

## 13. CARBON AND CARBONATE ANALYSES, LEG 9

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The purpose of these analyses is to determine the amount of acid-soluble and insoluble carbon in the sediment samples and to report the results in terms of "calcium carbonate" and "organic" carbon. These data are listed in Table 1, and discussed in Site Report Chapters. Step by step procedures are in the *Initial Reports of the Deep Sea Drilling Project, Volume IV*, but brief methodology follows with a detailed discussion of calibration procedures and precision.

Each sample was ground to a homogeneous fine powder, dried 24 hours at 105 to 110°C, divided into two parts, and weighed. The first part was analyzed for its total carbon content and the second part was acidified with hydrochloric acid and then analyzed for residual carbon, which is referred to as "organic" carbon. The carbon contents are reported in terms of per cent by weight, and the theoretical percentages of calcium carbonate in the sediment sample are calculated as follows: (% total C - % C after acidification) × 8.33 = % calcium carbonate ( $\text{CaCO}_3$ ). However, carbonate sediments may not be composed entirely of calcium carbonate, but may include magnesium carbonate, iron carbonate, or some other carbonate, which may result in theoretical calcium-carbonate percentages greater or less than the true compositions.

The carbon determinations were made using a LECO (Laboratory Equipment Corporation) carbon analyzer which is described in detail in the LECO manual:

The LECO 70 Second Carbon Analyzer utilizes the difference in thermal conductivity between oxygen and carbon dioxide. In the method, a sample of known weight is placed in a ceramic crucible to which is added one or more combustion accelerators such as... [copper and iron metal chip]. The crucible containing the sample is then placed in a LECO High Frequency Induction Furnace within a combustion tube through which oxygen is passed.

The carbon in the sample is converted to  $\text{CO}_2$  at temperatures in excess of 1600°C. Metal oxides either remain in the crucible or are filtered out in a dust trap while sulfur gases are absorbed in

a trap containing manganese dioxide. Any carbon monoxide is converted to  $\text{CO}_2$  in a heated catalyst tube [containing a mixture of rare earth and copper oxides]. Moisture is removed in an anhydronne [trap].

The carbon dioxide formed and the carrier oxygen are collected in a cylinder. The thermal conductivity of the gas mixture contained in the cylinder is measured by a thermistor-type thermal conductivity cell. The output of the thermal conductivity cell is read on a special DC digital voltmeter. With pure oxygen in the cylinder, the thermal conductivity cell is balanced to yield 0.000 output as indicated on the digital voltmeter. With the instrument thus balanced, the output of the thermal conductivity cell is indicated on the digital voltmeter and is proportional to the amount of  $\text{CO}_2$  in the cylinder.

The cylinder is housed in a temperature controlled oven where the temperature is set above ambient to eliminate temperature variations, which would cause an unbalance of the thermal conductivity cell.<sup>1</sup>

In the conductivity cell two thermistors are placed in small cavities in a metal block. When oxygen in one cavity is replaced by carbon dioxide, which has a lower thermal conductivity than oxygen, that thermistor becomes hotter and lower in electrical resistance. This electrical resistance change is calibrated to read per cent carbon dioxide in oxygen. For detailed electronics of Model 521, see the LECO manual.

The 70 second analyzer was empirically calibrated at the DSDP shore-based laboratory with homogeneous sediment standards whose carbonate content was determined by both a DSDP chemist<sup>2</sup> (by gravimetrically measuring the  $\text{CO}_2$  evolved from the sample after treatment with perchloric acid), and by commercial

<sup>1</sup>Laboratory Equipment Corporation, St. Joseph, Michigan. *Instruction Manual for the LECO 70 Second Carbon Analyzer*, Form 146C, pp. 1-2.

<sup>2</sup>Richard DuBois

laboratories. This calibration also agreed with the National Bureau of Standards Argillaceous Limestone Standard Reference Material 1b and Dolomite Limestone 88a

Reagent grade calcium-carbonate determinations, however, were slightly low (total carbon low by 0.1 to 0.3 per cent). These results are similar to those of Franklin (1970) who reported values 0.1 to 0.3 per cent low when analyzing reagent grade calcium carbonate with a similar instrument. These low values appear to be related to the very fine grain size of the reagent grade calcium carbonate (van Andel, personal communication).

In order for us to measure carbon content in the sediment standards accurately and precisely with our particular industrial grade oxygen, it became apparent that the amount of copper and iron chip accelerators added to the sample must be carefully controlled. During calibration, the oxygen flow rate was set at 1.5 liters per minute and the LECO carbon analyzer was standardized with LECO Standard iron rings (one ring weighs about 1.0 gram) containing 0.070 and 0.875 per cent carbon to which 1.0 gram of copper chip accelerator (1 flatscoop) was added. Sediment standards were then burned with 1.0 gram of copper and varying weight (1.0 to 2.0 grams) of iron chip accelerator, and a direct linear variation in the apparent percentage of  $\text{CaCO}_3$  was observed. A similar variation was obtained by changing the amount of copper accelerator added to the sample. Variations were also discernible by using a constant amount accelerator with the sample and varying the amount of accelerator added to the standard LECO rings.

The above variations are observed only when using industrial grade oxygen, but not when using ultra high purity oxygen, therefore, it appears that the variation is related to gaseous impurities. As the amount of iron chip is increased it reacts with the oxygen to form iron oxides, thus increasing the relative percentages of the gaseous impurities and introducing a blank which must be corrected for.

The blank was determined by using constant amounts of iron (1.7 grams) and copper (1.0 gram) and different sample weights (0.1 to 0.5 grams). These were then processed, and the results varied inversely to the weight of the sample. A constant blank (0.024) was subtracted from the digital readout which then allowed the correct carbon content to be determined regardless of the sample weight. These results agreed very well with the sediment standards and the LECO acid-base system, which is discussed later.

The precision of these data varies because samples within a range of 1.2 to 12 per cent carbon were 0.1

gram samples, while samples within a range of 0 to 1.2 per cent carbon range were 0.5 gram samples.

The precision of the 70 second analyzer data is as follows:

Total carbon

(1.2 to 12 per cent) =  $\pm 0.2\%$  (absolute variation)

(0 to 1.2 per cent) =  $\pm 0.04\%$  (absolute variation)

Organic carbon =  $\pm 0.04\%$  (absolute variation)

Calcium carbonate

(10 to 100 per cent) =  $\pm 2.0\%$  (absolute variation)

(0 to 10 per cent) =  $\pm 0.6\%$  (absolute variation)

With a single operator and over a short period of time the standard deviation for calcium carbonate determinations between 10 and 100 per cent is  $\pm 0.2$  per cent (absolute variation). However, over a long period of time (2 months) and several operators the standard deviation is about  $\pm 0.6$  per cent (absolute variation). The standard deviation for calcium carbonate data between 0 and 10 per cent is about  $\pm 0.15$  per cent (absolute variation).

During the processing of Leg 9 samples, the LECO 70 second carbon analyzer became inoperative. At this time, the carbon analysis was conducted using the same furnace but with a different carbon dioxide detection system: A LECO acid-base Semi Automatic Carbon Determinator. With this system the sample is also burned at approximately  $1600^{\circ}\text{C}$ , but the oxygen flow rate was 0.75 liters per minute. The liberated gas of carbon dioxide and oxygen is volumetrically measured in a solution of dilute sulfuric acid and methyl orange. This gas is then passed through a potassium hydroxide solution which preferentially absorbs carbon dioxide. The volume of the gas is measured a second time. The volume of the carbon dioxide gas is the difference of the two volumetric measurements. The temperature and pressure measurements are taken for the vapor pressure correction of the dilute sulfuric acid solutions, and the volume is then corrected to STP. A similar method is described by Maxwell (1968, p. 227).

The acid-base method obtains correct answers for the National Bureau of Standards rock references and with our own standards. It agrees very well with the 70 second analyzer on the sediment samples and standards. It even obtains good results with reagent grade calcium carbonate, where the 70 second analyzer is slightly lacking. This may be related to the slower oxygen flow rate, which appears to allow a slightly hotter burn and lessens any tendency to blow the sample out of the crucible before it's completely burned.

About 70 samples were processed by the acid-base method and they are indicated in Table 1 by an asterisk adjacent to the carbon percentages.

**TABLE 1**  
**Carbon and Carbonate Analyses, Leg 9**

| Hole | Core | Section | Top Interval in<br>Section (cm) | Depth in<br>Hole (m) | Total Carbon<br>Per Cent | Organic Carbon<br>Per Cent | CaCO <sub>3</sub><br>Per Cent |
|------|------|---------|---------------------------------|----------------------|--------------------------|----------------------------|-------------------------------|
| 76   | 1    | 1       | 20.0                            | 0.2                  | 5.3                      | *0.1                       | 43                            |
| 76   | 1    | 2       | 70.0                            | 2.2                  | 0.3                      | 0.1                        | 2                             |
| 76   | 1    | 3       | 49.0                            | 3.5                  | 0.6                      | 0.1                        | 4                             |
| 76   | 1    | 4       | 20.0                            | 4.7                  | 3.6                      | 0.2                        | 29                            |
| 76   | 1    | 5       | 31.0                            | 6.3                  | 6.6                      | 0.1                        | 55                            |
| 76   | 1    | 6       | 30.0                            | 7.8                  | 2.0                      | 0.1                        | 16                            |
| 76A  | 1    | 2       | 20.0                            | 10.8                 | 11.0                     | 0.1                        | 91                            |
| 76A  | 1    | 6       | 90.0                            | 17.5                 | 11.3                     | 0.1                        | 94                            |
| 76A  | 2    | 1       | 101.0                           | 19.2                 | 7.3                      | 0.1                        | 60                            |
| 76A  | 2    | 3       | 12.0                            | 21.3                 | 9.8                      | 0.1                        | 81                            |
| 76A  | 2    | 3       | 86.0                            | 22.1                 | 10.9                     | 0.1                        | 90                            |
| 76A  | 2    | 4       | 110.0                           | 23.8                 | 9.1                      | 0.1                        | 75                            |
| 76A  | 2    | 5       | 68.0                            | 24.9                 | 11.2                     | 0.1                        | 93                            |
| 76A  | 2    | 6       | 80.0                            | 26.5                 | 10.6                     | 0.1                        | 87                            |
| 76A  | 2    | 6       | 98.0                            | 26.7                 | 4.2                      | 0.1                        | 34                            |
| 77   | 1    | 1       | 42.0                            | 0.4                  | 9.5                      | 0.1                        | 78                            |
| 77A  | 1    | 1       | 60.0                            | 0.6                  | 9.1                      | 0.1                        | 74                            |
| 77A  | 1    | 2       | 30.0                            | 1.8                  | 9.4                      | 0.1                        | 77                            |
| 77A  | 1    | 3       | 16.0                            | 3.2                  | 8.5                      | 0.1                        | 70                            |
| 77A  | 1    | 4       | 70.0                            | 5.2                  | 9.8                      | 0.3                        | 80                            |
| 77A  | 1    | 5       | 71.0                            | 6.7                  | 9.9                      | 0.3                        | 80                            |
| 77A  | 1    | 6       | 82.0                            | 8.3                  | 9.8                      | 0.2                        | 81                            |
| 77B  | 1    | 1       | 20.0                            | 9.3                  | 10.7                     | 0.1                        | 88                            |
| 77B  | 1    | 2       | 16.0                            | 10.8                 | 10.0                     | 0.2                        | 82                            |
| 77B  | 1    | 3       | 31.0                            | 12.4                 | 10.0                     | 0.2                        | 82                            |
| 77B  | 1    | 4       | 17.0                            | 13.8                 | 10.7                     | 0.1                        | 88                            |
| 77B  | 1    | 5       | 102.0                           | 16.1                 | 10.2                     | 0.2                        | 83                            |
| 77B  | 1    | 6       | 21.0                            | 16.8                 | 10.6                     | 0.1                        | 88                            |
| 77B  | 2    | 1       | 36.0                            | 18.6                 | 9.5                      | 0.2                        | 78                            |
| 77B  | 2    | 2       | 55.0                            | 20.3                 | 9.3                      | 0.1                        | 77                            |
| 77B  | 2    | 3       | 20.0                            | 21.4                 | 10.1                     | 0.2                        | 83                            |
| 77B  | 2    | 4       | 40.0                            | 23.1                 | 10.0                     | 0.1                        | 82                            |
| 77B  | 2    | 5       | 80.0                            | 25.0                 | 10.1                     | 0.1                        | 83                            |
| 77B  | 2    | 6       | 35.0                            | 26.1                 | 9.6                      | 0.1                        | 79                            |
| 77B  | 3    | 1       | 35.0                            | 27.6                 | 9.6                      | 0.1                        | 79                            |
| 77B  | 3    | 2       | 23.0                            | 29.0                 | 9.9                      | 0.1                        | 82                            |

\*These carbon determinations were analyzed with the LECO acid-base Semi Automatic Carbon Determinator Aictom.

TABLE 1 – *Continued*

| Hole | Core | Section | Top Interval in Section (cm) | Depth in Hole (m) | Total Carbon Per Cent | Organic Carbon Per Cent | CaCO <sub>3</sub> Per Cent |
|------|------|---------|------------------------------|-------------------|-----------------------|-------------------------|----------------------------|
| 77B  | 3    | 3       | 20.0                         | 30.5              | 10.2                  | 0.3                     | 83                         |
| 77B  | 3    | 4       | 41.0                         | 32.2              | 10.1                  | 0.3                     | 81                         |
| 77B  | 3    | 5       | 30.0                         | 33.6              | 9.6                   | 0.0                     | 80                         |
| 77B  | 4    | 1       | 103.0                        | 37.6              | 8.9                   | 0.3                     | 72                         |
| 77B  | 4    | 2       | 24.0                         | 38.3              | 9.6                   | 0.3                     | 78                         |
| 77B  | 4    | 3       | 20.0                         | 39.8              | 8.5                   | 0.3                     | 69                         |
| 77B  | 4    | 4       | 16.0                         | 41.3              | 7.7                   | 0.2                     | 62                         |
| 77B  | 4    | 5       | 15.0                         | 42.8              | 7.5                   | 0.3                     | 60                         |
| 77B  | 4    | 5       | 92.0                         | 43.5              | *8.5                  | *0.1                    | 70                         |
| 77B  | 4    | 6       | 15.0                         | 44.3              | 9.1                   | 0.2                     | 75                         |
| 77B  | 5    | 1       | 16.0                         | 45.8              | 8.7                   | 0.3                     | 70                         |
| 77B  | 5    | 2       | 15.0                         | 47.3              | 8.4                   | 0.4                     | 67                         |
| 77B  | 5    | 3       | 15.0                         | 48.8              | 8.4                   | 0.3                     | 68                         |
| 77B  | 5    | 4       | 16.0                         | 50.3              | 8.3                   | 0.3                     | 66                         |
| 77B  | 5    | 5       | 16.0                         | 51.8              | 7.6                   | 0.3                     | 61                         |
| 77B  | 5    | 6       | 15.0                         | 53.3              | 8.3                   | 0.2                     | 68                         |
| 77B  | 6    | 1       | 16.0                         | 55.0              | 9.2                   | 0.2                     | 75                         |
| 77B  | 6    | 2       | 30.0                         | 56.6              | 9.9                   | 0.3                     | 80                         |
| 77B  | 6    | 3       | 16.0                         | 58.0              | 9.1                   | 0.3                     | 73                         |
| 77B  | 6    | 4       | 16.0                         | 59.5              | 7.9                   | 0.3                     | 64                         |
| 77B  | 6    | 5       | 16.0                         | 61.0              | 8.7                   | 0.4                     | 70                         |
| 77B  | 6    | 6       | 16.0                         | 62.5              | 8.5                   | 0.2                     | 69                         |
| 77B  | 6    | 6       | 125.0                        | 63.5              | *10.8                 | *0.1                    | 89                         |
| 77B  | 7    | 1       | 51.0                         | 64.5              | 10.5                  | 0.2                     | 86                         |
| 77B  | 7    | 2       | 16.0                         | 65.7              | 10.6                  | 0.2                     | 86                         |
| 77B  | 7    | 3       | 16.0                         | 67.2              | 9.9                   | 0.2                     | 81                         |
| 77B  | 7    | 4       | 16.0                         | 68.7              | 10.8                  | 0.3                     | 88                         |
| 77B  | 7    | 5       | 16.0                         | 70.2              | 9.2                   | 0.2                     | 75                         |
| 77B  | 7    | 6       | 97.0                         | 72.5              | 9.5                   | 0.3                     | 76                         |
| 77B  | 8    | 3       | 16.0                         | 76.3              | 9.7                   | 0.3                     | 78                         |
| 77B  | 8    | 5       | 16.0                         | 79.3              | 10.1                  | 0.2                     | 82                         |
| 77B  | 8    | 6       | 16.0                         | 80.8              | 9.9                   | 0.2                     | 81                         |
| 77B  | 8    | 6       | 125.0                        | 81.8              | *9.8                  | *0.1                    | 82                         |
| 77B  | 9    | 2       | 16.0                         | 83.9              | 10.9                  | 0.3                     | 88                         |
| 77B  | 9    | 4       | 16.0                         | 86.9              | 10.8                  | 0.5                     | 86                         |
| 77B  | 9    | 6       | 16.0                         | 89.9              | 10.8                  | 0.3                     | 87                         |
| 77B  | 10   | 2       | 16.0                         | 93.2              | 11.2                  | 0.2                     | 91                         |
| 77B  | 10   | 4       | 16.0                         | 96.2              | 10.9                  | 0.2                     | 90                         |
| 77B  | 10   | 6       | 24.0                         | 99.2              | 10.9                  | 0.2                     | 88                         |

TABLE 1 — *Continued*

| Hole | Core | Section | Top Interval in Section (cm) | Depth in Hole (m) | Total Carbon Per Cent | Organic Carbon Per Cent | CaCO <sub>3</sub> Per Cent |
|------|------|---------|------------------------------|-------------------|-----------------------|-------------------------|----------------------------|
| 77B  | 11   | 1       | 149.0                        | 102.1             | 10.2                  | 0.1                     | 84                         |
| 77B  | 12   | 1       | 15.0                         | 109.8             | 11.0                  | 0.2                     | 90                         |
| 77B  | 12   | 6       | 16.0                         | 117.3             | 10.7                  | 0.3                     | 86                         |
| 77B  | 13   | 2       | 16.0                         | 120.5             | 10.1                  | 0.2                     | 82                         |
| 77B  | 13   | 4       | 15.0                         | 123.5             | 10.3                  | 0.2                     | 85                         |
| 77B  | 13   | 6       | 16.0                         | 126.5             | 10.7                  | 0.3                     | 87                         |
| 77B  | 14   | 1       | 16.0                         | 128.2             | 10.8                  | 0.2                     | 88                         |
| 77B  | 14   | 2       | 100.0                        | 130.5             | *8.2                  | *0.1                    | 67                         |
| 77B  | 14   | 4       | 16.0                         | 132.7             | 10.1                  | 0.3                     | 82                         |
| 77B  | 14   | 4       | 106.0                        | 133.6             | *9.3                  | *0.1                    | 77                         |
| 77B  | 14   | 6       | 16.0                         | 135.7             | 9.2                   | 0.2                     | 75                         |
| 77B  | 14   | 6       | 139.0                        | 136.9             | *9.0                  | *0.1                    | 74                         |
| 77B  | 15   | 2       | 20.0                         | 148.8             | 10.6                  | 0.3                     | 86                         |
| 77B  | 15   | 4       | 16.0                         | 151.8             | 11.2                  | 0.3                     | 91                         |
| 77B  | 15   | 6       | 16.0                         | 154.8             | *11.3                 | *0.2                    | 93                         |
| 77B  | 15   | 6       | 109.0                        | 155.7             | 10.3                  | 0.1                     | 86                         |
| 77B  | 16   | 2       | 16.0                         | 147.9             | 10.8                  | 0.3                     | 87                         |
| 77B  | 16   | 4       | 16.0                         | 150.9             | 10.3                  | 0.3                     | 84                         |
| 77B  | 16   | 6       | 16.0                         | 153.9             | *10.1                 | *0.2                    | 82                         |
| 77B  | 17   | 1       | 16.0                         | 155.7             | 9.3                   | 0.2                     | 76                         |
| 77B  | 17   | 2       | 16.0                         | 157.2             | 8.6                   | 0.2                     | 70                         |
| 77B  | 17   | 2       | 144.0                        | 158.4             | *8.8                  | *0.1                    | 73                         |
| 77B  | 17   | 6       | 125.0                        | 164.3             | *7.9                  | *0.1                    | 65                         |
| 77B  | 17   | 4       | 16.0                         | 160.2             | 9.9                   | 0.1                     | 81                         |
| 77B  | 17   | 6       | 16.0                         | 163.2             | 9.6                   | 0.1                     | 79                         |
| 77B  | 18   | 2       | 16.0                         | 163.3             | 6.5                   | 0.2                     | 53                         |
| 77B  | 18   | 2       | 145.0                        | 164.6             | *9.4                  | *0.1                    | 78                         |
| 77B  | 18   | 4       | 16.0                         | 166.3             | 8.2                   | 0.2                     | 67                         |
| 77B  | 18   | 4       | 125.0                        | 167.4             | *7.3                  | *0.1                    | 59                         |
| 77B  | 18   | 6       | 16.0                         | 169.3             | 7.2                   | 0.1                     | 59                         |
| 77B  | 18   | 6       | 123.0                        | 170.3             | *9.6                  | *0.1                    | 79                         |
| 77B  | 19   | 1       | 35.0                         | 171.0             | 8.9                   | 0.2                     | 72                         |
| 77B  | 19   | 2       | 16.0                         | 172.3             | 9.2                   | 0.2                     | 75                         |
| 77B  | 19   | 3       | 16.0                         | 173.8             | 10.0                  | 0.2                     | 82                         |
| 77B  | 19   | 4       | 16.0                         | 175.3             | 9.9                   | 0.2                     | 80                         |
| 77B  | 19   | 5       | 16.0                         | 176.8             | 10.2                  | 0.2                     | 84                         |
| 77B  | 19   | 6       | 16.0                         | 178.3             | 10.3                  | 0.2                     | 84                         |
| 77B  | 20   | 2       | 16.0                         | 181.4             | 10.6                  | 0.1                     | 87                         |

TABLE 1 – *Continued*

| Hole | Core | Section | Top Interval in<br>Section (cm) | Depth in<br>Hole (m) | Total Carbon<br>Per Cent | Organic Carbon<br>Per Cent | CaCO <sub>3</sub><br>Per Cent |
|------|------|---------|---------------------------------|----------------------|--------------------------|----------------------------|-------------------------------|
| 77B  | 20   | 2       | 130.0                           | 182.5                | *11.0                    | *0.0                       | 91                            |
| 77B  | 20   | 5       | 16.0                            | 185.9                | 10.6                     | 0.2                        | 87                            |
| 77B  | 20   | 6       | 16.0                            | 187.4                | 10.4                     | 0.2                        | 85                            |
| 77B  | 21   | 1       | 16.0                            | 189.2                | 11.1                     | 0.2                        | 91                            |
| 77B  | 21   | 2       | 16.0                            | 190.7                | 11.4                     | 0.2                        | 94                            |
| 77B  | 21   | 2       | 125.0                           | 191.8                | *11.7                    | *0.1                       | 97                            |
| 77B  | 21   | 5       | 16.0                            | 195.2                | 11.6                     | 0.2                        | 95                            |
| 77B  | 21   | 5       | 77.0                            | 195.8                | *11.7                    | *0.7                       | 92                            |
| 77B  | 22   | 2       | 16.0                            | 199.8                | 10.3                     | 0.3                        | 84                            |
| 77B  | 22   | 2       | 124.0                           | 200.8                | *10.6                    | *0.0                       | 88                            |
| 77B  | 22   | 5       | 16.0                            | 204.3                | 10.5                     | 0.2                        | 86                            |
| 77B  | 22   | 6       | 16.0                            | 205.8                | 10.6                     | 0.3                        | 86                            |
| 77B  | 23   | 2       | 16.0                            | 208.9                | 10.9                     | 0.2                        | 89                            |
| 77B  | 23   | 2       | 125.0                           | 209.9                | *10.5                    | *0.5                       | 84                            |
| 77B  | 23   | 5       | 16.0                            | 213.4                | 11.4                     | 0.2                        | 93                            |
| 77B  | 23   | 6       | 16.0                            | 214.9                | 11.2                     | 0.2                        | 92                            |
| 77B  | 24   | 2       | 16.0                            | 218.0                | 11.6                     | 0.2                        | 94                            |
| 77B  | 24   | 2       | 124.0                           | 219.0                | *11.1                    | *0.1                       | 92                            |
| 77B  | 24   | 5       | 30.0                            | 222.6                | 10.9                     | 0.3                        | 89                            |
| 77B  | 24   | 6       | 16.0                            | 224.0                | 11.2                     | 0.3                        | 91                            |
| 77B  | 24   | 6       | 139.0                           | 225.2                | *10.8                    | *0.3                       | 87                            |
| 77B  | 25   | 2       | 16.0                            | 227.3                | 11.4                     | 0.3                        | 93                            |
| 77B  | 25   | 2       | 141.0                           | 228.5                | *11.2                    | *0.0                       | 93                            |
| 77B  | 25   | 4       | 15.0                            | 230.3                | *11.2                    | *0.0                       | 93                            |
| 77B  | 25   | 5       | 16.0                            | 231.8                | 10.2                     | 0.3                        | 82                            |
| 77B  | 25   | 6       | 16.0                            | 233.3                | 10.9                     | 0.2                        | 89                            |
| 77B  | 26   | 2       | 35.0                            | 236.5                | 11.3                     | 0.3                        | 92                            |
| 77B  | 26   | 2       | 139.0                           | 237.5                | *10.8                    | *0.1                       | 90                            |
| 77B  | 26   | 5       | 16.0                            | 240.8                | 11.1                     | 0.3                        | 90                            |
| 77B  | 26   | 6       | 16.0                            | 242.3                | 11.0                     | 0.2                        | 90                            |
| 77B  | 26   | 6       | 125.0                           | 243.4                | *11.2                    | *0.0                       | 93                            |
| 77B  | 27   | 1       | 22.0                            | 244.0                | 9.3                      | 0.4                        | 74                            |
| 77B  | 27   | 2       | 30.0                            | 245.6                | 8.6                      | 0.4                        | 68                            |
| 77B  | 27   | 5       | 16.0                            | 250.0                | 9.4                      | 0.3                        | 76                            |
| 77B  | 27   | 6       | 16.0                            | 251.5                | 9.7                      | 0.3                        | 78                            |
| 77B  | 28   | 2       | 46.0                            | 255.0                | 10.1                     | 0.2                        | 82                            |
| 77B  | 28   | 5       | 27.0                            | 259.3                | 9.8                      | 0.3                        | 80                            |
| 77B  | 28   | 6       | 16.0                            | 260.7                | 10.4                     | 0.4                        | 84                            |
| 77B  | 29   | 2       | 22.0                            | 263.8                | 11.1                     | 0.2                        | 91                            |

TABLE 1 – *Continued*

| Hole | Core | Section | Top Interval in Section (cm) | Depth in Hole (m) | Total Carbon Per Cent | Organic Carbon Per Cent | $\text{CaCO}_3$ Per Cent |
|------|------|---------|------------------------------|-------------------|-----------------------|-------------------------|--------------------------|
| 77B  | 29   | 5       | 16.0                         | 268.3             | 11.1                  | 0.2                     | 91                       |
| 77B  | 29   | 6       | 16.0                         | 269.8             | 11.1                  | 0.3                     | 90                       |
| 77B  | 30   | 2       | 16.0                         | 272.9             | 11.0                  | 0.3                     | 89                       |
| 77B  | 30   | 5       | 16.0                         | 277.4             | *10.9                 | 0.2                     | 90                       |
| 77B  | 30   | 6       | 15.0                         | 278.9             | 11.6                  | 0.1                     | 95                       |
| 77B  | 31   | 2       | 25.0                         | 282.0             | 11.5                  | 0.2                     | 94                       |
| 77B  | 31   | 5       | 16.0                         | 286.5             | 11.9                  | 0.1                     | 98                       |
| 77B  | 31   | 6       | 16.0                         | 288.0             | 11.5                  | 0.1                     | 94                       |
| 77B  | 32   | 2       | 16.0                         | 291.3             | 11.6                  | 0.2                     | 95                       |
| 77B  | 32   | 5       | 16.0                         | 295.8             | 11.5                  | 0.1                     | 95                       |
| 77B  | 32   | 6       | 16.0                         | 297.3             | 11.3                  | 0.1                     | 93                       |
| 77B  | 33   | 2       | 14.0                         | 300.2             | 11.3                  | 0.2                     | 93                       |
| 77B  | 33   | 5       | 14.0                         | 304.7             | 11.4                  | 0.2                     | 93                       |
| 77B  | 33   | 5       | 14.0                         | 304.7             | 11.4                  | 0.1                     | 94                       |
| 77B  | 33   | 6       | 16.0                         | 306.3             | 11.8                  | 0.1                     | 97                       |
| 77B  | 34   | 2       | 16.0                         | 309.5             | 11.5                  | 0.3                     | 94                       |
| 77B  | 34   | 5       | 16.0                         | 314.0             | 11.6                  | 0.2                     | 95                       |
| 77B  | 34   | 6       | 16.0                         | 315.5             | 11.7                  | 0.2                     | 96                       |
| 77B  | 36   | 2       | 16.0                         | 327.8             | 11.2                  | 0.2                     | 92                       |
| 77B  | 36   | 3       | 16.0                         | 329.3             | 11.5                  | 0.1                     | 95                       |
| 77B  | 37   | 2       | 16.0                         | 336.9             | 11.3                  | 0.1                     | 93                       |
| 77B  | 37   | 5       | 16.0                         | 341.4             | 11.0                  | 0.1                     | 90                       |
| 77B  | 37   | 6       | 16.0                         | 342.9             | 11.2                  | 0.1                     | 93                       |
| 77B  | 38   | 2       | 82.0                         | 346.6             | 11.3                  | 0.2                     | 93                       |
| 77B  | 39   | 5       | 16.0                         | 359.8             | 11.4                  | 0.2                     | 93                       |
| 77B  | 39   | 6       | 16.0                         | 361.3             | 12.2                  | 0.1                     | 100                      |
| 77B  | 40   | 2       | 16.0                         | 364.3             | 11.8                  | 0.5                     | 94                       |
| 77B  | 40   | 3       | 20.0                         | 365.8             | 11.2                  | 0.5                     | 89                       |
| 77B  | 40   | 4       | 16.0                         | 367.3             | 11.7                  | 0.1                     | 97                       |
| 77B  | 41   | 2       | 16.0                         | 373.5             | 11.5                  | 0.1                     | 95                       |
| 77B  | 41   | 5       | 16.0                         | 378.0             | 11.7                  | 0.1                     | 97                       |
| 77B  | 41   | 6       | 16.0                         | 379.5             | 11.6                  | 0.1                     | 96                       |
| 77B  | 42   | 2       | 16.0                         | 382.7             | 11.5                  | 0.1                     | 95                       |
| 77B  | 42   | 5       | 20.0                         | 387.2             | 11.8                  | 0.1                     | 97                       |
| 77B  | 42   | 6       | 16.0                         | 388.7             | 11.7                  | 0.1                     | 97                       |
| 77B  | 43   | 2       | 16.0                         | 391.8             | 11.4                  | 0.1                     | 94                       |
| 77B  | 43   | 5       | 16.0                         | 396.3             | 11.4                  | 0.1                     | 94                       |
| 77B  | 43   | 6       | 16.0                         | 397.8             | 11.6                  | 0.1                     | 96                       |
| 77B  | 44   | 2       | 16.0                         | 400.9             | 11.6                  | 0.1                     | 96                       |

TABLE 1 – *Continued*

| Hole | Core | Section | Top Interval in<br>Section (cm) | Depth in<br>Hole (m) | Total Carbon<br>Per Cent | Organic Carbon<br>Per Cent | CaCO <sub>3</sub><br>Per Cent |
|------|------|---------|---------------------------------|----------------------|--------------------------|----------------------------|-------------------------------|
| 77B  | 44   | 5       | 15.0                            | 405.4                | 11.6                     | 0.1                        | 96                            |
| 77B  | 44   | 6       | 15.0                            | 406.9                | 11.8                     | 0.1                        | 97                            |
| 77B  | 45   | 2       | 16.0                            | 410.0                | 11.5                     | 0.1                        | 95                            |
| 77B  | 45   | 5       | 16.0                            | 414.5                | 11.7                     | 0.1                        | 97                            |
| 77B  | 45   | 6       | 16.0                            | 416.0                | 11.5                     | 0.1                        | 95                            |
| 77B  | 46   | 2       | 16.0                            | 419.3                | 11.3                     | 0.1                        | 94                            |
| 77B  | 46   | 5       | 16.0                            | 423.8                | 11.5                     | 0.1                        | 95                            |
| 77B  | 46   | 6       | 16.0                            | 425.3                | 11.6                     | 0.1                        | 96                            |
| 77B  | 47   | 2       | 16.0                            | 428.3                | 11.1                     | 0.1                        | 92                            |
| 77B  | 47   | 4       | 21.0                            | 431.3                | 8.7                      | 0.1                        | 72                            |
| 77B  | 48   | 2       | 19.0                            | 437.5                | 10.8                     | 0.1                        | 89                            |
| 77B  | 48   | 5       | 16.0                            | 442.0                | 10.2                     | 0.1                        | 84                            |
| 77B  | 48   | 6       | 22.0                            | 443.5                | 11.0                     | 0.1                        | 91                            |
| 77B  | 49   | 2       | 17.0                            | 446.7                | 11.0                     | 0.1                        | 90                            |
| 77B  | 49   | 5       | 45.0                            | 451.5                | 11.3                     | 0.2                        | 93                            |
| 77B  | 49   | 6       | 16.0                            | 452.7                | 11.5                     | 0.1                        | 94                            |
| 77B  | 50   | 2       | 11.0                            | 455.7                | 11.4                     | 0.2                        | 94                            |
| 77B  | 51   | 5       | 16.0                            | 469.4                | 11.5                     | 0.1                        | 95                            |
| 77B  | 51   | 6       | 16.0                            | 470.9                | 11.5                     | 0.1                        | 94                            |
| 77B  | 52   | 1       | 82.0                            | 471.6                | 5.2                      | 0.4                        | 41                            |
| 77B  | 52   | 2       | 16.0                            | 472.5                | 1.0                      | 0.6                        | 3                             |
| 77B  | 53   | 1       | 62.0                            | 476.9                | 5.9                      | 0.2                        | 48                            |
| 78   | 1    | 2       | 16.0                            | 1.7                  | 10.1                     | 0.2                        | 82                            |
| 78   | 1    | 4       | 16.0                            | 4.7                  | 10.6                     | 0.2                        | 87                            |
| 78   | 1    | 6       | 16.0                            | 7.7                  | 10.7                     | 0.0                        | 89                            |
| 78   | 2    | 2       | 16.0                            | 10.8                 | 10.5                     | 0.2                        | 86                            |
| 78   | 2    | 4       | 16.0                            | 13.8                 | 10.4                     | 0.2                        | 85                            |
| 78   | 2    | 6       | 16.0                            | 16.8                 | 10.1                     | 0.3                        | 82                            |
| 78   | 3    | 2       | 16.0                            | 19.9                 | 10.5                     | 0.4                        | 85                            |
| 78   | 3    | 4       | 24.0                            | 22.9                 | 10.2                     | 0.1                        | 84                            |
| 78   | 3    | 6       | 27.0                            | 26.0                 | 10.3                     | 0.3                        | 84                            |
| 78   | 4    | 2       | 16.0                            | 29.1                 | 8.1                      | 0.3                        | 65                            |
| 78   | 4    | 4       | 16.0                            | 32.1                 | 7.6                      | 0.4                        | 60                            |
| 78   | 4    | 6       | 16.0                            | 35.1                 | 9.1                      | 0.3                        | 74                            |
| 78   | 5    | 2       | 0.0                             | 38.1                 | 9.4                      | 0.2                        | 76                            |
| 78   | 5    | 4       | 22.0                            | 41.3                 | 9.6                      | 0.2                        | 78                            |
| 78   | 5    | 6       | 16.0                            | 44.3                 | 9.4                      | 0.1                        | 77                            |
| 78   | 6    | 2       | 16.0                            | 47.4                 | 9.7                      | 0.2                        | 79                            |

TABLE 1 – *Continued*

| Hole | Core | Section | Top Interval in<br>Section (cm) | Depth in<br>Hole (m) | Total Carbon<br>Per Cent | Organic Carbon<br>Per Cent | CaCO <sub>3</sub><br>Per Cent |
|------|------|---------|---------------------------------|----------------------|--------------------------|----------------------------|-------------------------------|
| 78   | 6    | 4       | 16.0                            | 50.4                 | 10.3                     | 0.2                        | 84                            |
| 78   | 6    | 6       | 16.0                            | 53.4                 | 10.8                     | 0.2                        | 88                            |
| 78   | 7    | 2       | 16.0                            | 56.6                 | 10.8                     | 0.1                        | 89                            |
| 78   | 7    | 4       | 16.0                            | 59.6                 | 11.1                     | 0.2                        | 91                            |
| 78   | 7    | 5       | 16.0                            | 61.1                 | 11.2                     | 0.1                        | 92                            |
| 78   | 8    | 1       | 75.0                            | 64.8                 | 10.1                     | 0.3                        | 81                            |
| 78   | 9    | 6       | 78.0                            | 81.4                 | 11.2                     | 0.1                        | 92                            |
| 78   | 10   | 2       | 16.0                            | 84.0                 | 11.3                     | 0.1                        | 93                            |
| 78   | 10   | 4       | 16.0                            | 87.0                 | 11.2                     | 0.1                        | 93                            |
| 78   | 10   | 6       | 16.0                            | 90.0                 | 11.2                     | 0.2                        | 92                            |
| 78   | 11   | 2       | 16.0                            | 93.1                 | 11.0                     | 0.2                        | 91                            |
| 78   | 11   | 4       | 16.0                            | 96.1                 | 11.3                     | 0.1                        | 93                            |
| 78   | 11   | 6       | 16.0                            | 99.1                 | 11.4                     | 0.1                        | 93                            |
| 78   | 12   | 4       | 16.0                            | 105.3                | 11.1                     | 0.2                        | 91                            |
| 78   | 12   | 6       | 16.0                            | 108.3                | 11.3                     | 0.2                        | 93                            |
| 78   | 13   | 2       | 6.0                             | 111.3                | 11.0                     | 0.2                        | 90                            |
| 78   | 13   | 4       | 16.0                            | 114.4                | 11.4                     | 0.1                        | 94                            |
| 78   | 13   | 6       | 16.0                            | 117.4                | 11.0                     | 0.2                        | 90                            |
| 78   | 14   | 4       | 19.0                            | 123.6                | 11.2                     | 0.2                        | 91                            |
| 78   | 14   | 6       | 16.0                            | 126.6                | 10.5                     | 0.3                        | 85                            |
| 78   | 15   | 4       | 16.0                            | 132.7                | 11.3                     | 0.2                        | 93                            |
| 78   | 15   | 6       | 16.0                            | 135.7                | 10.3                     | 0.3                        | 83                            |
| 78   | 16   | 4       | 16.0                            | 141.8                | 11.2                     | 0.1                        | 92                            |
| 78   | 16   | 6       | 16.0                            | 144.8                | 10.0                     | 0.2                        | 81                            |
| 78   | 17   | 2       | 16.0                            | 148.0                | 11.2                     | 0.2                        | 92                            |
| 78   | 17   | 4       | 16.0                            | 151.0                | 10.7                     | 0.2                        | 88                            |
| 78   | 17   | 6       | 54.0                            | 154.3                | 11.1                     | 0.2                        | 91                            |
| 78   | 19   | 4       | 34.0                            | 169.4                | 11.1                     | 0.2                        | 91                            |
| 78   | 19   | 6       | 23.0                            | 172.3                | 10.9                     | 0.2                        | 90                            |
| 78   | 20   | 2       | 16.0                            | 175.4                | 10.5                     | 0.3                        | 85                            |
| 78   | 20   | 4       | 16.0                            | 178.4                | 11.1                     | 0.2                        | 90                            |
| 78   | 20   | 6       | 23.0                            | 181.4                | 11.1                     | 0.2                        | 90                            |
| 78   | 21   | 2       | 12.0                            | 184.5                | 10.7                     | 0.3                        | 87                            |
| 78   | 21   | 4       | 16.0                            | 187.6                | 10.9                     | 0.2                        | 89                            |
| 78   | 21   | 6       | 16.0                            | 190.6                | 10.9                     | 0.2                        | 89                            |
| 78   | 22   | 6       | 22.0                            | 199.9                | 11.0                     | 0.2                        | 90                            |
| 78   | 23   | 4       | 16.0                            | 205.9                | 8.0                      | 0.2                        | 65                            |
| 78   | 23   | 6       | 16.0                            | 208.9                | 8.0                      | 2.7                        | 44                            |
| 78   | 24   | 2       | 35.0                            | 212.2                | 11.2                     | 0.3                        | 91                            |

TABLE 1 – *Continued*

| Hole | Core | Section | Top Interval in<br>Section (cm) | Depth in<br>Hole (m) | Total Carbon<br>Per Cent | Organic Carbon<br>Per Cent | CaCO <sub>3</sub><br>Per Cent |
|------|------|---------|---------------------------------|----------------------|--------------------------|----------------------------|-------------------------------|
| 78   | 25   | 4       | 16.0                            | 224.1                | 11.7                     | 0.2                        | 96                            |
| 78   | 25   | 6       | 16.0                            | 227.1                | 11.3                     | 0.2                        | 92                            |
| 78   | 27   | 4       | 56.0                            | 242.8                | 11.4                     | 0.2                        | 94                            |
| 78   | 27   | 6       | 16.0                            | 245.4                | 11.7                     | 0.1                        | 97                            |
| 78   | 28   | 4       | 45.0                            | 251.8                | 11.3                     | 0.1                        | 93                            |
| 78   | 28   | 6       | 2.0                             | 254.4                | 11.3                     | 0.1                        | 94                            |
| 78   | 29   | 6       | 16.0                            | 263.7                | 11.4                     | 0.1                        | 94                            |
| 78   | 30   | 6       | 16.0                            | 272.8                | 11.6                     | 0.1                        | 96                            |
| 78   | 31   | 6       | 16.0                            | 282.0                | 11.3                     | 0.2                        | 93                            |
| 78   | 32   | 6       | 16.0                            | 291.2                | 10.3                     | 0.2                        | 84                            |
| 78   | 35   | 6       | 77.0                            | 319.2                | 9.1                      | 0.3                        | 73                            |
| 79   | 1    | 2       | 16.0                            | 1.8                  | 6.9                      | 0.3                        | 55                            |
| 79   | 1    | 3       | 16.0                            | 3.3                  | 7.8                      | 0.3                        | 63                            |
| 79   | 1    | 4       | 16.0                            | 4.8                  | 10.6                     | 0.1                        | 88                            |
| 79   | 1    | 5       | 16.0                            | 6.3                  | 9.8                      | 0.3                        | 80                            |
| 79   | 1    | 6       | 16.0                            | 7.8                  | 7.8                      | 0.3                        | 63                            |
| 79   | 2    | 1       | 16.0                            | 60.5                 | 7.8                      | 0.4                        | 62                            |
| 79   | 2    | 2       | 16.0                            | 62.0                 | 8.0                      | 0.2                        | 66                            |
| 79   | 2    | 3       | 16.0                            | 63.5                 | 7.8                      | 0.2                        | 64                            |
| 79   | 2    | 4       | 16.0                            | 65.0                 | 7.1                      | 0.3                        | 56                            |
| 79   | 2    | 5       | 16.0                            | 66.5                 | 6.9                      | 0.3                        | 55                            |
| 79   | 2    | 6       | 16.0                            | 68.0                 | 9.5                      | 0.1                        | 78                            |
| 79   | 3    | 1       | 16.0                            | 127.0                | 9.6                      | 0.2                        | 78                            |
| 79   | 3    | 2       | 20.0                            | 128.5                | 8.9                      | 0.2                        | 72                            |
| 79   | 3    | 3       | 16.0                            | 130.0                | 9.0                      | 0.2                        | 73                            |
| 79   | 3    | 4       | 16.0                            | 131.5                | 9.2                      | 0.2                        | 75                            |
| 79   | 3    | 5       | 16.0                            | 133.0                | 9.3                      | 0.2                        | 76                            |
| 79   | 4    | 1       | 16.0                            | 193.7                | 9.3                      | 0.2                        | 76                            |
| 79   | 4    | 2       | 16.0                            | 195.2                | 9.2                      | 0.2                        | 75                            |
| 79   | 4    | 3       | 16.0                            | 196.7                | 8.3                      | 0.1                        | 68                            |
| 79   | 4    | 4       | 16.0                            | 198.2                | 8.4                      | 0.2                        | 68                            |
| 79   | 4    | 5       | 16.0                            | 199.7                | 9.4                      | 0.2                        | 77                            |
| 79   | 4    | 6       | 16.0                            | 201.2                | 8.9                      | 0.2                        | 72                            |
| 79   | 5    | 3       | 38.0                            | 263.7                | 10.9                     | 0.2                        | 90                            |
| 79   | 5    | 4       | 30.0                            | 265.1                | 11.0                     | 0.2                        | 90                            |
| 79   | 5    | 5       | 16.0                            | 266.5                | 10.3                     | 0.2                        | 85                            |
| 79   | 5    | 6       | 16.0                            | 268.0                | 9.4                      | 0.2                        | 77                            |
| 79   | 6    | 1       | 114.0                           | 327.8                | 6.5                      | 0.2                        | 52                            |

TABLE 1 – *Continued*

| Hole | Core | Section | Top Interval in Section (cm) | Depth in Hole (m) | Total Carbon Per Cent | Organic Carbon Per Cent | CaCO <sub>3</sub> Per Cent |
|------|------|---------|------------------------------|-------------------|-----------------------|-------------------------|----------------------------|
| 79   | 6    | 2       | 16.0                         | 328.4             | 8.1                   | 0.2                     | 66                         |
| 79   | 6    | 3       | 16.0                         | 329.9             | 7.1                   | 0.2                     | 57                         |
| 79   | 6    | 4       | 16.0                         | 331.4             | 9.6                   | 0.1                     | 78                         |
| 79   | 6    | 5       | 16.0                         | 332.9             | 8.8                   | 0.2                     | 72                         |
| 79   | 7    | 1       | 30.0                         | 336.2             | 10.0                  | 0.2                     | 82                         |
| 79   | 7    | 2       | 16.0                         | 337.6             | 9.2                   | 0.2                     | 76                         |
| 79   | 7    | 3       | 16.0                         | 339.1             | 8.7                   | 0.2                     | 71                         |
| 79   | 7    | 4       | 18.0                         | 340.6             | 9.8                   | 0.2                     | 80                         |
| 79   | 7    | 5       | 16.0                         | 342.1             | 9.6                   | 0.2                     | 79                         |
| 79   | 8    | 1       | 16.0                         | 345.2             | 8.5                   | 0.3                     | 68                         |
| 79   | 8    | 3       | 16.0                         | 348.2             | 9.3                   | 0.2                     | 76                         |
| 79   | 8    | 4       | 16.0                         | 349.7             | 9.4                   | 0.2                     | 76                         |
| 79   | 8    | 5       | 18.0                         | 351.2             | 6.4                   | 0.3                     | 51                         |
| 79   | 8    | 6       | 16.0                         | 352.7             | 9.5                   | 0.2                     | 78                         |
| 79   | 9    | 1       | 16.0                         | 350.3             | 10.7                  | 0.2                     | 88                         |
| 79   | 9    | 2       | 16.0                         | 351.8             | 10.7                  | 0.2                     | 88                         |
| 79   | 9    | 3       | 16.0                         | 353.3             | 10.7                  | 0.1                     | 88                         |
| 79   | 10   | 2       | 16.0                         | 357.4             | 11.0                  | 0.1                     | 90                         |
| 79   | 10   | 3       | 16.0                         | 358.9             | 10.9                  | 0.2                     | 90                         |
| 79   | 10   | 4       | 16.0                         | 360.4             | 10.8                  | 0.1                     | 90                         |
| 79   | 11   | 2       | 42.0                         | 366.1             | 10.8                  | 0.1                     | 89                         |
| 79   | 11   | 3       | 16.0                         | 367.4             | 11.3                  | 0.1                     | 94                         |
| 79   | 11   | 4       | 16.0                         | 368.9             | *10.9                 | 0.1                     | 90                         |
| 79   | 11   | 5       | 16.0                         | 370.4             | 11.1                  | 0.1                     | 92                         |
| 79   | 11   | 6       | 16.0                         | 371.9             | 11.3                  | 0.0                     | 94                         |
| 79   | 12   | 1       | 39.0                         | 373.8             | 11.1                  | 0.1                     | 92                         |
| 79   | 12   | 2       | 16.0                         | 375.1             | 10.7                  | 0.0                     | 89                         |
| 79   | 12   | 3       | 19.0                         | 376.6             | 10.8                  | 0.1                     | 90                         |
| 79   | 12   | 4       | 16.0                         | 378.1             | 10.3                  | 0.1                     | 85                         |
| 79   | 12   | 5       | 16.0                         | 379.6             | 10.5                  | 0.1                     | 87                         |
| 79   | 12   | 6       | 16.0                         | 381.1             | 10.4                  | 0.1                     | 86                         |
| 79   | 13   | 2       | 93.0                         | 382.8             | 10.8                  | 0.1                     | 89                         |
| 79   | 13   | 3       | 16.0                         | 383.6             | 11.0                  | 0.1                     | 91                         |
| 79   | 13   | 4       | 15.0                         | 385.0             | 10.8                  | 0.1                     | 90                         |
| 79   | 13   | 5       | 16.0                         | 386.6             | 10.7                  | 0.0                     | 89                         |
| 79   | 13   | 6       | 16.0                         | 388.1             | 11.1                  | 0.0                     | 92                         |
| 79   | 14   | 1       | 16.0                         | 389.7             | 11.1                  | 0.1                     | 92                         |
| 79   | 14   | 2       | 16.0                         | 391.2             | 10.6                  | 0.1                     | 88                         |
| 79   | 14   | 6       | 16.0                         | 397.2             | 10.5                  | 0.0                     | 87                         |

TABLE 1 – *Continued*

| Hole | Core | Section | Top Interval in Section (cm) | Depth in Hole (m) | Total Carbon Per Cent | Organic Carbon Per Cent | CaCO <sub>3</sub> Per Cent |
|------|------|---------|------------------------------|-------------------|-----------------------|-------------------------|----------------------------|
| 79   | 15   | 2       | 16.0                         | 400.4             | 11.1                  | 0.0                     | 92                         |
| 79   | 16   | 3       | 16.0                         | 409.2             | 11.5                  | 0.4                     | 93                         |
| 79A  | 1    | 1       | 56.0                         | 9.7               | 7.8                   | 0.2                     | 63                         |
| 79A  | 1    | 2       | 16.0                         | 10.8              | 5.3                   | 0.2                     | 43                         |
| 79A  | 1    | 3       | 16.0                         | 12.3              | 6.4                   | 0.1                     | 53                         |
| 79A  | 1    | 4       | 16.0                         | 13.8              | 5.5                   | 0.1                     | 45                         |
| 79A  | 1    | 5       | 16.0                         | 15.3              | 4.5                   | 0.1                     | 36                         |
| 79A  | 2    | 1       | 16.0                         | 69.7              | 5.1                   | 0.1                     | 41                         |
| 79A  | 2    | 2       | 16.0                         | 71.2              | 6.7                   | 0.1                     | 55                         |
| 79A  | 2    | 3       | 16.0                         | 72.7              | 6.8                   | 0.1                     | 56                         |
| 79A  | 2    | 4       | 16.0                         | 74.2              | 7.2                   | 0.1                     | 59                         |
| 79A  | 2    | 5       | 16.0                         | 75.7              | 7.3                   | 0.1                     | 60                         |
| 79A  | 2    | 6       | 16.0                         | 77.2              | *7.1                  | 0.1                     | 58                         |
| 79A  | 3    | 1       | 16.0                         | 145.3             | 6.5                   | 0.1                     | 53                         |
| 79A  | 3    | 2       | 16.0                         | 146.8             | 6.0                   | 0.1                     | 49                         |
| 79A  | 3    | 3       | 16.0                         | 148.3             | 5.4                   | 0.1                     | 45                         |
| 79A  | 3    | 4       | 16.0                         | 149.8             | 7.1                   | 0.1                     | 58                         |
| 79A  | 3    | 5       | 16.0                         | 151.3             | 8.0                   | 0.1                     | 66                         |
| 79A  | 3    | 6       | 16.0                         | 152.8             | 5.7                   | 0.1                     | 47                         |
| 79A  | 4    | 6       | 16.0                         | 286.3             | 9.3                   | 0.1                     | 77                         |
| 80   | 1    | 1       | 16.0                         | 0.2               | 9.5                   | 0.1                     | 78                         |
| 80   | 1    | 3       | 16.0                         | 3.2               | 9.9                   | 0.1                     | 82                         |
| 80   | 1    | 4       | 16.0                         | 4.7               | 10.3                  | 0.1                     | 85                         |
| 80   | 1    | 5       | 16.0                         | 6.2               | 9.3                   | 0.1                     | 77                         |
| 80   | 1    | 6       | 16.0                         | 7.7               | 10.2                  | 0.1                     | 85                         |
| 80   | 2    | 1       | 15.0                         | 61.2              | 8.5                   | 0.1                     | 70                         |
| 80   | 2    | 2       | 15.0                         | 62.7              | 8.8                   | 0.1                     | 73                         |
| 80   | 2    | 3       | 15.0                         | 64.2              | 8.3                   | 0.1                     | 68                         |
| 80   | 2    | 4       | 15.0                         | 65.7              | 8.4                   | 0.1                     | 69                         |
| 80   | 2    | 5       | 15.0                         | 67.2              | 3.9                   | 0.2                     | 31                         |
| 80   | 2    | 6       | 15.0                         | 68.7              | 7.5                   | 0.3                     | 61                         |
| 80   | 3    | 1       | 16.0                         | 127.7             | 10.6                  | 0.0                     | 88                         |
| 80   | 3    | 2       | 16.0                         | 129.2             | 9.2                   | 0.1                     | 77                         |
| 80   | 3    | 3       | 16.0                         | 130.7             | 10.0                  | 0.1                     | 83                         |
| 80   | 3    | 4       | 16.0                         | 132.2             | 10.2                  | 0.0                     | 84                         |
| 80   | 3    | 5       | 16.0                         | 133.7             | 9.8                   | 0.0                     | 81                         |
| 80   | 3    | 6       | 16.0                         | 135.2             | 9.3                   | 0.1                     | 77                         |
| 80   | 4    | 2       | 16.0                         | 167.4             | 11.1                  | 0.1                     | 92                         |

TABLE 1 – *Continued*

| Hole | Core | Section | Top Interval in<br>Section (cm) | Depth in<br>Hole (m) | Total Carbon<br>Per Cent | Organic Carbon<br>Per Cent | CaCO <sub>3</sub><br>Per Cent |
|------|------|---------|---------------------------------|----------------------|--------------------------|----------------------------|-------------------------------|
| 80   | 4    | 3       | 16.0                            | 168.9                | 11.1                     | 0.0                        | 92                            |
| 80   | 4    | 4       | 16.0                            | 170.4                | 10.9                     | 0.1                        | 91                            |
| 80   | 4    | 4       | 27.0                            | 170.5                | 9.0                      | 0.1                        | 75                            |
| 80   | 4    | 5       | 16.0                            | 171.9                | 11.0                     | 0.1                        | 91                            |
| 80   | 5    | 1       | 40.0                            | 193.7                | 9.7                      | 0.3                        | 79                            |
| 80   | 5    | 2       | 16.0                            | 195.0                | 8.0                      | 0.0                        | 66                            |
| 80   | 5    | 3       | 16.0                            | 196.5                | 10.0                     | 0.1                        | 83                            |
| 80A  | 2    | 1       | 16.0                            | 42.9                 | 7.9                      | 0.2                        | 64                            |
| 80A  | 2    | 2       | 16.0                            | 44.4                 | 8.2                      | 0.2                        | 67                            |
| 80A  | 2    | 3       | 16.0                            | 45.9                 | 7.2                      | 0.2                        | 59                            |
| 80A  | 2    | 4       | 16.0                            | 47.4                 | 6.7                      | 0.2                        | 54                            |
| 80A  | 3    | 1       | 16.0                            | 86.8                 | 0.3                      | 0.1                        | 2                             |
| 80A  | 3    | 2       | 16.0                            | 88.3                 | 6.1                      | 0.1                        | 50                            |
| 80A  | 3    | 3       | 16.0                            | 89.8                 | 9.4                      | 0.1                        | 78                            |
| 80A  | 3    | 4       | 16.0                            | 91.3                 | 9.0                      | 0.0                        | 74                            |
| 80A  | 3    | 5       | 16.0                            | 92.8                 | 9.1                      | 0.0                        | 75                            |
| 80A  | 4    | 1       | 0.0                             | 109.1                | 10.8                     | 0.1                        | 89                            |
| 80A  | 4    | 2       | 0.0                             | 110.6                | 10.2                     | 0.0                        | 85                            |
| 80A  | 4    | 3       | 0.0                             | 112.1                | 10.4                     | 0.0                        | 87                            |
| 80A  | 4    | 5       | 0.0                             | 115.1                | 10.3                     | 0.0                        | 85                            |
| 80A  | 4    | 6       | 0.0                             | 116.6                | 10.0                     | 0.0                        | 83                            |
| 80A  | 5    | 1       | 110.0                           | 147.7                | 9.9                      | 0.1                        | 82                            |
| 80A  | 5    | 2       | 146.0                           | 149.6                | 10.9                     | 0.0                        | 91                            |
| 80A  | 5    | 3       | 16.0                            | 149.8                | 10.0                     | 0.1                        | 83                            |
| 80A  | 5    | 4       | 16.0                            | 151.3                | 10.6                     | 0.1                        | 88                            |
| 80A  | 5    | 5       | 16.0                            | 152.8                | 10.8                     | 0.0                        | 89                            |
| 80A  | 5    | 6       | 16.0                            | 154.3                | 10.6                     | 0.1                        | 88                            |
| 81   | 1    | 1       | 16.0                            | 0.2                  | 10.2                     | 0.1                        | 84                            |
| 81   | 1    | 2       | 16.0                            | 1.7                  | 10.5                     | 0.1                        | 86                            |
| 81   | 1    | 4       | 16.0                            | 4.7                  | 10.6                     | 0.1                        | 88                            |
| 81   | 1    | 5       | 26.0                            | 6.3                  | 10.2                     | 0.1                        | 84                            |
| 81   | 1    | 6       | 16.0                            | 7.7                  | 10.6                     | 0.1                        | 88                            |
| 81   | 2    | 2       | 16.0                            | 321.4                | 9.4                      | 0.1                        | 77                            |
| 81   | 2    | 4       | 16.0                            | 324.4                | 8.4                      | 0.1                        | 69                            |
| 81   | 2    | 5       | 16.0                            | 325.9                | 9.5                      | 0.1                        | 78                            |
| 81   | 2    | 6       | 20.0                            | 327.4                | 9.0                      | 0.1                        | 74                            |
| 81   | 3    | 2       | 22.0                            | 378.0                | 10.0                     | 0.2                        | 82                            |
| 81   | 3    | 3       | 16.0                            | 379.5                | 10.2                     | 0.1                        | 84                            |

TABLE 1 — *Continued*

| Hole | Core | Section | Top Interval in<br>Section (cm) | Depth in<br>Hole (m) | Total Carbon<br>Per Cent | Organic Carbon<br>Per Cent | CaCO <sub>3</sub><br>Per Cent |
|------|------|---------|---------------------------------|----------------------|--------------------------|----------------------------|-------------------------------|
| 81   | 3    | 5       | 16.0                            | 382.5                | 10.2                     | 0.1                        | 84                            |
| 81   | 3    | 6       | 16.0                            | 384.0                | 10.0                     | 0.1                        | 83                            |
| 81   | 4    | 1       | 21.0                            | 389.3                | 11.4                     | 0.3                        | 94                            |
| 81   | 4    | 5       | 16.0                            | 395.3                | 10.4                     | 0.1                        | 86                            |
| 81   | 5    | 3       | 16.0                            | 398.8                | 9.6                      | 0.1                        | 80                            |
| 81   | 6    | 3       | 16.0                            | 407.9                | 9.5                      | 0.3                        | 77                            |
| 82   | 1    | 1       | 16.0                            | 0.2                  | 10.4                     | 0.4                        | 84                            |
| 82   | 1    | 2       | 16.0                            | 1.7                  | 9.5                      | 0.2                        | 77                            |
| 82   | 1    | 3       | 16.0                            | 3.2                  | 9.7                      | 0.2                        | 79                            |
| 82   | 1    | 4       | 16.0                            | 4.7                  | 9.6                      | 0.2                        | 79                            |
| 82   | 1    | 5       | 22.0                            | 6.2                  | 9.8                      | 0.1                        | 80                            |
| 82   | 1    | 6       | 16.0                            | 7.7                  | 9.5                      | 0.1                        | 78                            |
| 82   | 2    | 1       | 16.0                            | 69.0                 | 9.8                      | 0.1                        | 80                            |
| 82   | 2    | 2       | 25.0                            | 70.6                 | 9.1                      | 0.1                        | 75                            |
| 82   | 2    | 3       | 16.0                            | 72.0                 | 9.6                      | 0.1                        | 79                            |
| 82   | 2    | 4       | 16.0                            | 73.5                 | 10.1                     | 0.1                        | 83                            |
| 82   | 2    | 5       | 16.0                            | 75.0                 | 8.8                      | 0.1                        | 73                            |
| 82   | 2    | 6       | 16.0                            | 76.5                 | 9.0                      | 0.1                        | 74                            |
| 82   | 3    | 1       | 16.0                            | 135.5                | 9.6                      | 0.1                        | 79                            |
| 82   | 3    | 2       | 16.0                            | 137.0                | 6.8                      | 0.3                        | 54                            |
| 82   | 3    | 3       | 20.0                            | 138.5                | 7.1                      | 0.2                        | 58                            |
| 82   | 3    | 4       | 16.0                            | 140.0                | 8.3                      | 0.2                        | 68                            |
| 82   | 3    | 5       | 16.0                            | 141.5                | 10.0                     | 0.1                        | 83                            |
| 82   | 3    | 6       | 16.0                            | 143.0                | 8.8                      | 0.1                        | 73                            |
| 82   | 4    | 1       | 16.0                            | 191.5                | 8.2                      | 0.2                        | 67                            |
| 82   | 4    | 3       | 16.0                            | 194.5                | 9.2                      | 0.2                        | 76                            |
| 82   | 4    | 4       | 28.0                            | 196.1                | 9.8                      | 0.2                        | 80                            |
| 82   | 4    | 5       | 16.0                            | 197.5                | 7.4                      | 0.1                        | 61                            |
| 82   | 5    | 2       | 16.0                            | 202.2                | 9.8                      | 0.1                        | 80                            |
| 82   | 6    | 3       | 24.0                            | 212.8                | 8.5                      | 0.1                        | 70                            |
| 82   | 6    | 4       | 16.0                            | 214.3                | 7.9                      | 0.1                        | 65                            |
| 82   | 6    | 5       | 16.0                            | 215.8                | 8.4                      | 0.1                        | 70                            |
| 82   | 6    | 6       | 16.0                            | 217.3                | 9.2                      | 0.2                        | 75                            |
| 82A  | 1    | 2       | 16.0                            | 20.0                 | 9.8                      | 0.1                        | 80                            |
| 82A  | 1    | 3       | 16.0                            | 21.5                 | 8.8                      | 0.1                        | 72                            |
| 82A  | 1    | 4       | 16.0                            | 23.0                 | 8.9                      | 0.1                        | 73                            |
| 82A  | 1    | 5       | 16.0                            | 24.5                 | 10.1                     | 0.1                        | 84                            |
| 82A  | 1    | 6       | 16.0                            | 26.0                 | 10.2                     | 0.1                        | 84                            |

TABLE 1 – *Continued*

| Hole | Core | Section | Top Interval in<br>Section (cm) | Depth in<br>Hole (m) | Total Carbon<br>Per Cent | Organic Carbon<br>Per Cent | CaCO <sub>3</sub><br>Per Cent |
|------|------|---------|---------------------------------|----------------------|--------------------------|----------------------------|-------------------------------|
| 82A  | 2    | 1       | 16.0                            | 36.7                 | 7.5                      | 0.2                        | 61                            |
| 82A  | 2    | 2       | 16.0                            | 38.2                 | 9.1                      | 0.1                        | 75                            |
| 82A  | 2    | 3       | 16.0                            | 39.7                 | 9.1                      | 0.1                        | 75                            |
| 82A  | 2    | 4       | 16.0                            | 41.2                 | 9.3                      | 0.1                        | 77                            |
| 82A  | 2    | 5       | 16.0                            | 42.7                 | 9.2                      | 0.1                        | 76                            |
| 82A  | 2    | 6       | 16.0                            | 44.2                 | 9.2                      | 0.1                        | 75                            |
| 82A  | 3    | 1       | 30.0                            | 102.0                | 10.7                     | 0.1                        | 88                            |
| 82A  | 3    | 2       | 15.0                            | 103.3                | 10.4                     | 0.1                        | 86                            |
| 82A  | 3    | 3       | 15.0                            | 104.8                | 10.0                     | 0.1                        | 83                            |
| 82A  | 3    | 4       | 15.0                            | 106.3                | 9.6                      | 0.1                        | 79                            |
| 82A  | 3    | 5       | 15.0                            | 107.8                | 10.0                     | 0.1                        | 82                            |
| 83   | 1    | 2       | 16.0                            | 2.0                  | 9.5                      | 0.4                        | 76                            |
| 83   | 1    | 2       | 82.0                            | 2.6                  | *5.0                     | *0.2                       | 41                            |
| 83   | 1    | 3       | 16.0                            | 3.5                  | 5.4                      | 0.2                        | 43                            |
| 83   | 1    | 4       | 16.0                            | 5.0                  | 5.9                      | 0.2                        | 48                            |
| 83   | 2    | 1       | 16.0                            | 5.3                  | 6.4                      | 0.2                        | 52                            |
| 83   | 2    | 2       | 16.0                            | 6.8                  | 6.0                      | 0.2                        | 49                            |
| 83   | 2    | 2       | 89.0                            | 7.5                  | *5.9                     | *0.3                       | 47                            |
| 83   | 2    | 3       | 16.0                            | 8.3                  | 9.5                      | 0.1                        | 78                            |
| 83   | 2    | 4       | 16.0                            | 9.8                  | 8.2                      | 0.2                        | 67                            |
| 83   | 2    | 5       | 16.0                            | 11.3                 | 8.1                      | 0.1                        | 66                            |
| 83   | 2    | 5       | 74.0                            | 11.8                 | *8.1                     | *0.1                       | 67                            |
| 83   | 2    | 6       | 16.0                            | 12.8                 | 3.7                      | 0.2                        | 29                            |
| 83   | 2    | 6       | 124.0                           | 13.8                 | *7.0                     | *0.3                       | 55                            |
| 83   | 3    | 2       | 16.0                            | 16.0                 | 6.1                      | 0.2                        | 50                            |
| 83   | 3    | 3       | 16.0                            | 17.5                 | 5.9                      | 0.2                        | 47                            |
| 83   | 4    | 3       | 16.0                            | 72.0                 | 5.2                      | 0.2                        | 42                            |
| 83   | 5    | 2       | 16.0                            | 137.9                | 7.7                      | 0.1                        | 63                            |
| 83   | 5    | 3       | 16.0                            | 139.4                | 8.4                      | 0.1                        | 69                            |
| 83   | 5    | 4       | 16.0                            | 140.9                | 6.4                      | 0.1                        | 53                            |
| 83   | 5    | 5       | 16.0                            | 142.4                | 6.8                      | 0.2                        | 55                            |
| 83   | 5    | 6       | 16.0                            | 143.9                | 6.5                      | 0.2                        | 52                            |
| 83   | 6    | 2       | 16.0                            | 204.0                | 8.0                      | 0.1                        | 66                            |
| 83   | 6    | 3       | 16.0                            | 205.5                | 7.8                      | 0.1                        | 64                            |
| 83   | 6    | 4       | 16.0                            | 207.0                | 8.4                      | 0.1                        | 69                            |
| 83   | 6    | 5       | 16.0                            | 208.5                | 9.0                      | 0.1                        | 74                            |
| 83   | 6    | 6       | 16.0                            | 210.0                | 8.5                      | 0.1                        | 70                            |
| 83   | 7    | 1       | 100.0                           | 222.8                | *5.9                     | *0.2                       | 48                            |

TABLE 1 – *Continued*

| Hole | Core | Section | Top Interval in Section (cm) | Depth in Hole (m) | Total Carbon Per Cent | Organic Carbon Per Cent | $\text{CaCO}_3$ Per Cent |
|------|------|---------|------------------------------|-------------------|-----------------------|-------------------------|--------------------------|
| 83   | 7    | 2       | 75.0                         | 224.1             | *8.4                  | *0.2                    | 69                       |
| 83   | 7    | 3       | 25.0                         | 225.1             | *7.4                  | *0.2                    | 60                       |
| 83   | 7    | 4       | 16.0                         | 226.5             | 5.9                   | 0.2                     | 48                       |
| 83   | 7    | 5       | 16.0                         | 228.0             | 4.7                   | 0.2                     | 38                       |
| 83   | 7    | 6       | 16.0                         | 229.5             | 3.8                   | 0.3                     | 29                       |
| 83   | 7    | 6       | 139.0                        | 230.7             | 5.3                   | 0.3                     | 42                       |
| 83   | 8    | 7       | 0.0                          | 241.9             | 7.7                   | 0.1                     | 64                       |
| 83A  | 1    | 2       | 31.0                         | 14.9              | 7.5                   | 0.4                     | 60                       |
| 83A  | 1    | 4       | 16.0                         | 17.8              | 5.8                   | 0.2                     | 46                       |
| 83A  | 2    | 1       | 15.0                         | 22.3              | *5.4                  | *0.5                    | 40                       |
| 83A  | 2    | 2       | 16.0                         | 23.8              | 6.6                   | 0.0                     | 55                       |
| 83A  | 2    | 4       | 16.0                         | 26.8              | 6.3                   | 0.3                     | 50                       |
| 83A  | 2    | 5       | 16.0                         | 28.3              | *7.2                  | *0.4                    | 57                       |
| 83A  | 2    | 6       | 16.0                         | 29.8              | 7.7                   | 0.2                     | 63                       |
| 83A  | 3    | 1       | 16.0                         | 31.6              | 6.2                   | 0.3                     | 49                       |
| 83A  | 3    | 2       | 16.0                         | 33.1              | 4.5                   | 0.6                     | 32                       |
| 83A  | 3    | 4       | 16.0                         | 36.1              | 4.2                   | 0.5                     | 31                       |
| 83A  | 3    | 5       | 15.0                         | 37.5              | *7.9                  | *0.2                    | 64                       |
| 83A  | 3    | 6       | 16.0                         | 39.1              | 7.2                   | 0.3                     | 58                       |
| 83A  | 4    | 3       | 15.0                         | 43.7              | *6.1                  | *0.3                    | 49                       |
| 83A  | 4    | 4       | 16.0                         | 45.2              | 6.6                   | 0.3                     | 52                       |
| 83A  | 4    | 6       | 16.0                         | 48.2              | 6.9                   | 0.3                     | 55                       |
| 83A  | 5    | 2       | 30.0                         | 51.4              | 7.0                   | 0.2                     | 57                       |
| 83A  | 5    | 4       | 16.0                         | 54.3              | 5.5                   | 0.2                     | 44                       |
| 83A  | 5    | 5       | 15.0                         | 55.8              | *5.8                  | *0.3                    | 45                       |
| 83A  | 5    | 6       | 16.0                         | 57.3              | 5.8                   | 0.2                     | 47                       |
| 83A  | 6    | 2       | 16.0                         | 60.5              | 5.3                   | 0.2                     | 42                       |
| 83A  | 6    | 4       | 16.0                         | 63.5              | 5.8                   | 0.3                     | 46                       |
| 83A  | 6    | 5       | 15.0                         | 64.9              | *7.6                  | *0.3                    | 61                       |
| 83A  | 6    | 6       | 16.0                         | 66.5              | 6.9                   | 0.2                     | 55                       |
| 83A  | 7    | 1       | 86.0                         | 68.8              | 6.2                   | 0.2                     | 50                       |
| 83A  | 7    | 2       | 16.0                         | 69.6              | 6.4                   | 0.2                     | 52                       |
| 83A  | 7    | 3       | 16.0                         | 71.7              | 7.0                   | 0.2                     | 56                       |
| 83A  | 7    | 4       | 16.0                         | 72.6              | 4.3                   | 0.3                     | 34                       |
| 83A  | 7    | 5       | 15.0                         | 74.1              | *4.7                  | *0.3                    | 36                       |
| 83A  | 7    | 6       | 16.0                         | 75.6              | 2.6                   | 0.3                     | 19                       |
| 83A  | 7    | 6       | 115.0                        | 76.6              | *5.4                  | *0.3                    | 43                       |
| 83A  | 8    | 2       | 16.0                         | 78.8              | 6.0                   | 0.2                     | 48                       |
| 83A  | 8    | 3       | 15.0                         | 80.3              | *6.9                  | *0.2                    | 56                       |

TABLE 1 - *Continued*

| Hole | Core | Section | Top Interval in<br>Section (cm) | Depth in<br>Hole (m) | Total Carbon<br>Per Cent | Organic Carbon<br>Per Cent | CaCO <sub>3</sub><br>Per Cent |
|------|------|---------|---------------------------------|----------------------|--------------------------|----------------------------|-------------------------------|
| 83A  | 8    | 4       | 16.0                            | 81.8                 | 6.7                      | 0.2                        | 54                            |
| 83A  | 8    | 6       | 16.0                            | 84.8                 | 6.0                      | 0.4                        | 47                            |
| 83A  | 8    | 6       | 140.0                           | 86.0                 | *5.8                     | *0.2                       | 47                            |
| 83A  | 9    | 1       | 43.0                            | 86.5                 | *6.6                     | *0.2                       | 53                            |
| 83A  | 9    | 2       | 16.0                            | 87.8                 | 2.4                      | 0.4                        | 17                            |
| 83A  | 9    | 3       | 15.0                            | 89.3                 | *6.8                     | *0.3                       | 55                            |
| 83A  | 9    | 4       | 16.0                            | 90.8                 | 6.5                      | 0.3                        | 52                            |
| 83A  | 9    | 6       | 16.0                            | 93.8                 | 5.7                      | 0.5                        | 43                            |
| 83A  | 10   | 1       | 25.0                            | 95.7                 | *8.7                     | *0.2                       | 71                            |
| 83A  | 10   | 2       | 16.0                            | 97.1                 | 7.8                      | 0.3                        | 63                            |
| 83A  | 10   | 4       | 16.0                            | 100.1                | 8.3                      | 0.2                        | 68                            |
| 83A  | 10   | 5       | 15.0                            | 101.6                | *9.0                     | *0.2                       | 73                            |
| 83A  | 10   | 6       | 16.0                            | 103.1                | 6.2                      | 0.3                        | 49                            |
| 83A  | 11   | 2       | 16.0                            | 106.2                | 6.1                      | 0.3                        | 48                            |
| 83A  | 11   | 3       | 15.0                            | 107.7                | *6.6                     | *0.2                       | 54                            |
| 83A  | 11   | 4       | 16.0                            | 109.2                | 8.2                      | 0.2                        | 67                            |
| 83A  | 11   | 5       | 15.0                            | 110.7                | *6.4                     | *0.2                       | 52                            |
| 83A  | 11   | 6       | 16.0                            | 112.2                | 6.6                      | 0.3                        | 52                            |
| 83A  | 12   | 2       | 16.0                            | 115.3                | 6.8                      | 0.3                        | 54                            |
| 83A  | 12   | 3       | 15.0                            | 116.8                | *6.4                     | *0.5                       | 50                            |
| 83A  | 12   | 4       | 16.0                            | 118.3                | 4.7                      | 0.4                        | 36                            |
| 83A  | 12   | 5       | 15.0                            | 119.8                | *4.9                     | *0.5                       | 37                            |
| 83A  | 12   | 6       | 16.0                            | 121.3                | 5.8                      | 0.2                        | 47                            |
| 83A  | 13   | 1       | 25.0                            | 123.1                | *6.3                     | *0.3                       | 50                            |
| 83A  | 13   | 2       | 16.0                            | 124.5                | 8.0                      | 0.2                        | 65                            |
| 83A  | 13   | 4       | 16.0                            | 127.5                | 8.2                      | 0.1                        | 68                            |
| 83A  | 13   | 6       | 16.0                            | 130.5                | 8.0                      | 0.1                        | 66                            |
| 83A  | 14   | 1       | 114.0                           | 159.2                | *6.2                     | *0.3                       | 50                            |
| 83A  | 14   | 2       | 16.0                            | 159.8                | 7.2                      | 0.2                        | 58                            |
| 83A  | 14   | 4       | 16.0                            | 162.8                | 7.0                      | 0.1                        | 57                            |
| 83A  | 14   | 5       | 74.0                            | 164.8                | *7.0                     | *0.2                       | 57                            |
| 83A  | 14   | 6       | 16.0                            | 165.8                | 7.7                      | *0.3                       | 61                            |
| 83A  | 15   | 1       | 25.0                            | 179.8                | *7.4                     | *0.2                       | 60                            |
| 83A  | 15   | 2       | 16.0                            | 181.2                | 7.3                      | *0.2                       | 60                            |
| 83A  | 15   | 3       | 75.0                            | 183.3                | *7.5                     | *0.2                       | 61                            |
| 83A  | 15   | 4       | 16.0                            | 184.2                | 11.6                     | *0.0                       | 96                            |
| 83A  | 15   | 5       | 75.0                            | 186.3                | *7.0                     | *0.2                       | 57                            |
| 83A  | 15   | 6       | 16.0                            | 187.2                | 6.7                      | *0.2                       | 54                            |
| 83A  | 16   | 2       | 16.0                            | 212.8                | 8.7                      | *0.1                       | 71                            |

TABLE 1 – *Continued*

| Hole | Core | Section | Top Interval in<br>Section (cm) | Depth in<br>Hole (m) | Total Carbon<br>Per Cent | Organic Carbon<br>Per Cent | CaCO <sub>3</sub><br>Per Cent |
|------|------|---------|---------------------------------|----------------------|--------------------------|----------------------------|-------------------------------|
| 83A  | 16   | 3       | 14.0                            | 214.2                | *8.2                     | *0.2                       | 67                            |
| 83A  | 16   | 4       | 16.0                            | 215.8                | 8.6                      | *0.1                       | 70                            |
| 83A  | 16   | 5       | 15.0                            | 217.3                | *9.0                     | *0.1                       | 74                            |
| 83A  | 16   | 6       | 16.0                            | 218.8                | 9.0                      | *0.1                       | 74                            |
| 84   | 1    | 1       | 16.0                            | 0.2                  | 3.1                      | *1.9                       | 10                            |
| 84   | 1    | 2       | 16.0                            | 1.7                  | 2.8                      | *1.6                       | 10                            |
| 84   | 1    | 4       | 16.0                            | 4.7                  | 3.2                      | *1.5                       | 14                            |
| 84   | 1    | 6       | 16.0                            | 7.7                  | 3.4                      | *1.3                       | 17                            |
| 84   | 2    | 2       | 16.0                            | 10.9                 | 3.1                      | *1.7                       | 11                            |
| 84   | 2    | 4       | 16.0                            | 13.9                 | 4.2                      | *1.0                       | 27                            |
| 84   | 2    | 6       | 16.0                            | 16.9                 | 1.9                      | *1.3                       | 6                             |
| 84   | 3    | 2       | 16.0                            | 20.0                 | 4.9                      | *1.0                       | 32                            |
| 84   | 3    | 4       | 16.0                            | 23.0                 | 2.0                      | *1.1                       | 8                             |
| 84   | 3    | 6       | 16.0                            | 26.0                 | 1.6                      | *0.9                       | 6                             |
| 84   | 4    | 2       | 16.0                            | 29.1                 | 1.9                      | *1.0                       | 7                             |
| 84   | 4    | 4       | 16.0                            | 32.1                 | 3.7                      | *1.1                       | 22                            |
| 84   | 4    | 6       | 16.0                            | 35.1                 | 2.2                      | *0.7                       | 13                            |
| 84   | 5    | 2       | 16.0                            | 38.3                 | 2.4                      | *0.8                       | 13                            |
| 84   | 5    | 4       | 16.0                            | 41.3                 | 4.8                      | *1.0                       | 32                            |
| 84   | 5    | 6       | 16.0                            | 44.3                 | 5.0                      | *1.0                       | 33                            |
| 84   | 6    | 2       | 16.0                            | 47.4                 | 2.8                      | *1.2                       | 13                            |
| 84   | 6    | 4       | 16.0                            | 50.4                 | 6.9                      | *0.9                       | 50                            |
| 84   | 7    | 2       | 16.0                            | 56.6                 | 3.4                      | *0.9                       | 21                            |
| 84   | 7    | 4       | 16.0                            | 59.6                 | 2.6                      | *1.1                       | 13                            |
| 84   | 7    | 6       | 16.0                            | 62.6                 | 3.0                      | *1.0                       | 17                            |
| 84   | 8    | 2       | 16.0                            | 65.7                 | 3.8                      | *0.9                       | 24                            |
| 84   | 8    | 4       | 16.0                            | 68.7                 | 4.0                      | *1.8                       | 19                            |
| 84   | 8    | 5       | 16.0                            | 70.2                 | 4.9                      | *0.7                       | 35                            |
| 84   | 8    | 6       | 16.0                            | 71.7                 | 2.5                      | *1.0                       | 12                            |
| 84   | 9    | 2       | 16.0                            | 74.9                 | 2.8                      | *1.7                       | 9                             |
| 84   | 9    | 4       | 16.0                            | 77.9                 | 2.2                      | *1.1                       | 9                             |
| 84   | 9    | 6       | 16.0                            | 80.9                 | 2.4                      | *1.2                       | 11                            |
| 84   | 10   | 2       | 0.0                             | 83.8                 | 2.6                      | *1.1                       | 12                            |
| 84   | 10   | 4       | 0.0                             | 86.8                 | 2.6                      | *1.1                       | 13                            |
| 84   | 10   | 6       | 0.0                             | 89.8                 | 4.1                      | *1.2                       | 24                            |
| 84   | 11   | 2       | 16.0                            | 93.1                 | 4.1                      | *0.6                       | 28                            |
| 84   | 11   | 4       | 16.0                            | 96.1                 | 3.7                      | *0.6                       | 25                            |
| 84   | 11   | 6       | 16.0                            | 99.1                 | 5.5                      | *0.5                       | 41                            |

TABLE 1 – *Continued*

| Hole | Core | Section | Top Interval in<br>Section (cm) | Depth in<br>Hole (m) | Total Carbon<br>Per Cent | Organic Carbon<br>Per Cent | CaCO <sub>3</sub><br>Per Cent |
|------|------|---------|---------------------------------|----------------------|--------------------------|----------------------------|-------------------------------|
| 84   | 12   | 2       | 16.0                            | 102.3                | 2.1                      | *0.7                       | 11                            |
| 84   | 12   | 4       | 16.0                            | 105.3                | 4.9                      | 1.1                        | 32                            |
| 84   | 12   | 6       | 16.0                            | 108.3                | 4.6                      | *0.6                       | 34                            |
| 84   | 13   | 2       | 16.0                            | 111.4                | 5.4                      | *0.5                       | 41                            |
| 84   | 13   | 4       | 16.0                            | 114.4                | 5.6                      | *0.5                       | 43                            |
| 84   | 13   | 6       | 16.0                            | 117.4                | 5.5                      | *0.5                       | 42                            |
| 84   | 14   | 2       | 16.0                            | 120.6                | 4.4                      | *0.6                       | 31                            |
| 84   | 14   | 4       | 16.0                            | 123.6                | 4.4                      | *0.5                       | 32                            |
| 84   | 14   | 6       | 16.0                            | 126.6                | 5.1                      | *0.6                       | 38                            |
| 84   | 16   | 2       | 0.0                             | 138.7                | 7.4                      | *0.3                       | 60                            |
| 84   | 16   | 4       | 0.0                             | 141.7                | 7.7                      | *0.2                       | 63                            |
| 84   | 16   | 6       | 0.0                             | 144.7                | 7.4                      | *0.3                       | 59                            |
| 84   | 17   | 2       | 16.0                            | 148.0                | 7.1                      | *0.2                       | 58                            |
| 84   | 18   | 2       | 16.0                            | 157.2                | 8.3                      | *0.3                       | 67                            |
| 84   | 18   | 4       | 16.0                            | 160.2                | 7.4                      | *0.2                       | 60                            |
| 84   | 19   | 4       | 16.0                            | 169.3                | 8.8                      | *0.2                       | 72                            |
| 84   | 19   | 6       | 16.0                            | 172.3                | 8.4                      | *0.3                       | 68                            |
| 84   | 20   | 2       | 16.0                            | 175.4                | 6.7                      | *0.2                       | 54                            |
| 84   | 21   | 5       | 16.0                            | 189.1                | 8.8                      | *0.2                       | 71                            |
| 84   | 22   | 2       | 32.0                            | 193.8                | 4.0                      | *0.8                       | 27                            |
| 84   | 22   | 6       | 16.0                            | 199.7                | 8.5                      | *0.4                       | 67                            |
| 84   | 23   | 4       | 16.0                            | 205.9                | 7.8                      | 0.6                        | 60                            |
| 84   | 24   | 2       | 16.0                            | 212.0                | 7.9                      | *0.4                       | 62                            |
| 84   | 24   | 4       | 16.0                            | 215.0                | 8.7                      | *0.3                       | 70                            |
| 84   | 25   | 2       | 16.0                            | 221.2                | 8.1                      | *0.2                       | 65                            |
| 84   | 26   | 4       | 16.0                            | 233.3                | 9.0                      | *0.1                       | 74                            |
| 84   | 26   | 6       | 16.0                            | 236.3                | 10.1                     | *0.1                       | 84                            |
| 84   | 27   | 2       | 16.0                            | 239.5                | 8.9                      | *0.1                       | 73                            |
| 84   | 27   | 5       | 16.0                            | 244.0                | 8.2                      | *0.3                       | 66                            |
| 84   | 27   | 6       | 16.0                            | 245.5                | 8.9                      | 0.6                        | 69                            |
| 84   | 28   | 2       | 16.0                            | 248.6                | 7.4                      | *0.2                       | 61                            |
| 84   | 28   | 4       | 16.0                            | 251.6                | 7.7                      | *0.2                       | 62                            |

Precision of these data are as follows:

|                      |                         |
|----------------------|-------------------------|
| Total carbon         |                         |
| (1.2 to 12 per cent) | = $\pm 0.3\%$ absolute  |
| (0 to 1.2 per cent)  | = $\pm 0.06\%$ absolute |
| Organic carbon       | = $\pm 0.06\%$ absolute |
| Calcium carbonate    |                         |
| (10 to 100 per cent) | = $\pm 3.0$ absolute    |
| (0 to 10 per cent)   | = $\pm 1.0\%$ absolute  |

The above methods, precision, and accuracy apply only to Leg 9 data. Values of zero per cent carbon or zero per cent calcium carbonate are not absolute and are obviously subject to our resolution or precision.

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