



Laboratório de Ensaio acreditado
pela Cgcre/Inmetro de acordo com
a ABNT NBR ISO/IEC 17025.



Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

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 : 25, 26, 27, 28 e 29/10/2010
Entrega das amostras : 05/11/2010
Início dos ensaios/extração : 05/11/2010
Término dos ensaios : 18/01/2011

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
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Projeto : PAI-Projeto de Avaliação de Impactos da Bacia de Santos
Gerente do Projeto : Cristina Falcão

Parâmetro	MXL_21_R1 (0-2cm) (µg/kg)	MXL_21_R2 (0-2cm) (µg/kg)	MXL_21_R3 (0-2cm) (µg/kg)	MXL_22_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	<10	<10	16	15	10	5
n-C9	nd	<10	nd	nd	10	5
n-C10	39	55	18	nd	10	5
n-C11	1073	nd	nd	<10	10	5
n-C12	110	78	107	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	1039	654	663	nd	10	5
n-C15	2605	2020	1805	34	10	5
n-C16	8976	9070	6608	<10	10	5
n-C17	98	73	63	<10	10	5
Pristano	44	61	52	<10	10	5
n-C18	27	22	31	nd	10	5
Fitano	33	27	33	<10	10	5
n-C19	99	13	88	15	10	5
n-C20	11	<10	16	nd	10	5
n-C21	283	nd	nd	37	10	5
n-C22	nd	nd	21	nd	10	5
n-C23	42	19	27	<10	10	5
n-C24	<10	<10	10	nd	10	5
n-C25	<10	<10	nd	nd	10	5
n-C26	nd	nd	<10	nd	10	5
n-C27	13	13	nd	nd	10	5
n-C28	34	27	38	nd	10	5

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Parâmetro	MXL_21_R1 (0-2cm) (µg/kg)	MXL_21_R2 (0-2cm) (µg/kg)	MXL_21_R3 (0-2cm) (µg/kg)	MXL_22_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C29	20	16	18	12	10	5
n-C30	nd	nd	nd	nd	10	5
n-C31	63	47	63	19	10	5
n-C32	614	402	730	15	10	5
n-C33	nd	nd	nd	26	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	nd	nd	nd	16	10	5
n-C36	nd	nd	nd	<10	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	nd	nd	14	10	5
n-C40	<10	<10	nd	nd	10	5



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Parâmetro	MXL_22_R2 (0-2cm) (µg/kg)	MXL_22_R3 (0-2cm) (µg/kg)	MXL_23_R1 (0-2cm) (µg/kg)	MXL_23_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	14	18	15	13	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	nd	14	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	<10	nd	nd	10	5
n-C14	53	42	59	28	10	5
n-C15	16	18	29	<10	10	5
n-C16	13	14	16	<10	10	5
n-C17	<10	<10	12	<10	10	5
Pristano	<10	nd	<10	nd	10	5
n-C18	<10	11	<10	nd	10	5
Fitano	nd	<10	nd	nd	10	5
n-C19	15	nd	16	11	10	5
n-C20	nd	<10	<10	nd	10	5
n-C21	42	35	43	nd	10	5
n-C22	nd	<10	nd	nd	10	5
n-C23	<10	<10	12	<10	10	5
n-C24	nd	<10	nd	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	nd	<10	nd	nd	10	5
n-C27	32	nd	nd	nd	10	5
n-C28	<10	10	<10	nd	10	5



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Parâmetro	MXL_22_R2 (0-2cm) (µg/kg)	MXL_22_R3 (0-2cm) (µg/kg)	MXL_23_R1 (0-2cm) (µg/kg)	MXL_23_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C29	13	11	14	11	10	5
n-C30	nd	<10	nd	nd	10	5
n-C31	47	16	29	15	10	5
n-C32	nd	nd	nd	nd	10	5
n-C33	nd	nd	nd	nd	10	5
n-C34	nd	17	nd	nd	10	5
n-C35	19	12	nd	nd	10	5
n-C36	<10	45	13	nd	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	18	23	14	10	5
n-C40	nd	nd	nd	nd	10	5



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Parâmetro	MXL_23_R3 (0-2cm) (µg/kg)	MXL_24_R1 (0-2cm) (µg/kg)	MXL_24_R2 (0-2cm) (µg/kg)	MXL_24_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	14	13	16	17	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	<10	nd	nd	nd	10	5
n-C11	23	<10	<10	nd	10	5
n-C12	11	nd	nd	nd	10	5
n-C13	14	nd	nd	nd	10	5
n-C14	122	264	243	102	10	5
n-C15	219	186	155	65	10	5
n-C16	48	78	61	23	10	5
n-C17	22	46	29	15	10	5
Pristano	<10	<10	nd	<10	10	5
n-C18	13	42	13	<10	10	5
Fitano	<10	22	<10	nd	10	5
n-C19	23	35	54	17	10	5
n-C20	nd	33	<10	nd	10	5
n-C21	54	59	144	56	10	5
n-C22	nd	<10	nd	nd	10	5
n-C23	12	18	15	<10	10	5
n-C24	nd	25	nd	nd	10	5
n-C25	nd	13	nd	nd	10	5
n-C26	nd	nd	nd	nd	10	5
n-C27	nd	nd	nd	nd	10	5
n-C28	nd	11	<10	<10	10	5



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Parâmetro	MXL_23_R3 (0-2cm) (µg/kg)	MXL_24_R1 (0-2cm) (µg/kg)	MXL_24_R2 (0-2cm) (µg/kg)	MXL_24_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C29	<10	17	13	11	10	5
n-C30	nd	nd	nd	nd	10	5
n-C31	20	25	15	18	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	nd	nd	nd	13	10	5
n-C36	12	90	nd	10	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	nd	19	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5



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Parâmetro	MXL_31_R1 (0-2cm) (µg/kg)	MXL_31_R2 (0-2cm) (µg/kg)	MXL_31_R3 (0-2cm) (µg/kg)	MXL_32_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	22	22	20	17	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	nd	<10	36	10	5
n-C15	nd	nd	<10	16	10	5
n-C16	nd	nd	<10	<10	10	5
n-C17	nd	nd	nd	<10	10	5
Pristano	nd	nd	nd	<10	10	5
n-C18	nd	nd	nd	nd	10	5
Fitano	nd	nd	nd	<10	10	5
n-C19	nd	nd	nd	<10	10	5
n-C20	nd	nd	15	nd	10	5
n-C21	<10	<10	nd	nd	10	5
n-C22	nd	nd	<10	14	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	nd	nd	nd	nd	10	5
n-C28	nd	nd	<10	<10	10	5



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Parâmetro	MXL_31_R1 (0-2cm) (µg/kg)	MXL_31_R2 (0-2cm) (µg/kg)	MXL_31_R3 (0-2cm) (µg/kg)	MXL_32_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C29	nd	13	14	12	10	5
n-C30	nd	nd	nd	nd	10	5
n-C31	11	17	19	17	10	5
n-C32	nd	nd	nd	nd	10	5
n-C33	nd	nd	25	26	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	nd	13	15	11	10	5
n-C36	<10	<10	<10	<10	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	MXL_32_R2 (0-2cm) (µg/kg)	MXL_32_R3 (0-2cm) (µg/kg)	MXL_33_R1 (0-2cm) (µg/kg)	MXL_33_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	23	20	21	15	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	<10	12	nd	10	5
n-C11	nd	<10	283	19	10	5
n-C12	nd	<10	403	nd	10	5
n-C13	nd	nd	400	<10	10	5
n-C14	30	27	970	29	10	5
n-C15	14	13	385	37	10	5
n-C16	<10	<10	93	nd	10	5
n-C17	<10	<10	33	<10	10	5
Pristano	<10	<10	nd	<10	10	5
n-C18	nd	nd	12	nd	10	5
Fitano	nd	nd	13	nd	10	5
n-C19	<10	<10	20	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	nd	19	57	17	10	5
n-C22	<10	nd	<10	nd	10	5
n-C23	nd	nd	18	<10	10	5
n-C24	nd	nd	nd	nd	10	5
n-C25	nd	nd	<10	nd	10	5
n-C26	nd	nd	nd	nd	10	5
n-C27	nd	<10	nd	nd	10	5
n-C28	<10	11	13	<10	10	5



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Parâmetro	MXL_32_R2 (0-2cm) (µg/kg)	MXL_32_R3 (0-2cm) (µg/kg)	MXL_33_R1 (0-2cm) (µg/kg)	MXL_33_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C29	14	13	16	16	10	5
n-C30	nd	<10	nd	<10	10	5
n-C31	20	20	21	25	10	5
n-C32	nd	nd	nd	23	10	5
n-C33	35	22	40	15	10	5
n-C34	nd	nd	nd	18	10	5
n-C35	16	12	nd	17	10	5
n-C36	nd	<10	nd	<10	10	5
n-C37	nd	nd	nd	nd	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



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Parâmetro	MXL_33_R3 (0-2cm) (µg/kg)	MXL_34_R1 (0-2cm) (µg/kg)	MXL_34_R2 (0-2cm) (µg/kg)	MXL_34_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	18	21	15	17	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	<10	53	10	5
n-C11	<10	<10	201	1778	10	5
n-C12	<10	<10	21	109	10	5
n-C13	nd	<10	55	156	10	5
n-C14	25	53	209	1541	10	5
n-C15	19	69	470	4228	10	5
n-C16	<10	12	58	8966	10	5
n-C17	<10	11	21	86	10	5
Pristano	nd	nd	26	87	10	5
n-C18	nd	<10	12	52	10	5
Fitano	nd	<10	18	76	10	5
n-C19	nd	14	32	119	10	5
n-C20	nd	nd	nd	18	10	5
n-C21	12	43	91	359	10	5
n-C22	nd	nd	nd	38	10	5
n-C23	nd	<10	15	43	10	5
n-C24	nd	nd	nd	13	10	5
n-C25	nd	nd	<10	14	10	5
n-C26	nd	nd	<10	17	10	5
n-C27	nd	nd	nd	12	10	5
n-C28	<10	<10	<10	<10	10	5



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Parâmetro	MXL_33_R3 (0-2cm) (µg/kg)	MXL_34_R1 (0-2cm) (µg/kg)	MXL_34_R2 (0-2cm) (µg/kg)	MXL_34_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C29	13	14	11	20	10	5
n-C30	nd	nd	nd	<10	10	5
n-C31	113	22	20	nd	10	5
n-C32	21	29	126	nd	10	5
n-C33	22	nd	nd	nd	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	<10	16	nd	nd	10	5
n-C36	nd	nd	nd	nd	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	13	16	nd	nd	10	5
n-C40	nd	nd	nd	<10	10	5



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Parâmetro	MXL_41_R1 (0-2cm) (µg/kg)	MXL_41_R2 (0-2cm) (µg/kg)	MXL_41_R3 (0-2cm) (µg/kg)	MXL_42_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	36	31	20	36	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	nd	nd	<10	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	nd	nd	12	nd	10	5
n-C15	68	107	172	311	10	5
n-C16	nd	<10	14	nd	10	5
n-C17	nd	<10	12	<10	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	<10	<10	16	nd	10	5
Fitano	nd	nd	11	nd	10	5
n-C19	nd	nd	<10	nd	10	5
n-C20	nd	nd	<10	nd	10	5
n-C21	<10	14	31	nd	10	5
n-C22	<10	nd	<10	nd	10	5
n-C23	nd	nd	<10	nd	10	5
n-C24	nd	<10	14	12	10	5
n-C25	nd	nd	<10	nd	10	5
n-C26	nd	nd	nd	nd	10	5
n-C27	nd	nd	nd	nd	10	5
n-C28	<10	<10	18	<10	10	5



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Parâmetro	MXL_41_R1 (0-2cm) (µg/kg)	MXL_41_R2 (0-2cm) (µg/kg)	MXL_41_R3 (0-2cm) (µg/kg)	MXL_42_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C29	<10	<10	21	nd	10	5
n-C30	nd	nd	10	14	10	5
n-C31	15	14	28	nd	10	5
n-C32	nd	nd	nd	nd	10	5
n-C33	15	26	39	nd	10	5
n-C34	nd	<10	nd	nd	10	5
n-C35	13	13	24	14	10	5
n-C36	nd	22	55	22	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	<10	<10	nd	10	5
n-C39	20	16	25	nd	10	5
n-C40	<10	10	11	nd	10	5



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Parâmetro	MXL_42_R2 (0-2cm) (µg/kg)	MXL_42_R3 (0-2cm) (µg/kg)	MXL_43_R1 (0-2cm) (µg/kg)	MXL_43_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	49	31	37	32	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	nd	nd	nd	10	5
n-C14	nd	nd	16	<10	10	5
n-C15	190	27	39	25	10	5
n-C16	nd	nd	nd	nd	10	5
n-C17	<10	nd	nd	nd	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	<10	nd	nd	nd	10	5
Fitano	11	<10	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	<10	nd	nd	<10	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	<10	nd	nd	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	nd	nd	nd	nd	10	5
n-C27	nd	<10	nd	nd	10	5
n-C28	<10	<10	<10	nd	10	5



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Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

Parâmetro	MXL_42_R2 (0-2cm) (µg/kg)	MXL_42_R3 (0-2cm) (µg/kg)	MXL_43_R1 (0-2cm) (µg/kg)	MXL_43_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C29	<10	12	<10	10	10	5
n-C30	nd	<10	nd	nd	10	5
n-C31	17	19	13	15	10	5
n-C32	nd	nd	nd	nd	10	5
n-C33	19	24	15	nd	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	15	18	10	11	10	5
n-C36	<10	<10	nd	nd	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	17	19	12	13	10	5
n-C40	<10	<10	<10	nd	10	5



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Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

Parâmetro	MXL_43_R3 (0-2cm) (µg/kg)	MXL_44_R1 (0-2cm) (µg/kg)	MXL_44_R2 (0-2cm) (µg/kg)	MXL_44_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	44	45	40	12	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	15	10	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	18	32	nd	40	10	5
n-C15	27	41	13	37	10	5
n-C16	nd	nd	nd	13	10	5
n-C17	nd	<10	nd	<10	10	5
Pristano	nd	nd	nd	<10	10	5
n-C18	nd	nd	nd	nd	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	<10	nd	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	10	23	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	nd	nd	nd	nd	10	5
n-C27	nd	nd	nd	12	10	5
n-C28	<10	nd	nd	nd	10	5



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Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

Parâmetro	MXL_43_R3 (0-2cm) (µg/kg)	MXL_44_R1 (0-2cm) (µg/kg)	MXL_44_R2 (0-2cm) (µg/kg)	MXL_44_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C29	<10	<10	nd	<10	10	5
n-C30	nd	nd	nd	nd	10	5
n-C31	17	16	<10	15	10	5
n-C32	nd	nd	nd	nd	10	5
n-C33	nd	nd	11	15	10	5
n-C34	nd	nd	nd	nd	10	5
n-C35	11	<10	<10	<10	10	5
n-C36	nd	nd	nd	nd	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	14	12	<10	13	10	5
n-C40	nd	nd	<10	nd	10	5



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Resp. Téc.: **Carina Casal**

Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

Parâmetro	MXL_51_R1 (0-2cm) (µg/kg)	MXL_51_R2 (0-2cm) (µg/kg)	MXL_51_R3 (0-2cm) (µg/kg)	MXL_52_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	nd	10	15	39	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	nd	10	5
n-C14	nd	nd	nd	<10	10	5
n-C15	22	nd	<10	39	10	5
n-C16	nd	nd	nd	23	10	5
n-C17	nd	nd	nd	18	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	nd	nd	nd	28	10	5
Fitano	nd	nd	nd	10	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	nd	nd	26	10	5
n-C21	nd	nd	nd	nd	10	5
n-C22	nd	nd	nd	26	10	5
n-C23	nd	nd	nd	13	10	5
n-C24	nd	nd	nd	26	10	5
n-C25	nd	nd	<10	<10	10	5
n-C26	nd	nd	nd	23	10	5
n-C27	nd	nd	nd	<10	10	5
n-C28	<10	<10	<10	30	10	5



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Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

Parâmetro	MXL_51_R1 (0-2cm) (µg/kg)	MXL_51_R2 (0-2cm) (µg/kg)	MXL_51_R3 (0-2cm) (µg/kg)	MXL_52_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C29	<10	<10	13	13	10	5
n-C30	nd	nd	<10	27	10	5
n-C31	18	17	21	18	10	5
n-C32	nd	nd	nd	32	10	5
n-C33	21	20	34	22	10	5
n-C34	nd	12	<10	28	10	5
n-C35	13	11	18	14	10	5
n-C36	nd	nd	13	430	10	5
n-C37	nd	nd	10	nd	10	5
n-C38	nd	nd	nd	<10	10	5
n-C39	17	14	nd	nd	10	5
n-C40	<10	<10	<10	<10	10	5



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Resp. Téc.: **Carina Casal**

Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

Parâmetro	MXL_52_R2 (0-2cm) (µg/kg)	MXL_52_R3 (0-2cm) (µg/kg)	MXL_53_R1 (0-2cm) (µg/kg)	MXL_53_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	40	46	<10	52	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	nd	nd	nd	10	5
n-C15	<10	27	25	17	10	5
n-C16	nd	<10	nd	nd	10	5
n-C17	nd	10	nd	<10	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	nd	16	nd	<10	10	5
Fitano	nd	<10	nd	<10	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	<10	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	16	nd	nd	10	5
n-C25	nd	<10	nd	nd	10	5
n-C26	nd	nd	nd	nd	10	5
n-C27	nd	nd	nd	nd	10	5
n-C28	<10	<10	<10	<10	10	5



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Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

Parâmetro	MXL_52_R2 (0-2cm) (µg/kg)	MXL_52_R3 (0-2cm) (µg/kg)	MXL_53_R1 (0-2cm) (µg/kg)	MXL_53_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C29	<10	10	10	11	10	5
n-C30	<10	<10	nd	nd	10	5
n-C31	15	16	13	16	10	5
n-C32	nd	43	13	52	10	5
n-C33	17	23	28	31	10	5
n-C34	<10	nd	<10	15	10	5
n-C35	13	14	12	14	10	5
n-C36	<10	70	<10	22	10	5
n-C37	nd	13	21	30	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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Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

Parâmetro	MXL_53_R3 (0-2cm) (µg/kg)	MXL_54_R1 (0-2cm) (µg/kg)	MXL_54_R2 (0-2cm) (µg/kg)	MXL_54_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C8	10	12	10	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	nd	<10	nd	nd	10	5
n-C12	nd	nd	nd	<10	10	5
n-C13	nd	nd	nd	<10	10	5
n-C14	nd	16	<10	31	10	5
n-C15	28	28	37	60	10	5
n-C16	nd	nd	<10	nd	10	5
n-C17	<10	<10	<10	<10	10	5
Pristano	nd	nd	nd	<10	10	5
n-C18	<10	nd	<10	<10	10	5
Fitano	<10	nd	nd	<10	10	5
n-C19	nd	nd	nd	<10	10	5
n-C20	<10	nd	nd	nd	10	5
n-C21	nd	18	<10	25	10	5
n-C22	<10	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	nd	nd	10	5
n-C27	nd	nd	nd	nd	10	5
n-C28	<10	<10	<10	<10	10	5



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Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

Parâmetro	MXL_53_R3 (0-2cm) (µg/kg)	MXL_54_R1 (0-2cm) (µg/kg)	MXL_54_R2 (0-2cm) (µg/kg)	MXL_54_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
n-Alcanos C8 - C40						
n-C29	12	12	11	11	10	5
n-C30	<10	<10	nd	<10	10	5
n-C31	16	16	17	19	10	5
n-C32	47	40	46	78	10	5
n-C33	31	45	36	63	10	5
n-C34	16	21	<10	nd	10	5
n-C35	13	10	11	<10	10	5
n-C36	45	nd	30	13	10	5
n-C37	23	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

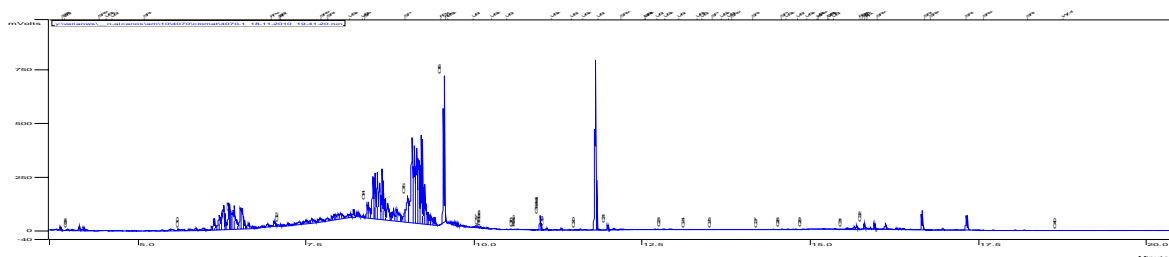
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Resp. Téc.: **Carina Casal**

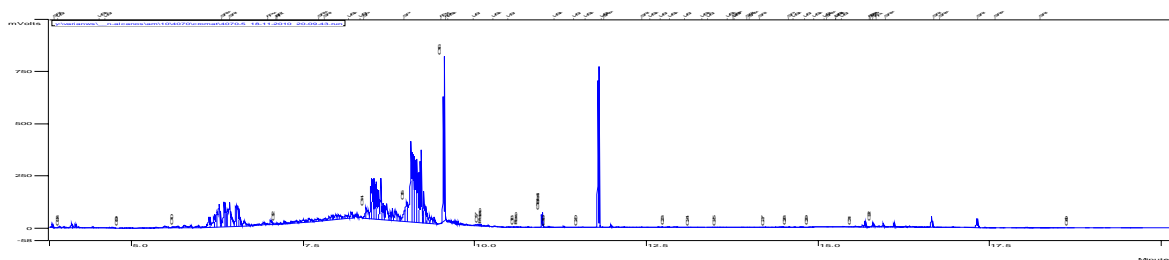
Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

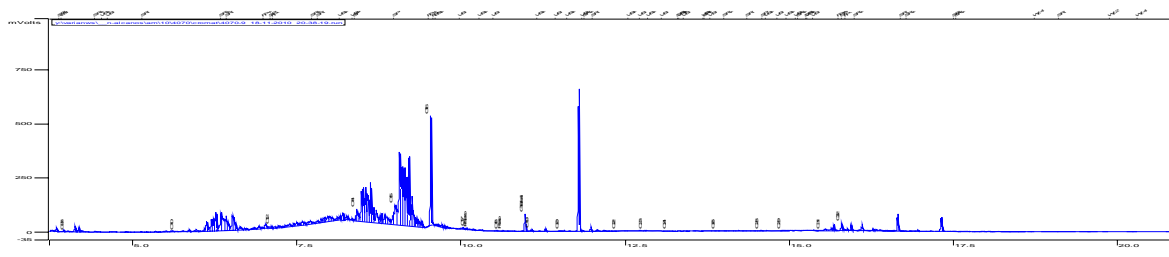
MXL_21_R1 (0-2cm)



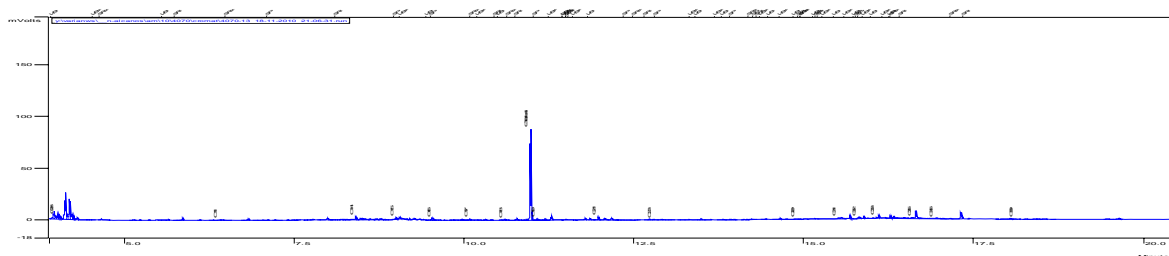
MXL_21_R2 (0-2cm)



MXL_21_R3 (0-2cm)



MXL_22_R1 (0-2cm)





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Boletim de Ensaio

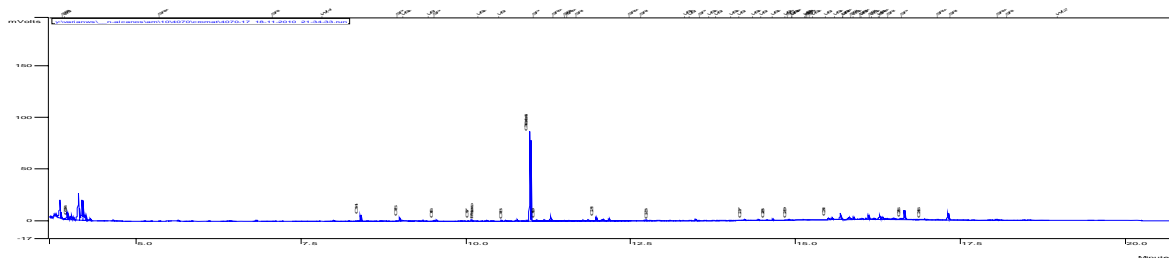
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Resp. Téc.: **Carina Casal**

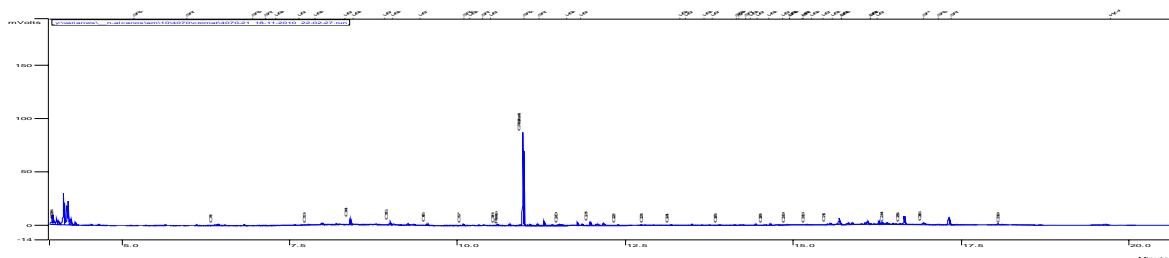
Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

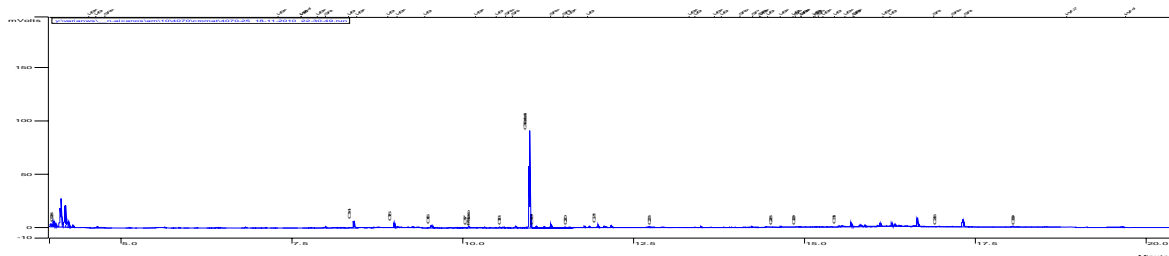
MXL_22_R2 (0-2cm)



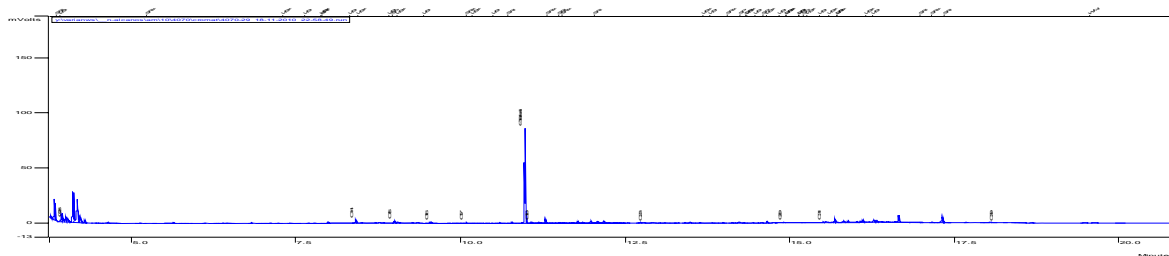
MXL_22_R3 (0-2cm)



MXL_23_R1 (0-2cm)



MXL_23_R2 (0-2cm)



conferido

Boletim de Ensaio

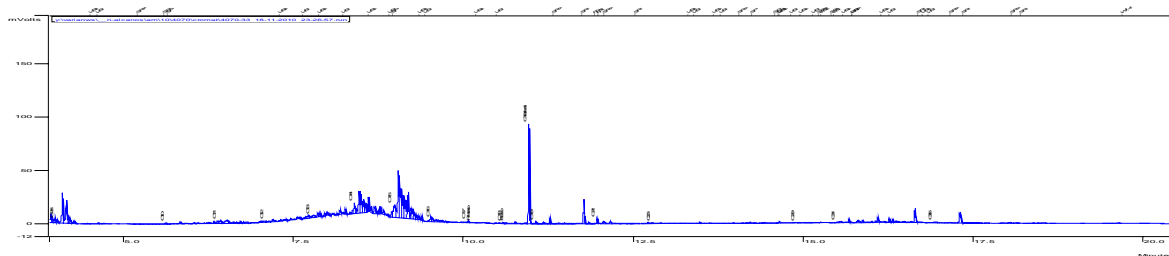
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Resp. Téc.: **Carina Casal**

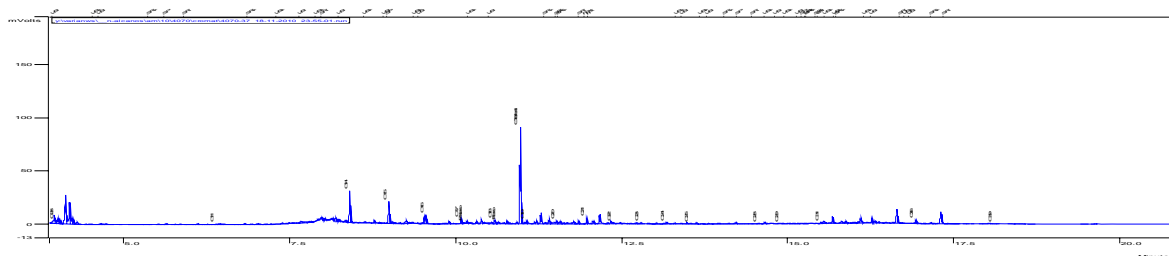
Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

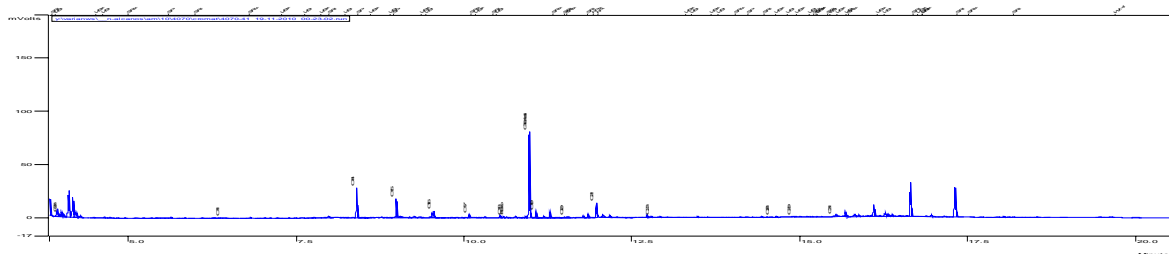
MXL_23_R3 (0-2cm)



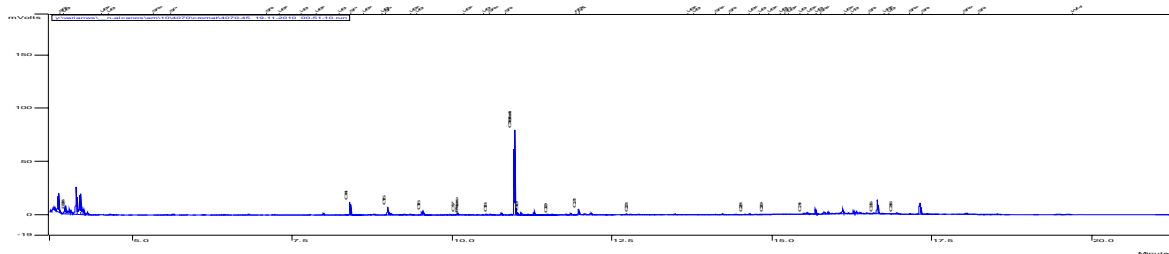
MXL_24_R1 (0-2cm)



MXL_24_R2 (0-2cm)



MXL_24_R3 (0-2cm)





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Boletim de Ensaio

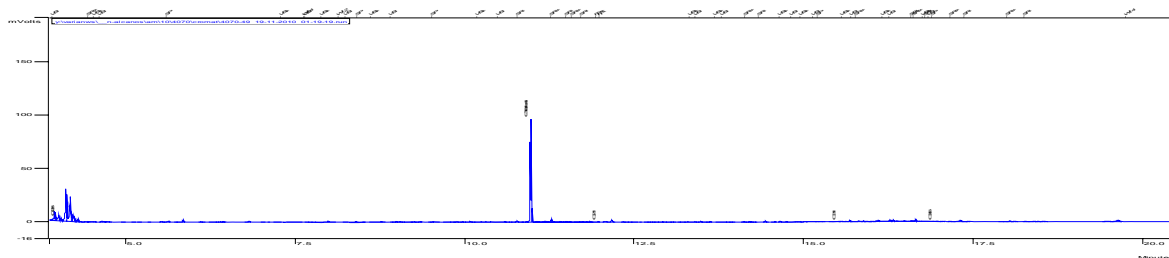
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Resp. Téc.: **Carina Casal**

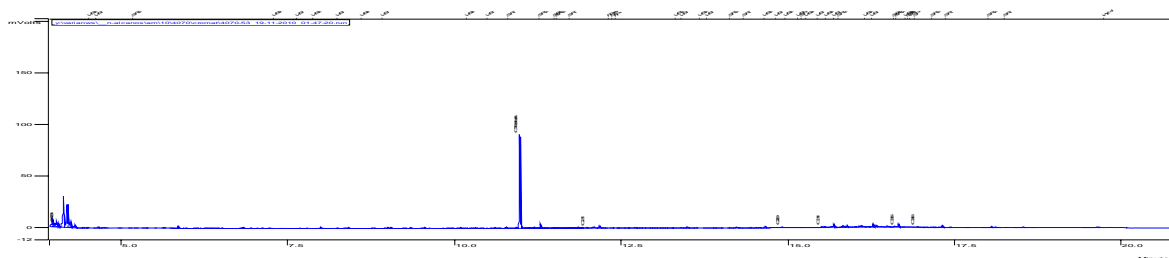
Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

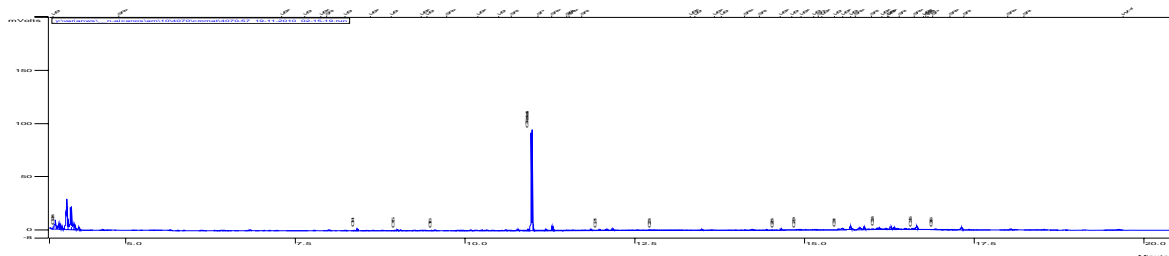
MXL_31_R1 (0-2cm)



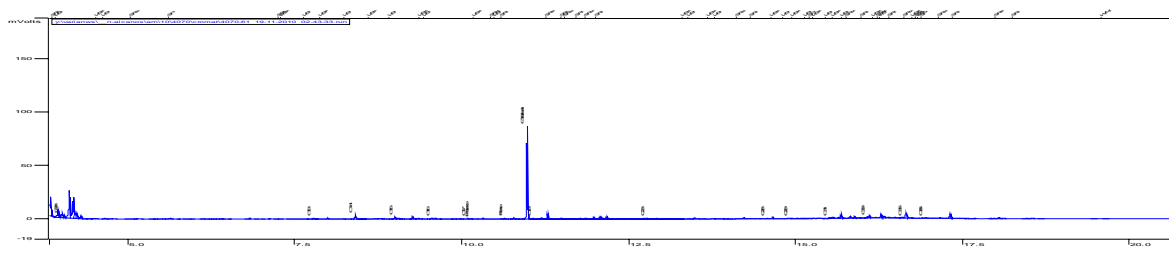
MXL_31_R2 (0-2cm)



MXL_31_R3 (0-2cm)



MXL_32_R1 (0-2cm)



conferido



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Boletim de Ensaio

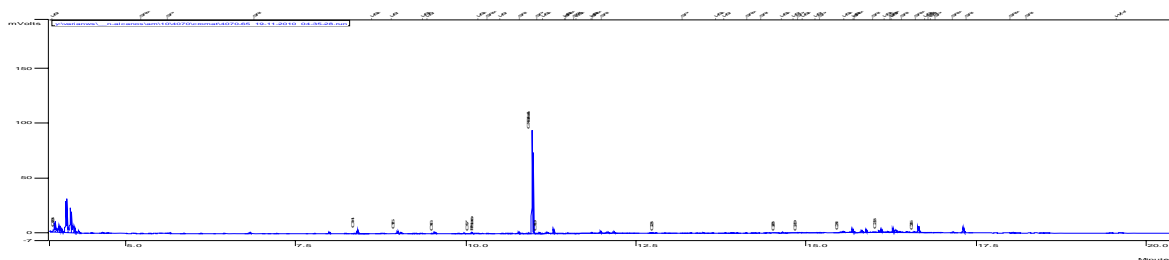
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Resp. Téc.: **Carina Casal**

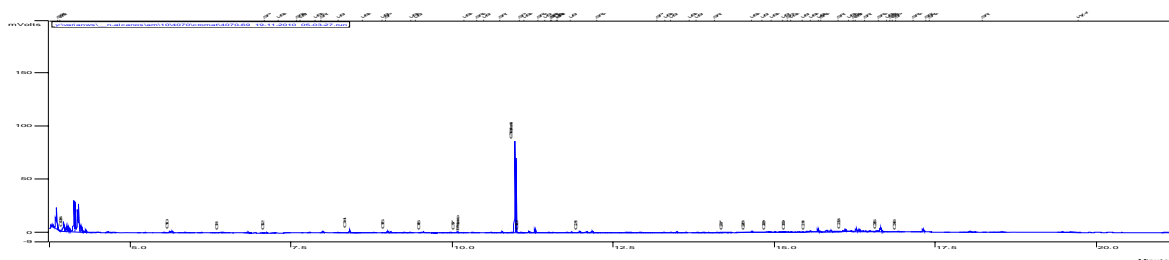
Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

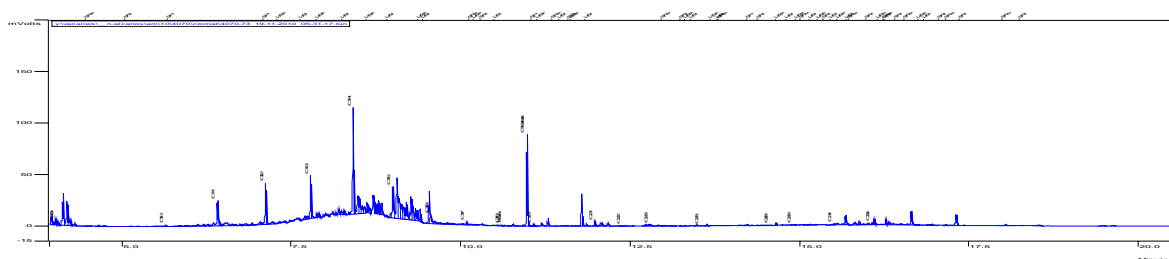
MXL_32_R2 (0-2cm)



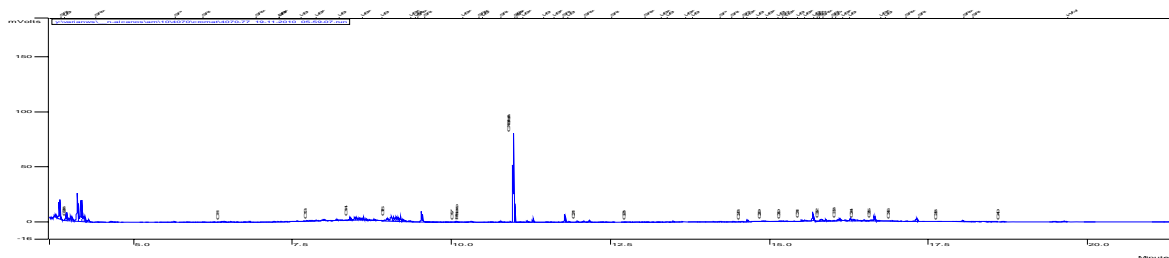
MXL_32_R3 (0-2cm)



MXL_33_R1 (0-2cm)



MXL_33_R2 (0-2cm)



conferido



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Boletim de Ensaio

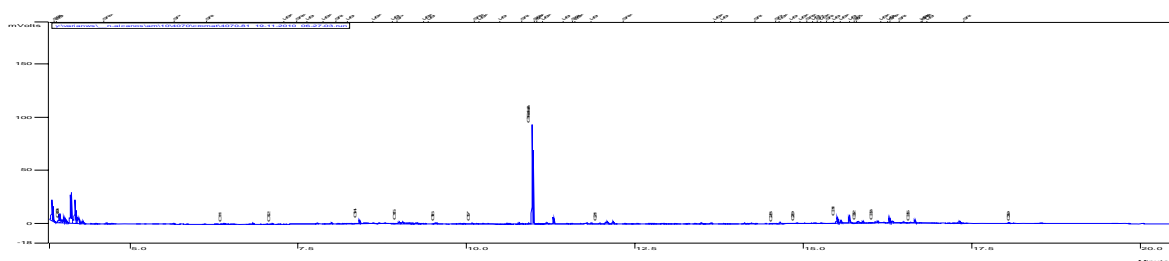
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Resp. Téc.: **Carina Casal**

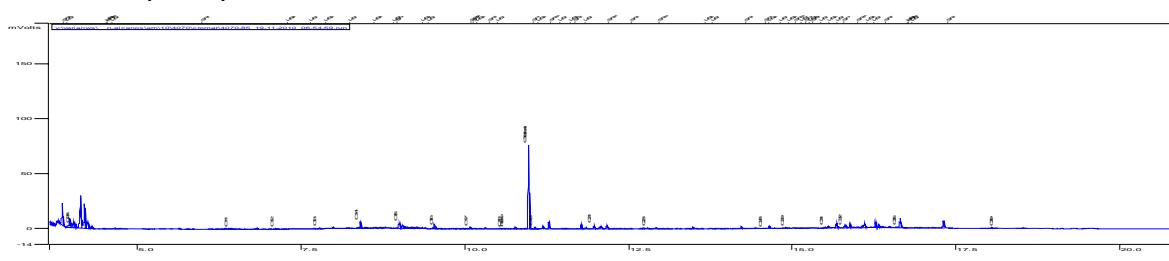
Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

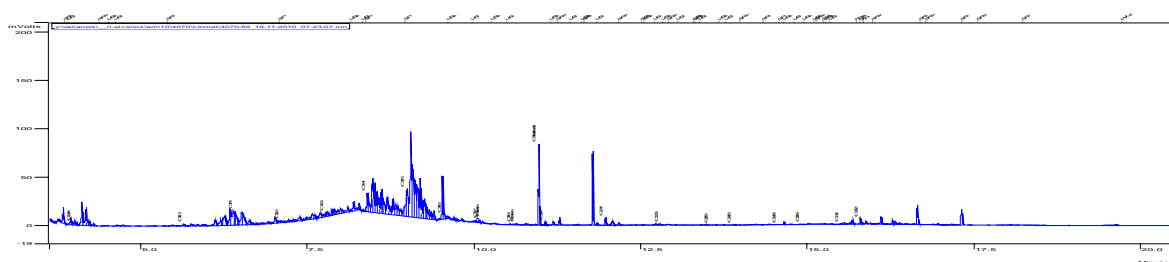
MXL_33_R3 (0-2cm)



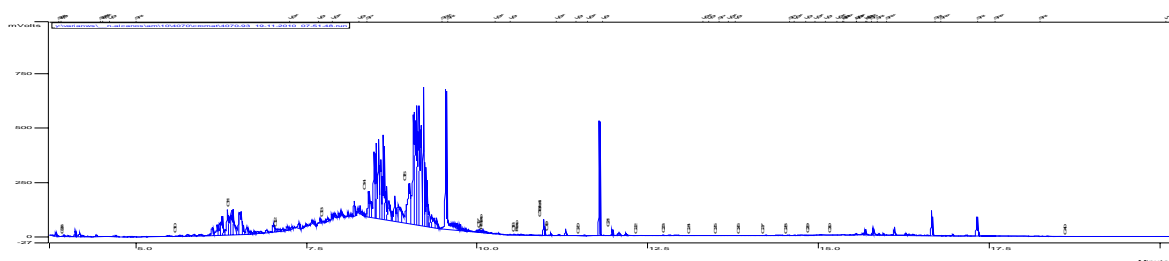
MXL_34_R1 (0-2cm)



MXL_34_R2 (0-2cm)



MXL_34_R3 (0-2cm)



conferido



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Boletim de Ensaio

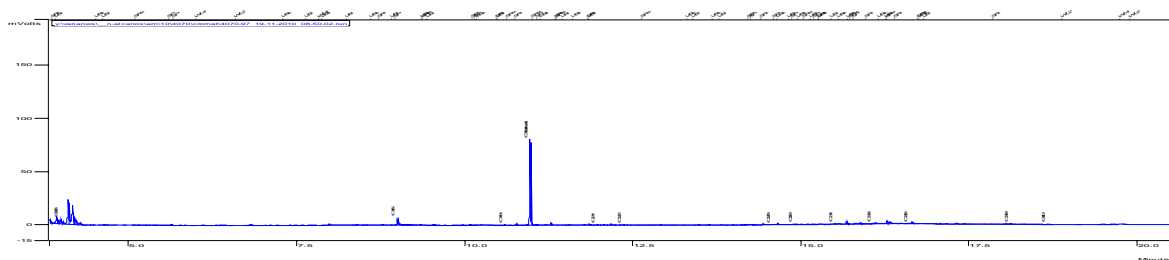
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Resp. Téc.: **Carina Casal**

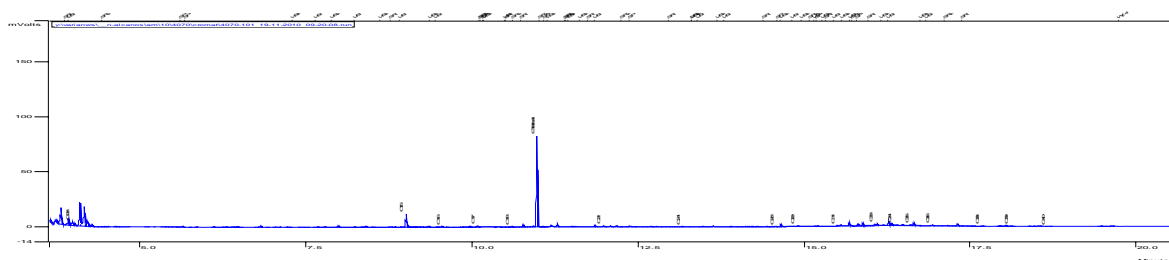
Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

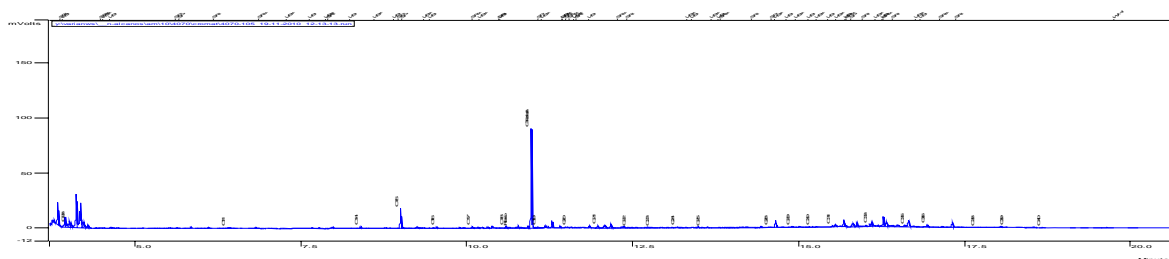
MXL_41_R1 (0-2cm)



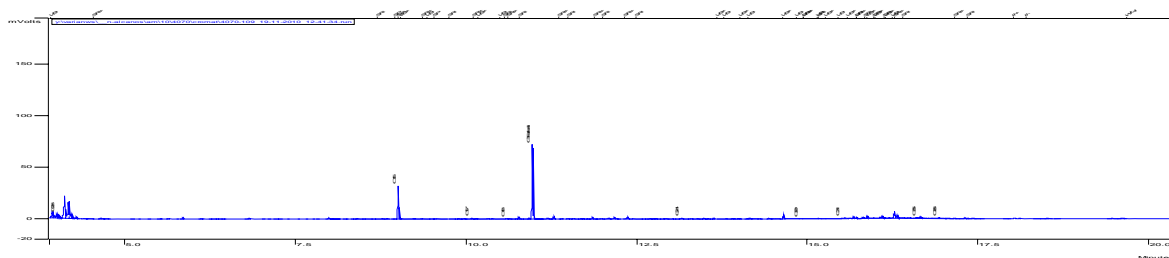
MXL_41_R2 (0-2cm)



MXL_41_R3 (0-2cm)



MXL_42_R1 (0-2cm)



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Boletim de Ensaio

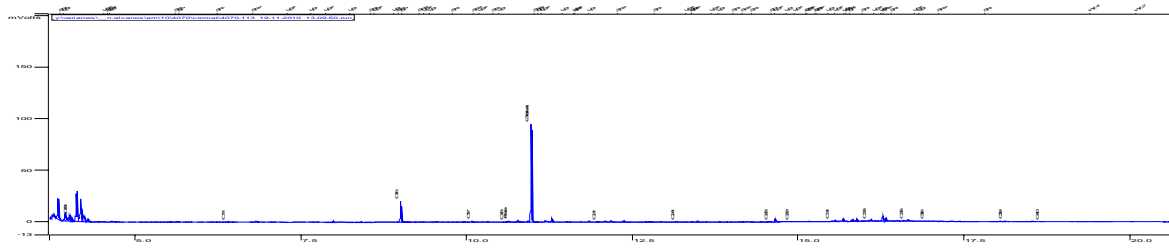
Pág. 32 de 37

Resp. Téc.: **Carina Casal**

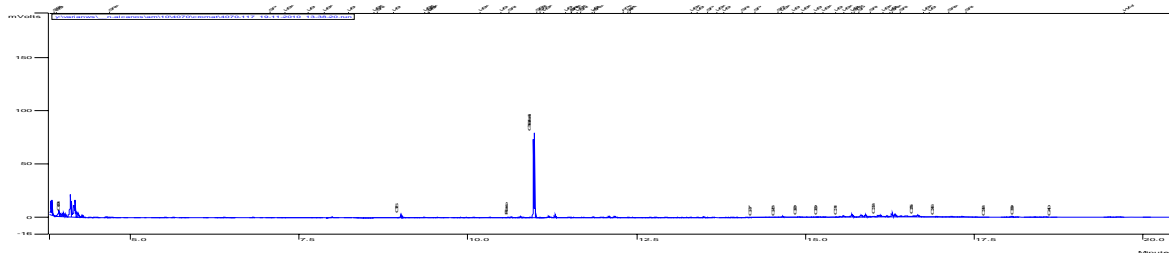
Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

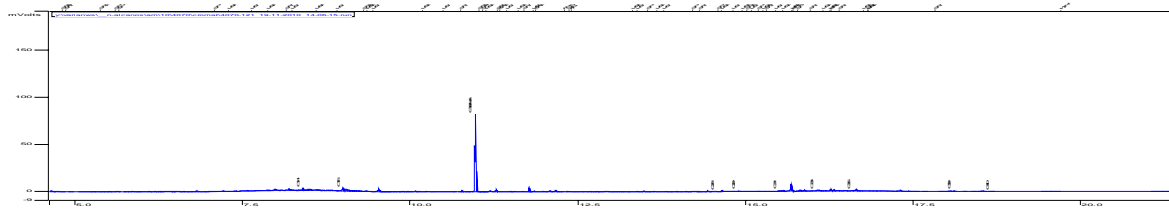
MXL_42_R2 (0-2cm)



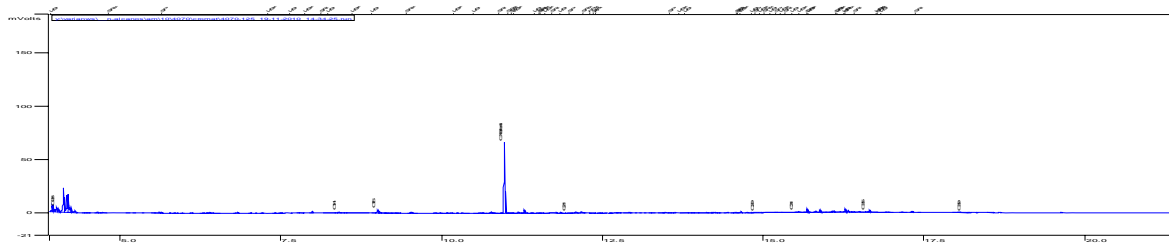
MXL_42_R2 (0-2cm)



MXL_43_R1 (0-2cm)



MXL_43_R2 (0-2cm)





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Boletim de Ensaio

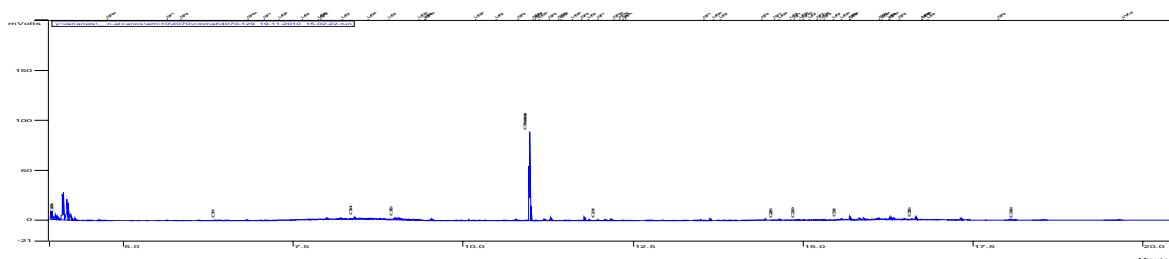
Pág. 33 de 37

Resp. Téc.: **Carina Casal**

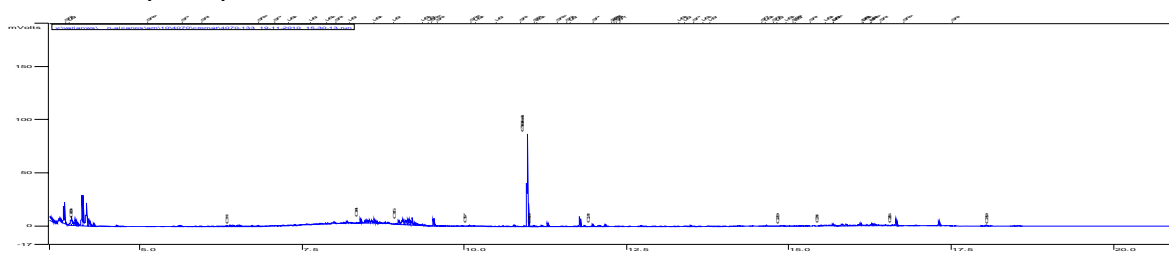
Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

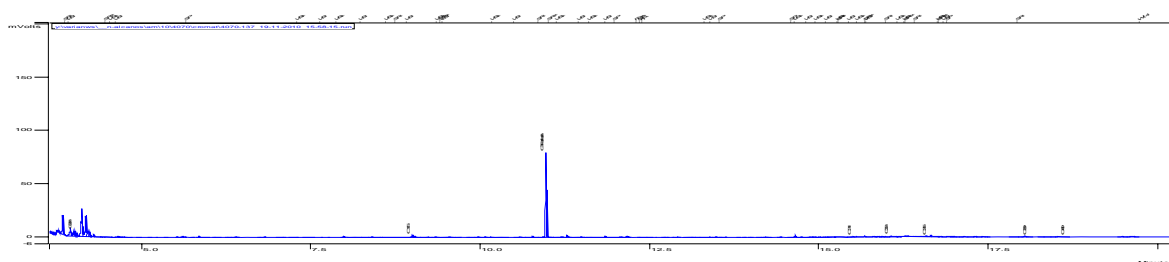
MXL_43_R3 (0-2cm)



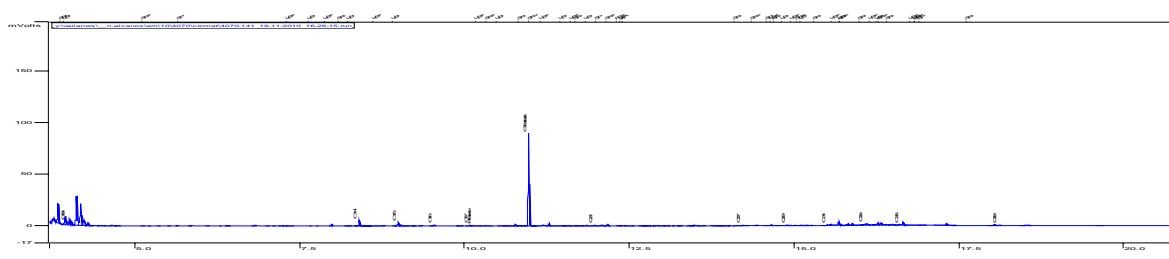
MXL_44_R1 (0-2cm)



MXL_44_R2 (0-2cm)



MXL_44_R3 (0-2cm)



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Boletim de Ensaio

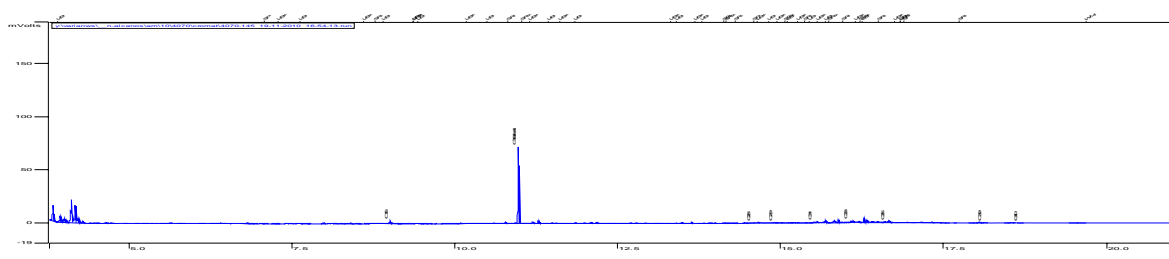
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Resp. Téc.: **Carina Casal**

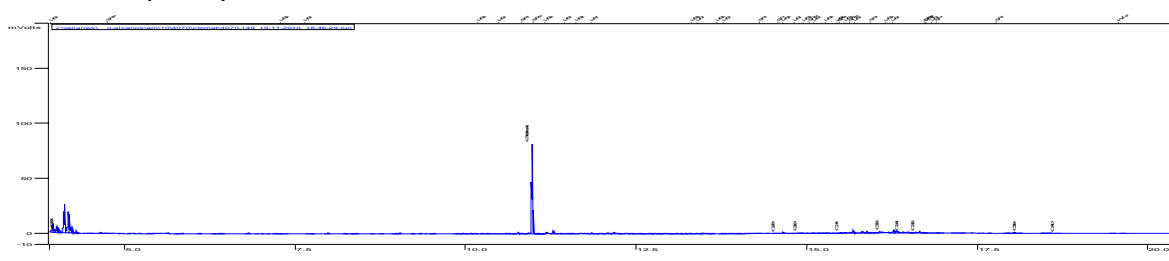
Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

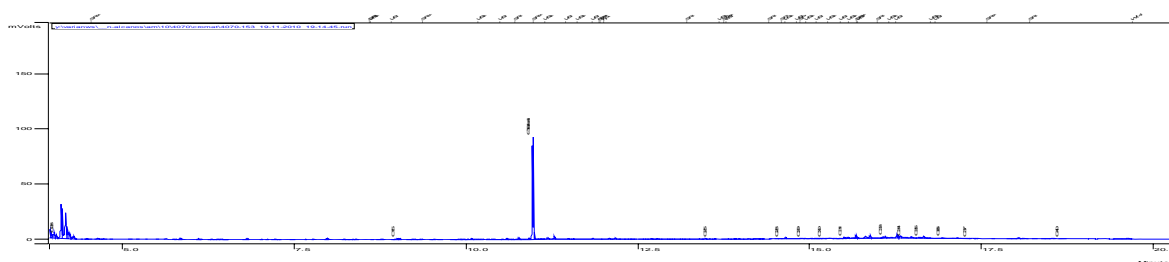
MXL_51_R1 (0-2cm)



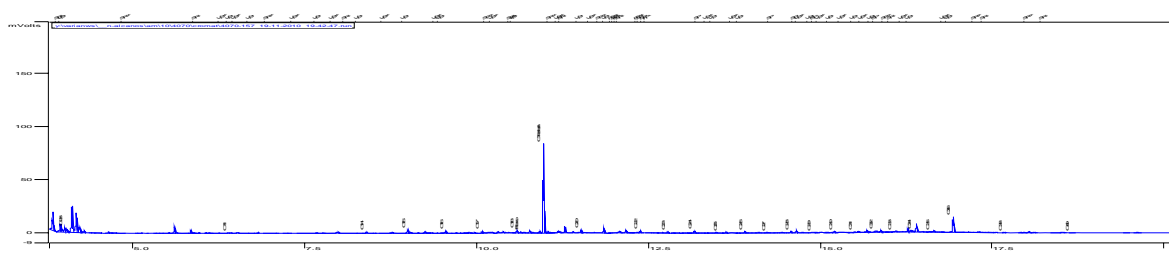
MXL_51_R2 (0-2cm)



MXL_51_R3 (0-2cm)



MXL_52_R1 (0-2cm)



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Boletim de Ensaio

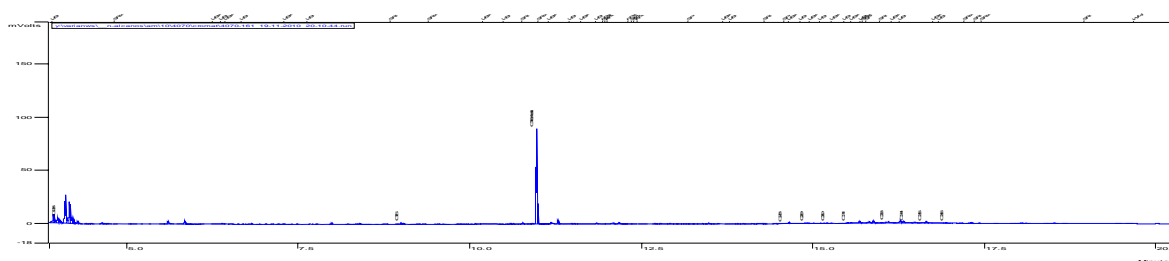
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Resp. Téc.: **Carina Casal**

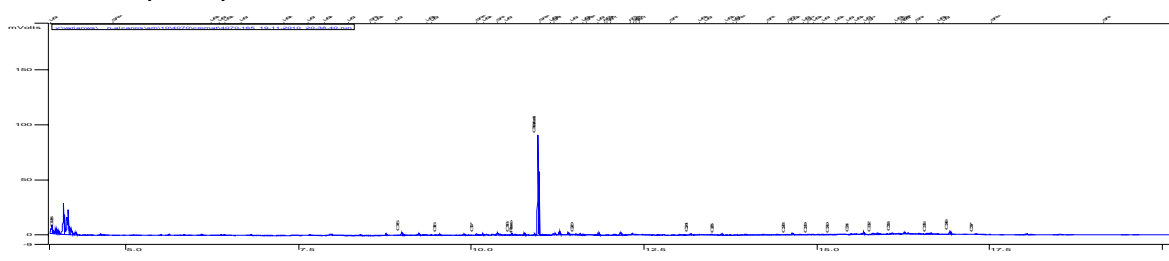
Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

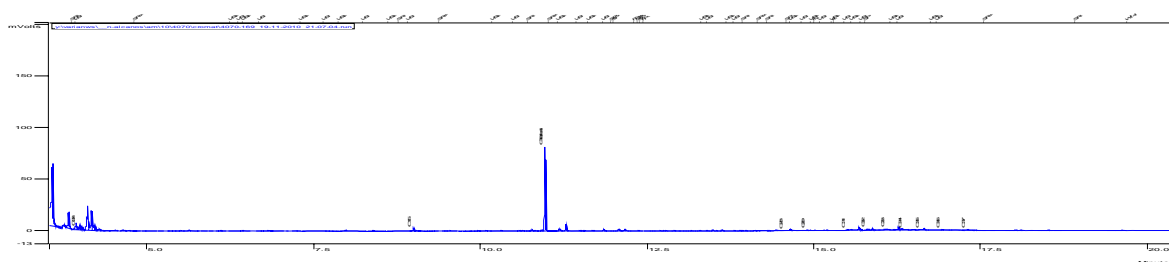
MXL_52_R2 (0-2cm)



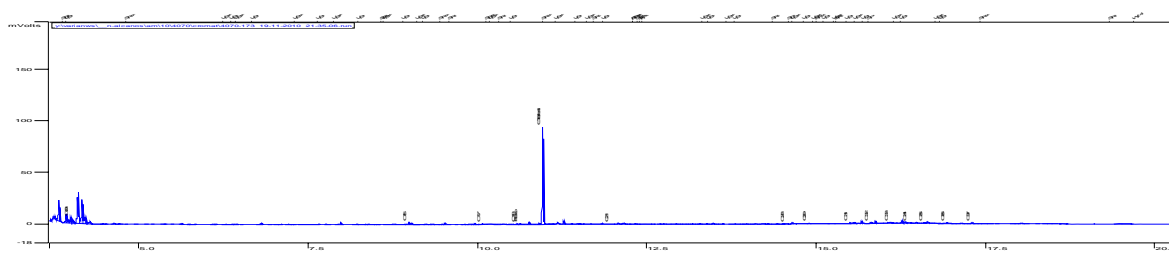
MXL_52_R3 (0-2cm)



MXL_53_R1 (0-2cm)



MXL_53_R2 (0-2cm)



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Boletim de Ensaio

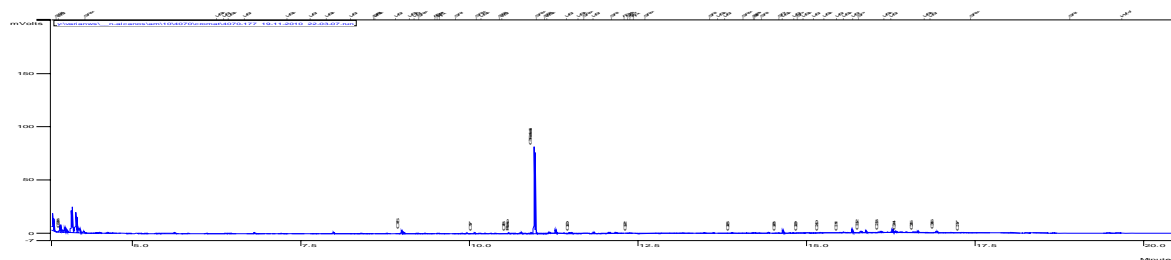
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Resp. Téc.: **Carina Casal**

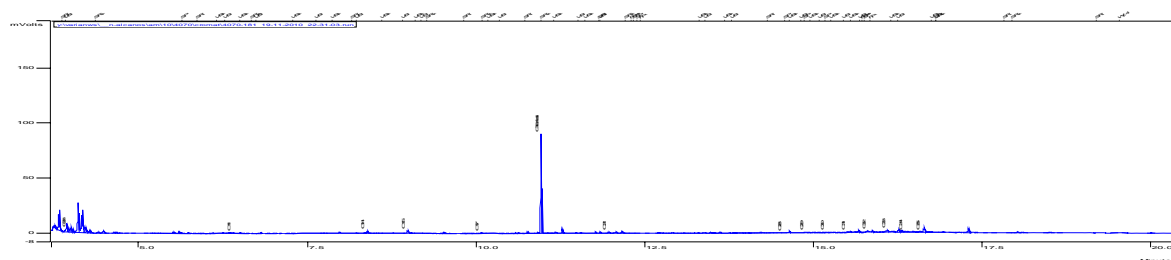
Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

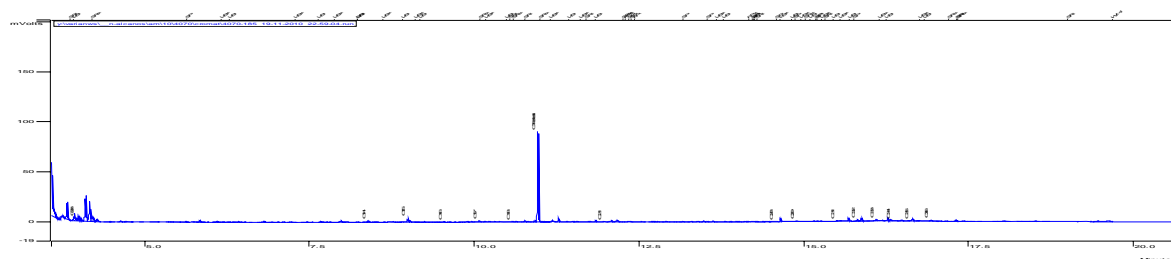
MXL_53_R3 (0-2cm)



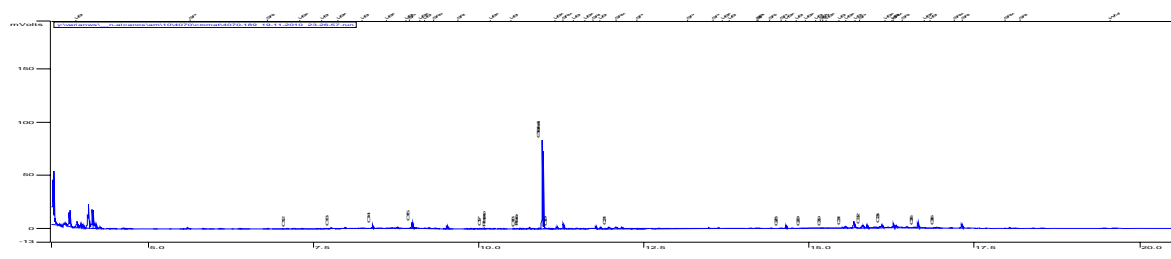
MXL_54_R1 (0-2cm)



MXL_54_R2 (0-2cm)



MXL_54_R3 (0-2cm)



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Boletim de Ensaio

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Resp. Téc.: **Carina Casal**

Emitido em: **18/01/2011**

Lab-nº: **10/4070C**

Padrões de Controle Analítico – (PCA)

(Faixa de Aceitação: 70-130%)

Taxa de Recuperação (%)

PCA


83

FM-004-L3A – 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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CRQ – 03311142 CREA - 791006469


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Químico
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