	29	10	5
n-C36	13	25	22	15	10	5
n-C37	29	nd	<10	<10	10	5
n-C38	<10	nd	<10	<10	10	5
n-C39	<10	nd	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5

Boletim de Ensaio

Pág. 19 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **19/03/2010**

Lab-nº: **09/3774B**

Parâmetro	RS-BS #13-R1(0-2cm) (µg/kg)	RS-BS #13-R2(0-2cm) (µg/kg)	RS-BS #13-R3(0-2cm) (µg/kg)	RS-BS #14-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	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	<10	10	5
n-C14	nd	12	<10	39	10	5
n-C15	<10	17	12	39	10	5
n-C16	10	14	13	23	10	5
n-C17	13	18	17	24	10	5
Pristano	<10	<10	<10	<10	10	5
n-C18	Nd	Nd	<10	<10	10	5
Fitano	nd	nd	nd	<10	10	5
n-C19	nd	nd	nd	<10	10	5
n-C20	<10	<10	<10	<10	10	5
n-C21	<10	<10	<10	11	10	5
n-C22	<10	<10	<10	<10	10	5
n-C23	<10	<10	<10	<10	10	5
n-C24	<10	<10	<10	<10	10	5
n-C25	<10	<10	11	12	10	5
n-C26	<10	<10	11	16	10	5
n-C27	24	23	37	32	10	5
n-C28	17	18	23	30	10	5
n-C29	34	36	43	59	10	5
n-C30	12	14	17	24	10	5

Boletim de Ensaio

Pág. 20 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **19/03/2010**

Lab-nº: **09/3774B**

Parâmetro	RS-BS #13-R1(0-2cm) (µg/kg)	RS-BS #13-R2(0-2cm) (µg/kg)	RS-BS #13-R3(0-2cm) (µg/kg)	RS-BS #14-R1(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	88	80	100	121	10	5
n-C32	200	164	187	285	10	5
n-C33	93	89	110	127	10	5
n-C34	30	12	15	<10	10	5
n-C35	44	51	53	33	10	5
n-C36	11	23	34	22	10	5
n-C37	16	17	20	21	10	5
n-C38	nd	<10	11	<10	10	5
n-C39	nd	<10	<10	<10	10	5
n-C40	nd	nd	nd	nd	10	5

Boletim de Ensaio

Pág. 21 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **19/03/2010**

Lab-nº: **09/3774B**

Parâmetro	RS-BS #14-R2(0-2cm) (µg/kg)	RS-BS #14-R3(0-2cm) (µg/kg)	RS-BS #15-R1(0-2cm) (µg/kg)	RS-BS #15-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	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	15	16	nd	nd	10	5
n-C15	16	12	<10	<10	10	5
n-C16	15	11	11	<10	10	5
n-C17	19	13	17	13	10	5
Pristano	<10	nd	nd	nd	10	5
n-C18	<10	Nd	Nd	Nd	10	5
Fitano	<10	nd	nd	nd	10	5
n-C19	<10	nd	nd	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	12	<10	<10	<10	10	5
n-C22	<10	<10	<10	<10	10	5
n-C23	<10	nd	nd	<10	10	5
n-C24	<10	nd	<10	<10	10	5
n-C25	11	<10	<10	12	10	5
n-C26	12	<10	<10	14	10	5
n-C27	21	20	21	21	10	5
n-C28	24	21	26	24	10	5
n-C29	50	42	44	37	10	5
n-C30	10	15	15	15	10	5

Boletim de Ensaio

Pág. 22 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **19/03/2010**

Lab-nº: **09/3774B**

Parâmetro	RS-BS #14-R2(0-2cm) (µg/kg)	RS-BS #14-R3(0-2cm) (µg/kg)	RS-BS #15-R1(0-2cm) (µg/kg)	RS-BS #15-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	111	91	89	82	10	5
n-C32	246	197	260	196	10	5
n-C33	142	98	1017	101	10	5
n-C34	<10	<10	<10	<10	10	5
n-C35	64	66	78	55	10	5
n-C36	17	16	<10	nd	10	5
n-C37	<10	<10	<10	nd	10	5
n-C38	<10	<10	nd	nd	10	5
n-C39	<10	<10	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5

Boletim de Ensaio

Pág. 23 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **19/03/2010**

Lab-nº: **09/3774B**

Parâmetro	RS-BS #15-R3(0-2cm) (µg/kg)	RS-BS #16-R1(0-2cm) (µg/kg)	RS-BS #16-R2(0-2cm) (µg/kg)	RS-BS #16-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	nd	nd	nd	nd	10	5
n-C11	<10	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	<10	<10	nd	10	5
n-C14	20	29	17	19	10	5
n-C15	19	34	38	19	10	5
n-C16	13	22	15	12	10	5
n-C17	15	23	19	14	10	5
Pristano	nd	<10	11	nd	10	5
n-C18	<10	16	17	<10	10	5
Fitano	nd	nd	<10	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	<10	<10	<10	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	<10	<10	<10	nd	10	5
n-C25	<10	<10	<10	<10	10	5
n-C26	<10	<10	<10	<10	10	5
n-C27	19	25	11	16	10	5
n-C28	20	20	14	13	10	5
n-C29	38	41	25	32	10	5
n-C30	12	12	<10	11	10	5

Boletim de Ensaio

Pág. 24 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **19/03/2010**

Lab-nº: **09/3774B**

Parâmetro	RS-BS #15-R3(0-2cm) (µg/kg)	RS-BS #16-R1(0-2cm) (µg/kg)	RS-BS #16-R2(0-2cm) (µg/kg)	RS-BS #16-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	104	115	85	73	10	5
n-C32	258	206	96	112	10	5
n-C33	123	118	77	75	10	5
n-C34	13	11	<10	<10	10	5
n-C35	78	70	24	39	10	5
n-C36	<10	42	<10	nd	10	5
n-C37	<10	<10	nd	11	10	5
n-C38	<10	<10	nd	nd	10	5
n-C39	<10	<10	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5

Boletim de Ensaio

Pág. 25 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **19/03/2010**

Lab-nº: **09/3774B**

Parâmetro	RS-BS #17-R1(0-2cm) (µg/kg)	RS-BS #17-R2(0-2cm) (µg/kg)	RS-BS #17-R3(0-2cm) (µg/kg)	RS-BS #18-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	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	nd	<10	13	nd	10	5
n-C15	<10	12	13	<10	10	5
n-C16	<10	12	14	11	10	5
n-C17	<10	16	21	12	10	5
Pristano	nd	nd	<10	nd	10	5
n-C18	<10	10	15	<10	10	5
Fitano	nd	nd	<10	nd	10	5
n-C19	nd	nd	<10	nd	10	5
n-C20	nd	<10	11	nd	10	5
n-C21	nd	12	<10	<10	10	5
n-C22	nd	<10	<10	nd	10	5
n-C23	nd	11	<10	nd	10	5
n-C24	nd	<10	<10	<10	10	5
n-C25	<10	15	13	14	10	5
n-C26	nd	<10	<10	<10	10	5
n-C27	11	25	13	26	10	5
n-C28	<10	26	19	21	10	5
n-C29	19	45	33	43	10	5
n-C30	<10	<10	12	14	10	5

Boletim de Ensaio

Pág. 26 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **19/03/2010**

Lab-nº: **09/3774B**

Parâmetro	RS-BS #17-R1(0-2cm) (µg/kg)	RS-BS #17-R2(0-2cm) (µg/kg)	RS-BS #17-R3(0-2cm) (µg/kg)	RS-BS #18-R1(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	40	86	63	86	10	5
n-C32	91	216	150	243	10	5
n-C33	56	154	62	123	10	5
n-C34	11	34	17	35	10	5
n-C35	24	90	58	76	10	5
n-C36	<10	13	47	nd	10	5
n-C37	11	26	15	nd	10	5
n-C38	nd	<10	nd	nd	10	5
n-C39	nd	<10	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5

Boletim de Ensaio

Pág. 27 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **19/03/2010**

Lab-nº: **09/3774B**

Parâmetro	RS-BS #18-R2(0-2cm) (µg/kg)	RS-BS #18-R3(0-2cm) (µg/kg)	RS-BS #19-R1(0-2cm) (µg/kg)	RS-BS #19-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	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	<10	nd	nd	10	5
n-C13	nd	<10	<10	nd	10	5
n-C14	<10	36	10	nd	10	5
n-C15	10	41	19	<10	10	5
n-C16	12	24	20	11	10	5
n-C17	16	27	24	13	10	5
Pristano	nd	<10	18	nd	10	5
n-C18	<10	20	36	19	10	5
Fitano	nd	nd	15	nd	10	5
n-C19	nd	<10	<10	nd	10	5
n-C20	<10	<10	13	<10	10	5
n-C21	11	11	<10	10	10	5
n-C22	<10	<10	nd	nd	10	5
n-C23	<10	<10	<10	nd	10	5
n-C24	<10	<10	<10	<10	10	5
n-C25	17	17	16	11	10	5
n-C26	<10	<10	<10	<10	10	5
n-C27	26	22	11	14	10	5
n-C28	22	19	12	12	10	5
n-C29	48	45	14	39	10	5
n-C30	14	14	<10	<10	10	5

Boletim de Ensaio

Pág. 28 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **19/03/2010**

Lab-nº: **09/3774B**

Parâmetro	RS-BS #18-R2(0-2cm) (µg/kg)	RS-BS #18-R3(0-2cm) (µg/kg)	RS-BS #19-R1(0-2cm) (µg/kg)	RS-BS #19-R2(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	96	101	83	113	10	5
n-C32	183	211	207	286	10	5
n-C33	129	126	98	148	10	5
n-C34	38	34	25	34	10	5
n-C35	68	103	42	65	10	5
n-C36	nd	nd	39	25	10	5
n-C37	nd	nd	nd	<10	10	5
n-C38	<10	<10	<10	<10	10	5
n-C39	<10	<10	nd	<10	10	5
n-C40	nd	nd	nd	nd	10	5

Boletim de Ensaio

Pág. 29 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **19/03/2010**

Lab-nº: **09/3774B**

Parâmetro	RS-BS #19-R3(0-2cm) (µg/kg)	RS-BS #20-R1(0-2cm) (µg/kg)	RS-BS #20-R2(0-2cm) (µg/kg)	RS-BS #20-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	nd	nd	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	<10	nd	10	5
n-C13	nd	nd	<10	nd	10	5
n-C14	25	nd	<10	nd	10	5
n-C15	10	<10	<10	<10	10	5
n-C16	14	<10	<10	<10	10	5
n-C17	17	<10	12	<10	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	18	12	17	<10	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	<10	nd	nd	nd	10	5
n-C21	<10	<10	<10	<10	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	<10	<10	nd	nd	10	5
n-C25	12	11	<10	<10	10	5
n-C26	<10	<10	<10	<10	10	5
n-C27	20	34	43	25	10	5
n-C28	15	16	14	13	10	5
n-C29	31	29	31	32	10	5
n-C30	10	11	<10	<10	10	5

Boletim de Ensaio

Pág. 30 de 30

Resp. Téc.: **Carina Casal**

Emitido em: **19/03/2010**

Lab-nº: **09/3774B**

Parâmetro	RS-BS #19-R3(0-2cm) (µg/kg)	RS-BS #20-R1(0-2cm) (µg/kg)	RS-BS #20-R2(0-2cm) (µg/kg)	RS-BS #20-R3(0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C31	90	55	62	62	10	5
n-C32	207	155	184	115	10	5
n-C33	130	88	92	82	10	5
n-C34	33	22	24	17	10	5
n-C35	86	74	88	65	10	5
n-C36	33	14	18	14	10	5
n-C37	<10	11	<10	11	10	5
n-C38	<10	nd	nd	<10	10	5
n-C39	<10	nd	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5

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

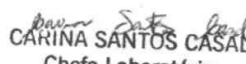
Taxa de Recuperação (%)	
PCA	103

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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