

**October 2014**

**GEOCHEMICAL REPORT ON  
NORECO WELL 6608/10-16  
AN EXCLUSIVE STUDY**

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## **Chapter 1**

### **INTRODUCTION**

#### **1.1 General Well Information**

The aims of the analytical program were to evaluate the composition and characteristics of the source rocks and migrated hydrocarbons. Cuttings and IsoTubes from 700 m to 4025 m were received for analysis.

The cuttings samples (canned sample) from 1900 m to 4025 m (166 canned samples) and 94 IsoTubes from 700 m to 4025 m were selected for being analysed on headspace gas analysis as part of the screening analysis.

An oil-based mud system (Carbo-Sea) was used in drilling the well. These cause problems in the interpretation of source potential, and possible migrated oil.

## 1.2 Analytical Program

The final analytical program for well 660810-16 was decided by Robertson Geolab in prior consultation with the client. The numbers of samples for the individual analyses are listed in Table 1.1 below.

**Table 1.1**

<b>Well</b>	<b>Types of analyses</b>	<b>Number of analyses</b>
<b>6608/10-16</b>		
	Headspace Gas C <sub>1</sub> -C <sub>5</sub> + canned samples	166
	Headspace Gas C <sub>1</sub> -C <sub>5</sub> + of test/mud gas	94
	Stable Carbon Isotope Analysis on HSG C <sub>1</sub> -C <sub>4</sub>	25
	Deuterium δD on methane	25
	Lithology description	35
	Total Organic Carbon Content (wt%)	35
	Rock-Eval Pyrolysis	35
	Pyrolysis – Gas Chromatography	12
	Vitrinite Reflectance Measurement	21

## Experimental Procedures

### Headspace Gas Analysis

The analysis is performed using a Varian 3400 gas chromatograph with a 50 m Plot fused silica Al<sub>2</sub>O<sub>3</sub>/KCL column, loop injector and flame ionization detector. Helium is used as carrier gas and the column is run from 70°C to 200°C, at a rate of 12°C/min. Final hold time is 13 min. Two cm<sup>3</sup> of headspace gas are removed from each sample can for chromatographic analysis of the C<sub>1</sub> to C<sub>7</sub> range of hydrocarbons.

### Total Organic Carbon (TOC) Analysis

This analysis is performed using a LECO CS244 Carbon Analyser. Hand-picked lithologies from cuttings samples are crushed with a mortar and pestle and approximately 200 mg (50 mg for coals) are accurately weighed into LECO crucibles. The samples are then treated three times with 10 % hydrochloric acid to remove oxidized (carbonate) carbon, and washed four times with distilled water. The samples are dried on a hotplate at 60 - 70°C before analysis of total organic carbon.

### Rock-Eval Pyrolysis

This analysis is performed by using a Rock-Eval VI Pyrolyser. Approximately 100 mg crushed whole rock is analysed. The sample is first heated at 325°C for three min to release the free hydrocarbons present (S1 peak) and then pyrolysed by increasing the temperature from 300°C to 650°C (temp. gradient 25°C/min) (S2 peak). Both the S1 and S2a and S2b yields are measured using a flame ionization detector (FID). In the temperature interval between 300°C and 390°C, the released gases are split and a proportion passed through a carbon dioxide trap, which is connected to an IR detector. Various parameters from both detectors are obtained. A further heating phase -oxidation generates additional data on CO<sub>2</sub> and CO production up to a temperature of 850°C. TOC and mineral Carbon is determined from the combined pyrolysis and oxidation phases.

### Vitrinite Reflectance Analysis

Samples to be analysed for vitrinite reflectance are ground to small granules (if necessary) using a pestle and mortar and are then mounted in a fast setting resin. The resin blocks are first ground flat using a coarse corundum paper to expose the rock granule surfaces and then with three finer grades of corundum paper to improve these surfaces and reduce scratches. The blocks are finally polished on a rotating Selvyt-covered lap using three grades of diamond suspension fluid. An appropriate lubricant is used when necessary.

Reflectance measurements are made under oil immersion.

The polished blocks are mounted on the microscope stage and scanned manually in order to locate and measure particles of vitrinite. An attempt is made to obtain readings from 20 individual particles per sample, but this is not always possible in samples with low amounts of phytoclasts.

Reflectance populations are identified on the software using the following key:

Type	ID number
Indigenous	1
Low reflecting	2
Caved	3
Reworked/semifusinite	4
Bitumen	5

### Thermal Extraction/Pyrolysis Gas Chromatography

The instrument used for this analysis is a Varian 3400 Gas Chromatograph interfaced to a pyrolysis oven (the pyrolyser). Up to 5 mg of asphaltenes is loaded on the pyrolyser and heated isothermally, at 300°C, for 4 min, during which time thermal extraction of the free hydrocarbons occurs (equivalent to the S1 peak of the Rock-Eval). The released gases pass to a 25 m OV1 column with a liquid nitrogen-cooled trap. After 4 min the pyrolysis oven is temperature programmed up to 530°C, at a rate of 37°C/min, causing bound hydrocarbons to be released from the asphaltene structure (equivalent to the S2 peak of the Rock-Eval). The released gases pass to a 25 m OV1 column with a liquid nitrogen-cooled trap. The temperature program of the gas chromatograph oven, in which the columns are housed is -10°C to 290°C at a rate of 6°C/min. Both the columns are linked to a FID.

**PROJECT:** 62902

**PROJECT NAME:** NORECO, Well 6608/10-16

**SAMPLES LIST**

<b>SampleTypeName</b>	<b>Samples</b>	<b>Depth Top (m)</b>
Geochemical Tin cans	1	1 900.00
Geochemical Tin cans	2	1 920.00
Geochemical Tin cans	3	1 940.00
Geochemical Tin cans	4	1 960.00
Geochemical Tin cans	5	1 980.00
Geochemical Tin cans	6	2 000.00
Geochemical Tin cans	7	2 020.00
Geochemical Tin cans	8	2 040.00
Geochemical Tin cans	9	2 060.00
Geochemical Tin cans	10	2 080.00
Geochemical Tin cans	11	2 100.00
Geochemical Tin cans	12	2 120.00
Geochemical Tin cans	13	2 140.00
Geochemical Tin cans	14	2 160.00
Geochemical Tin cans	15	2 180.00
Geochemical Tin cans	16	2 200.00
Geochemical Tin cans	17	2 220.00
Geochemical Tin cans	18	2 240.00
Geochemical Tin cans	19	2 260.00
Geochemical Tin cans	20	2 280.00
Geochemical Tin cans	21	2 300.00
Geochemical Tin cans	22	2 320.00
Geochemical Tin cans	23	2 340.00
Geochemical Tin cans	24	2 360.00
Geochemical Tin cans	25	2 380.00
Geochemical Tin cans	26	2 400.00
Geochemical Tin cans	27	2 420.00
Geochemical Tin cans	28	2 440.00
Geochemical Tin cans	29	2 460.00
Geochemical Tin cans	30	2 480.00
Geochemical Tin cans	31	2 500.00
Geochemical Tin cans	32	2 520.00
Geochemical Tin cans	33	2 540.00
Geochemical Tin cans	34	2 560.00
Geochemical Tin cans	35	2 580.00
Geochemical Tin cans	36	2 600.00
Geochemical Tin cans	37	2 620.00
Geochemical Tin cans	38	2 640.00
Geochemical Tin cans	39	2 660.00
Geochemical Tin cans	40	2 680.00
Geochemical Tin cans	41	2 720.00
Geochemical Tin cans	42	2 740.00

**Table 1.** Samples list

**PROJECT:** 62902

**PROJECT NAME:** NORECO, Well 6608/10-16

**SAMPLES LIST**

<b>SampleTypeName</b>	<b>Samples</b>	<b>Depth Top (m)</b>
Geochemical Tin cans	43	2 760.00
Geochemical Tin cans	44	2 780.00
Geochemical Tin cans	45	2 800.00
Geochemical Tin cans	46	2 820.00
Geochemical Tin cans	47	2 840.00
Geochemical Tin cans	48	2 860.00
Geochemical Tin cans	49	2 880.00
Geochemical Tin cans	50	2 889.00
Geochemical Tin cans	51	2 898.00
Geochemical Tin cans	52	2 907.00
Geochemical Tin cans	53	2 916.00
Geochemical Tin cans	54	2 925.00
Geochemical Tin cans	55	2 934.00
Geochemical Tin cans	56	2 943.00
Geochemical Tin cans	57	2 952.00
Geochemical Tin cans	58	2 961.00
Geochemical Tin cans	59	2 970.00
Geochemical Tin cans	60	2 988.00
Geochemical Tin cans	61	2 997.00
Geochemical Tin cans	62	3 006.00
Geochemical Tin cans	63	3 015.00
Geochemical Tin cans	64	3 024.00
Geochemical Tin cans	65	3 033.00
Geochemical Tin cans	66	3 042.00
Geochemical Tin cans	67	3 051.00
Geochemical Tin cans	68	3 060.00
Geochemical Tin cans	69	3 069.00
Geochemical Tin cans	70	3 078.00
Geochemical Tin cans	71	3 096.00
Geochemical Tin cans	72	3 105.00
Geochemical Tin cans	73	3 114.00
Geochemical Tin cans	74	3 123.00
Geochemical Tin cans	75	3 132.00
Geochemical Tin cans	76	3 141.00
Geochemical Tin cans	77	3 150.00
Geochemical Tin cans	78	3 159.00
Geochemical Tin cans	79	3 168.00
Geochemical Tin cans	80	3 177.00
Geochemical Tin cans	81	3 187.00
Geochemical Tin cans	82	3 186.00
Geochemical Tin cans	83	3 195.00
Geochemical Tin cans	84	3 204.00

**Table 1.** Samples list

**PROJECT:** 62902

**PROJECT NAME:** NORECO, Well 6608/10-16

**SAMPLES LIST**

<b>SampleTypeName</b>	<b>Samples</b>	<b>Depth Top (m)</b>
Geochemical Tin cans	85	3 213.00
Geochemical Tin cans	86	3 222.00
Geochemical Tin cans	87	3 231.00
Geochemical Tin cans	88	3 240.00
Geochemical Tin cans	89	3 249.00
Geochemical Tin cans	90	3 258.00
Geochemical Tin cans	91	3 267.00
Geochemical Tin cans	92	3 276.00
Geochemical Tin cans	93	3 285.00
Geochemical Tin cans	94	3 294.00
Geochemical Tin cans	95	3 303.00
Geochemical Tin cans	96	3 312.00
Geochemical Tin cans	97	3 321.00
Geochemical Tin cans	98	3 330.00
Geochemical Tin cans	99	3 339.00
Geochemical Tin cans	100	3 348.00
Geochemical Tin cans	101	3 360.00
Geochemical Tin cans	102	3 369.00
Geochemical Tin cans	103	3 378.00
Geochemical Tin cans	104	3 387.00
Geochemical Tin cans	105	3 396.00
Geochemical Tin cans	106	3 405.00
Geochemical Tin cans	107	3 423.00
Geochemical Tin cans	108	3 432.00
Geochemical Tin cans	109	3 441.00
Geochemical Tin cans	110	3 450.00
Geochemical Tin cans	111	3 468.00
Geochemical Tin cans	112	3 477.00
Geochemical Tin cans	113	3 495.00
Geochemical Tin cans	114	3 513.00
Geochemical Tin cans	115	3 540.00
Geochemical Tin cans	116	3 549.00
Geochemical Tin cans	117	3 558.00
Geochemical Tin cans	118	3 567.00
Geochemical Tin cans	119	3 576.00
Geochemical Tin cans	120	3 585.00
Geochemical Tin cans	121	3 594.00
Geochemical Tin cans	122	3 603.00
Geochemical Tin cans	123	3 612.00
Geochemical Tin cans	124	3 621.00
Geochemical Tin cans	125	3 630.00
Geochemical Tin cans	126	3 639.00

**Table 1.** Samples list

**PROJECT:** 62902

**PROJECT NAME:** NORECO, Well 6608/10-16

**SAMPLES LIST**

<b>SampleTypeName</b>	<b>Samples</b>	<b>Depth Top (m)</b>
Geochemical Tin cans	127	3 648.00
Geochemical Tin cans	128	3 657.00
Geochemical Tin cans	129	3 666.00
Geochemical Tin cans	130	3 675.00
Geochemical Tin cans	131	3 684.00
Geochemical Tin cans	132	3 693.00
Geochemical Tin cans	133	3 702.00
Geochemical Tin cans	134	3 711.00
Geochemical Tin cans	135	3 720.00
Geochemical Tin cans	136	3 729.00
Geochemical Tin cans	137	3 738.00
Geochemical Tin cans	138	3 747.00
Geochemical Tin cans	139	3 756.00
Geochemical Tin cans	140	3 765.00
Geochemical Tin cans	141	3 774.00
Geochemical Tin cans	142	3 783.00
Geochemical Tin cans	143	3 792.00
Geochemical Tin cans	144	3 801.00
Geochemical Tin cans	145	3 810.00
Geochemical Tin cans	146	3 819.00
Geochemical Tin cans	147	3 828.00
Geochemical Tin cans	148	3 837.00
Geochemical Tin cans	149	3 846.00
Geochemical Tin cans	150	3 855.00
Geochemical Tin cans	151	3 864.00
Geochemical Tin cans	152	3 882.00
Geochemical Tin cans	153	3 900.00
Geochemical Tin cans	154	3 918.00
Geochemical Tin cans	155	3 927.00
Geochemical Tin cans	156	3 936.00
Geochemical Tin cans	157	3 945.00
Geochemical Tin cans	158	3 954.00
Geochemical Tin cans	159	3 963.00
Geochemical Tin cans	160	3 972.00
Geochemical Tin cans	161	3 981.00
Geochemical Tin cans	162	3 990.00
Geochemical Tin cans	163	3 999.00
Geochemical Tin cans	164	4 008.00
Geochemical Tin cans	165	4 017.00
Geochemical Tin cans	166	4 025.00
Isotubes - gas	167	700.00
Isotubes - gas	168	750.00

**Table 1.** Samples list



**PROJECT:** 62902

**PROJECT NAME:** NORECO, Well 6608/10-16

**SAMPLES LIST**

<b>SampleTypeName</b>	<b>Samples</b>	<b>Depth Top (m)</b>
Isotubes - gas	169	800.00
Isotubes - gas	170	850.00
Isotubes - gas	171	900.00
Isotubes - gas	172	950.00
Isotubes - gas	173	1 000.00
Isotubes - gas	174	1 050.00
Isotubes - gas	175	1 100.00
Isotubes - gas	176	1 150.00
Isotubes - gas	177	1 200.00
Isotubes - gas	178	1 250.00
Isotubes - gas	179	1 300.00
Isotubes - gas	180	1 350.00
Isotubes - gas	181	1 400.00
Isotubes - gas	182	1 450.00
Isotubes - gas	183	1 500.00
Isotubes - gas	184	1 550.00
Isotubes - gas	185	1 600.00
Isotubes - gas	186	1 650.00
Isotubes - gas	187	1 700.00
Isotubes - gas	188	1 750.00
Isotubes - gas	189	1 800.00
Isotubes - gas	190	1 850.00
Isotubes - gas	191	1 900.00
Isotubes - gas	192	1 950.00
Isotubes - gas	193	2 000.00
Isotubes - gas	194	2 050.00
Isotubes - gas	195	2 100.00
Isotubes - gas	196	2 150.00
Isotubes - gas	197	2 200.00
Isotubes - gas	198	2 250.00
Isotubes - gas	199	2 300.00
Isotubes - gas	200	2 350.00
Isotubes - gas	201	2 400.00
Isotubes - gas	202	2 450.00
Isotubes - gas	203	2 500.00
Isotubes - gas	204	2 550.00
Isotubes - gas	205	2 600.00
Isotubes - gas	206	2 650.00
Isotubes - gas	207	2 715.00
Isotubes - gas	208	2 750.00
Isotubes - gas	209	2 800.00
Isotubes - gas	210	2 850.00

**Table 1.** Samples list

**PROJECT:** 62902

**PROJECT NAME:** NORECO, Well 6608/10-16

**SAMPLES LIST**

<b>SampleTypeName</b>	<b>Samples</b>	<b>Depth Top (m)</b>
Isotubes - gas	211	2 900.00
Isotubes - gas	212	2 925.00
Isotubes - gas	213	2 950.00
Isotubes - gas	214	2 975.00
Isotubes - gas	215	3 000.00
Isotubes - gas	216	3 025.00
Isotubes - gas	217	3 050.00
Isotubes - gas	218	3 075.00
Isotubes - gas	219	3 100.00
Isotubes - gas	220	3 125.00
Isotubes - gas	221	3 150.00
Isotubes - gas	222	3 153.00
Isotubes - gas	223	3 175.00
Isotubes - gas	224	3 200.00
Isotubes - gas	225	3 225.00
Isotubes - gas	226	3 250.00
Isotubes - gas	227	3 273.00
Isotubes - gas	228	3 275.00
Isotubes - gas	229	3 300.00
Isotubes - gas	230	3 325.00
Isotubes - gas	231	3 350.00
Isotubes - gas	232	3 375.00
Isotubes - gas	233	3 400.00
Isotubes - gas	234	3 425.00
Isotubes - gas	235	3 450.00
Isotubes - gas	236	3 475.00
Isotubes - gas	237	3 500.00
Isotubes - gas	238	3 525.00
Isotubes - gas	239	3 550.00
Isotubes - gas	240	3 575.00
Isotubes - gas	241	3 600.00
Isotubes - gas	242	3 625.00
Isotubes - gas	243	3 650.00
Isotubes - gas	244	3 675.00
Isotubes - gas	245	3 700.00
Isotubes - gas	246	3 725.00
Isotubes - gas	247	3 750.00
Isotubes - gas	248	3 775.00
Isotubes - gas	249	3 800.00
Isotubes - gas	250	3 825.00
Isotubes - gas	251	3 850.00
Isotubes - gas	252	3 877.00

**Table 1.** Samples list

**PROJECT:** 62902

**PROJECT NAME:** NORECO, Well 6608/10-16

**SAMPLES LIST**

<b>SampleTypeName</b>	<b>Samples</b>	<b>Depth Top (m)</b>
Isotubes - gas	253	3 900.00
Isotubes - gas	254	3 925.00
Isotubes - gas	255	3 950.00
Isotubes - gas	256	3 975.00
Isotubes - gas	257	3 984.00
Isotubes - gas	258	3 992.00
Isotubes - gas	259	4 000.00
Isotubes - gas	260	4 025.00

**Table 1.** Samples list

PROJECT: 62902

PROJECT NAME: NORECO, Well 6608/10-16

ANALYSIS: HEADSPACE (IsoTubes)

Samples	Depth (m)	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm	C6+ ppm	CO2 ppm
1	700	1100.00								460.00
2	750	1400.00	0.30	0.10						430.00
3	800	1500.00	0.40							430.00
4	850	1400.00	0.20	0.10		0.20				420.00
5	900	470.00								420.00
6	950	280.00								440.00
7	1000	370.00								430.00
8	1050	650.00								430.00
9	1100	1300.00	0.20							420.00
10	1150	2500.00	0.70							430.00
11	1200	930.00	0.30							440.00
12	1250	990.00	0.20							430.00
13	1300	520.00	0.80							430.00
14	1350	580.00								430.00
15	1400	2500.00	0.90	0.50	0.10	0.20	0.10	0.10		430.00
16	1450	390.00								420.00
17	1500	620.00	0.40	0.20						410.00
18	1550	1700.00	1.00	1.00	0.20	0.10	0.10	0.10		410.00
19	1600	7500.00	3.00	1.00						150.00
20	1650	8800.00	4.00	1.00						160.00
21	1700	2500.00	0.90	0.20		0.10				130.00
22	1750	4200.00	2.00	0.40	0.10	0.10	0.10	0.40	7.00	140.00
23	1800	2800.00	2.00	0.30		0.10		0.40	8.00	120.00
24	1850	3900.00	3.00	0.60	0.10	0.20	0.10	0.40	9.00	110.00
25	1900	5800.00	6.00	0.60	0.10	0.20	0.30	0.50	6.00	120.00
26	1950	4600.00	5.00	0.70	0.10	0.20	0.10	0.50	11.00	110.00
27	2000	1800.00	3.00	0.60	0.10	0.20	0.10	0.40	10.00	120.00
28	2050	5100.00	9.00	1.00	0.10	0.20	0.10	0.30	11.00	120.00
29	2100	4700.00	11.00	1.00	0.20	0.20	0.10	0.30	8.00	120.00
30	2150	5200.00	16.00	2.00	0.10	0.20	0.10	0.30	8.00	110.00
31	2200	2600.00	13.00	2.00	0.30	0.40	0.10	0.20	8.00	180.00
32	2250	6300.00	27.00	5.00	0.90	0.60	0.20	0.40	10.00	120.00
33	2300	5500.00	26.00	5.00	1.00	0.80	0.30	0.30	11.00	120.00

Table 2a. Headspace gas analysis data from IsoTubes

PROJECT: 62902

PROJECT NAME: NORECO, Well 6608/10-16

ANALYSIS: HEADSPACE (IsoTubes)

Samples	Depth (m)	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm	C6+ ppm	CO2 ppm
34	2350	6300.00	30.00	5.00	1.00	0.80	0.20	0.30	9.00	120.00
35	2400	4200.00	24.00	5.00	1.00	0.70	0.30	0.30	6.00	180.00
36	2450	6900.00	38.00	8.00	2.00	1.00	0.40	0.40	7.00	180.00
37	2500	6600.00	39.00	8.00	2.00	1.00	0.50	0.40	6.00	170.00
38	2550	7000.00	45.00	9.00	2.00	1.00	0.60	0.60	10.00	180.00
39	2600	3100.00	26.00	7.00	2.00	1.00	0.40	0.40	6.00	180.00
40	2650	5600.00	46.00	11.00	3.00	2.00	0.80	0.60	9.00	180.00
41	2715	5500.00	50.00	12.00	3.00	2.00	1.00	0.70	8.00	140.00
42	2750	5500.00	56.00	13.00	3.00	2.00	1.00	0.70	8.00	130.00
43	2800	5400.00	66.00	15.00	4.00	2.00	1.00	0.70	10.00	160.00
44	2850	4600.00	61.00	16.00	4.00	2.00	1.00	0.80	9.00	170.00
45	2900	4100.00	59.00	16.00	4.00	2.00	0.90	0.80	9.00	160.00
46	2925	3700.00	53.00	17.00	4.00	2.00	1.00	2.00	13.00	210.00
47	2950	2900.00	54.00	18.00	4.00	3.00	1.00	0.70	8.00	190.00
48	2975	2500.00	44.00	15.00	3.00	2.00	0.90	0.60	8.00	180.00
49	3000	4400.00	82.00	26.00	5.00	4.00	1.00	0.90	9.00	190.00
50	3025	5100.00	100.00	33.00	6.00	5.00	1.00	1.00	7.00	190.00
51	3050	4700.00	87.00	32.00	6.00	5.00	1.00	1.00	7.00	190.00
52	3075	3600.00	75.00	27.00	5.00	4.00	1.00	0.90	6.00	290.00
53	3100	4600.00	95.00	37.00	6.00	6.00	2.00	1.00	6.00	220.00
54	3125	3300.00	76.00	30.00	5.00	5.00	1.00	1.00	6.00	250.00
55	3150	3900.00	112.00	38.00	5.00	6.00	2.00	1.00	8.00	250.00
56	3153	18000.00	509.00	177.00	23.00	26.00	6.00	5.00	9.00	290.00
57	3175	4000.00	149.00	57.00	7.00	11.00	3.00	3.00	10.00	210.00
58	3200	5300.00	171.00	53.00	5.00	10.00	2.00	2.00	11.00	210.00
59	3225	8400.00	372.00	112.00	11.00	23.00	4.00	4.00	16.00	190.00
60	3250	4900.00	211.00	81.00	9.00	16.00	3.00	4.00	18.00	220.00
61	3273	10000.00	535.00	171.00	19.00	36.00	7.00	8.00	27.00	240.00
62	3275	6600.00	319.00	111.00	11.00	23.00	4.00	5.00	23.00	230.00
63	3300	3900.00	202.00	75.00	8.00	18.00	3.00	5.00	23.00	260.00
64	3325	3600.00	192.00	65.00	7.00	16.00	3.00	4.00	23.00	270.00
65	3350	2100.00	162.00	61.00	6.00	17.00	3.00	5.00	32.00	300.00
66	3375	1700.00	40.00	5.00	0.30	0.80	0.30	0.70	9.00	140.00

Table 2a. Headspace gas analysis data from IsoTubes

PROJECT: 62902

PROJECT NAME: NORECO, Well 6608/10-16

ANALYSIS: HEADSPACE (IsoTubes)

Samples	Depth (m)	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm	C6+ ppm	CO2 ppm
67	3400	3400.00	52.00	4.00	0.20	0.50	0.20	0.40	4.00	230.00
68	3425	3100.00	51.00	4.00	0.20	0.50	0.20	0.40	4.00	230.00
69	3450	3300.00	68.00	7.00	0.40	0.70	0.20	0.50	5.00	280.00
70	3475	4100.00	88.00	12.00	0.50	1.00	0.20	0.40	3.00	340.00
71	3500	2000.00	60.00	16.00	1.00	3.00	0.40	0.60	3.00	290.00
72	3525	8000.00	279.00	127.00	9.00	26.00	4.00	5.00	15.00	160.00
73	3550	6100.00	227.00	110.00	8.00	23.00	3.00	5.00	10.00	220.00
74	3575	3500.00	155.00	83.00	7.00	20.00	3.00	4.00	10.00	250.00
75	3600	3700.00	186.00	109.00	8.00	26.00	4.00	5.00	12.00	200.00
76	3625	3200.00	168.00	91.00	7.00	22.00	3.00	5.00	10.00	250.00
77	3650	3300.00	188.00	87.00	7.00	20.00	3.00	4.00	8.00	300.00
78	3675	4700.00	281.00	135.00	12.00	37.00	7.00	9.00	25.00	140.00
79	3700	2600.00	163.00	76.00	7.00	22.00	4.00	6.00	16.00	240.00
80	3725	1400.00	97.00	43.00	4.00	14.00	3.00	4.00	12.00	360.00
81	3750	2700.00	180.00	76.00	9.00	26.00	6.00	9.00	29.00	160.00
82	3775	3100.00	120.00	33.00	4.00	12.00	3.00	5.00	17.00	210.00
83	3800	3300.00	122.00	29.00	3.00	9.00	3.00	4.00	14.00	290.00
84	3825	5400.00	252.00	50.00	5.00	12.00	3.00	5.00	21.00	220.00
85	3850	4100.00	187.00	37.00	4.00	7.00	2.00	2.00	8.00	320.00
86	3877	9900.00	661.00	143.00	13.00	24.00	5.00	7.00	29.00	170.00
87	3900	11000.00	673.00	147.00	13.00	24.00	5.00	6.00	20.00	220.00
88	3925	3000.00	304.00	84.00	8.00	18.00	4.00	6.00	25.00	180.00
89	3950	8800.00	746.00	176.00	15.00	30.00	6.00	8.00	38.00	140.00
90	3975	14000.00	1046.00	187.00	13.00	25.00	4.00	6.00	21.00	250.00
91	3984	20000.00	1684.00	346.00	28.00	48.00	8.00	11.00	45.00	110.00
92	3992	35000.00	2619.00	556.00	48.00	75.00	13.00	15.00	50.00	110.00
93	4000	6300.00	720.00	193.00	16.00	34.00	6.00	9.00	41.00	120.00
94	4025	3900.00	465.00	138.00	13.00	29.00	5.00	8.00	40.00	140.00
	<b>Min</b>	280.00	0.20	0.10	0.10	0.10	0.10	0.10	3.00	110.00
	<b>Max</b>	35000.00	2619.00	556.00	48.00	75.00	13.00	15.00	50.00	460.00
	<b>Average</b>	4738.30	185.73	55.41	6.12	11.03	2.27	2.90	13.95	238.72
	<b>Std</b>	4589.92	368.69	84.67	7.43	13.81	2.42	3.17	10.39	108.45

Table 2a. Headspace gas analysis data from IsoTubes

PROJECT: 62902

PROJECT NAME: NORECO, Well 6608/10-16

ANALYSIS: HEADSPACE (Tin Cans)

Samples	Depth (m)	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm	C6+ ppm	CO2 ppm
1	1900	810.00	18.00	3.00	0.40	0.30	0.10	0.30	0.10	<50ppm
2	1920	460.00	3.00	0.70	0.10	0.10	0.10	0.30	2.00	50.00
3	1940	350.00	3.00	2.00	0.20	0.20		0.30	1.00	11000.00
4	1960	560.00	4.00	1.00	0.20	0.30	0.00	0.40	2.00	<50ppm
5	1980	5400.00	4.00	2.00	0.50	0.90	0.20	1.00	1.00	340.00
6	2000	290.00	3.00	2.00	0.20	0.40	0.10	0.60	1.00	370.00
7	2020	480.00	6.00	3.00	0.70	0.80	0.20	0.70	0.80	4400.00
8	2040	300.00	7.00	4.00	1.00	1.00	0.40	0.90	1.00	1400.00
9	2060	320.00	4.00	2.00	0.70	0.80	0.40	0.60	2.00	<50ppm
10	2080	1300.00	16.00	7.00	2.00	2.00	0.70	0.70	2.00	<50ppm
11	2100	1200.00	17.00	8.00	2.00	2.00	0.70	0.70	2.00	<50ppm
12	2120	1300.00	17.00	7.00	2.00	1.00	0.60	0.60	2.00	<50ppm
13	2140	1300.00	21.00	10.00	3.00	2.00	1.00	0.80	2.00	<50ppm
14	2160	1900.00	37.00	17.00	6.00	3.00	1.00	1.00	3.00	<50ppm
15	2180	980.00	25.00	12.00	4.00	3.00	1.00	0.80	2.00	97.00
16	2200	1200.00	30.00	14.00	5.00	3.00	1.00	0.80	2.00	110.00
17	2220	2800.00	58.00	23.00	8.00	5.00	2.00	1.00	3.00	130.00
18	2240	2300.00	50.00	21.00	7.00	4.00	2.00	0.80	2.00	81.00
19	2260	2100.00	50.00	22.00	8.00	5.00	2.00	1.00	3.00	170.00
20	2280	1700.00	48.00	21.00	8.00	5.00	2.00	1.00	2.00	78.00
21	2300	4800.00	94.00	34.00	11.00	6.00	3.00	1.00	2.00	110.00
22	2320	540.00	36.00	31.00	13.00	9.00	3.00	2.00	2.00	4700.00
23	2340	2800.00	129.00	73.00	25.00	20.00	7.00	5.00	20.00	2800.00
24	2360	870.00	59.00	51.00	26.00	17.00	8.00	5.00	7.00	160.00
25	2380	2800.00	151.00	101.00	41.00	30.00	11.00	7.00	6.00	7300.00
26	2400	1800.00	128.00	88.00	36.00	25.00	10.00	7.00	7.00	3900.00
27	2420	1500.00	114.00	86.00	34.00	27.00	10.00	7.00	6.00	5100.00
28	2440	2600.00	160.00	110.00	42.00	30.00	12.00	9.00	11.00	3300.00
29	2460	1100.00	99.00	84.00	36.00	29.00	13.00	10.00	15.00	1000.00
30	2480	1600.00	107.00	74.00	28.00	20.00	9.00	6.00	8.00	2400.00
31	2500	3300.00	181.00	114.00	41.00	30.00	13.00	9.00	12.00	3000.00
32	2520	3800.00	222.00	132.00	47.00	35.00	15.00	9.00	13.00	3800.00
33	2540	6200.00	306.00	163.00	51.00	41.00	17.00	11.00	16.00	4500.00

Table 2b. Headspace gas analysis data from tin cans

PROJECT: 62902

PROJECT NAME: NORECO, Well 6608/10-16

ANALYSIS: HEADSPACE (Tin Cans)

Samples	Depth (m)	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm	C6+ ppm	CO2 ppm
34	2560	5100.00	291.00	177.00	57.00	47.00	19.00	11.00	18.00	6800.00
35	2580	3500.00	222.00	135.00	44.00	35.00	15.00	9.00	14.00	7200.00
36	2600	5900.00	160.00	60.00	17.00	11.00	5.00	3.00	8.00	290.00
37	2620	5000.00	180.00	74.00	21.00	14.00	6.00	3.00	8.00	120.00
38	2640	2700.00	135.00	62.00	18.00	12.00	5.00	3.00	8.00	570.00
39	2660	2800.00	127.00	57.00	17.00	11.00	5.00	2.00	6.00	340.00
40	2680	3400.00	146.00	62.00	18.00	11.00	5.00	2.00	7.00	260.00
41	2720	2400.00	163.00	72.00	23.00	11.00	5.00	2.00	6.00	460.00
42	2740	1700.00	180.00	118.00	35.00	21.00	9.00	4.00	13.00	1800.00
43	2760	1600.00	189.00	125.00	38.00	22.00	9.00	4.00	7.00	4300.00
44	2780	1400.00	150.00	93.00	25.00	14.00	5.00	3.00	5.00	11000.00
45	2800	3300.00	312.00	187.00	55.00	28.00	11.00	5.00	8.00	2000.00
46	2820	1000.00	131.00	96.00	28.00	15.00	5.00	3.00	5.00	3700.00
47	2840	3300.00	308.00	191.00	55.00	28.00	10.00	5.00	8.00	7400.00
48	2860	1600.00	197.00	139.00	38.00	20.00	7.00	4.00	7.00	8600.00
49	2880	1900.00	188.00	120.00	32.00	15.00	4.00	2.00	5.00	2100.00
50	2889	1100.00	147.00	107.00	31.00	16.00	5.00	3.00	5.00	12000.00
51	2898	840.00	111.00	90.00	27.00	13.00	4.00	3.00	4.00	9500.00
52	2907	1200.00	141.00	95.00	25.00	13.00	4.00	2.00	4.00	6900.00
53	2916	3900.00	194.00	89.00	25.00	10.00	3.00	2.00	4.00	300.00
54	2925	1800.00	124.00	69.00	20.00	9.00	3.00	2.00	5.00	310.00
55	2934	2000.00	120.00	64.00	18.00	8.00	2.00	1.00	5.00	550.00
56	2943	5300.00	215.00	96.00	25.00	11.00	3.00	2.00	5.00	670.00
57	2952	2200.00	118.00	63.00	17.00	8.00	2.00	1.00	5.00	1400.00
58	2961	4300.00	160.00	78.00	18.00	9.00	2.00	1.00	5.00	100.00
59	2970	4700.00	229.00	112.00	28.00	14.00	4.00	2.00	6.00	570.00
60	2988	3400.00	174.00	85.00	20.00	11.00	3.00	2.00	6.00	460.00
61	2997	2000.00	118.00	71.00	17.00	10.00	2.00	2.00	5.00	720.00
62	3006	3300.00	194.00	110.00	25.00	16.00	4.00	2.00	7.00	910.00
63	3015	3100.00	191.00	118.00	28.00	18.00	5.00	3.00	7.00	820.00
64	3024	3100.00	183.00	110.00	24.00	17.00	4.00	2.00	6.00	560.00
65	3033	3300.00	187.00	117.00	28.00	18.00	5.00	3.00	7.00	1100.00
66	3042	2200.00	154.00	116.00	24.00	18.00	4.00	3.00	7.00	350.00

Table 2b. Headspace gas analysis data from tin cans



PROJECT: 62902

PROJECT NAME: NORECO, Well 6608/10-16

ANALYSIS: HEADSPACE (Tin Cans)

Samples	Depth (m)	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm	C6+ ppm	CO2 ppm
67	3051	2500.00	153.00	92.00	16.00	13.00	3.00	2.00	5.00	<50ppm
68	3060	1000.00	66.00	57.00	14.00	10.00	3.00	2.00	6.00	110.00
69	3069	450.00	85.00	130.00	30.00	30.00	6.00	5.00	7.00	6400.00
70	3078	710.00	104.00	125.00	27.00	27.00	5.00	4.00	6.00	4100.00
71	3087	620.00	96.00	125.00	29.00	30.00	6.00	5.00	8.00	22000.00
72	3096	600.00	94.00	127.00	28.00	29.00	6.00	5.00	7.00	2600.00
73	3105	1100.00	159.00	164.00	29.00	33.00	6.00	6.00	8.00	34000.00
74	3114	1800.00	236.00	217.00	35.00	45.00	7.00	8.00	11.00	17000.00
75	3123	500.00	104.00	128.00	22.00	30.00	5.00	6.00	9.00	12000.00
76	3132	440.00	89.00	114.00	21.00	29.00	5.00	6.00	10.00	5700.00
77	3141	2000.00	277.00	219.00	29.00	47.00	7.00	8.00	65.00	13000.00
78	3150	1400.00	249.00	223.00	24.00	46.00	5.00	8.00	13.00	5000.00
79	3159	500.00	82.00	58.00	7.00	12.00	2.00	3.00	8.00	6200.00
80	3168	580.00	79.00	70.00	7.00	12.00	2.00	2.00	3.00	1800.00
81	3177	1000.00	100.00	75.00	10.00	15.00	2.00	2.00	8.00	6200.00
82	3186	1500.00	128.00	82.00	9.00	14.00	2.00	3.00	7.00	680.00
83	3195	2800.00	223.00	126.00	14.00	24.00	4.00	5.00	9.00	3300.00
84	3204	870.00	92.00	77.00	12.00	20.00	3.00	4.00	9.00	1500.00
85	3213	1700.00	176.00	116.00	17.00	25.00	5.00	5.00	9.00	2900.00
86	3222	770.00	68.00	49.00	7.00	11.00	2.00	2.00	6.00	3600.00
87	3231	2900.00	231.00	120.00	10.00	21.00	3.00	4.00	9.00	5800.00
88	3240	500.00	66.00	61.00	8.00	16.00	2.00	3.00	7.00	3500.00
89	3249	320.00	63.00	62.00	7.00	16.00	2.00	3.00	10.00	10000.00
90	3258	340.00	73.00	72.00	9.00	19.00	3.00	4.00	12.00	9300.00
91	3267	660.00	163.00	105.00	10.00	25.00	3.00	5.00	17.00	14000.00
92	3276	2400.00	527.00	349.00	32.00	80.00	7.00	13.00	31.00	5500.00
93	3285	430.00	104.00	97.00	10.00	28.00	3.00	5.00	16.00	15000.00
94	3294	390.00	71.00	67.00	7.00	20.00	2.00	4.00	10.00	9000.00
95	3303	590.00	182.00	135.00	11.00	32.00	3.00	6.00	20.00	11000.00
96	3312	410.00	126.00	95.00	7.00	22.00	2.00	5.00	15.00	15000.00
97	3321	640.00	66.00	36.00	4.00	8.00	1.00	2.00	6.00	1500.00
98	3330	1000.00	94.00	45.00	4.00	9.00	1.00	2.00	7.00	430.00
99	3339	330.00	51.00	32.00	4.00	7.00	1.00	2.00	6.00	310.00

Table 2b. Headspace gas analysis data from tin cans

PROJECT: 62902

PROJECT NAME: NORECO, Well 6608/10-16

ANALYSIS: HEADSPACE (Tin Cans)

Samples	Depth (m)	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm	C6+ ppm	CO2 ppm
100	3348	290.00	30.00	19.00	2.00	4.00	0.70	0.90	5.00	700.00
101	3360	5600.00	489.00	144.00	10.00	16.00	2.00	2.00	4.00	1200.00
102	3369	9700.00	574.00	125.00	10.00	11.00	1.00	2.00	5.00	87.00
103	3378	9200.00	671.00	130.00	10.00	11.00	1.00	2.00	1.00	410.00
104	3387	15000.00	662.00	93.00	5.00	5.00	0.40	0.80	7.00	130.00
105	3396	12000.00	692.00	92.00	5.00	5.00	0.40	1.00	6.00	240.00
106	3405	3800.00	98.00	15.00	0.70	0.90	0.10	0.60	7.00	150.00
107	3423	4800.00	303.00	32.00	0.60	1.00	0.10	0.60	18.00	420.00
108	3432	7500.00	535.00	55.00	0.60	2.00	0.10	0.60	16.00	350.00
109	3441	8000.00	433.00	44.00	0.30	2.00	0.10	0.50	6.00	160.00
110	3450	6500.00	352.00	38.00	0.50	2.00	0.20	0.70	15.00	910.00
111	3468	5900.00	672.00	410.00	23.00	54.00	4.00	5.00	24.00	600.00
112	3477	15000.00	1276.00	595.00	29.00	78.00	6.00	8.00	15.00	170.00
113	3495	2100.00	252.00	255.00	22.00	62.00	7.00	10.00	16.00	300.00
114	3513	2900.00	261.00	247.00	27.00	67.00	9.00	12.00	34.00	270.00
115	3540	31000.00	2137.00	1366.00	116.00	308.00	39.00	53.00	46.00	280.00
116	3549	16000.00	1149.00	766.00	75.00	181.00	29.00	35.00	38.00	<50ppm
117	3558	3400.00	672.00	687.00	71.00	193.00	29.00	37.00	52.00	2100.00
118	3567	2400.00	374.00	381.00	43.00	107.00	16.00	21.00	20.00	2000.00
119	3576	1900.00	230.00	230.00	27.00	67.00	9.00	12.00	12.00	55.00
120	3585	4500.00	473.00	451.00	44.00	124.00	12.00	19.00	13.00	88.00
121	3594	7200.00	894.00	904.00	89.00	254.00	24.00	40.00	57.00	1500.00
122	3603	2500.00	293.00	357.00	37.00	110.00	10.00	17.00	13.00	580.00
123	3612	1800.00	205.00	296.00	35.00	101.00	9.00	17.00	29.00	560.00
124	3621	1300.00	184.00	306.00	40.00	115.00	10.00	19.00	40.00	1200.00
125	3630	2200.00	276.00	345.00	39.00	111.00	10.00	17.00	15.00	660.00
126	3639	2500.00	382.00	442.00	46.00	131.00	12.00	20.00	30.00	960.00
127	3648	8300.00	776.00	627.00	57.00	159.00	14.00	22.00	20.00	500.00
128	3657	3500.00	415.00	353.00	30.00	93.00	8.00	15.00	14.00	1700.00
129	3666	2200.00	253.00	259.00	27.00	77.00	7.00	12.00	77.00	3500.00
130	3675	4500.00	400.00	352.00	39.00	92.00	10.00	14.00	17.00	420.00
131	3684	4000.00	303.00	238.00	28.00	65.00	7.00	11.00	23.00	550.00
132	3693	3100.00	320.00	267.00	30.00	69.00	7.00	11.00	23.00	330.00

Table 2b. Headspace gas analysis data from tin cans

PROJECT: 62902

PROJECT NAME: NORECO, Well 6608/10-16

ANALYSIS: HEADSPACE (Tin Cans)

Samples	Depth (m)	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm	C6+ ppm	CO2 ppm
133	3702	2500.00	252.00	182.00	21.00	48.00	6.00	8.00	17.00	420.00
134	3711	4000.00	278.00	178.00	23.00	46.00	6.00	8.00	19.00	66.00
135	3720	1400.00	199.00	162.00	18.00	42.00	5.00	7.00	20.00	1200.00
136	3729	820.00	157.00	131.00	12.00	33.00	4.00	6.00	24.00	2500.00
137	3738	660.00	135.00	133.00	12.00	33.00	3.00	5.00	23.00	1800.00
138	3747	1300.00	162.00	121.00	10.00	26.00	3.00	4.00	13.00	100.00
139	3756	690.00	113.00	102.00	10.00	25.00	3.00	4.00	8.00	650.00
140	3765	2800.00	230.00	128.00	10.00	27.00	3.00	5.00	9.00	120.00
141	3774	1400.00	89.00	43.00	3.00	10.00	1.00	3.00	6.00	<50ppm
142	3783	460.00	46.00	24.00	3.00	6.00	1.00	2.00	6.00	740.00
143	3792	1100.00	64.00	21.00	2.00	6.00	1.00	2.00	6.00	500.00
144	3801	1500.00	71.00	19.00	2.00	5.00	1.00	2.00	7.00	63.00
145	3810	1100.00	61.00	18.00	2.00	5.00	1.00	2.00	6.00	<50ppm
146	3819	950.00	67.00	21.00	2.00	6.00	1.00	2.00	6.00	360.00
147	3828	1800.00	126.00	41.00	4.00	9.00	2.00	2.00	9.00	270.00
148	3837	910.00	98.00	40.00	4.00	9.00	2.00	2.00	6.00	360.00
149	3846	1100.00	84.00	33.00	4.00	7.00	1.00	2.00	6.00	530.00
150	3855	730.00	82.00	29.00	3.00	6.00	1.00	2.00	6.00	790.00
151	3864	760.00	89.00	33.00	4.00	6.00	1.00	2.00	3.00	10000.00
152	3882	290.00	64.00	49.00	4.00	12.00	1.00	2.00	8.00	530.00
153	3900	740.00	132.00	81.00	6.00	17.00	2.00	3.00	6.00	430.00
154	3918	2300.00	941.00	320.00	13.00	48.00	3.00	7.00	7.00	680.00
155	3927	620.00	102.00	49.00	4.00	11.00	2.00	3.00	8.00	300.00
156	3936	2600.00	882.00	275.00	7.00	34.00	2.00	5.00	7.00	160.00
157	3945	9600.00	2063.00	538.00	18.00	59.00	4.00	8.00	10.00	190.00
158	3954	5500.00	1113.00	369.00	14.00	38.00	3.00	5.00	8.00	140.00
159	3963	8600.00	3127.00	859.00	26.00	74.00	4.00	8.00	7.00	1300.00
160	3972	2200.00	417.00	166.00	13.00	27.00	3.00	5.00	9.00	740.00
161	3981	1700.00	423.00	144.00	9.00	22.00	2.00	4.00	7.00	690.00
162	3991	11000.00	2259.00	551.00	21.00	56.00	5.00	7.00	13.00	490.00
163	3999	2200.00	442.00	152.00	9.00	22.00	2.00	4.00	12.00	380.00
164	4008	18000.00	5923.00	1436.00	56.00	138.00	9.00	16.00	22.00	380.00
165	4017	4900.00	2115.00	792.00	42.00	98.00	9.00	14.00	24.00	6400.00

Table 2b. Headspace gas analysis data from tin cans

**PROJECT:** 62902

**PROJECT NAME:** NORECO, Well 6608/10-16

**ANALYSIS:** HEADSPACE (Tin Cans)

<b>Samples</b>	<b>Depth (m)</b>	<b>C1 ppm</b>	<b>C2 ppm</b>	<b>C3 ppm</b>	<b>iC4 ppm</b>	<b>nC4 ppm</b>	<b>iC5 ppm</b>	<b>nC5 ppm</b>	<b>C6+ ppm</b>	<b>CO2 ppm</b>
166	4025	20000.00	3059.00	376.00	9.00	33.00	2.00	4.00	10.00	1700.00
	<b>Min</b>	290.00	3.00	0.70	0.10	0.10	0.00	0.30	0.10	50.00
	<b>Max</b>	31000.00	5923.00	1436.00	116.00	308.00	39.00	53.00	77.00	34000.00
	<b>Average</b>	3106.45	331.47	161.85	20.12	32.65	5.11	5.76	11.10	3860.97
	<b>Std</b>	3983.66	651.28	216.86	18.16	44.75	5.62	7.34	11.36	5368.34

**Table 2b.** Headspace gas analysis data from tin cans

**PROJECT:** 62902

**PROJECT NAME:** NORECO, Well 6608/10-16

**ANALYSIS:** Carbon Isotope & Deuterium (IsoTubes)

Samples	Depth (m)	Methane	Ethane	Ethene	Propane	Propene	i-C4	n-C4	i-C5	n-C5	C2-C3	dDC1
1	1550	-66.1	-35.1		-34						-1.1	-183
2	1750	-72.3	-45.8	[-35]	-28	[-32]	C2 and C3 checked by duplicate			-17.8	-184	
3	2100	-54.4	-35.7	[-35]	-32	[-33]	[-32]	[-31]			-3.7	-171
4	2250	-49.9	-34.6	-34	-32	[-32]	[-32]	[-32]			-2.6	-166
5	2500	-45.6	-34.4	[-35]	-32	[-33]	-31	-31			-2.4	-163
6	2600	-44.3	-33.7	[-35]	-32	[-32]	-32	-31			-1.7	-162
7	2715	-43.6	-33.4	-35	-33	[-31]	-32	-32	-30		-0.4	-166
8	2800	-42.6	-33	-35	-33	-33	-32	-33	-30	[-31]	0	-165
9	2925	-41.1	-32.3	-35	-33	-33	-32	-32	-29	-29	0.7	-167
10	3050	-39.3	-31.8	-32	-33	-32	-32	-32	-29	-31	1.2	-167
11	3100	-38.8	-31.4	-32	-33	-32	-32	-32	-29	-30	1.6	-168
12	3153	-37.1	-30.5	-32	-32	-31	-30	-31	-28	-29	1.5	-170
13	3175	-38.8	-32	-32	-32	-32	-31	-31	-28	-29	0	-171
14	3225	-37.9	-31.7	-32	-31	-31	-30	-30	-28	-29	-0.7	-174
15	3273	-37	-31.2	-31	-30	-31	-30	-29	-28	-28	-1.2	-175
16	3350	-39.3	-33.1	-33	-32	-32	-31	-30	-28	-29	-1.1	-180
17	3450	-37.8	-29.1	-35	-27	[-34]	[-28]	[-29]			-2.1	-179
18	3525	-40.2	-33.3	-33	-32	-32	-30	-31	-28	-29	-1.3	-195
19	3550	-40.1	-33.1	-32	-31	-31	-30	-31	-28	-30	-2.1	-195
20	3675	-41	-33	-32	-31	-31	-30	-31	-28	-29	-2	-204
21	3750	-40.9	-31.8	-32	-30	-31	-29	-29	-28	-29	-1.8	-205
22	3800	-41.5	-31.1	-31	-30	-31	-29	-30	-28	-29	-1.1	-207
23	3900	-41.4	-30.7	-31	-29	-31	-28	-29	-28	-29	-1.7	-209
24	3925	-37.8	-28.5	-29	-28	-29	-28	-28	-27	-28	-0.5	-204
25	3992	-39.9	-28.9	-31	-27	-31	-27	-27	-26	-27	-1.9	-208

Units: ‰PDB for Carbon isotopes & ‰SMOW for Deuterium

**Table 3.** Carbon isotope and deuterium analysis data.

**PROJECT:** 62902

**PROJECT NAME:** NORECO, Well 6608/10-16

**ANALYSIS:** TOC & Rock Eval (Rock-Eval Data using multiheating rates (after solvent clean-up))

DEPTH (m)	SAMPLE TYPE	TOC (wt%) (after solvent clean-up)	S0 contaminants (ppm)	S1 contaminants (ppm)	S2 (ppm)	S3 (ppm)	Tmax (oC)	HI (mg HC/g TOC)	OI (mg HC/g TOC)
2000	Ctgs	0.82	410	520	110	900	430	13.41	109.76
2080	Ctgs	0.87	750	1270	160	910	429	18.39	104.60
2180	Ctgs	1.04	600	1630	330	990	429	31.73	95.19
2280	Ctgs	1.03	510	960	200	610	429	19.42	59.22
2400	Ctgs	1.1	360	1000	250	730	426	22.73	66.36
2520	Ctgs	1.14	430	970	320	680	429	28.07	59.65
2660	Ctgs	1.18	450	1620	480	1030	430	40.68	87.29
2780	Ctgs	1.22	300	1030	550	1360	435	45.08	111.48
2898	Ctgs	1.27	330	1440	520	910	433	40.94	71.65
2943	Ctgs	1.24	420	1810	590	1370	435	47.58	110.48
3006	Ctgs	1.41	400	1360	750	2220	436	53.19	157.45
3078	Ctgs	1.19	300	1110	590	940	437	49.58	78.99
3150	Ctgs	1.23	420	1510	580	1880	440	47.15	152.85
3177	Ctgs	1.7	430	1030	810	1280	440	47.65	75.29
3204	Ctgs	1.43	580	1650	870	1890	440	60.84	132.17
3249	Ctgs	1.14	420	1270	810	1620	438	71.05	142.11
3303	Ctgs	1.39	410	900	440	890	440	31.65	64.03
3348	Ctgs	1.21	450	1550	340	840	432	28.10	69.42
3378	Ctgs	0.75	270	1060	90	540	431	12.00	72.00
3450	Ctgs	1.22	400	960	430	1070	440	35.25	87.70
3513	Ctgs	1.9	650	2310	1460	590	438	76.84	31.05
3559	Ctgs	1.56	550	1440	760	490	437	48.72	31.41
3576	Ctgs	1.47	420	1050	610	610	444	41.50	41.50
3603	Ctgs	1.93	530	1120	920	620	446	47.67	32.12
3630	Ctgs	2.62	420	1120	790	750	451	30.15	28.63

**Table 4.** TOC and Rock Eval analysis data.

**PROJECT:** 62902

**PROJECT NAME:** NORECO, Well 6608/10-16

**ANALYSIS:** TOC & Rock Eval (Rock-Eval Data using multiheating rates (after solvent clean-up))

DEPTH (m)	SAMPLE TYPE	TOC (wt%) (after solvent clean-up)	S0 contaminants (ppm)	S1 contaminants (ppm)	S2 (ppm)	S3 (ppm)	Tmax (oC)	HI (mg HC/g TOC)	OI (mg HC/g TOC)
3657	Ctgs	2.05	390	1200	490	750	452	23.90	36.59
3675	Ctgs	1.44	400	690	520	840	448	36.11	58.33
3720	Ctgs	1.41	590	1500	320	810	437	22.70	57.45
3855	Ctgs	0.56	350	1010	240	790	446	42.86	141.07
3927	Ctgs	1.25	560	1660	600	1250	452	48.00	100.00
3945	Ctgs	4.03	770	2150	2670	1540	455	66.25	38.21
3963	Ctgs	7.49	1250	2480	3650	1500	452	48.73	20.03
3990	Ctgs	9.59	1120	2890	6180	890	449	64.44	9.28
4008	Ctgs	17.8	2520	5010	15060	890	452	84.61	5.00
4025	Ctgs	20.48	3690	5270	14800	1160	452	72.27	5.66

**Table 4.** TOC and Rock Eval analysis data.

**PROJECT:** 62902

**PROJECT NAME:** NORECO, Well 6608/10-16

**ANALYSIS:** Vitrinite Reflectance

GENERAL DATA			MATURITY DATA
SAMPLE DEPTH (m)	SAMPLE TYPE	ANALYSED LITHOLOGY / DESCRIPTION	VITRINITE REFLECT.(Ro%)
2000	Ctgs(ws)	Bulk	0.49 (13)
2080	Ctgs(ws)	Bulk	0.46 (24)
2180	Ctgs(ws)	Bulk	0.53 (24)
2400	Ctgs(ws)	Bulk	0.56 (35)
2520	Ctgs(ws)	Bulk	0.55 (20)
2780	Ctgs(ws)	Bulk	0.53 (10)
2898	Ctgs(ws)	Bulk	0.51 (11)
3006	Ctgs(ws)	Bulk	0.65 (5)
3150	Ctgs(ws)	Bulk	0.60 (3)
3249	Ctgs(ws)	Bulk	0.60 (4)
3378	Ctgs(ws)	Bulk	0.65 (2)
3450	Ctgs(ws)	Bulk	0.68 (2)
3559	Ctgs(ws)	Bulk	0.69 (6)
3603	Ctgs(ws)	Bulk	0.70 (15)
3657	Ctgs(ws)	Bulk	0.72 (13)
3675	Ctgs(ws)	Bulk	0.69 (16)
3720	Ctgs(ws)	Bulk	0.70 (20)
3855	Ctgs(ws)	Bulk	0.79 (4)
3927	Ctgs(ws)	Bulk	0.80 (12)
3963	Ctgs(ws)	Bulk	0.80 (15)
4008	Ctgs(ws)	Bulk	0.82 (10)

( ) numbers of measurements of vitrinite.

**Table 5.** Vitrinite Reflectance data.



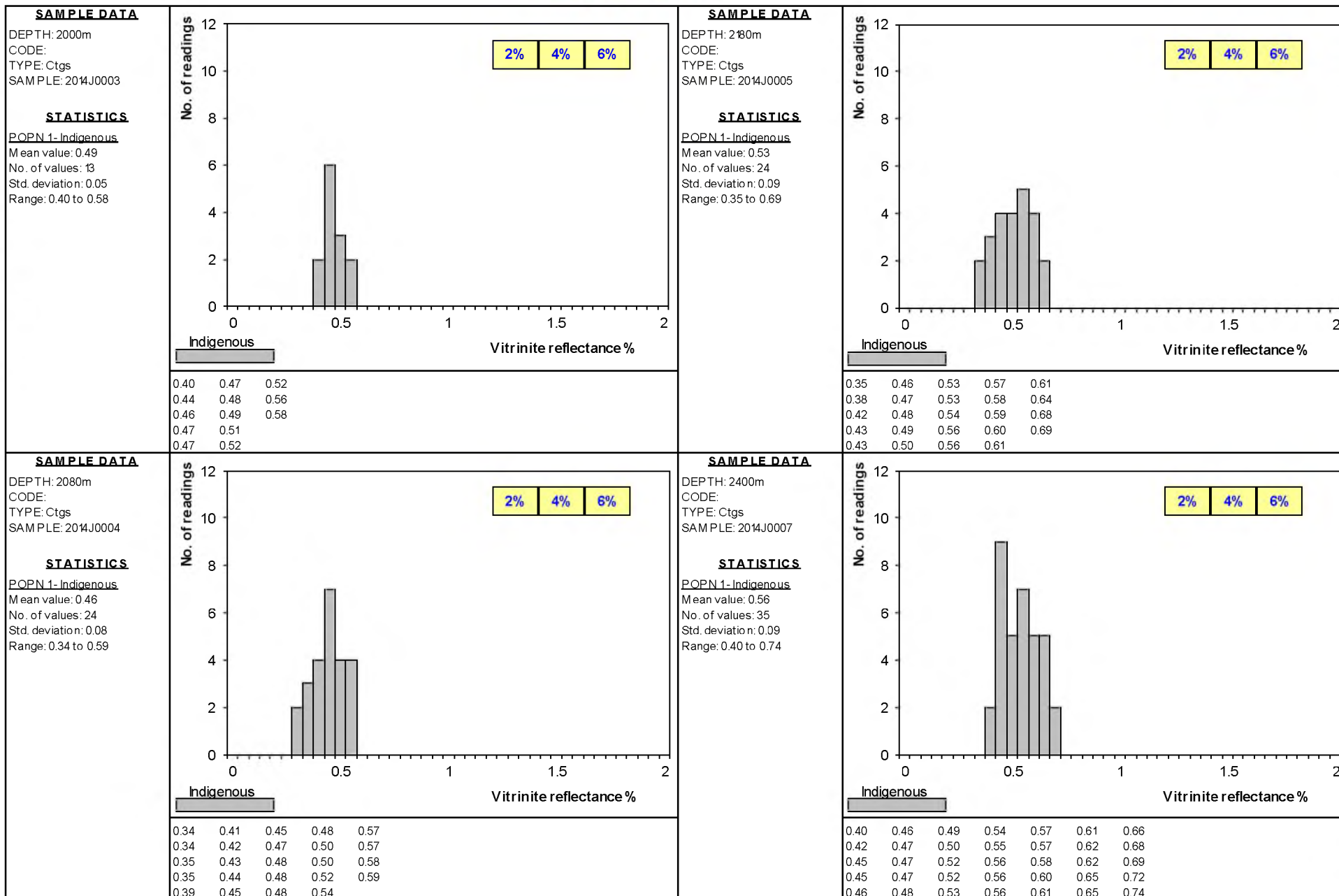
**PROJECT:** 62902

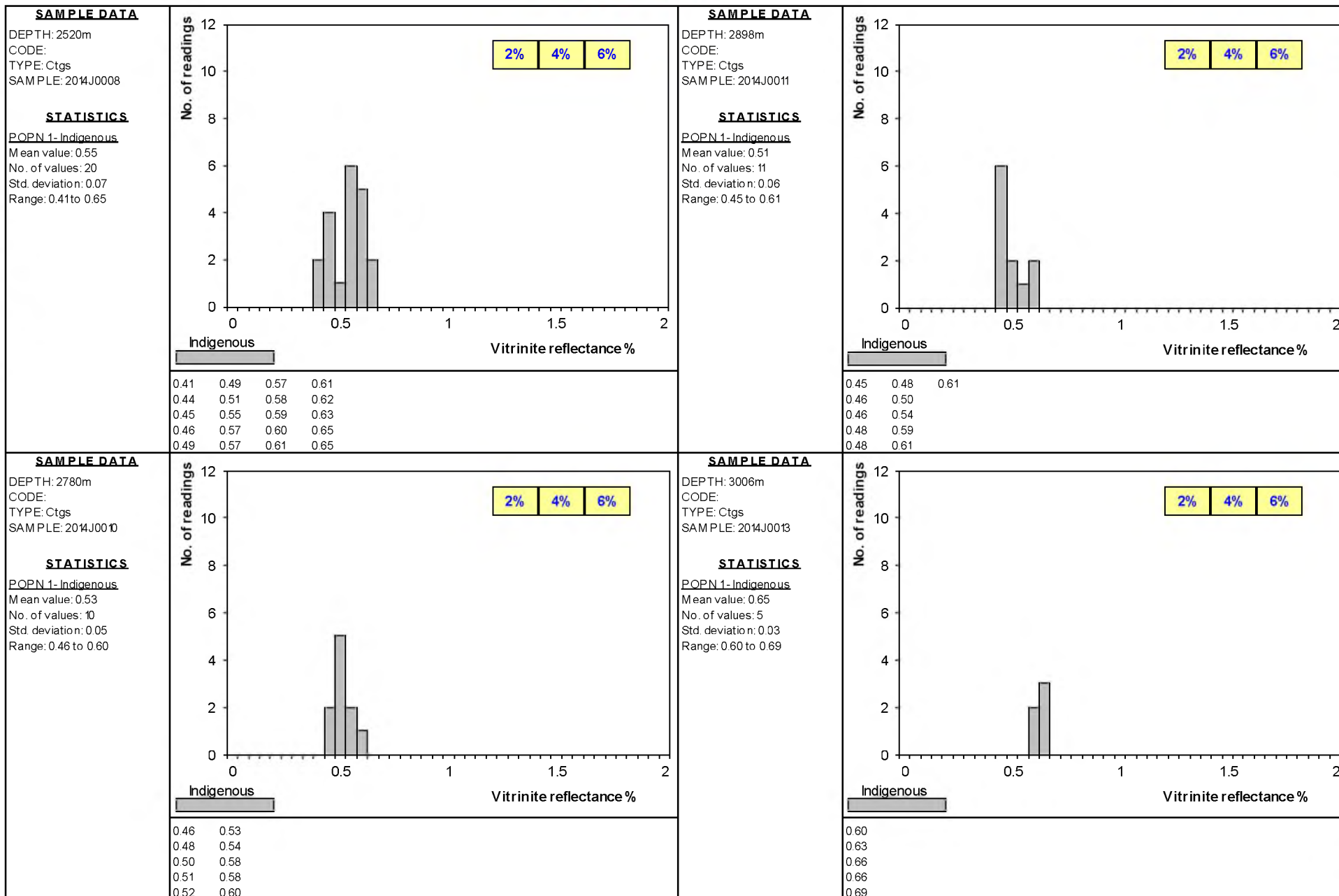
**PROJECT NAME:** NORECO, Well 6608/10-16

**ANALYSIS:** Pyrolysis GC

<b>Depth(m)</b>	<b>C1(%)</b>	<b>C2-C5(%)</b>	<b>C6-C14(%)</b>	<b>C15+(%)</b>
3150	2.28	26.35	46.13	25.25
3177	5.89	29.62	45.86	18.63
3513	3.06	20.44	41.87	34.62
3559	2.72	20.97	45.75	30.56
3603	3.99	21.91	42.48	31.62
3630	5.53	25.21	45.05	24.22
3657	4.49	23.41	44.08	28.03
3720	3.6	24.14	43.16	29.11
3945	8.79	19.82	37.81	33.61
3990	12.37	17.83	26.71	43.09
4008	12.33	18.91	24.72	44.04
4025	11.41	16.72	22.34	49.52

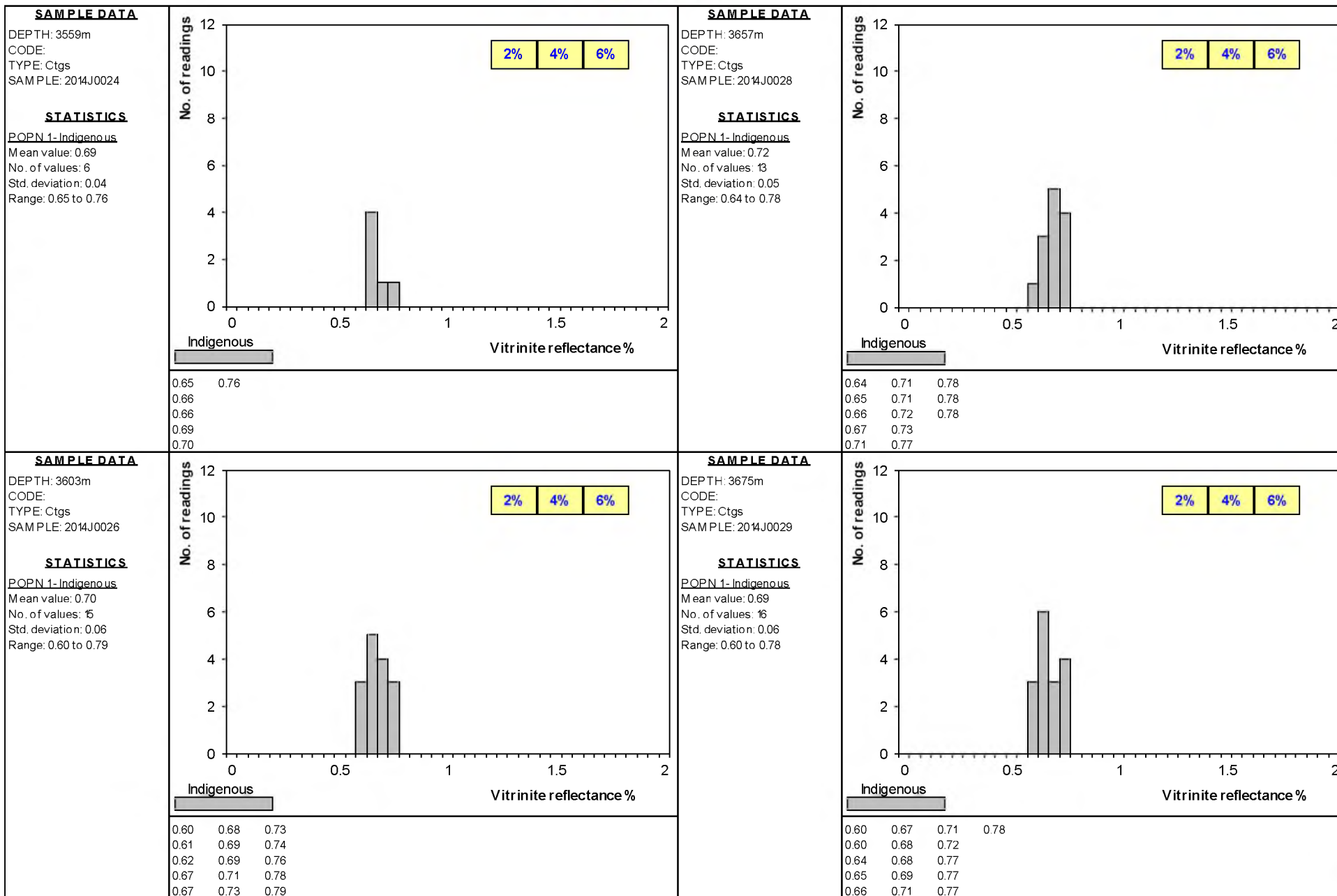
**Table 6.** Pyrolysis GC data.

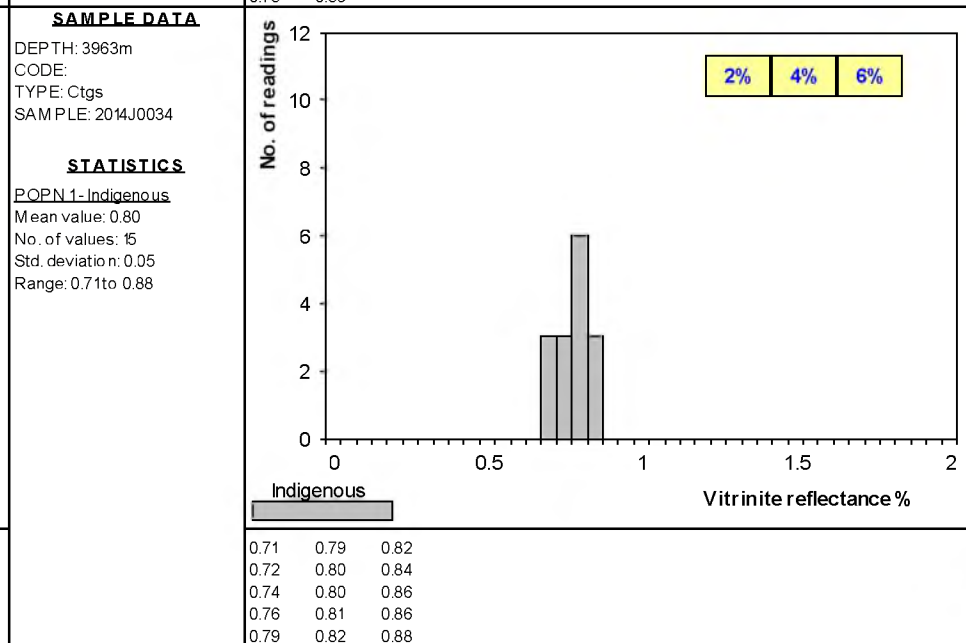
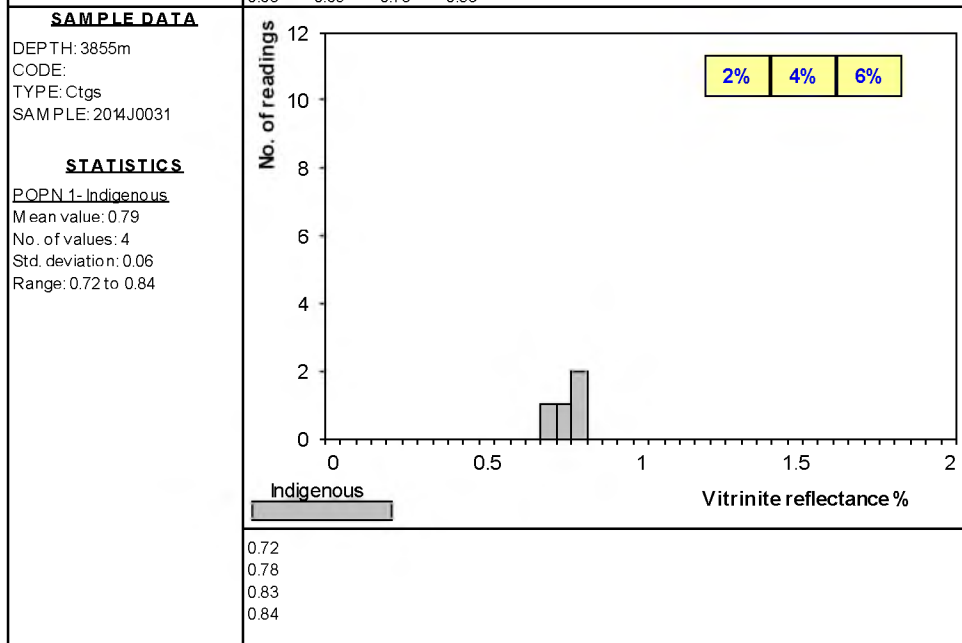
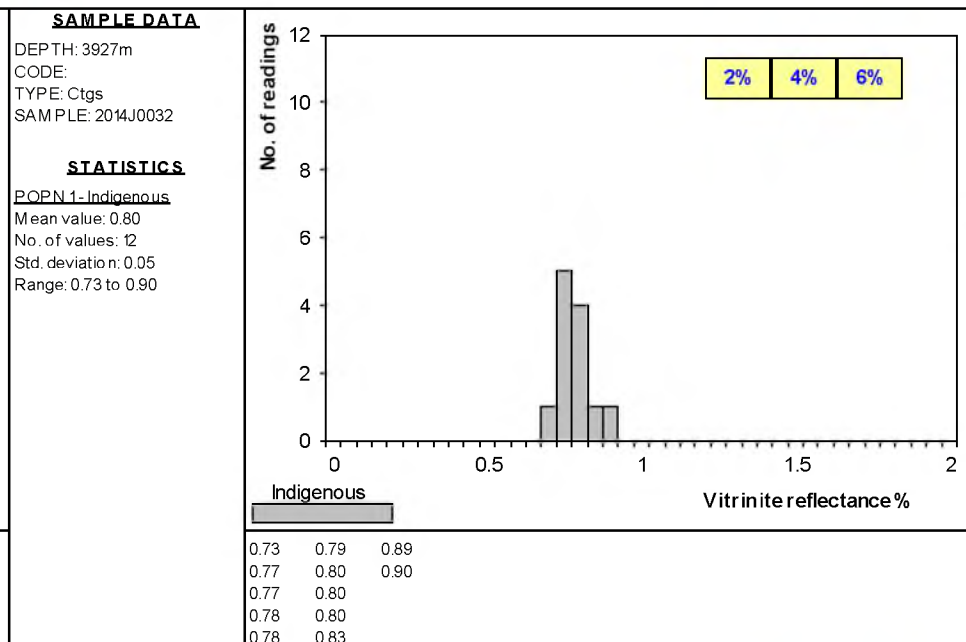
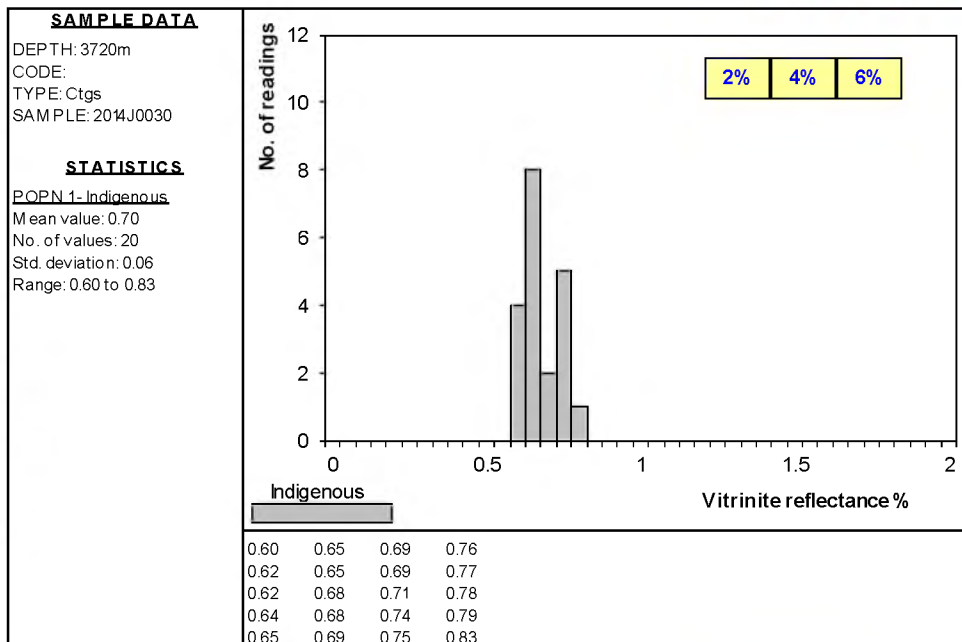


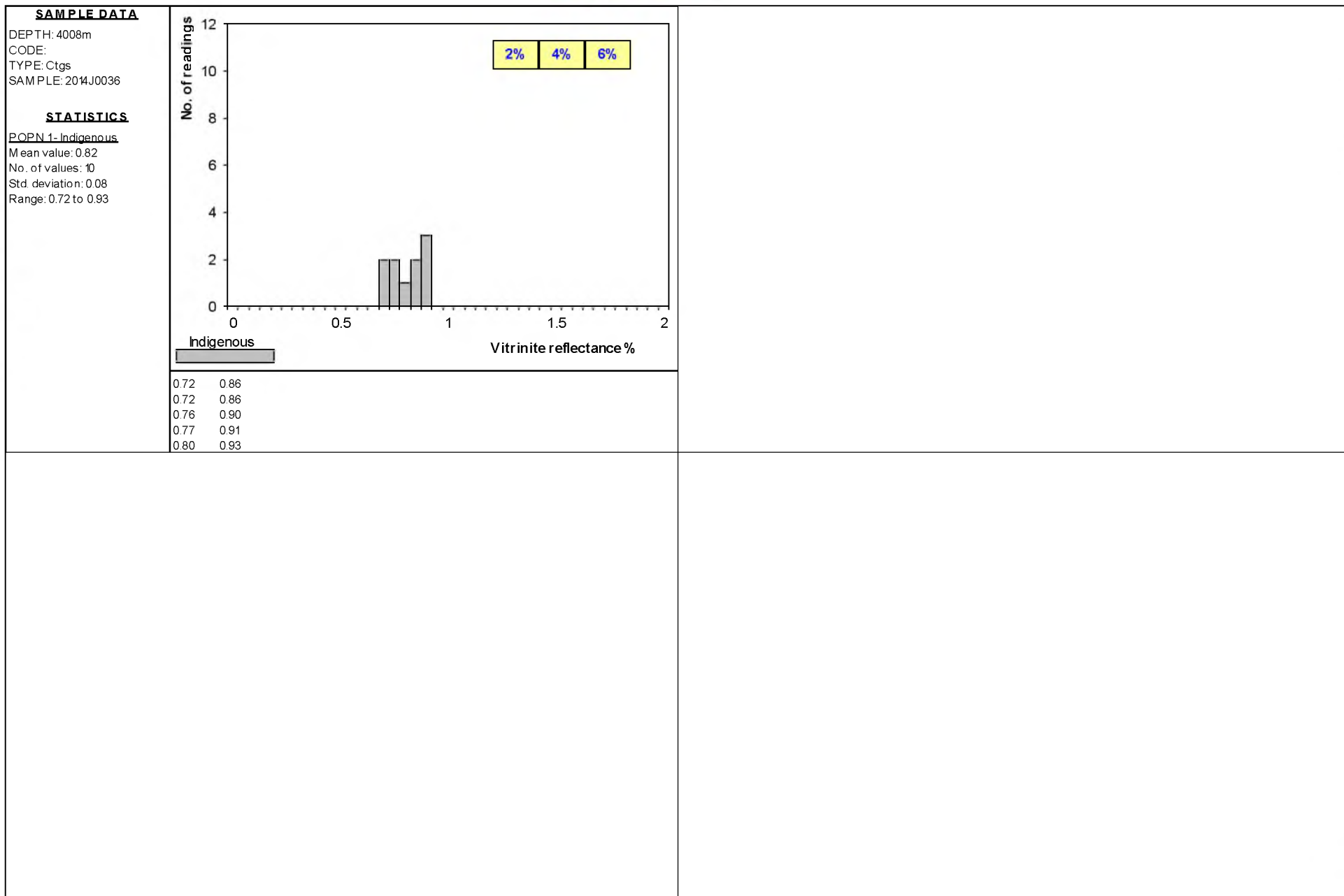




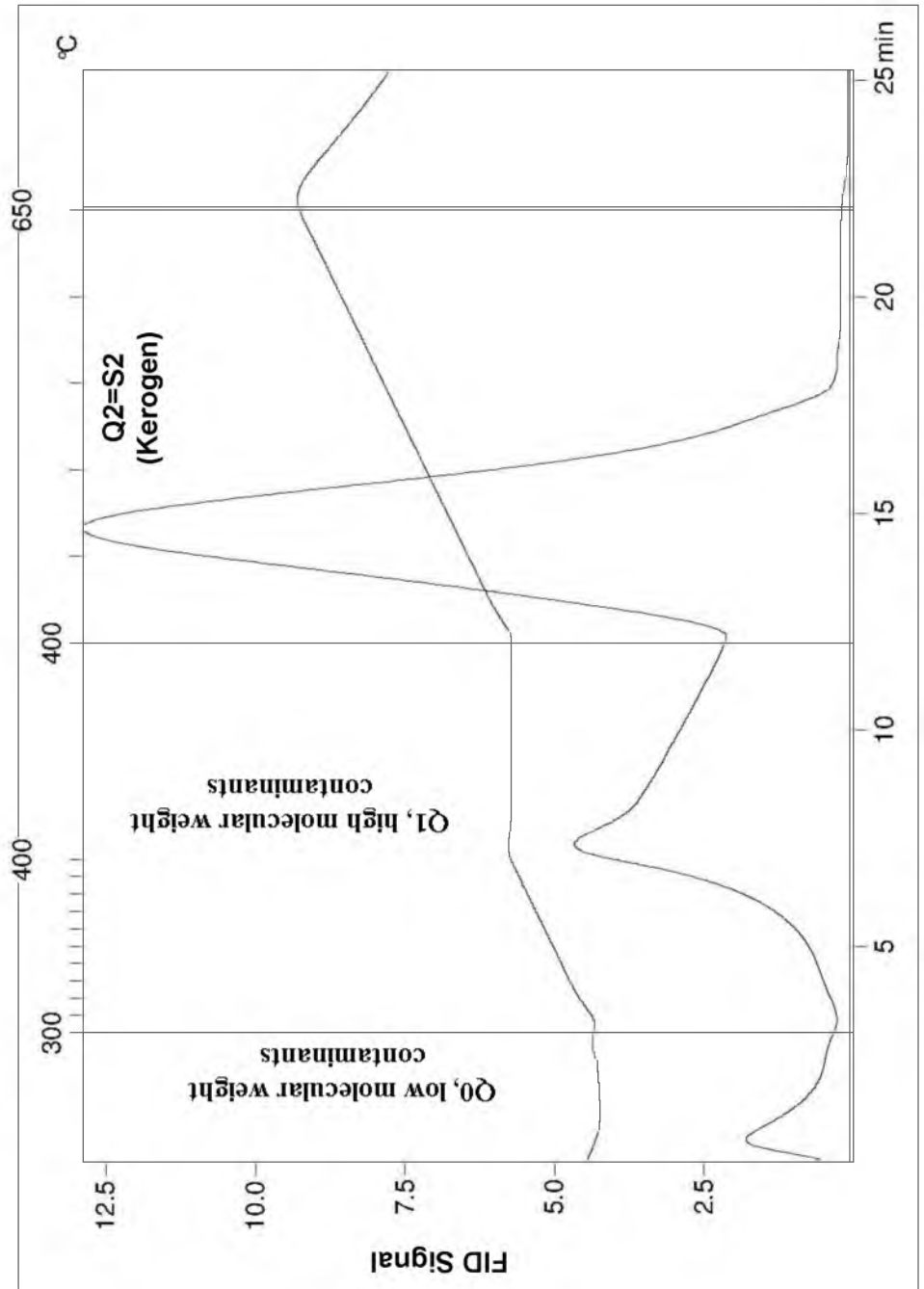
<p><b>SAMPLE DATA</b> DEPTH: 3150m CODE: TYPE: Ctgs SAMPLE: 2014J0015</p> <p><b>STATISTICS</b> POP N 1- Indigenous Mean value: 0.60 No. of values: 3 Std. deviation: 0.02 Range: 0.58 to 0.62</p>	<p>Indigenous</p>	<p><b>SAMPLE DATA</b> DEPTH: 3378m CODE: TYPE: Ctgs SAMPLE: 2014J0021</p> <p><b>STATISTICS</b> POP N 1- Indigenous Mean value: 0.65 No. of values: 2 Std. deviation: 0.03 Range: 0.63 to 0.67</p>	<p>Indigenous</p>
<p><b>SAMPLE DATA</b> DEPTH: 3249m CODE: TYPE: Ctgs SAMPLE: 2014J0018</p> <p><b>STATISTICS</b> POP N 1- Indigenous Mean value: 0.61 No. of values: 4 Std. deviation: 0.04 Range: 0.56 to 0.65</p>	<p>Indigenous</p>	<p><b>SAMPLE DATA</b> DEPTH: 3450m CODE: TYPE: Ctgs SAMPLE: 2014J0022</p> <p><b>STATISTICS</b> POP N 1- Indigenous Mean value: 0.68 No. of values: 2 Std. deviation: 0.01 Range: 0.67 to 0.69</p>	<p>Indigenous</p>
<p>0.58 0.61 0.62</p>	<p>0.56 0.60 0.61 0.65</p>	<p>0.63 0.67</p>	<p>0.67 0.69</p>







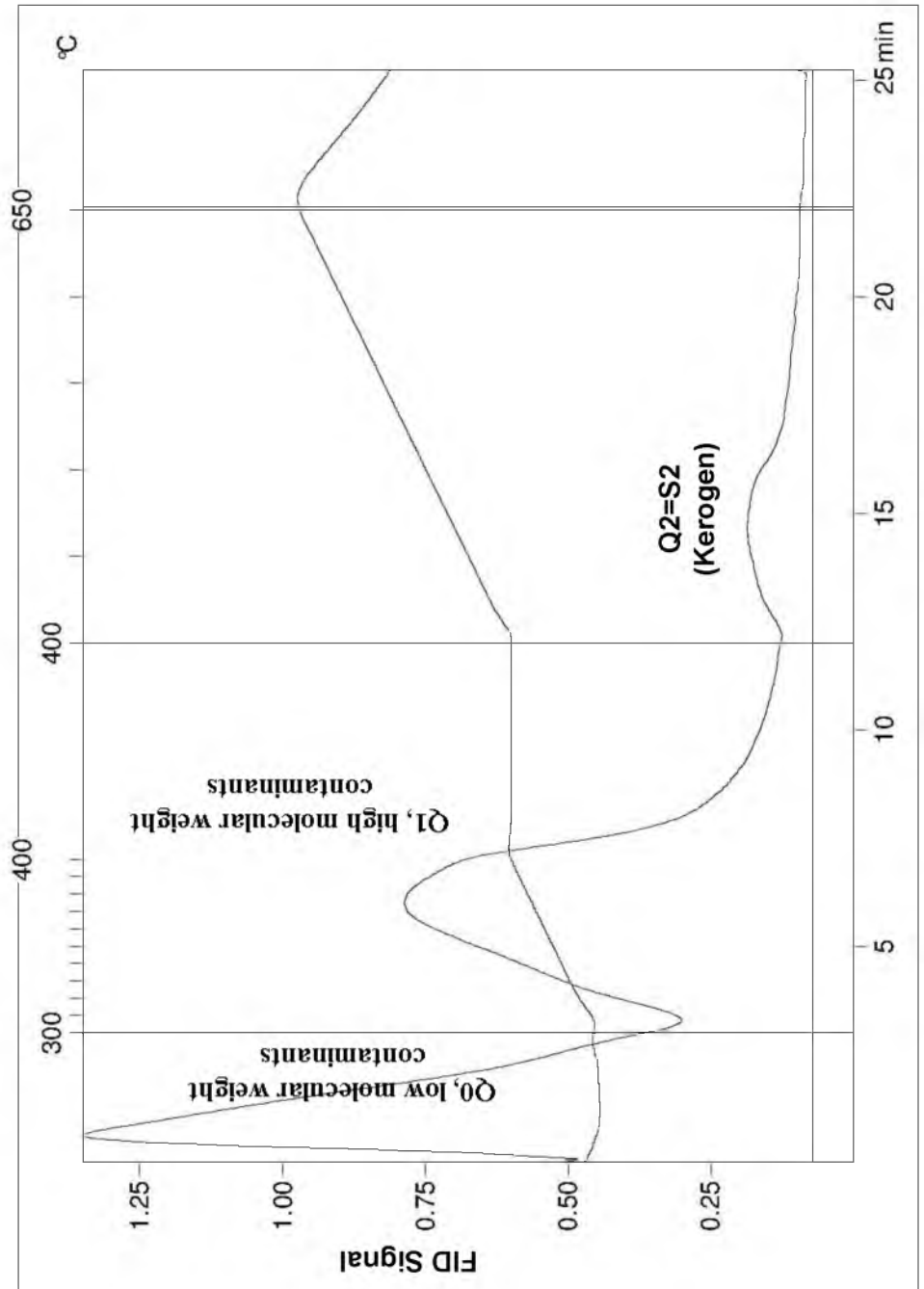
Q0(mg/g)=0.5	TpQ3(°C)=647
Q1(mg/g)=4.05	R0(%)=4.1
Q2(mg/g)=7.6	R1(%)=33.3
Q3(mg/g)=0	R2(%)=62.6
Sample=STDA 3	R3(%)=0
Method=Multi-Heating Rates	



**APPENDIX 3a.1 Multi-heating rates, Rock-Eval pyrolysis pyrogram, standard**

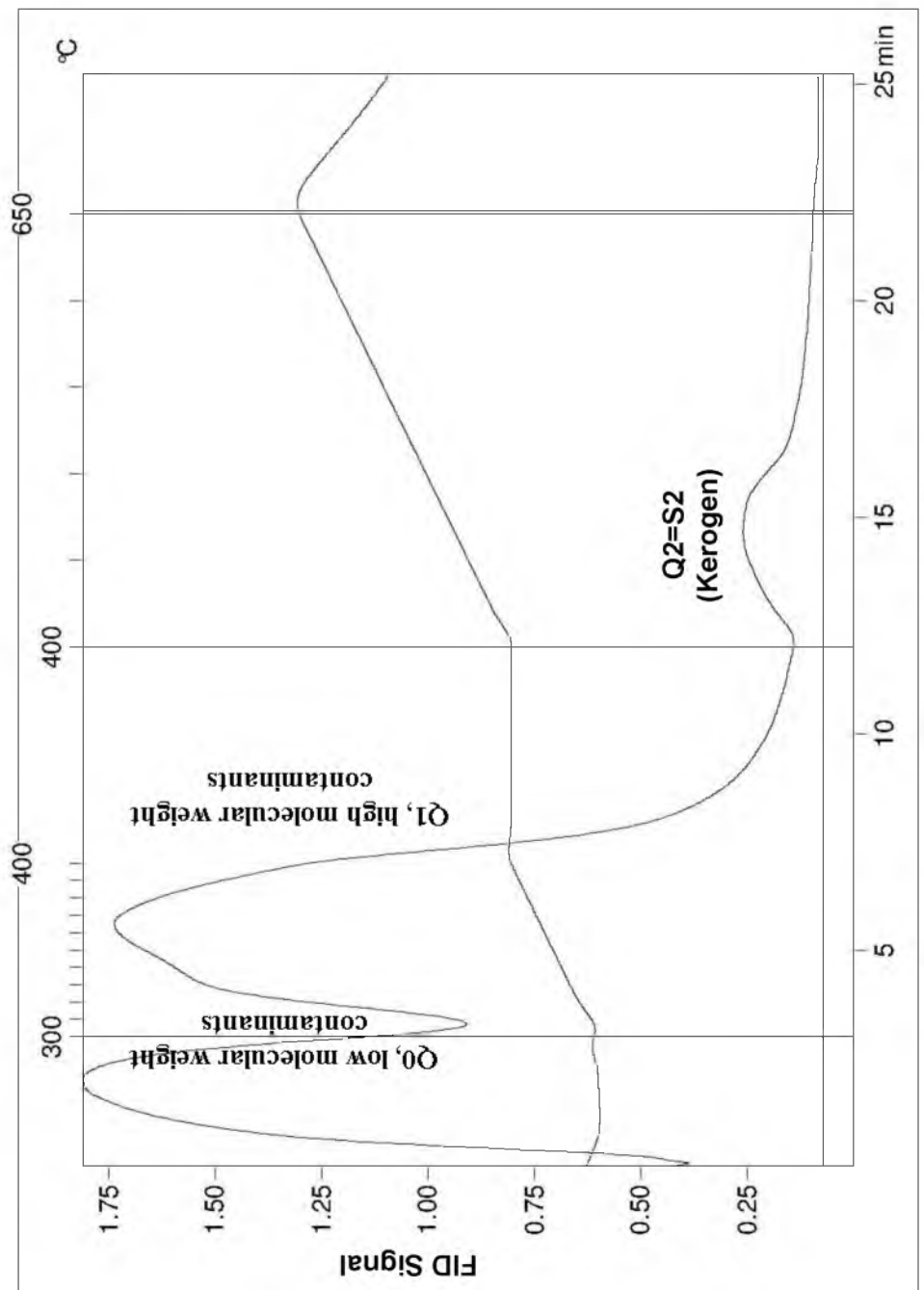


Q0(mg/g)=0.41	TpQ3(°C)=647
Q1(mg/g)=0.52	R0(%)=39.4
Q2(mg/g)=0.11	R1(%)=50
Q3(mg/g)=0	R2(%)=10.6
Sample=2014J 3X	R3(%)=0
Method=Multi-Heating Rates	



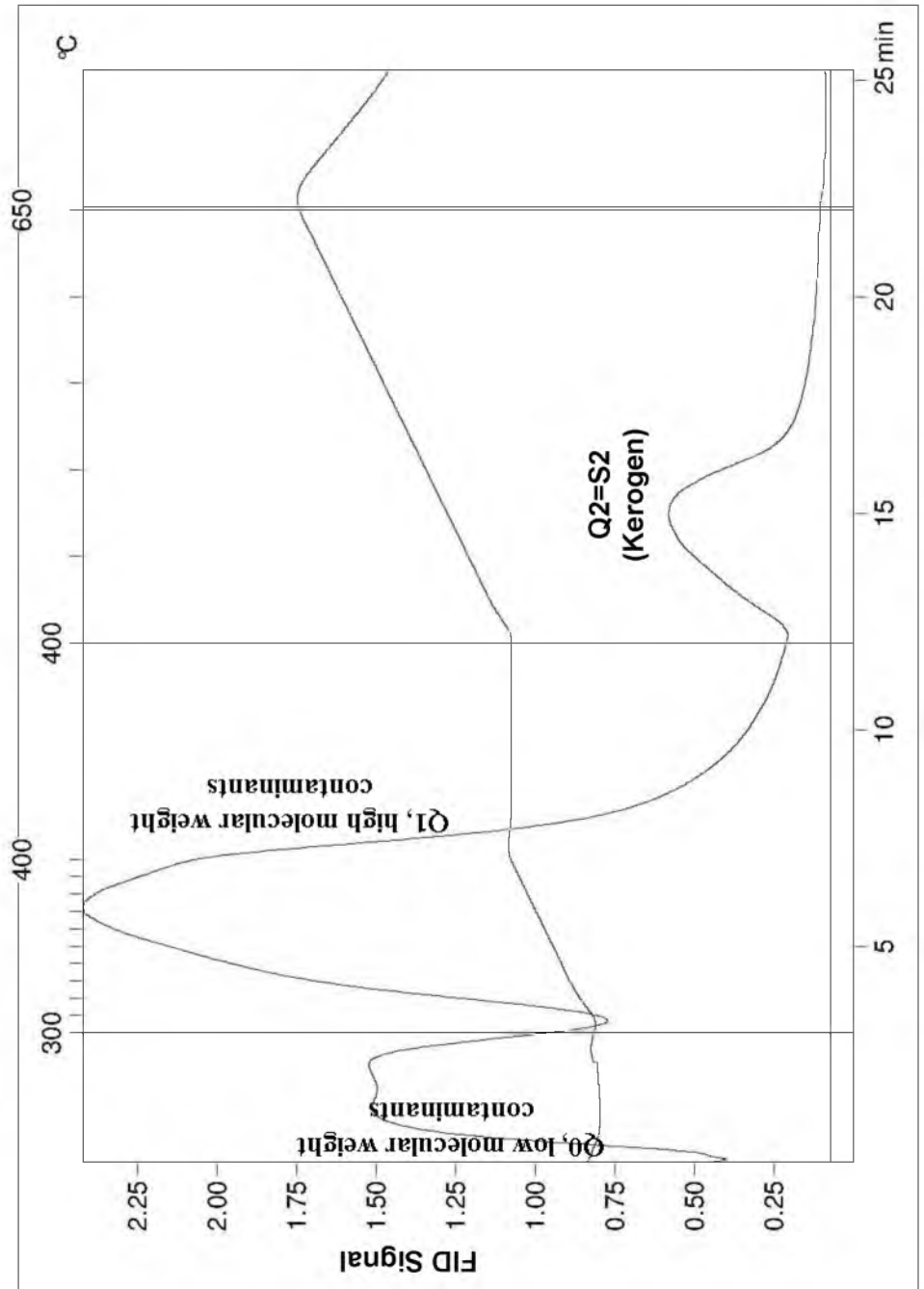
**APPENDIX 3a.2 Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 2000m**

Q0(mg/g)=0.75	TpQ3(°C)=647
Q1(mg/g)=1.27	R0(%)=34.4
Q2(mg/g)=0.16	R1(%)=58.3
Q3(mg/g)=0	R2(%)=7.3
Sample=2014J 4X	R3(%)=0
Method=Multi-Heating Rates	



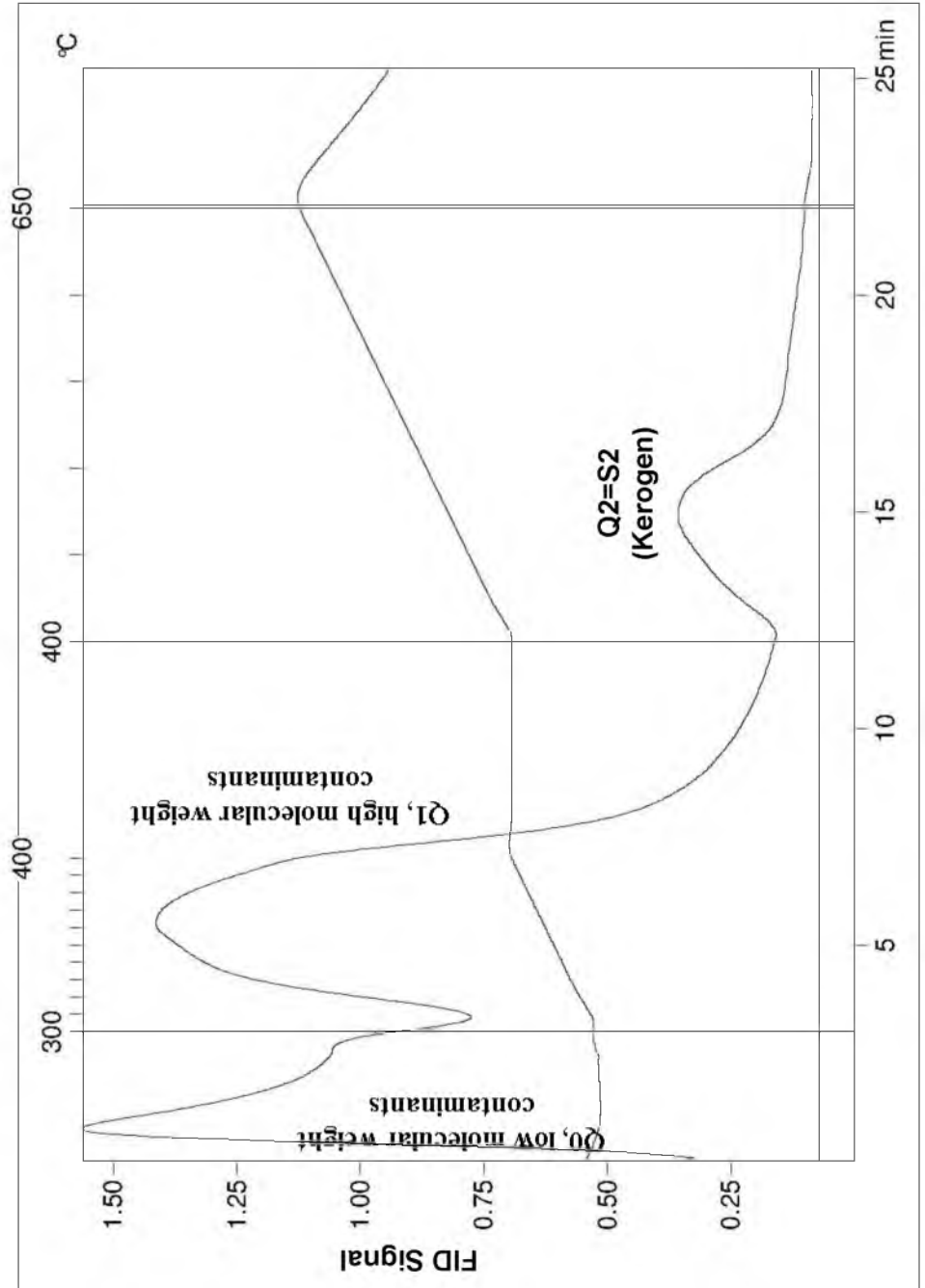
**APPENDIX 3a.3 Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 2080m**

Q0(mg/g)=0.6	TpQ3(°C)=647
Q1(mg/g)=1.63	R0(%)=23.4
Q2(mg/g)=0.33	R1(%)=63.7
Q3(mg/g)=0	R2(%)=12.9
Sample=2014J 5X	R3(%)=0
Method=Multi-Heating Rates	



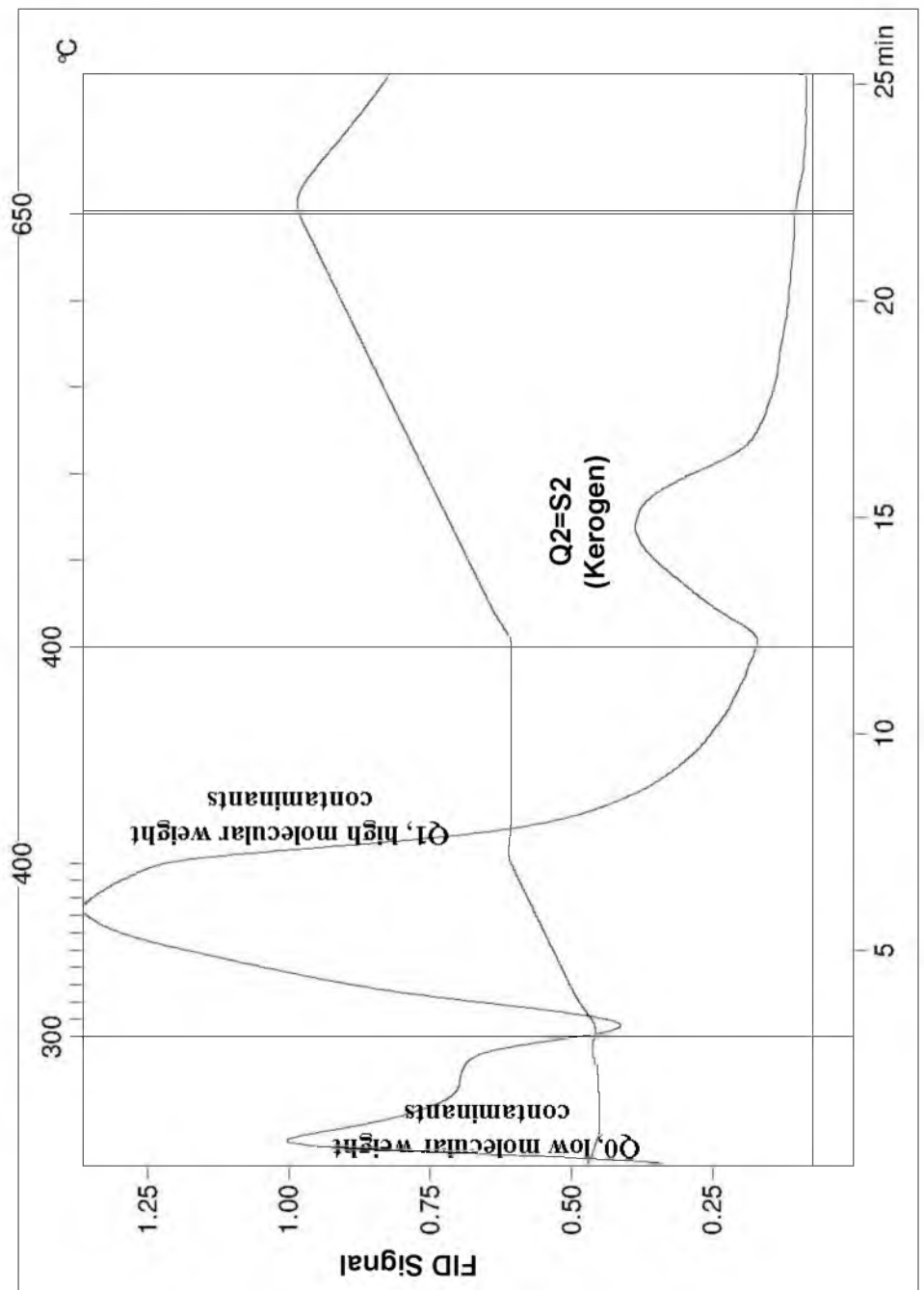
**APPENDIX 3a.4 Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 2180m**

Q0(mg/g)=0.51	TpQ3(°C)=647
Q1(mg/g)=0.96	R0(%)=30.5
Q2(mg/g)=0.2	R1(%)=57.5
Q3(mg/g)=0	R2(%)=12
Sample=2014J 6X	R3(%)=0
Method=Multi-Heating Rates	



**APPENDIX 3a.5 Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 2280m**

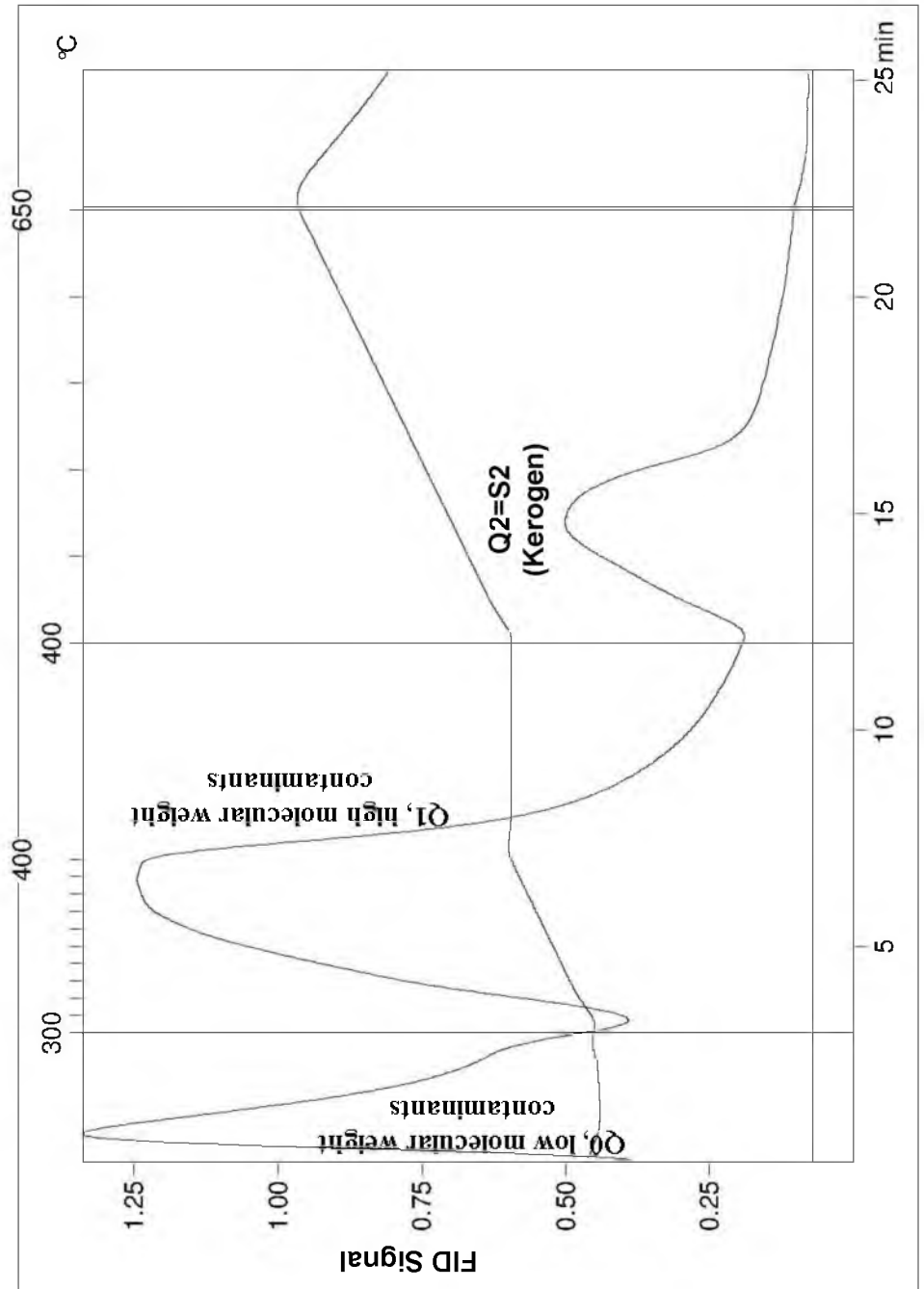
Q0(mg/g)=0.36	TpQ3(°C)=648
Q1(mg/g)=1	R0(%)=22.4
Q2(mg/g)=0.25	R1(%)=62.1
Q3(mg/g)=0	R2(%)=15.5
Sample=2014J 7X	R3(%)=0
Method=Multi-Heating Rates	



**APPENDIX 3a.6 Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 2400m**

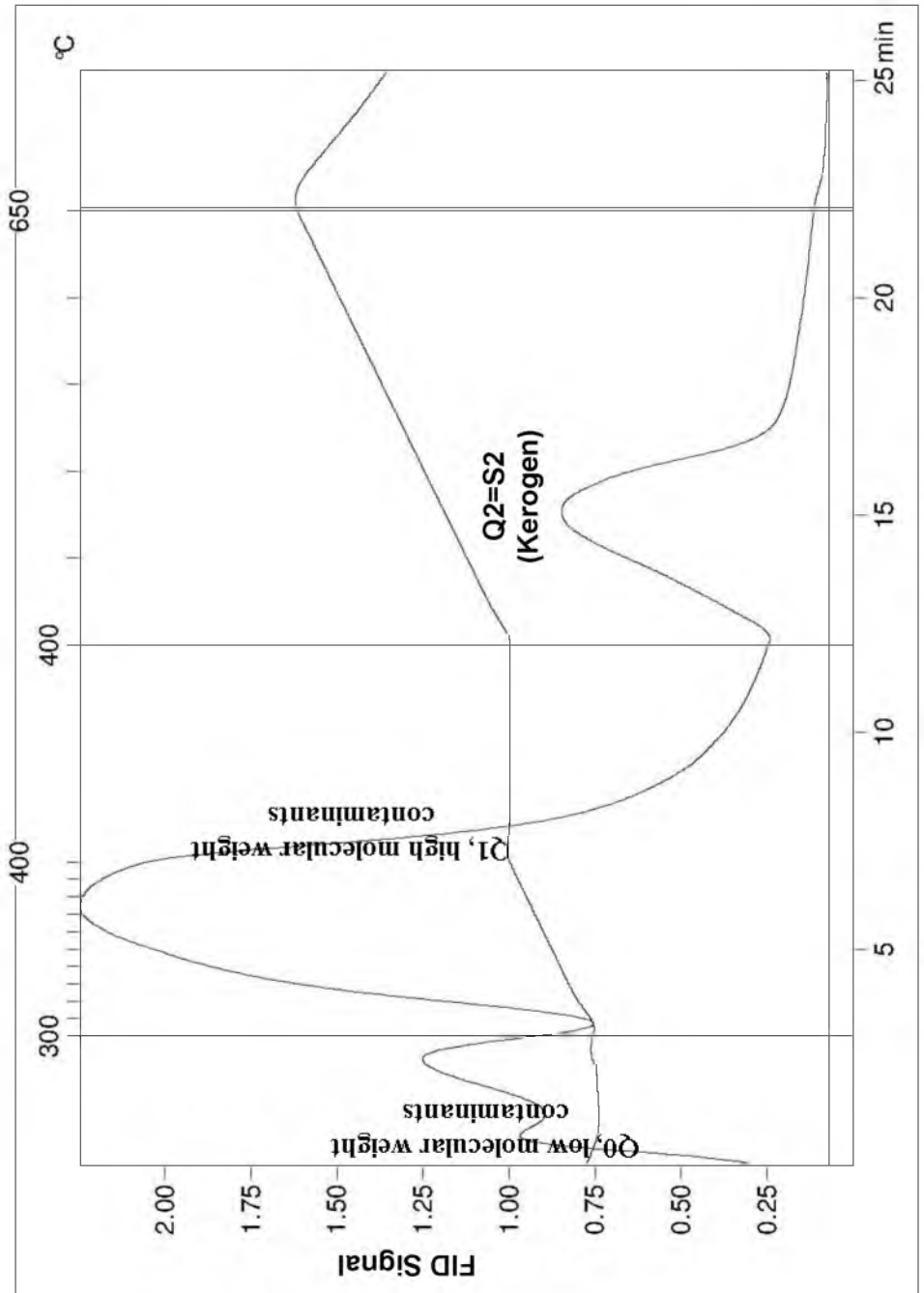
Q0(mg/g)=0.43	TpQ3(°C)=648
Q1(mg/g)=0.97	R0(%)=25
Q2(mg/g)=0.32	R1(%)=56.4
Q3(mg/g)=0	R2(%)=18.6
Sample=2014J 8X	R3(%)=0
Method=Multi-Heating Rates	

Q0(mg/g)=0.43
Q1(mg/g)=0.97
Q2(mg/g)=0.32
Q3(mg/g)=0
Sample=2014J 8X
Method=Multi-Heating Rates



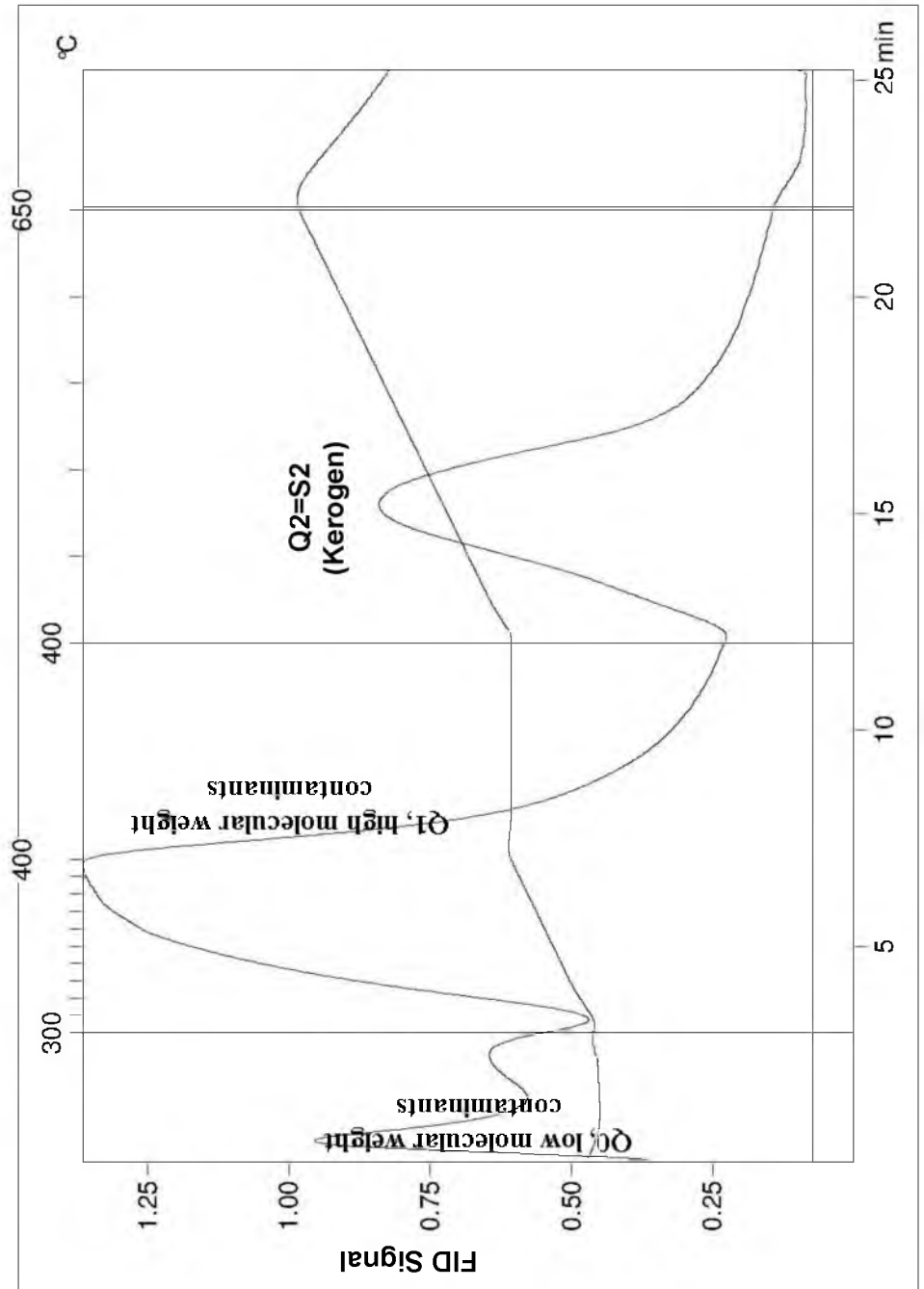
**APPENDIX 3a.7 Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 2520m**

Q0(mg/g)=0.45	TpQ3(°C)=647
Q1(mg/g)=1.62	R0(%)=17.6
Q2(mg/g)=0.48	R1(%)=63.5
Q3(mg/g)=0	R2(%)=18.8
Sample=2014J 9X	R3(%)=0
Method=Multi-Heating Rates	



**APPENDIX 3a.8 Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 2660m**

Q0(mg/g)=0.3	TpQ3(°C)=648
Q1(mg/g)=1.03	R0(%)=16
Q2(mg/g)=0.55	R1(%)=54.8
Q3(mg/g)=0	R2(%)=29.3
Sample=2014J 10X	R3(%)=0
Method=Multi-Heating Rates	

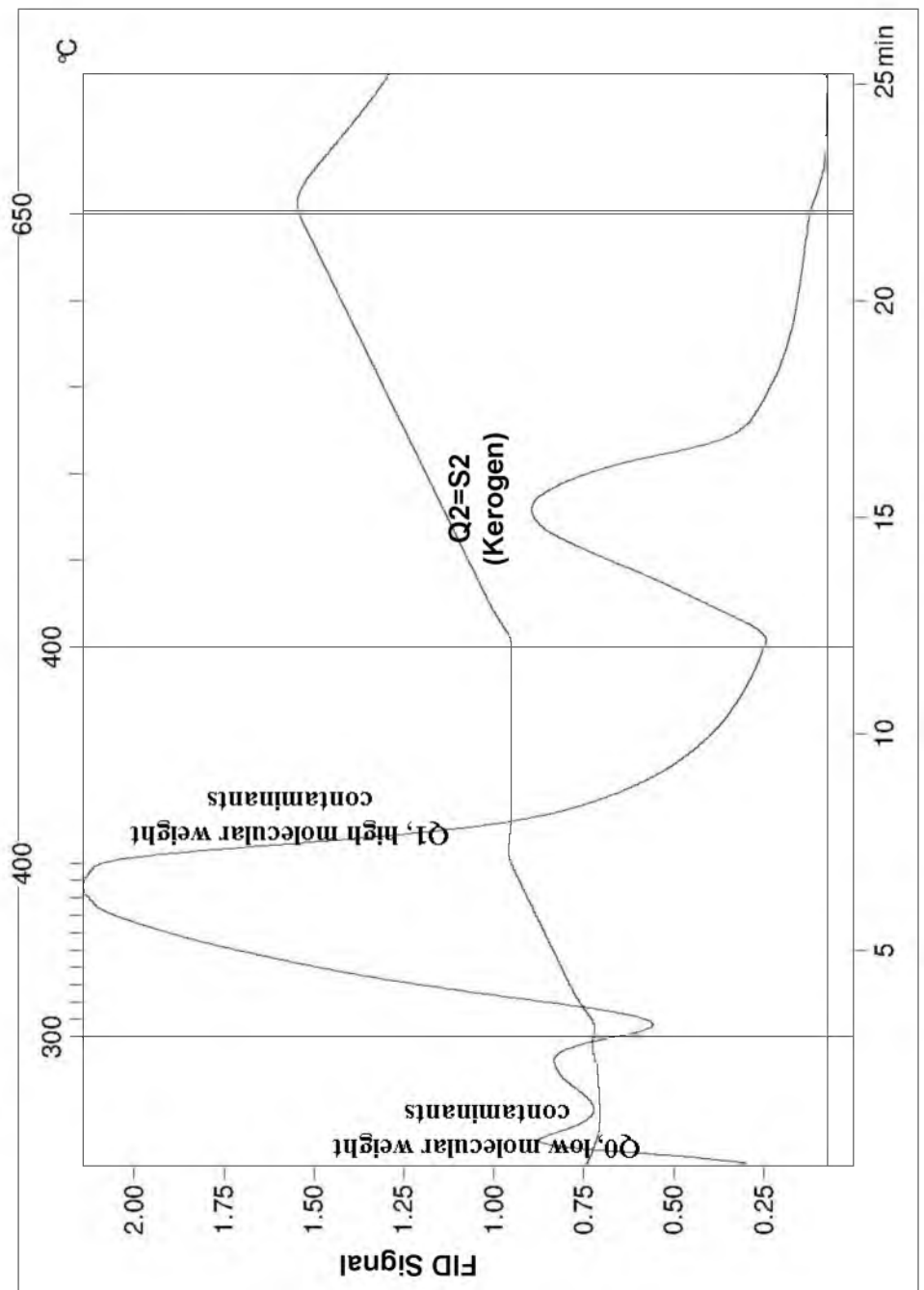


**APPENDIX 3a.9** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 2780m



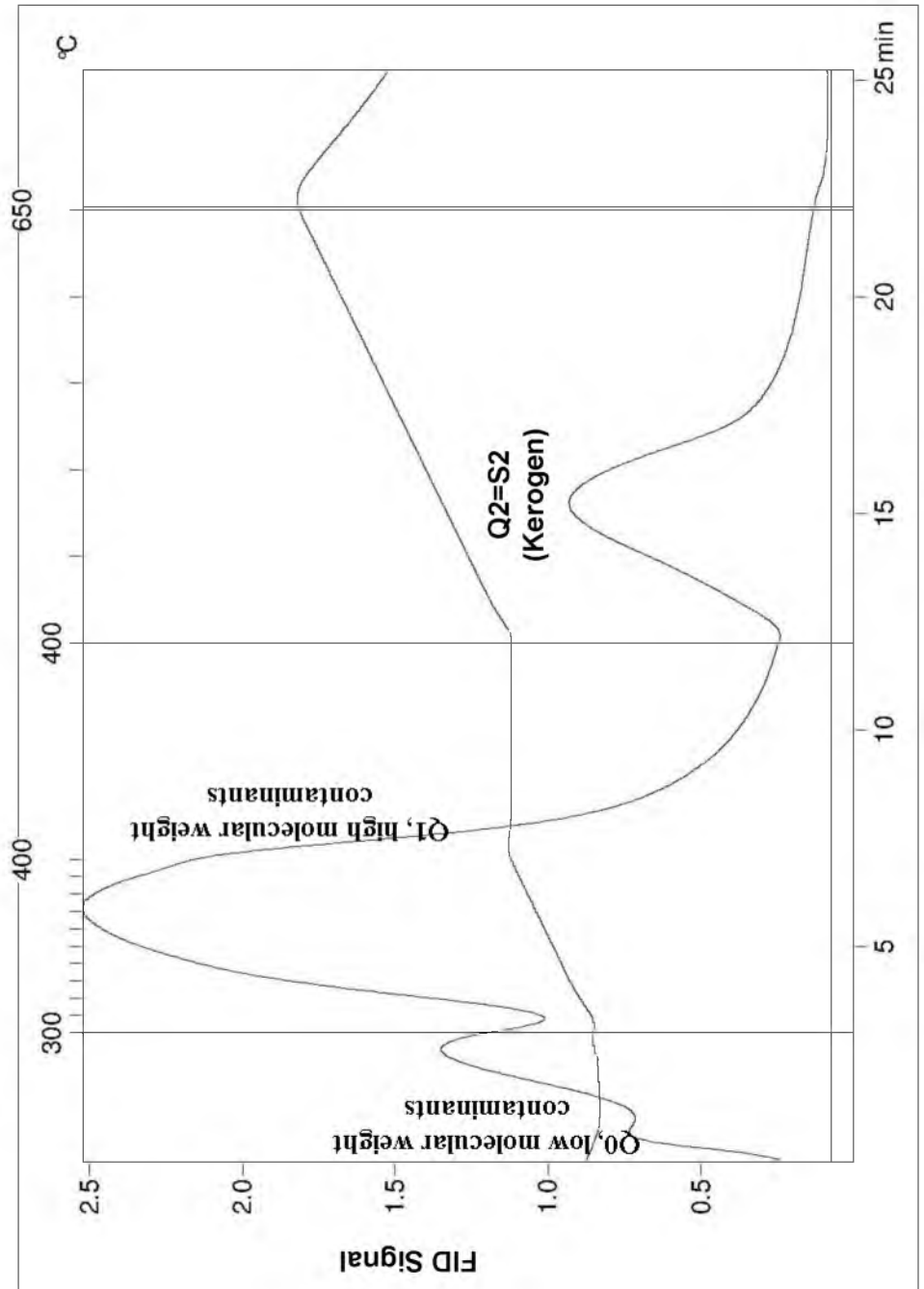
Q0(mg/g)=0.33	TpQ3(°C)=648
Q1(mg/g)=1.44	R0(%)=14.4
Q2(mg/g)=0.52	R1(%)=62.9
Q3(mg/g)=0	R2(%)=22.7
Sample=2014J 11X	R3(%)=0
Method=Multi-Heating Rates	

Q0(mg/g)=0.33
Q1(mg/g)=1.44
Q2(mg/g)=0.52
Q3(mg/g)=0
Sample=2014J 11X
Method=Multi-Heating Rates



**APPENDIX 3a.10** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 2898m

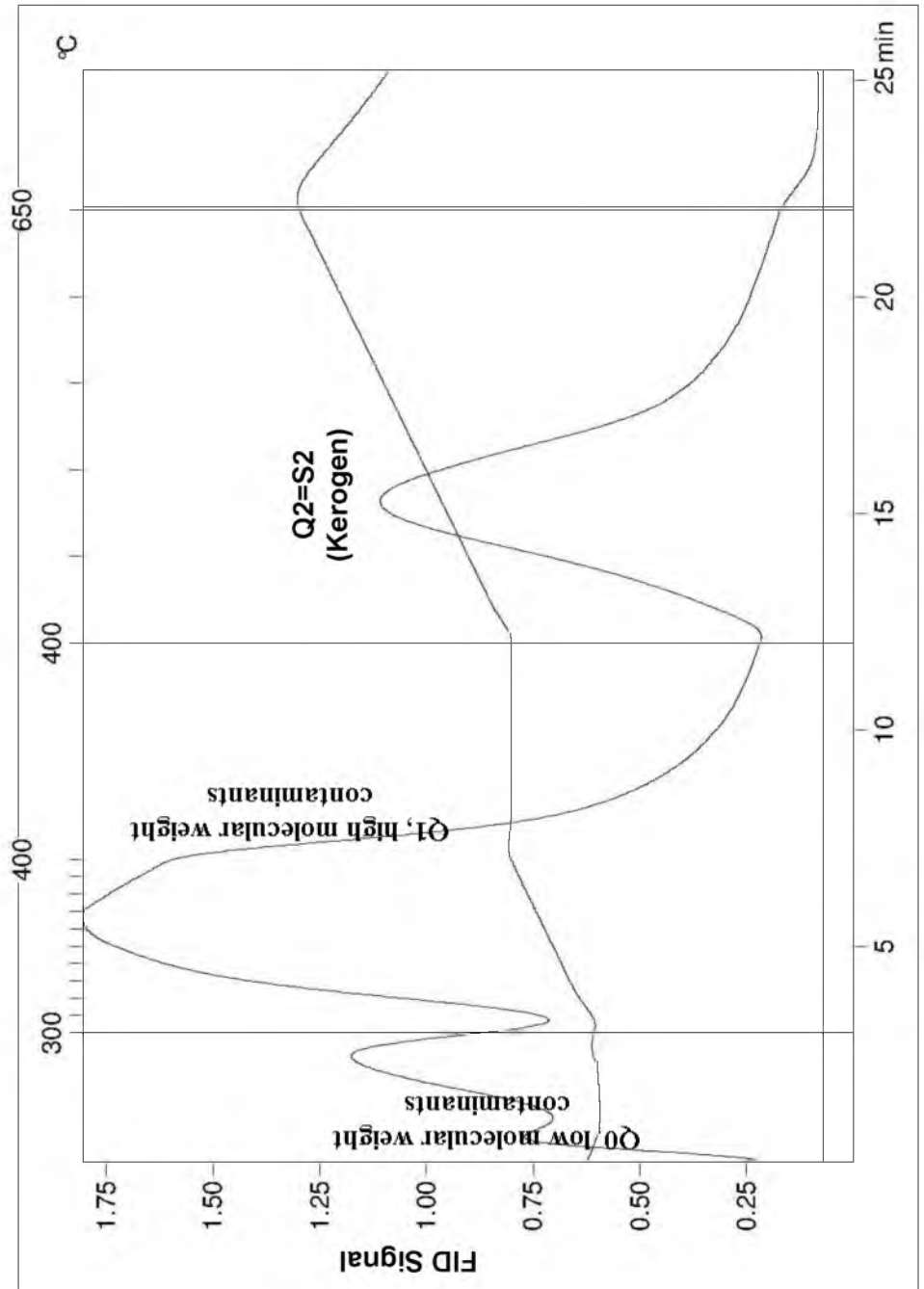
Q0(mg/g)=0.42	TpQ3(°C)=648
Q1(mg/g)=1.81	R0(%)=14.9
Q2(mg/g)=0.59	R1(%)=64.2
Q3(mg/g)=0	R2(%)=20.9
Sample=2014J 12X	R3(%)=0
Method=Multi-Heating Rates	



**APPENDIX 3a.11 Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 2943m,**

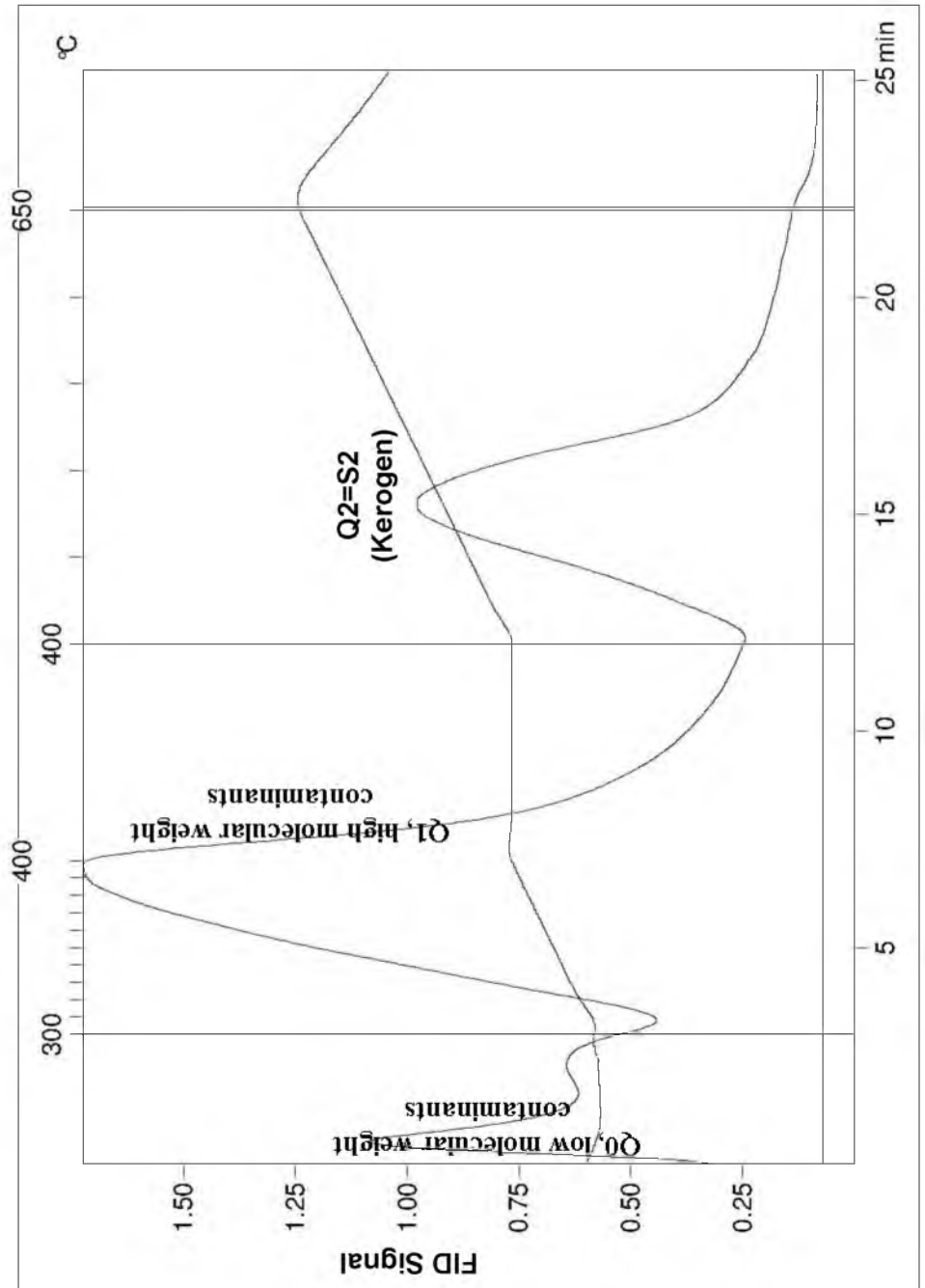
Q0(mg/g)=0.4	TpQ3(°C)=647
Q1(mg/g)=1.36	R0(%)=15.9
Q2(mg/g)=0.75	R1(%)=54.2
Q3(mg/g)=0	R2(%)=29.9
Sample=2014J 13X	R3(%)=0
Method=Multi-Heating Rates	

Q0(mg/g)=0.4
Q1(mg/g)=1.36
Q2(mg/g)=0.75
Q3(mg/g)=0
Sample=2014J 13X
Method=Multi-Heating Rates



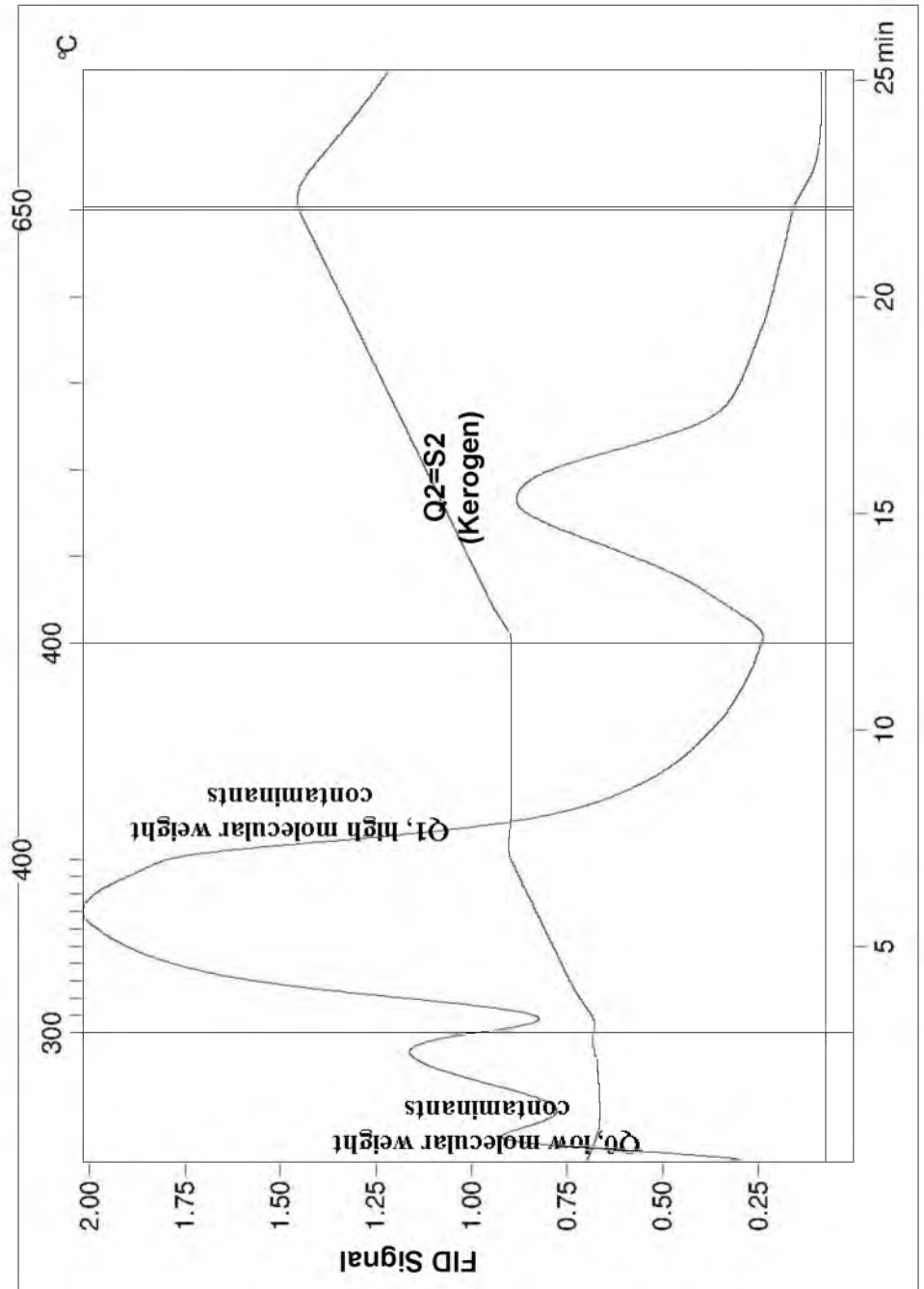
**APPENDIX 3a.12** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3006m

Q0(mg/g)=0.3	TpQ3(°C)=647
Q1(mg/g)=1.11	R0(%)=15
Q2(mg/g)=0.59	R1(%)=55.5
Q3(mg/g)=0	R2(%)=29.5
Sample=2014J 14X	R3(%)=0
Method=Multi-Heating Rates	



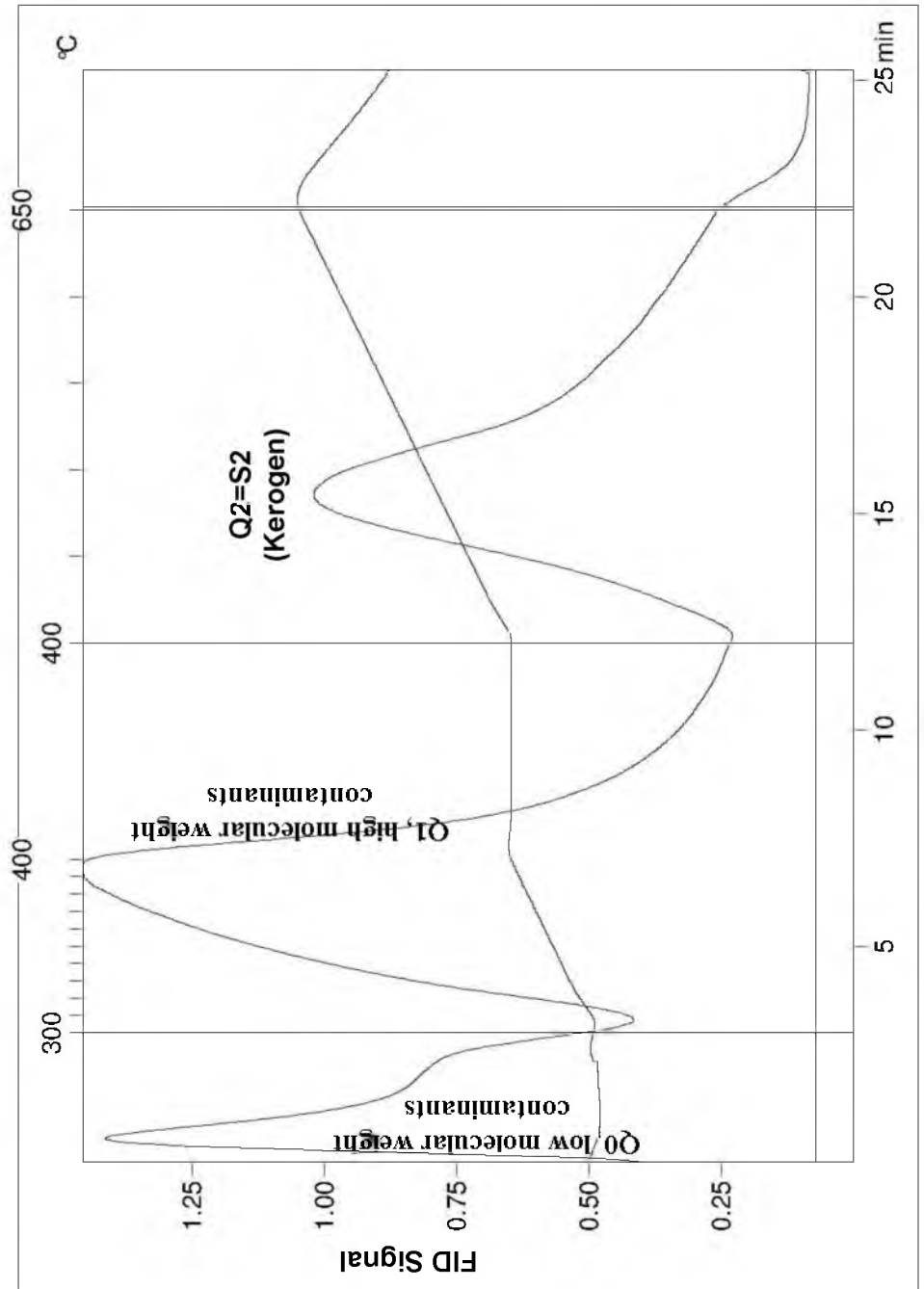
**APPENDIX 3a.13** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3078m

Q0(mg/g)=0.42	TpQ3(°C)=648
Q1(mg/g)=1.51	R0(%)=16.7
Q2(mg/g)=0.58	R1(%)=60.2
Q3(mg/g)=0	R2(%)=23.1
Sample=2014J 15X	R3(%)=0
Method=Multi-Heating Rates	



**APPENDIX 3a.14** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3150m

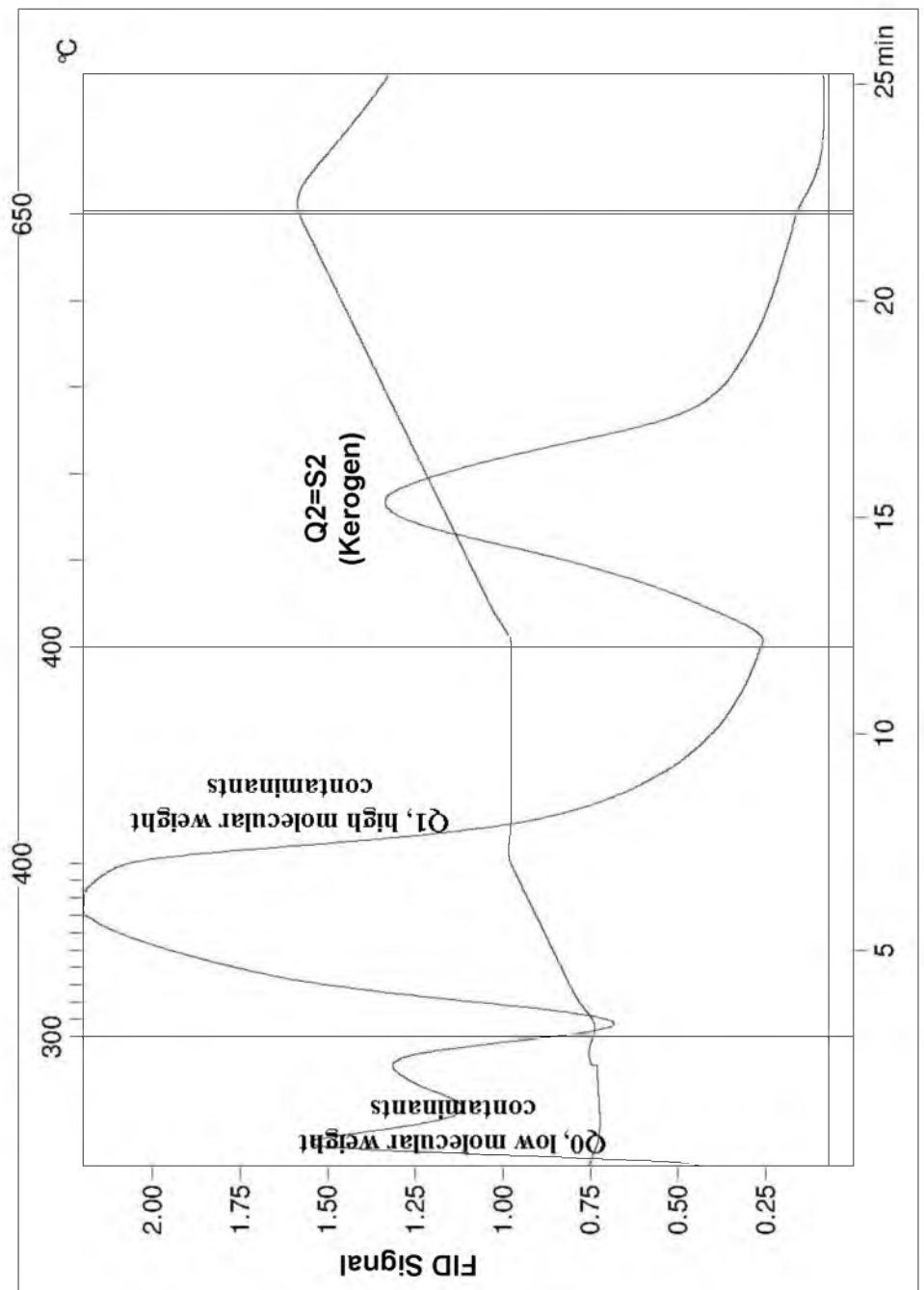
Q0(mg/g)=0.43	TpQ3(°C)=647
Q1(mg/g)=1.03	R0(%)=18.9
Q2(mg/g)=0.81	R1(%)=45.4
Q3(mg/g)=0	R2(%)=35.7
Sample=2014J 16AX	R3(%)=0
Method=Multi-Heating Rates	



**APPENDIX 3a.15** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3177m

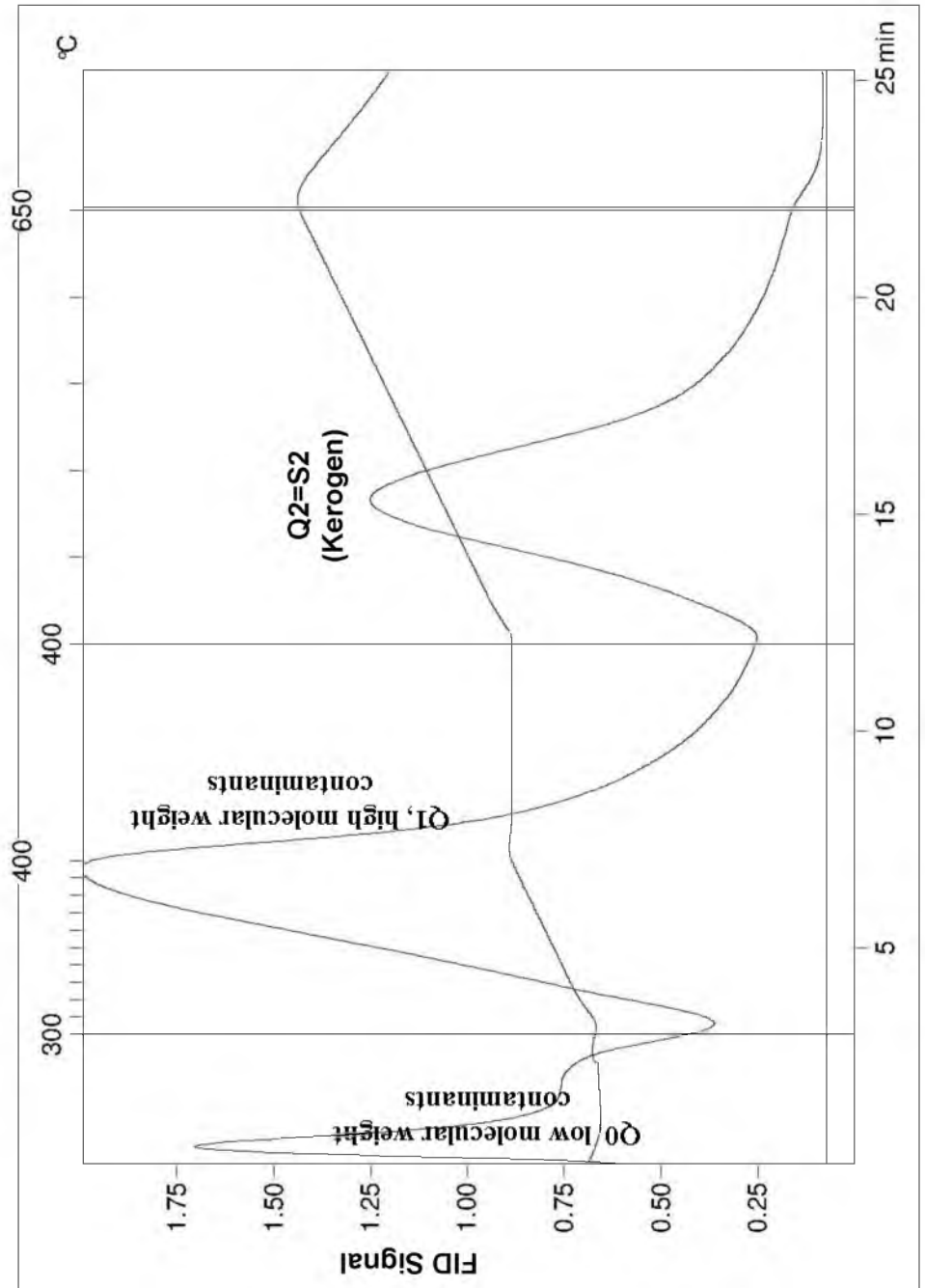
Q0(mg/g)=0.58	TpQ3(°C)=647
Q1(mg/g)=1.65	R0(%)=18.7
Q2(mg/g)=0.87	R1(%)=53.2
Q3(mg/g)=0	R2(%)=28.1
Sample=2014J 17X	R3(%)=0
Method=Multi-Heating Rates	

Q0(mg/g)=0.58
Q1(mg/g)=1.65
Q2(mg/g)=0.87
Q3(mg/g)=0
Sample=2014J 17X
Method=Multi-Heating Rates



APPENDIX 3a.16 Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 204m

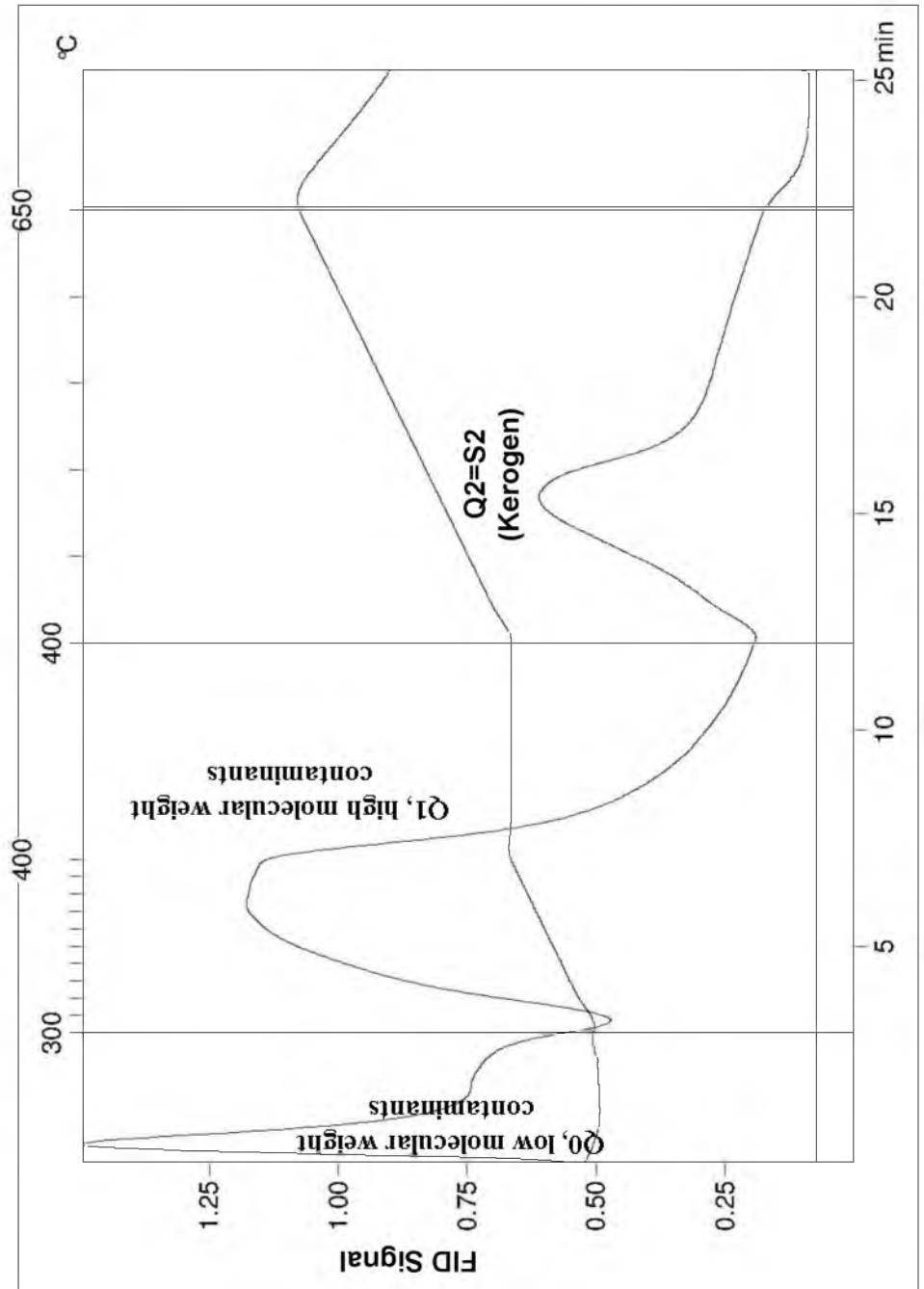
Q0(mg/g)=0.42	TpQ3(°C)=648
Q1(mg/g)=1.27	R0(%)=16.8
Q2(mg/g)=0.81	R1(%)=50.8
Q3(mg/g)=0	R2(%)=32.4
Sample=2014J 18AX	R3(%)=0
Method=Multi-Heating Rates	



**APPENDIX 3a.17** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3249m

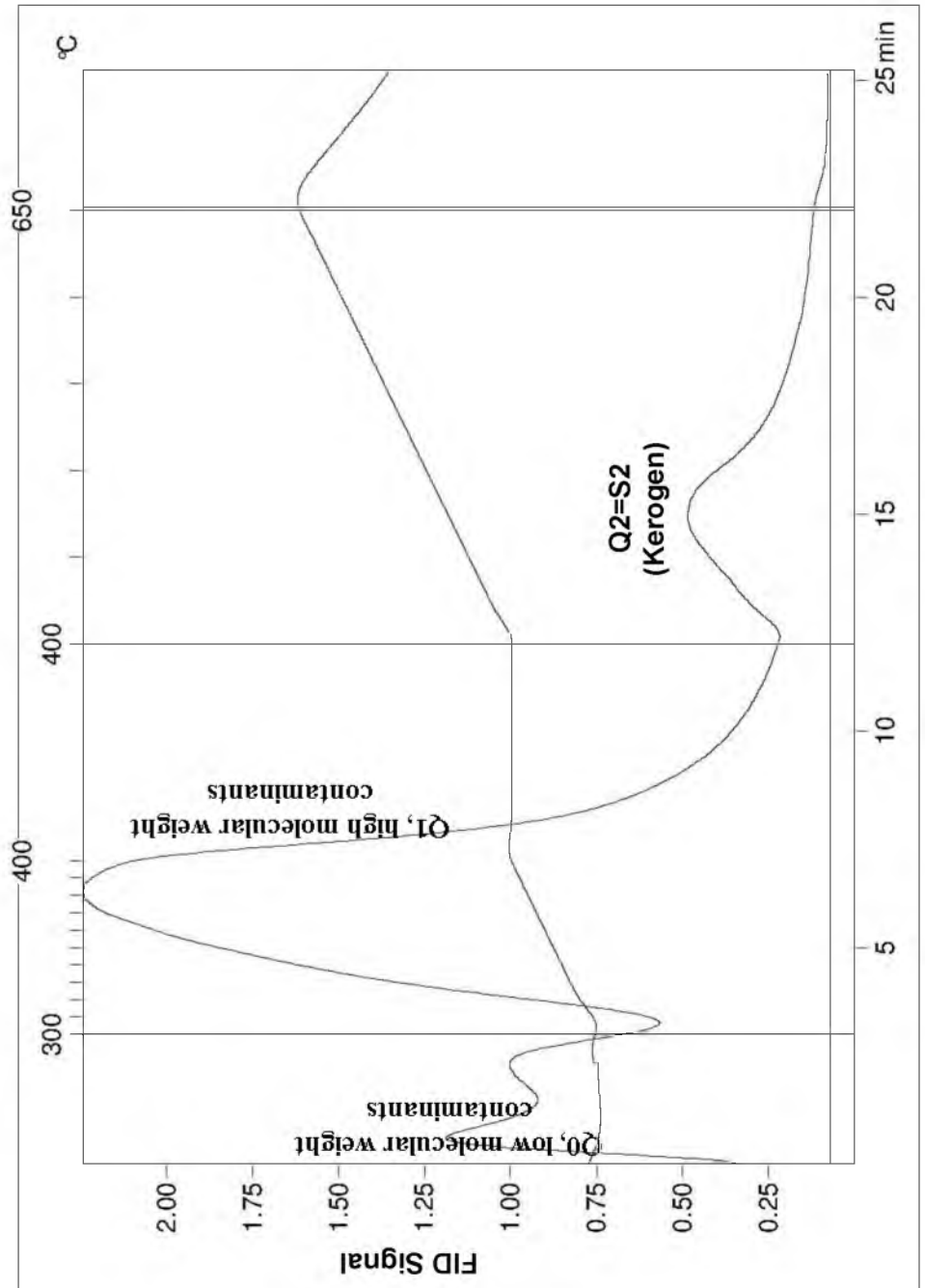


Q0(mg/g)=0.41	TpQ3(°C)=647
Q1(mg/g)=0.9	R0(%)=23.4
Q2(mg/g)=0.44	R1(%)=51.4
Q3(mg/g)=0	R2(%)=25.1
Sample=2014J 19AX	R3(%)=0
Method=Multi-Heating Rates	



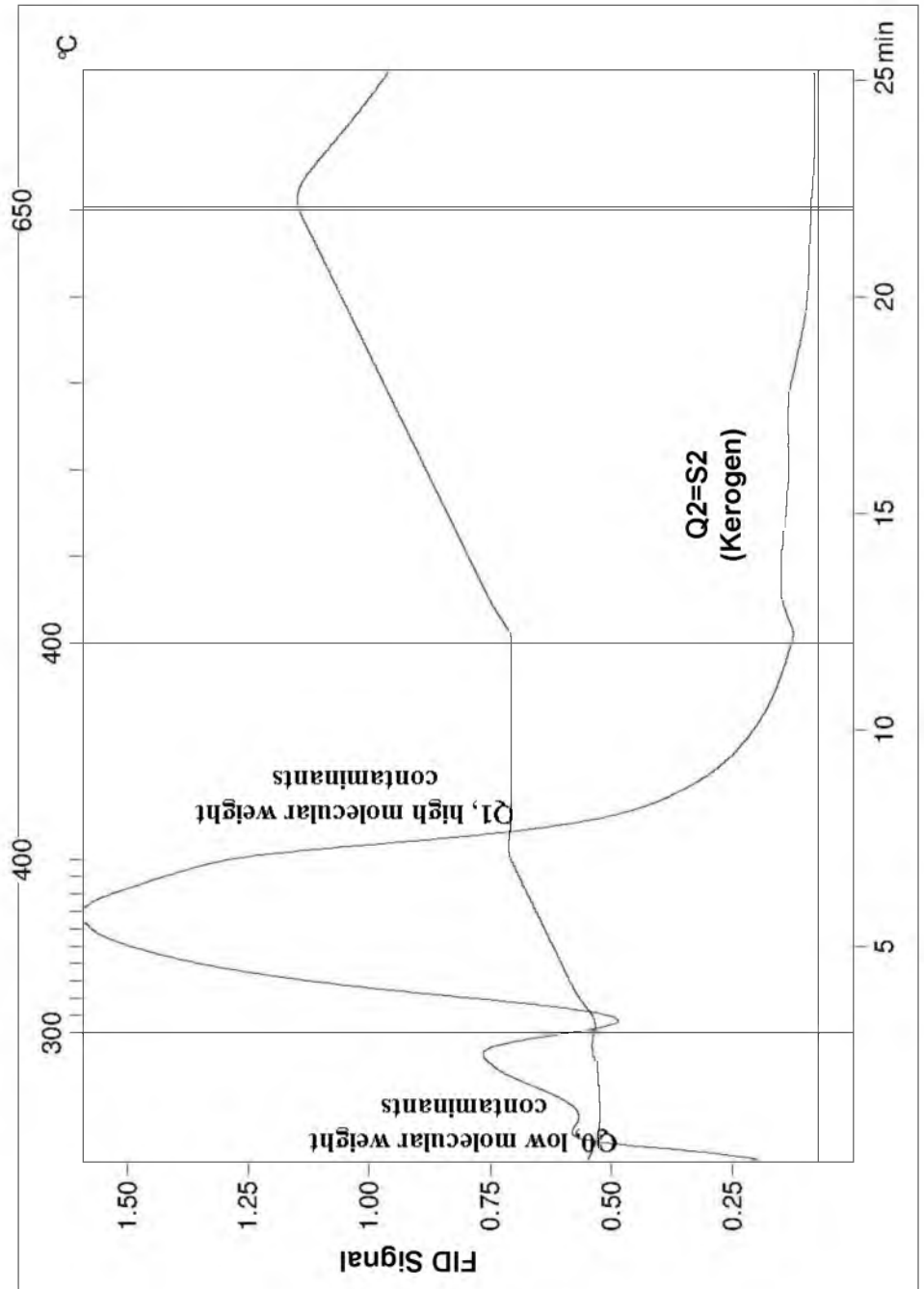
**APPENDIX 3a.18** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3303m

Q0(mg/g)=0.45	TpQ3(°C)=648
Q1(mg/g)=1.55	R0(%)=19.2
Q2(mg/g)=0.34	R1(%)=66.2
Q3(mg/g)=0	R2(%)=14.5
Sample=2014J 20X	R3(%)=0
Method=Multi-Heating Rates	



**APPENDIX 3a.19 Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3349m**

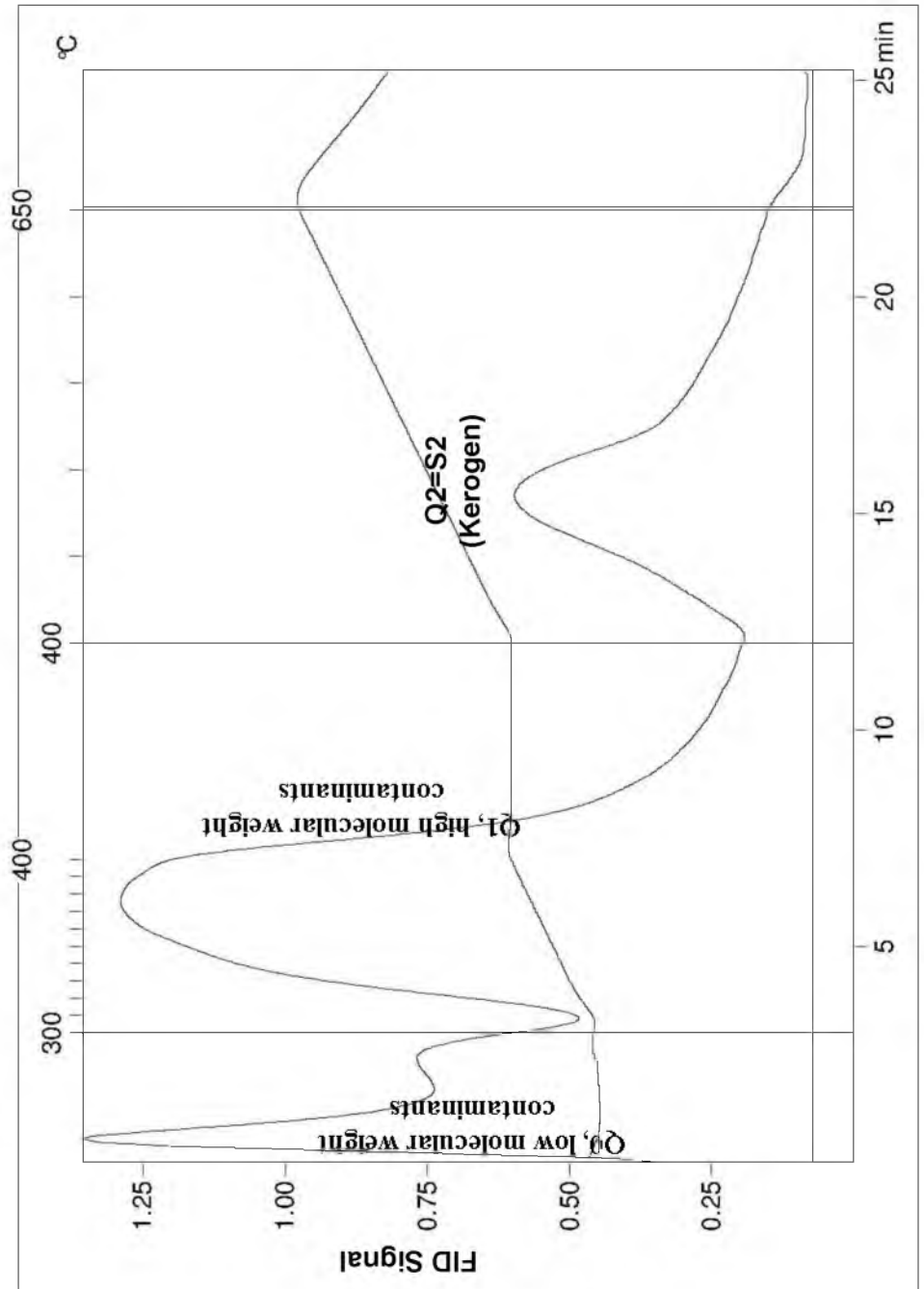
Q0(mg/g)=0.27	TpQ3(°C)=648
Q1(mg/g)=1.06	R0(%)=19
Q2(mg/g)=0.09	R1(%)=74.6
Q3(mg/g)=0	R2(%)=6.3
Sample=2014J 21X	R3(%)=0
Method=Multi-Heating Rates	



**APPENDIX 3a.20** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3378m

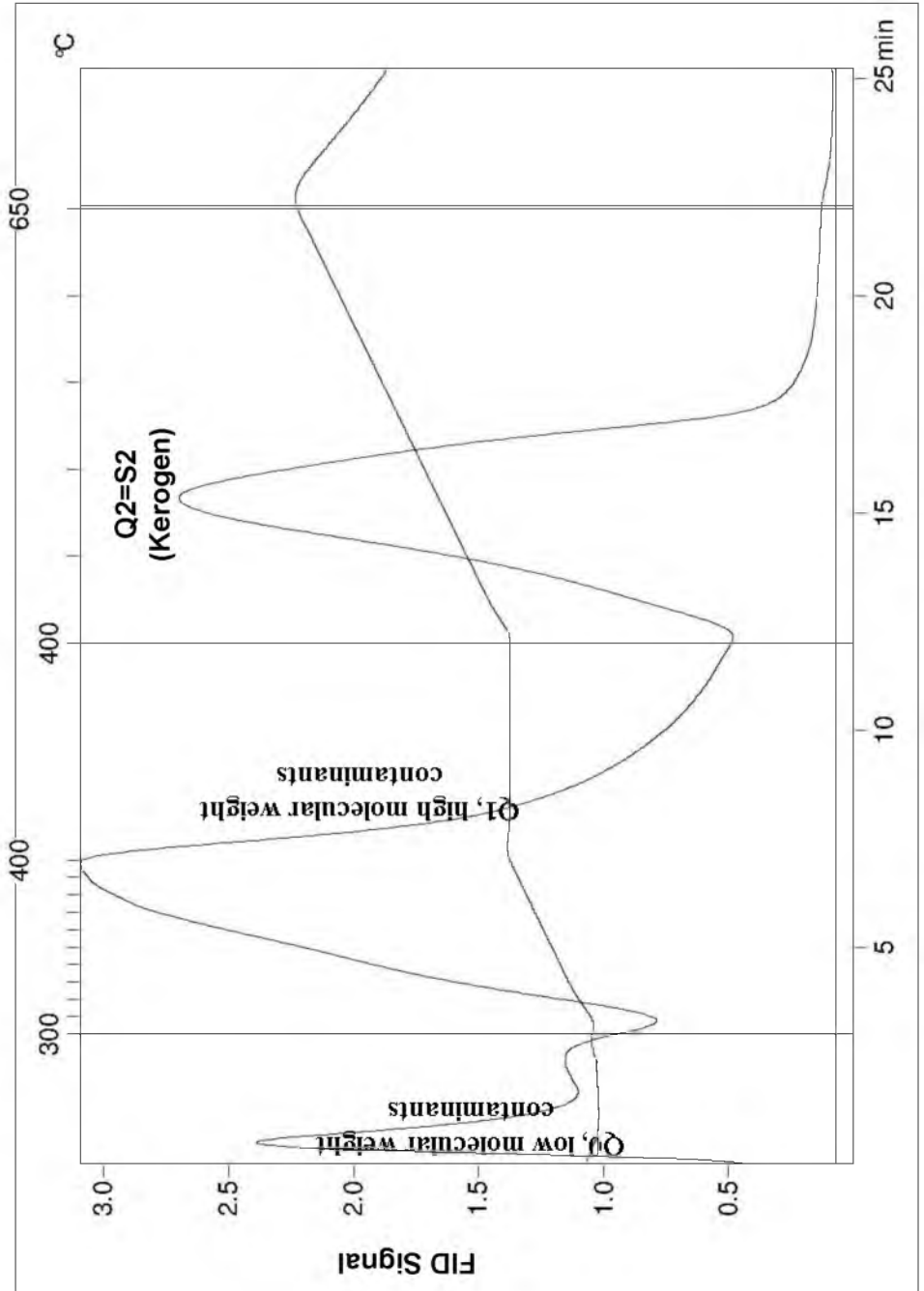
Q0(mg/g)=0.4	TpQ3(°C)=648
Q1(mg/g)=0.96	R0(%)=22.3
Q2(mg/g)=0.43	R1(%)=53.6
Q3(mg/g)=0	R2(%)=24
Sample=2014J 22X	R3(%)=0
Method=Multi-Heating Rates	

Q0(mg/g)=0.4
Q1(mg/g)=0.96
Q2(mg/g)=0.43
Q3(mg/g)=0
Sample=2014J 22X
Method=Multi-Heating Rates



**APPENDIX 3a.21 Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3450m**

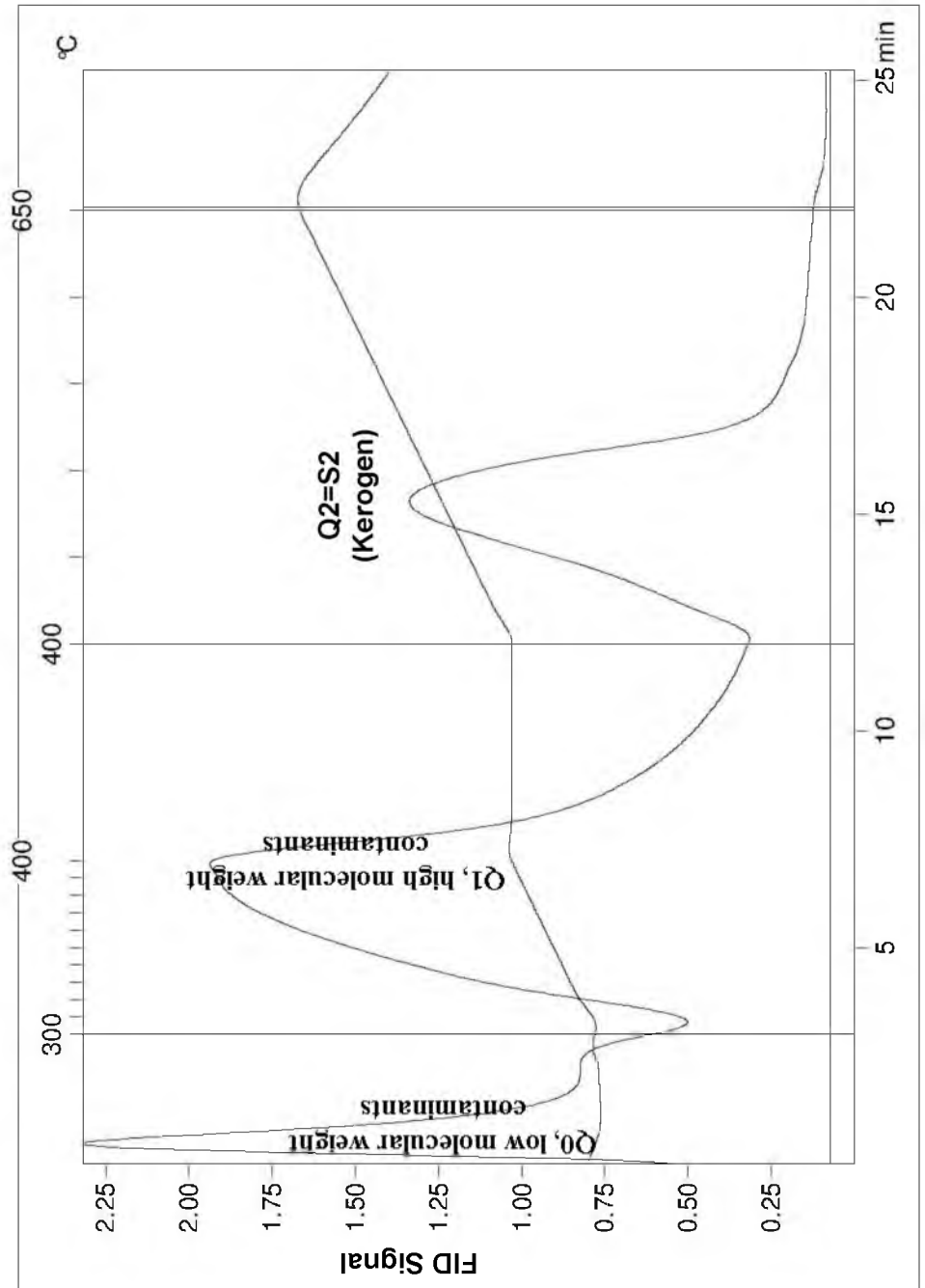
Q0(mg/g)=0.65	TpQ3(°C)=647
Q1(mg/g)=2.31	R0(%)=14.7
Q2(mg/g)=1.46	R1(%)=52.3
Q3(mg/g)=0	R2(%)=33
Sample=2014J 23X	R3(%)=0
Method=Multi-Heating Rates	



**APPENDIX 3a.22** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3513m

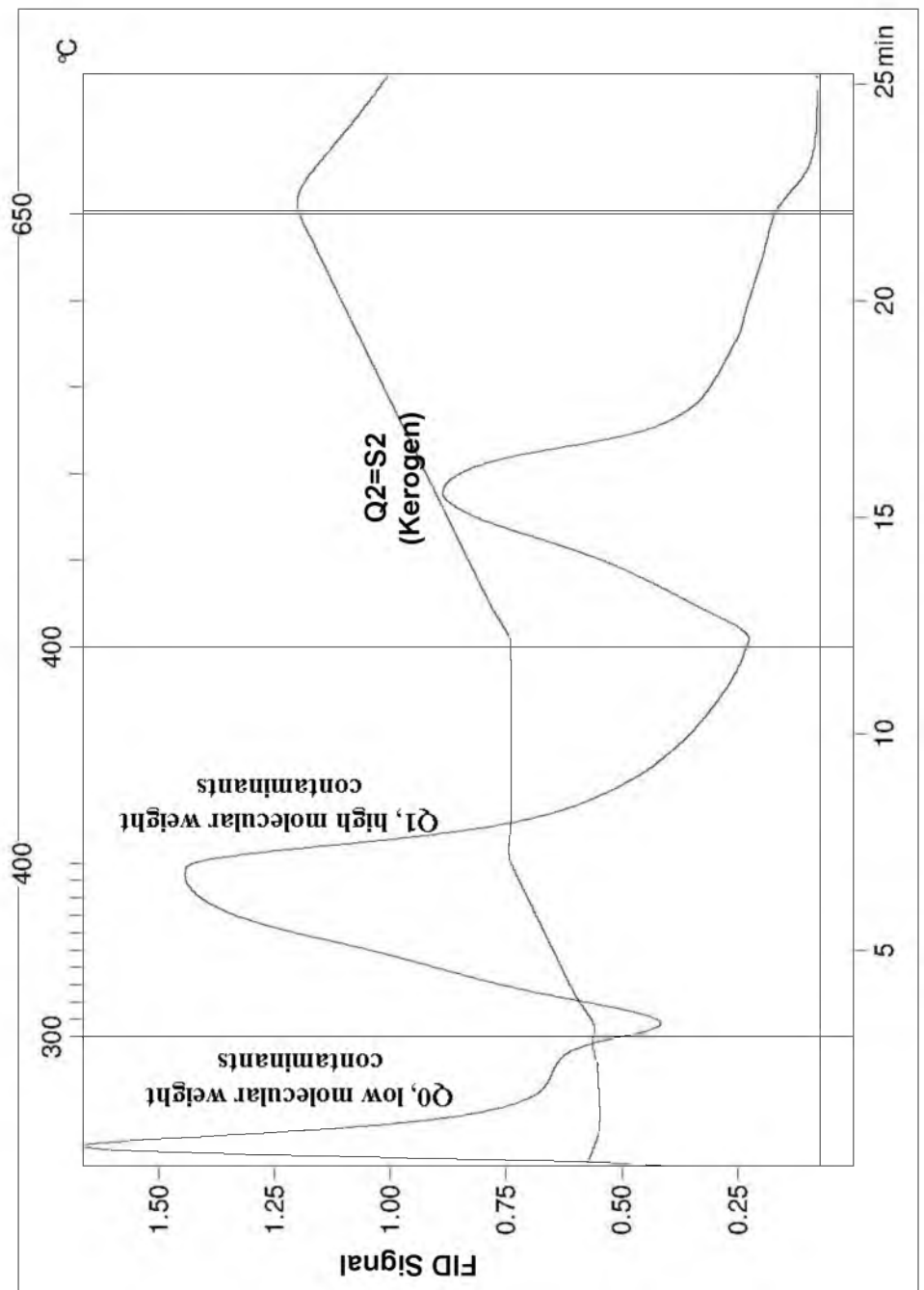
Q0(mg/g)=0.55	TpQ3(°C)=647
Q1(mg/g)=1.44	R0(%)=20
Q2(mg/g)=0.76	R1(%)=52.4
Q3(mg/g)=0	R2(%)=27.6
Sample=2014J 24X	R3(%)=0
Method=Multi-Heating Rates	

Q0(mg/g)=0.55
Q1(mg/g)=1.44
Q2(mg/g)=0.76
Q3(mg/g)=0
Sample=2014J 24X
Method=Multi-Heating Rates



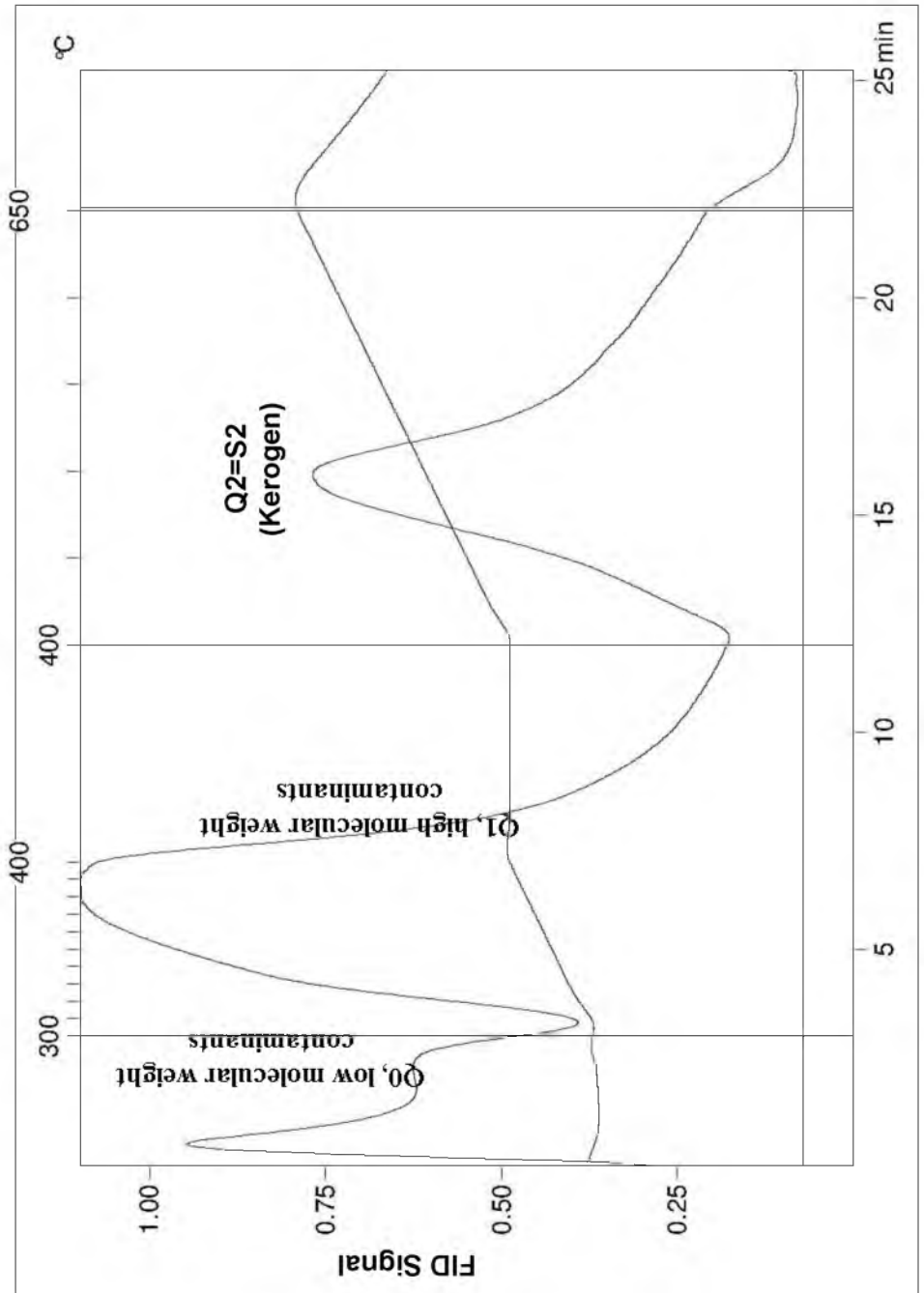
**APPENDIX 3a.23** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3559m

Q0(mg/g)=0.42	TpQ3(°C)=647
Q1(mg/g)=1.05	R0(%)=20.2
Q2(mg/g)=0.61	R1(%)=50.5
Q3(mg/g)=0	R2(%)=29.3
Sample=2014J 25X	R3(%)=0
Method=Multi-Heating Rates	



APPENDIX 3a.24 Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3576m

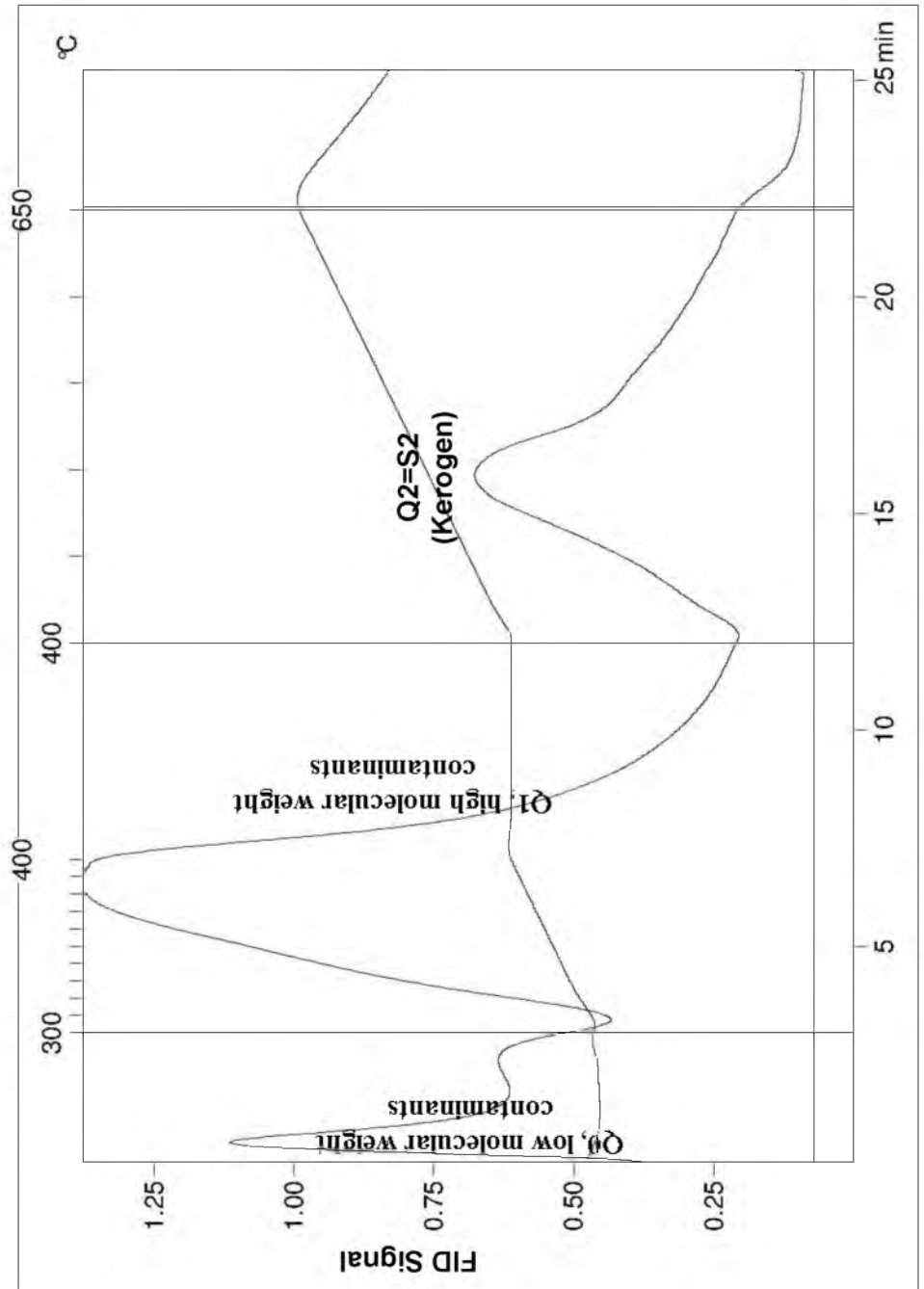
Q0(mg/g)=0.42	TpQ3(°C)=647
Q1(mg/g)=1.12	R0(%)=18
Q2(mg/g)=0.79	R1(%)=48.1
Q3(mg/g)=0	R2(%)=33.9
Sample=2014J 27X	R3(%)=0
Method=Multi-Heating Rates	



**APPENDIX 3a.25 Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3630m**

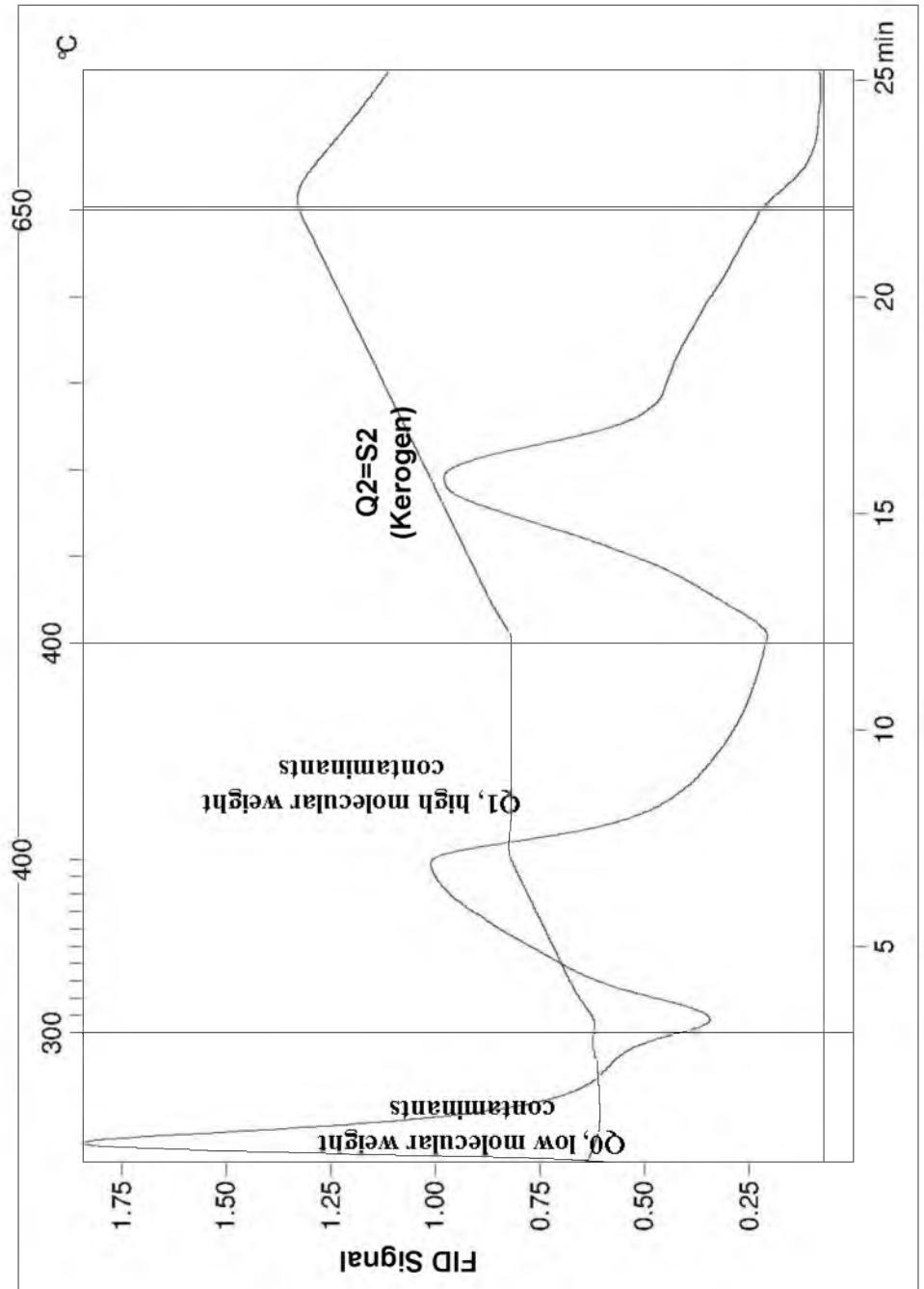


Q0(mg/g)=0.39	TpQ3(°C)=648
Q1(mg/g)=1.2	R0(%)=17.3
Q2(mg/g)=0.67	R1(%)=53.1
Q3(mg/g)=0	R2(%)=29.6
Sample=2014J 28AX	R3(%)=0
Method=Multi-Heating Rates	



APPENDIX 3a.26 Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3657m

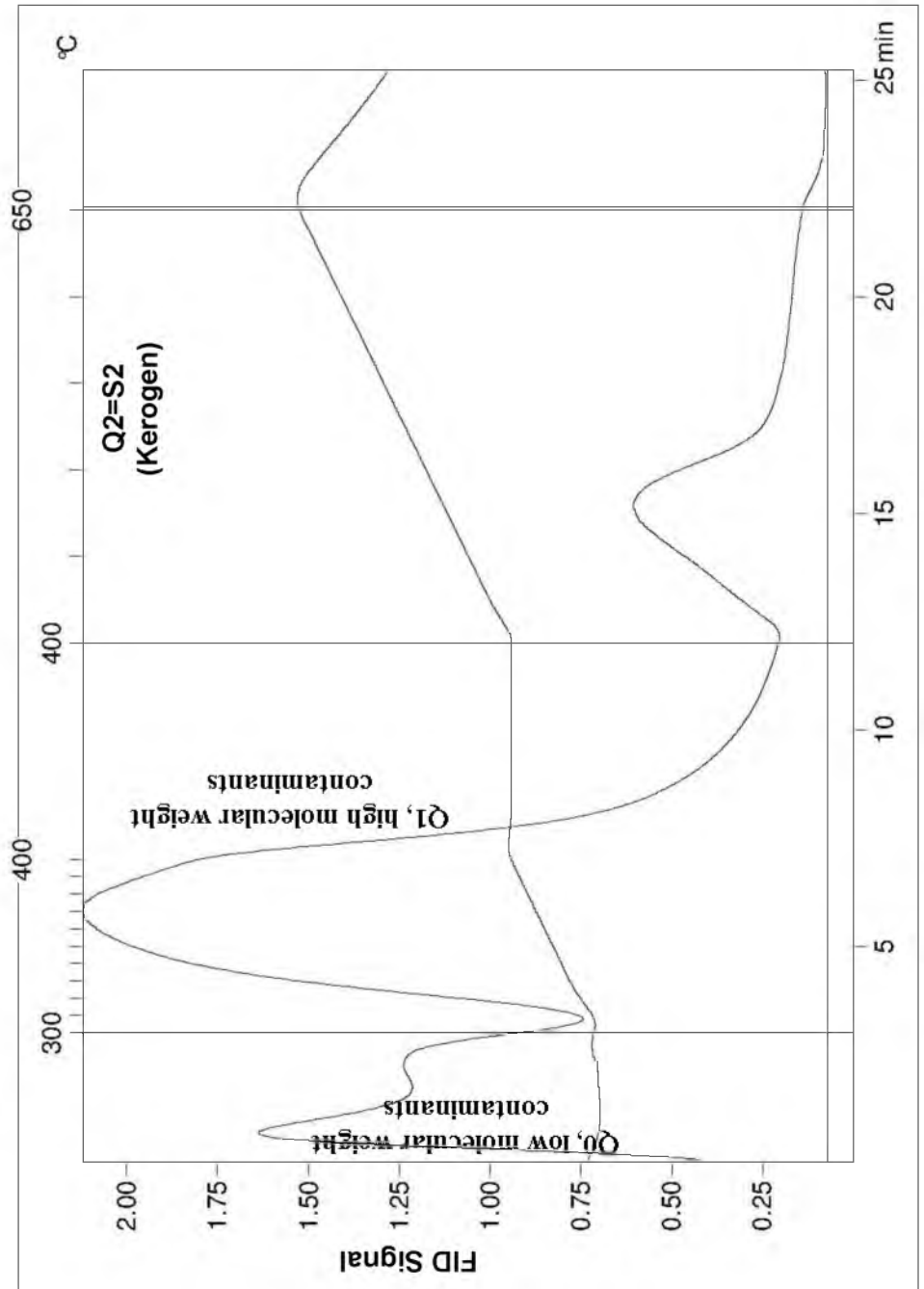
Q0(mg/g)=0.4	TpQ3(°C)=647
Q1(mg/g)=0.69	R0(%)=22.6
Q2(mg/g)=0.68	R1(%)=39
Q3(mg/g)=0	R2(%)=38.4
Sample=2014J 29AX	R3(%)=0
Method=Multi-Heating Rates	



**APPENDIX 3a.27** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3675m

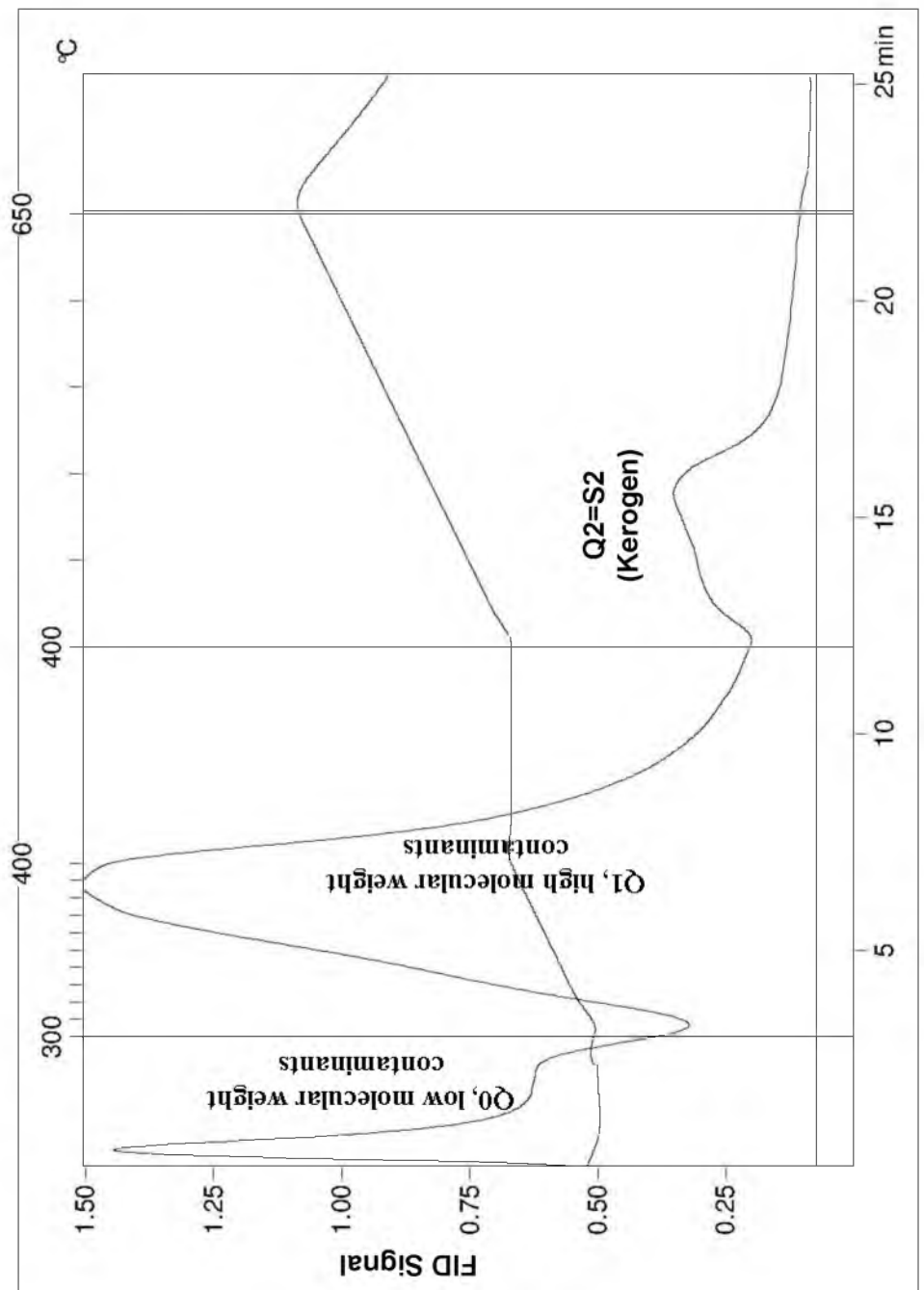
Q0(mg/g)=0.59	TpQ3(°C)=647
Q1(mg/g)=1.5	R0(%)=23.8
Q2(mg/g)=0.39	R1(%)=60.5
Q3(mg/g)=0	R2(%)=15.7
Sample=2014J 30X	R3(%)=0
Method=Multi-Heating Rates	

Q0(mg/g)=0.59
Q1(mg/g)=1.5
Q2(mg/g)=0.39
Q3(mg/g)=0
Sample=2014J 30X
Method=Multi-Heating Rates



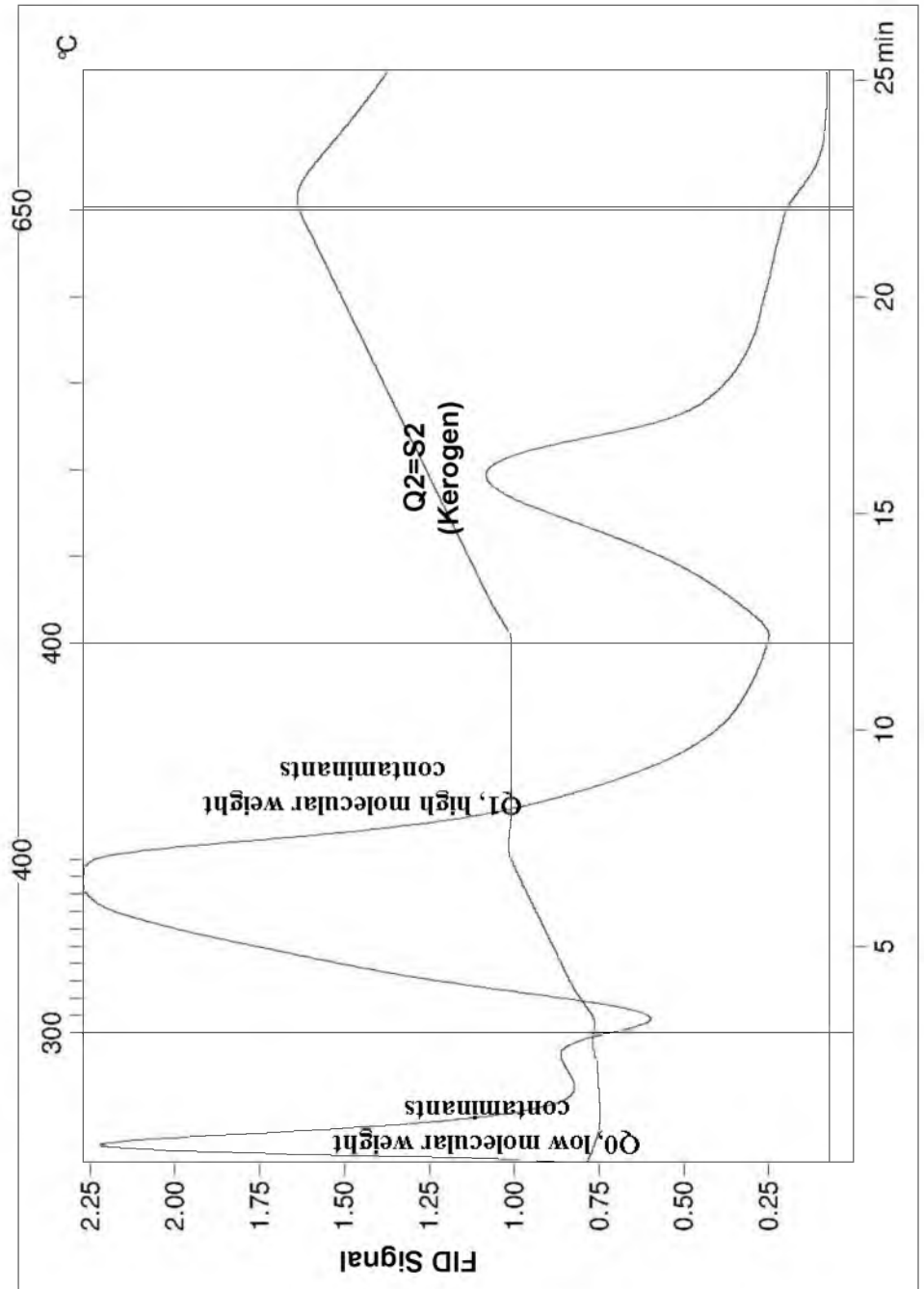
**APPENDIX 3a.28** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3720m

Q0(mg/g)=0.35	TpQ3(°C)=647
Q1(mg/g)=1.01	R0(%)=21.9
Q2(mg/g)=0.24	R1(%)=63.1
Q3(mg/g)=0	R2(%)=15
Sample=2014J 31AX	R3(%)=0
Method=Multi-Heating Rates	



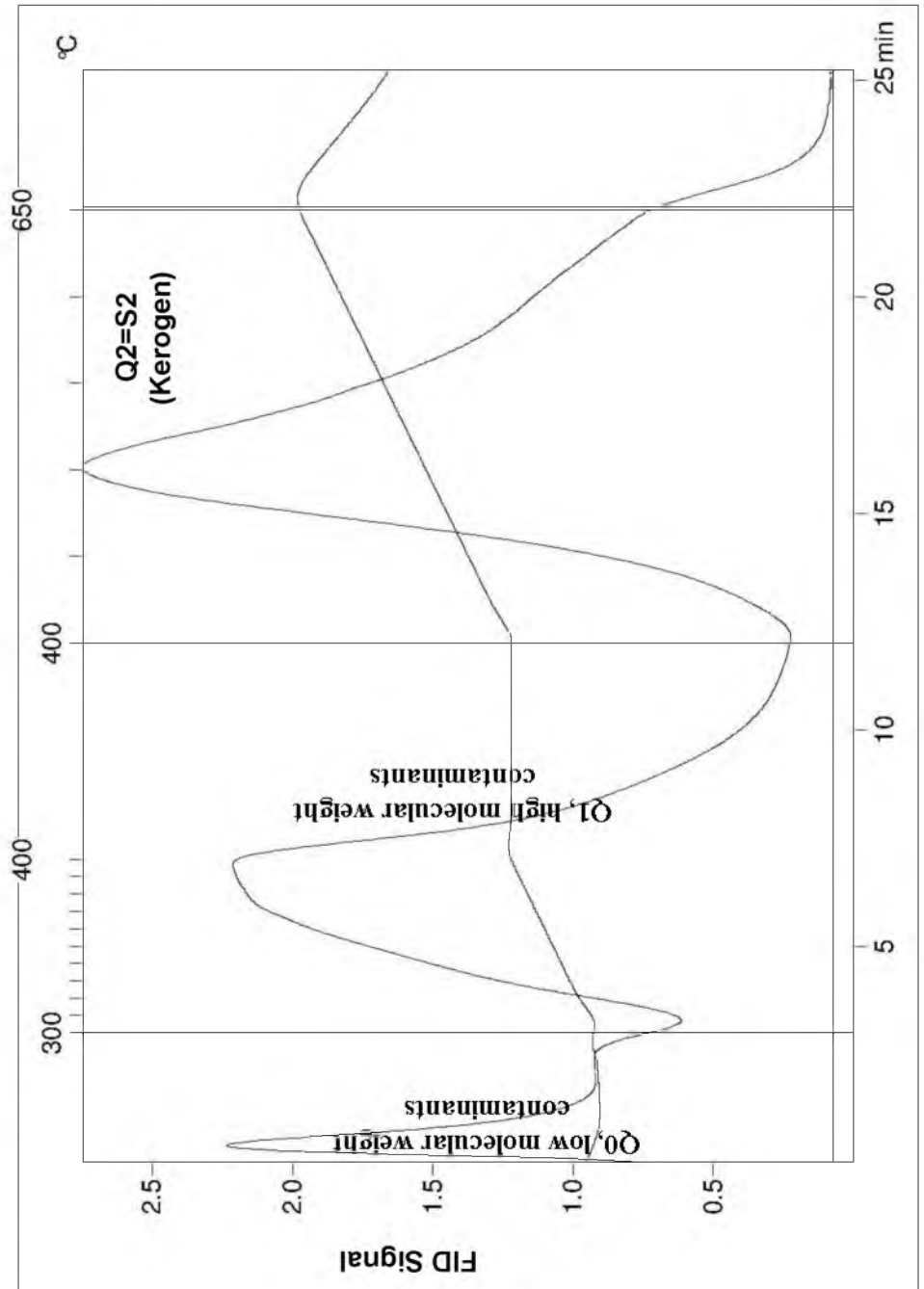
**APPENDIX 3a.29** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3855m

Q0(mg/g)=0.56	TpQ3(°C)=648
Q1(mg/g)=1.66	R0(%)=18.9
Q2(mg/g)=0.74	R1(%)=56.1
Q3(mg/g)=0	R2(%)=25
Sample=2014J 32AX	R3(%)=0
Method=Multi-Heating Rates	



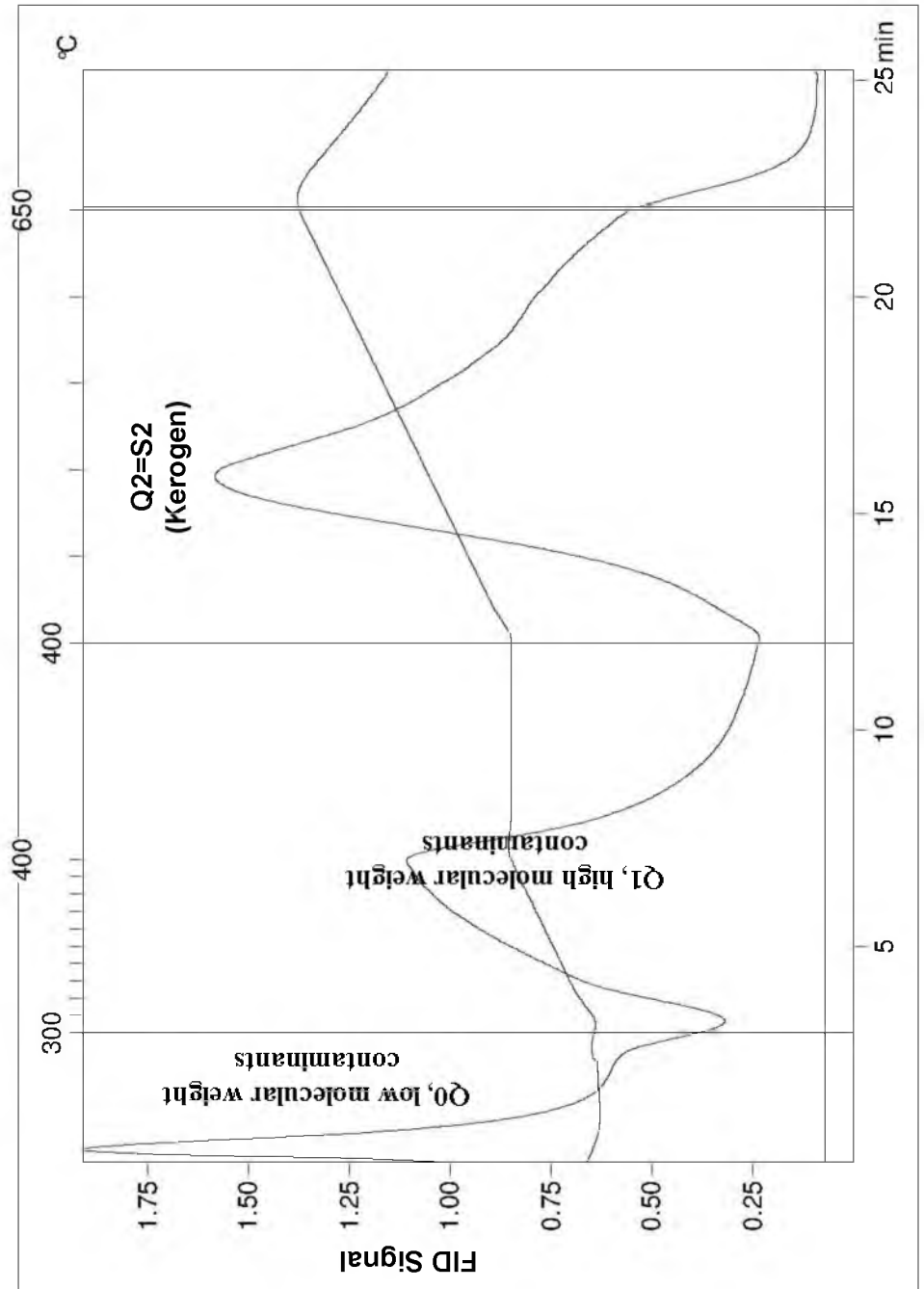
**APPENDIX 3a.30 Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3927m**

Q0(mg/g)=0.77	TpQ3(°C)=647
Q1(mg/g)=2.15	R0(%)=12.9
Q2(mg/g)=3.03	R1(%)=36.1
Q3(mg/g)=0.01	R2(%)=50.8
Sample=2014J 33AX	R3(%)=0.2
Method=Multi-Heating Rates	



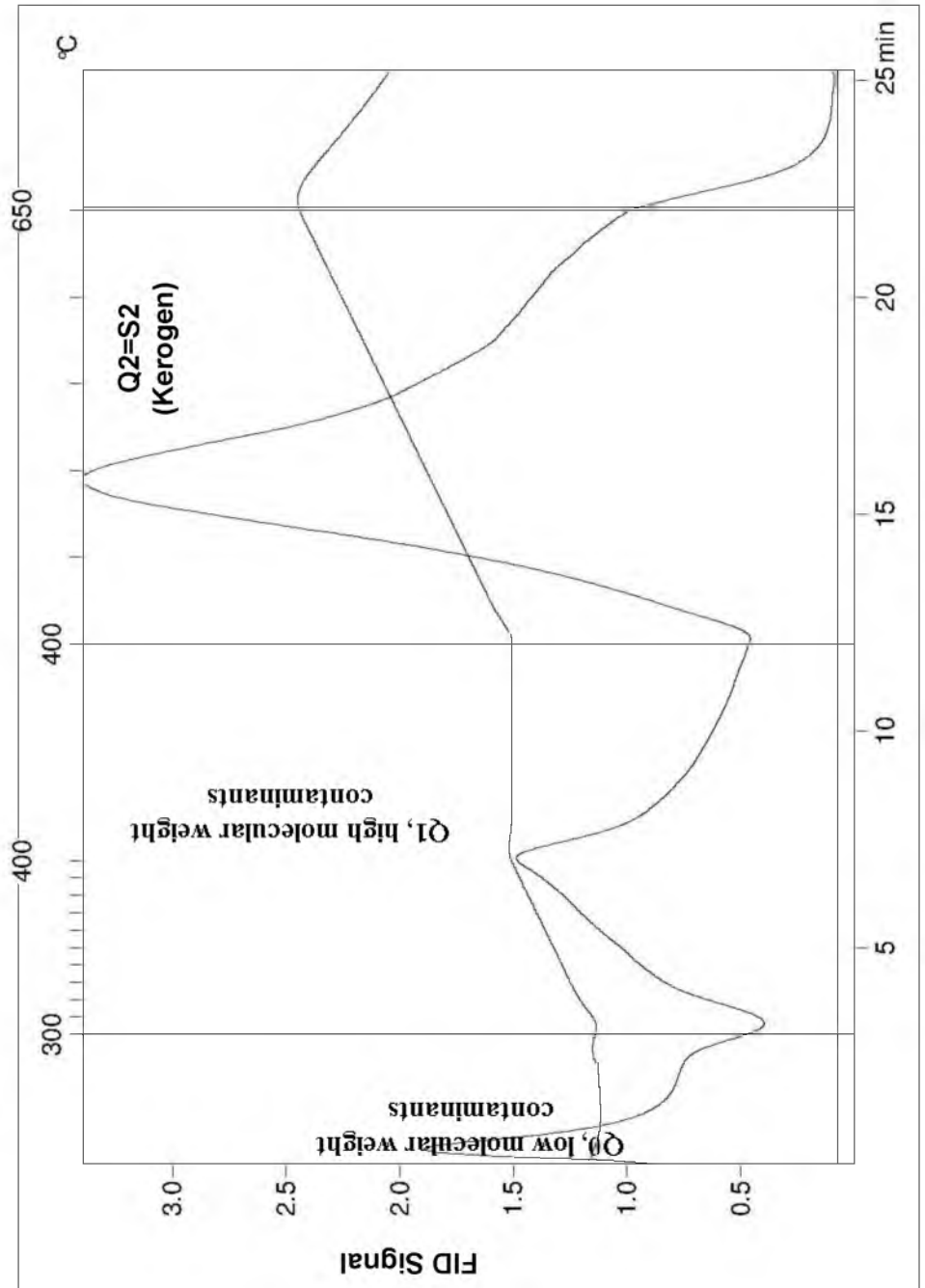
**APPENDIX 3a.31** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3945m

Q0(mg/g)=1.25	TpQ3(°C)=647
Q1(mg/g)=2.48	R0(%)=15.6
Q2(mg/g)=4.26	R1(%)=31
Q3(mg/g)=0.02	R2(%)=53.2
Sample=2014J 34AX	R3(%)=0.2
Method=Multi-Heating Rates	



**APPENDIX 3a.32** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3963m

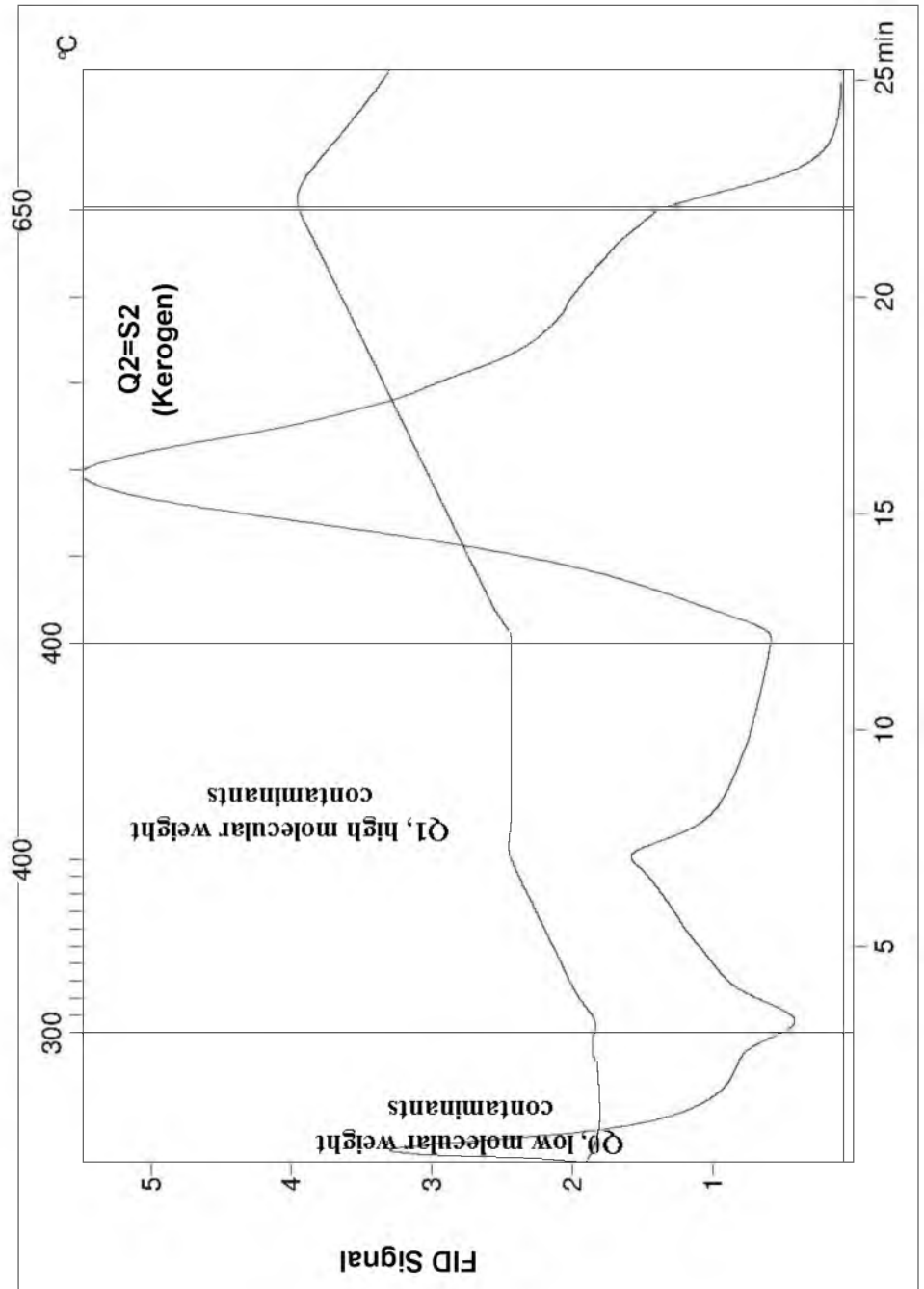
Q0(mg/g)=1.12	TpQ3(°C)=648
Q1(mg/g)=2.89	R0(%)=10.1
Q2(mg/g)=7.09	R1(%)=26
Q3(mg/g)=0.02	R2(%)=63.8
Sample=2014J 35AX	R3(%)=0.2
Method=Multi-Heating Rates	



**APPENDIX 3a.33** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 3990m

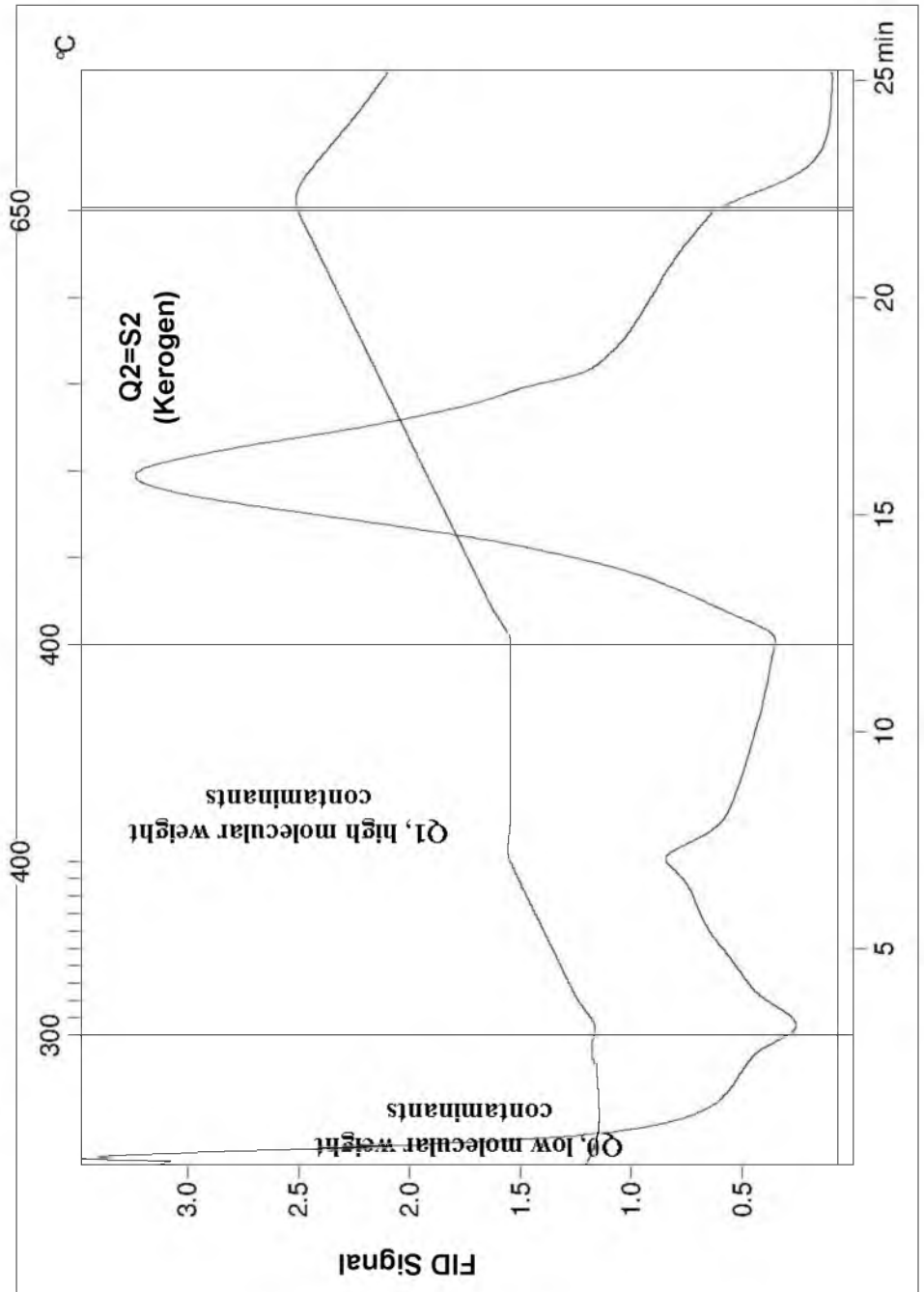


Q0(mg/g)=2.52	TpQ3(°C)=648
Q1(mg/g)=5.01	R0(%)=10.2
Q2(mg/g)=17.01	R1(%)=20.4
Q3(mg/g)=0.05	R2(%)=69.2
Sample=2014J 36AX	R3(%)=0.2
Method=Multi-Heating Rates	



**APPENDIX 3a.34** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 4008m

Q0(mg/g)=3.69	TpQ3(°C)=647
Q1(mg/g)=5.27	R0(%)=13.9
Q2(mg/g)=17.49	R1(%)=19.9
Q3(mg/g)=0.05	R2(%)=66
Sample=2014J 37AX	R3(%)=0.2
Method=Multi-Heating Rates	



**APPENDIX 3a.35** Multi-heating rates, Rock-Eval pyrolysis pyrogram, 6608/10-16 well, sample 4025m

## Appendix 3b Pyrolysis-GC

