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E&P Research Centre

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Summary/Conclusion//Recommendation	

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## 1. INTRODUCTION.

Stable carbon isotopes were measured by Geolab Nor A/S, Trondheim, Norway. All other analytical work, interpretation and compilation of this report was done at Norsk Hydro Research Center, Bergen, Norway.

## 2. RESULTS AND DISCUSSION.

### 2.1 Gas chromatography of whole oil.

The whole oil gas chromatogram is given in Appendix I.

### 2.2 Bulk separation using Iatroscan.

The bulk separation data is based on standard Iatroscan measurements, and is reported in relative % in table 2.1.

Sample	%-Sat	%-Aro	%-NSO	%-Asph
25/11-15, DST 1	26	48	20	6.4

Table 2.1 Group type distribution.

Sample	Pristane/ nC17	Pristane/ Phytane	CPI-1	CPI-2
25/11-15, DST 1	0.96	1.63	0.93	0.82

Table 2.2 Molecular data, saturated hydrocarbons.

2.6 Gas chromatography-mass spectroscopy of aromatic hydrocarbons.

Sample	Tri/Mono+Tri	T20/T20+T28
25/11-15, DST1	0.63	0.23

Table 2.5 Maturity parameters using aromatic steroids.

2.7 Biomarkers using metastable transitions.

Sample	%20S	% $\alpha\beta$	Dia/Hop	25-NH/NH	BNH/H
25/11-15 DST1	47	58	0.15	0.56	0.24

Table 2.6. Selected biomarker ratios.

2.8 Stable isotope compositions.

Sample	Saturated	Aromatic	NSO	Asphaltenes
25/11-15 DST1	-28.94	-28.14	-28.10	-28.17

Table 2.6  $\delta^{13}\text{C}$  values.

## APPENDIX II

Gas chromatogram of saturated hydrocarbons.

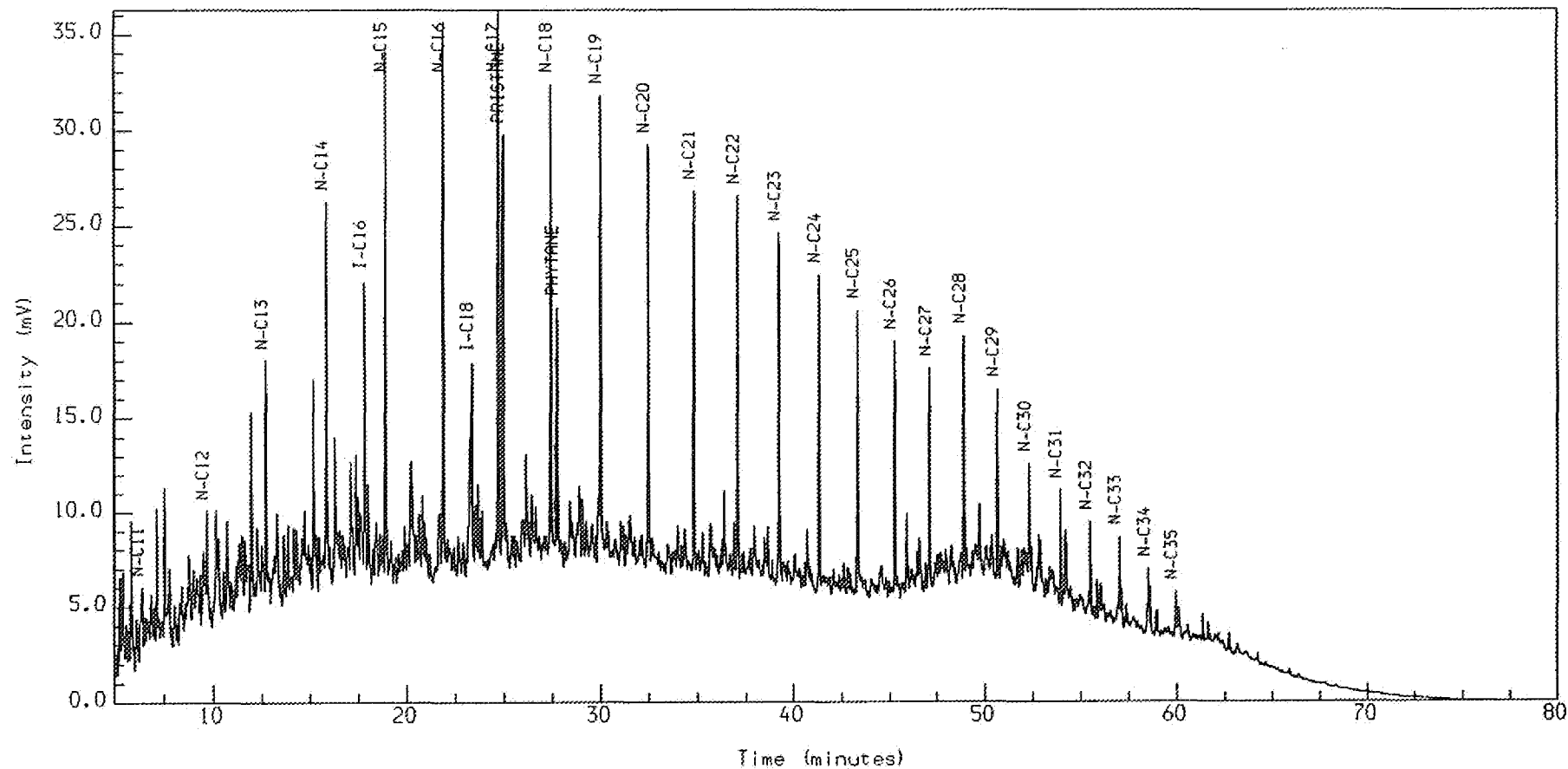
NORSK HYDRO RESEARCH CENTRE

Analysis Name : [PETRO] 1 W2511155.3.1.

25/11-15 DST #1

SATURATED HYDROCARBONS DB-1,80-4-310

Multichrom



Instrument : HPS880

Channel Title : HPS880A GC

Lims ID :

Acquired on 3-JAN-1992 at 13:31

Reported on 3-JAN-1992 at 14:56

Method : SAT

Calibration : SAT

Run Sequence : SAT



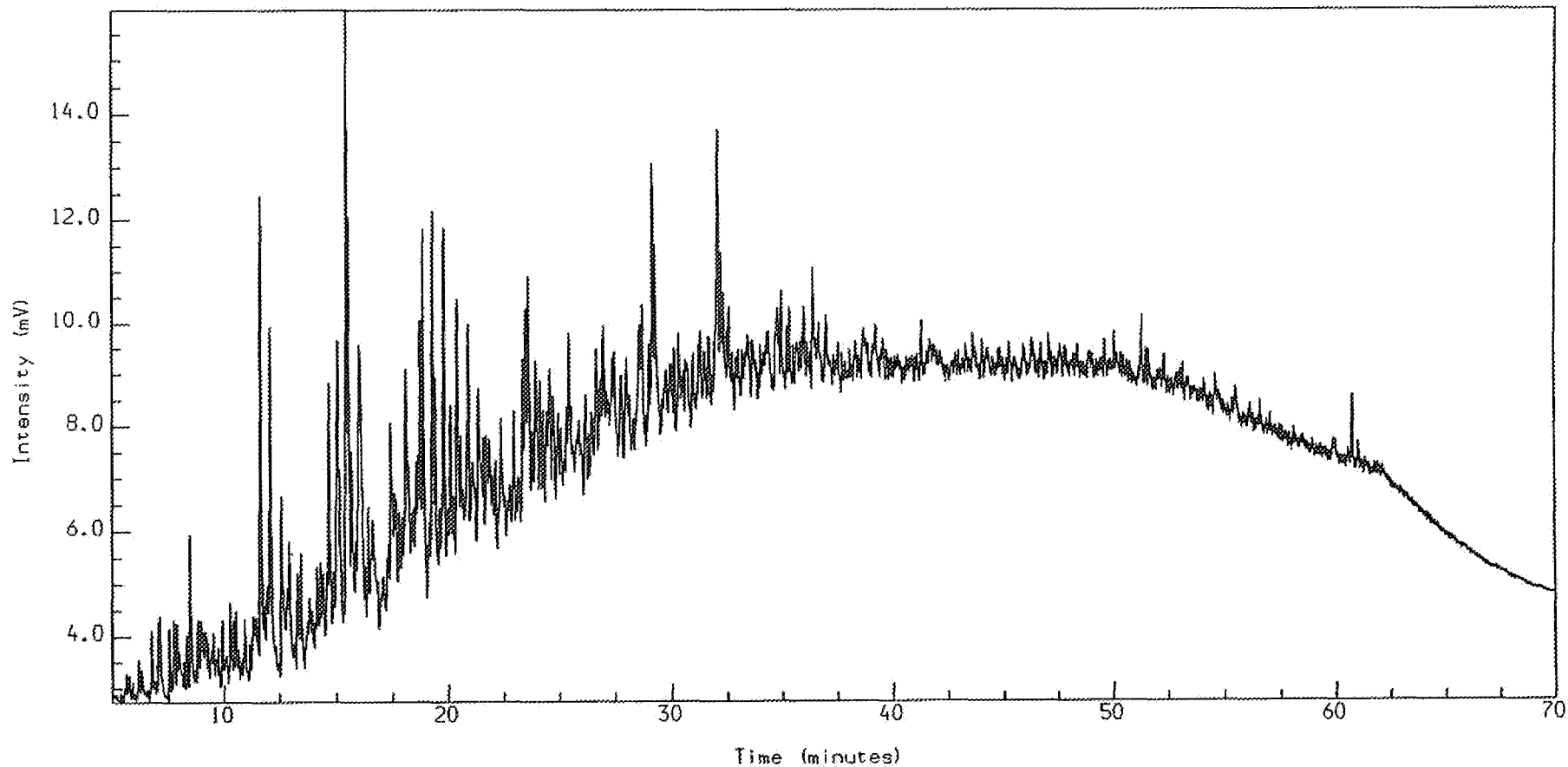
NORSK HYDRO RESEARCH CENTRE

Analysis Name : [PETRO] 1 W251115A.2.1.

25/11-15 DST #1 Amount : 1.000

AROMATIC HYDROCARBONS HP ULTRA-2 HP5880A

Multichrom



Instrument : HP5880

Method : ARO

Channel Title : HP5880A GC

Calibration : ARO

Lims ID :

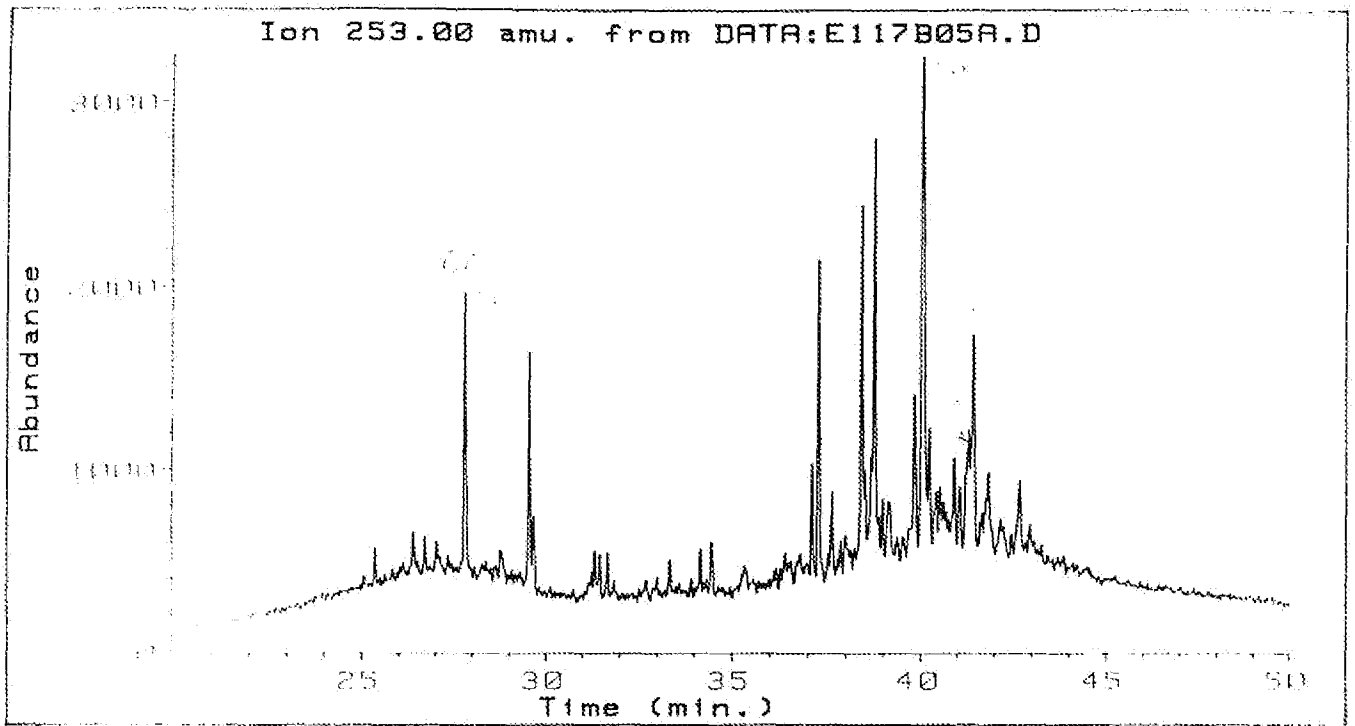
Run Sequence : ARO

Acquired on 3-JAN-1992 at 17:08

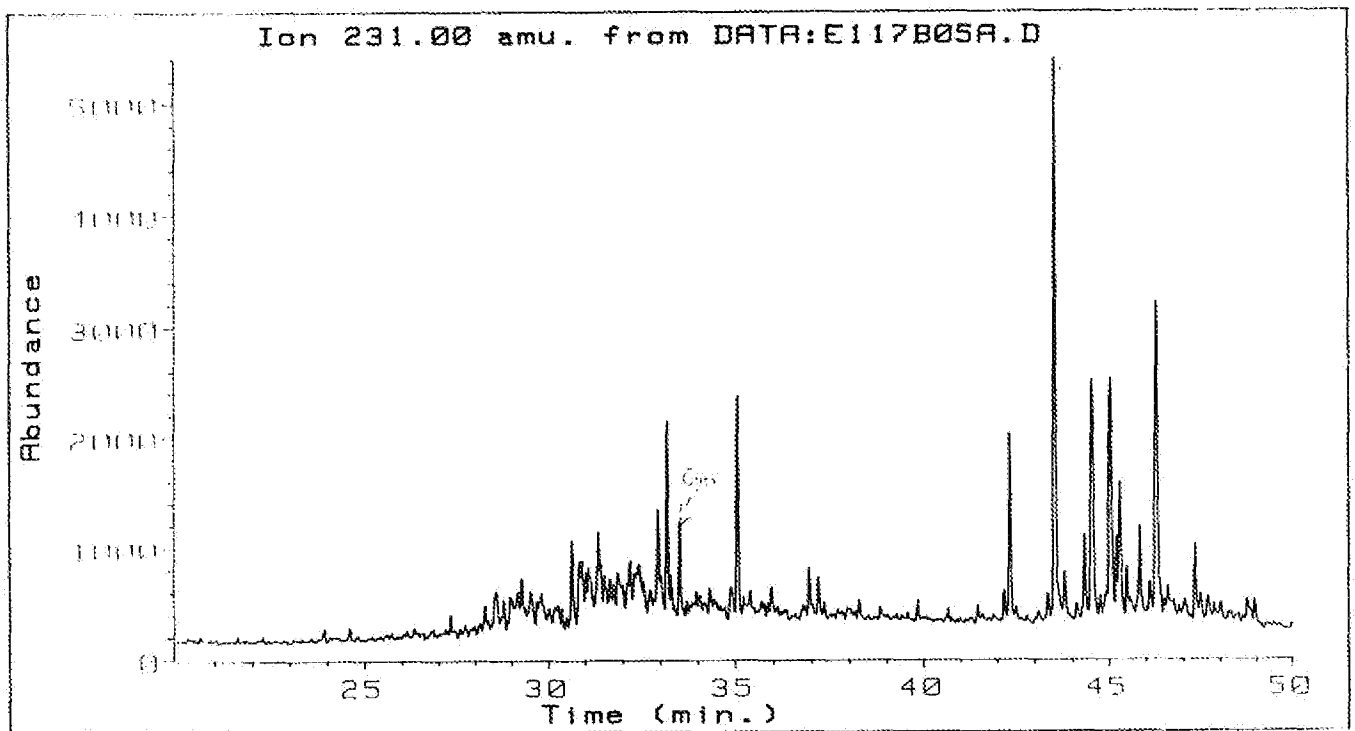
Reported on 15-JAN-1992 at 09:32

# APPENDIX V

Mass chromatograms, aromatic hydrocarbons.



25/11-15 DST1

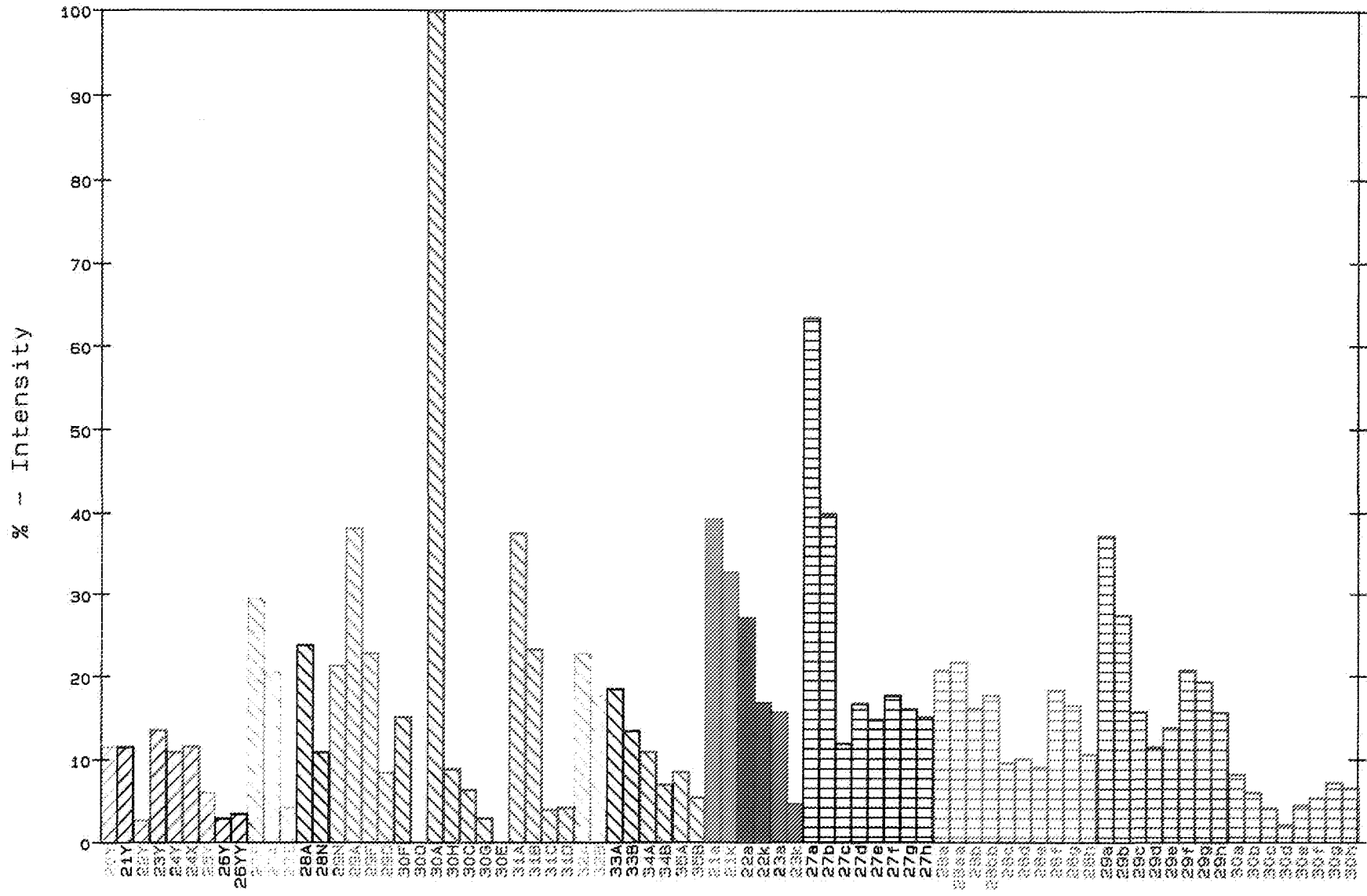


25/11-15 DST1

# APPENDIX VI

Bargraphs of metastable products.

Biomarker pattern, SAT-fraction  
 Well: 25/11-15, 1m, OIL, DST1  
 ms-file: AS24012, norm. factor: 49.07



0 Depth	1 Depth	2 Sample	3 Lith.	4 Well	5 Geochem	6 MS-	7 26Y	8 26YX	9 25Y	10 24Y
start int.	end int.	type			job #	file	360-191/2	360-191/2	346-191	332-191/1
1 ST24012A						AS24012	0.63	0.65	0.94	2.09
2	1	1.0 OIL	DST1	25/11-15.	F-BG	AS24012	1.42	1.67	2.99	5.37

0 Depth	11 24X	12 23Y	13 22Y	14 21Y	15 20Y	16 23a	17 23k	18 22a	19 22k	
start int.	330-191	318-191	304-191	290-191	276-191	316-217/1	316-217/2	302-217/1	302-217/2	
1 ST24012A	2.67	2.94	0.44	2.17	2.95	3.23	0.86	7.74	4.96	
2	1	5.68	6.69	1.34	5.66	5.68	7.71	2.26	13.35	8.28

0 Depth	20 21a	21 21k	22 35A	23 35B	24 34A	25 34B	26 33A	27 33B	
start int.	288-217/1	288-217/2	482-191/1	482-191/2	468-191/1	468-191/2	454-191/1	454-191/2	
1 ST24012A	9.50	10.01	2.51	1.57	3.69	2.31	6.62	4.38	
2	1	19.33	16.15	4.20	2.65	5.40	3.45	9.06	6.57

0 Depth	28 32A	29 32B	30 31A	31 31B	32 31C	33 31D	34 30F	35 30O	36 30A	
start int.	440-191/1	440-191/2	426-191/1	426-191/2	426-191/3	426-191/4	412-191	412-191	412-191	
1 ST24012A	8.96	6.53	13.47	9.36	0.87	1.05	3.52	0.01	44.74	
2	1	11.25	8.73	18.51	11.49	1.97	2.10	7.48	0.01	49.07

0 Depth	37 30R	38 30S	39 30P	40 30E	41 30M	42 30A	43 30B	44 30C	45 30A	46 30M	
start int.	412-191	412-191	412-191	412-191	398-191	398-191	398-191	398-191	384-191	384-191	
1 ST24012A	1.71	2.55	0.98	0.01	4.57	16.28	8.07	3.38	11.78	1.76	
2	1	4.39	3.15	1.48	0.01	10.52	18.83	11.24	4.17	11.72	5.35

0 Depth	47 27F	48 27A	49 27E	50 30a	51 30b	52 30c	53 30d	54 30e	55 30f	56 30g	
start int.	370-191	370-191	370-191	414-217	414-217	414-217	414-217	414-217	414-217	414-217	
1 ST24012A	9.47	6.77	0.34	2.35	1.90	1.06	0.58	1.12	1.350	2.18	
2	1	14.52	10.15	2.09	4.04	2.99	2.03	1.08	2.21	2.670	3.54

0 Depth	57 30h	58 29a	59 29b	60 29c	61 29d	62 29e	63 29f	64 29g	65 29h	66 28a	
start int.	414-217	400-217	400-217	400-217	400-217	400-217	400-217	400-217	400-217	386-217	
1 ST24012A	1.96	14.36	11.58	5.83	3.72	4.07	6.78	5.81	4.85	8.17	
2	1	3.24	18.35	13.53	7.73	5.67	6.80	10.24	9.51	7.68	10.24

0 Depth	67 28aa	68 28b	69 28bb	70 28c	71 28d	72 28e	73 28f	74 28g	75 28h	76 27a	
start int.	386-217	386-217	386-217	386-217	386-217	386-217	386-217	386-217	386-217	372-217	
1 ST24012A	8.25	5.75	6.67	3.06	3.38	2.09	5.38	4.49	2.35	20.43	
2	1	10.70	7.95	8.70	4.76	4.99	4.49	9.04	8.15	5.23	31.13

0	Depth	77 27b	78 27c	79 27d	80 27e	81 27f	82 27g	83 27h	84	85 Status	86 D-MIX DATE
	start int.	372-217	372-217	372-217	372-217	372-217	372-217	372-217			
1	ST24012A	12.47	4.01	6.85	4.28	4.84	4.56	4.01		OK	
2	1	19.59	5.81	8.18	7.27	8.66	7.88	7.39		OK	

0	Depth	87 D4-C21	88 D2-C29	89 D4-C27	90	91 %-NORM	92 %-NORM	93 %-NORM	94 %-NORM	95 GROUP	96
	start int.	292-221	400-193	376-221		TRI-CYCL.	L.M.STE.	PENTA-CYCL.	STERANES	SUM	
1	ST24012A										
2	1										

0	Depth	97 SUM of	98 SUM of	99 Conc. (ppm)	100 Conc. (ppm)
	start int.	C27-33 triterpanes	C27-30 steranes	C27-33 triterpanes	C27-30 steranes
1	ST24012A				
2	1				