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Recent and Glacial Age Organic Carbon and Biogenic Silica Accumulation in Marine Sediments

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RECENT AND GLACIAL AGE ORGANIC CARBON AND BIOGENIC
SILICA ACCUMULATION IN MARINE SEDIMENTS

BY

DOUGLAS S. CWIENK

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE

IN

OCEANOGRAPHY (GEOLOGICAL)

UNIVERSITY OF RHODE ISLAND

1986

12. 11. 1986

MASTER OF SCIENCE THESIS

OF

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ABSTRACT

Sedimentation rate data for the late Pleistocene and Holocene was compiled and mapped along with bulk sediment accumulation rate data estimated from the surface calcium carbonate concentration. This data was combined with surface organic carbon and opal (biogenic silica) concentration data in order to calculate the recent rate of accumulation of these biogenically derived sedimentary components. The maps of organic carbon and opal accumulation rates showed similar trends, being highest in known regions of upwelling and high productivity. Annual organic carbon burial was estimated by multiplying the accumulation rates by the areas between the contours and found to be 0.21×10^{14} gC/yr for the deep-sea (pelagic and hemipelagic) and 0.04×10^{14} gC/yr for the shelves exclusive of deltaic sediments. Burial of organic carbon in deltaic sediments is very large, however the necessary data is not available to calculate the burial of organic carbon in all the worlds major river deltas. For this reason an estimate of 1.04×10^{14} gC/yr from Berner (1982) is assumed to be correct for delta deposits, yielding a global organic carbon burial rate of 1.29×10^{14} gC/yr. Organic carbon burial in the most recent Mediterranean sapropel is 0.016×10^{14} and therefore had little or no affect on the global carbon cycle. Glacial versus interglacial organic carbon accumulation is compared at 10 sites, showing glacial rates higher in areas of present upwelling. Organic carbon

accumulation rates and organic carbon accumulation rates divided by productivity are plotted versus sedimentation. While correlations were fairly good ($r^2=0.81$ and $r^2=0.66$, respectively), sedimentation rate data alone is insufficient for estimating organic carbon accumulation.

All available quartz and opal concentrations from deep-sea surface sediments were intercalibrated, plotted, and contoured on a calcium carbonate-free basis. The maps show highest concentrations of opal along the west coast of Africa, along equatorial divergences in all oceans, and at the Polar Front in the southern Indian Ocean. These are all areas where upwelling is strong and there is high biological productivity. Quartz in pelagic sediments deposited far from land is generally eolian in origin. Its distribution reflects dominant wind systems in the Pacific, but in much of the Atlantic and Indian oceans the distribution pattern is strongly modified by turbidite deposition and bottom current processes.

ACKNOWLEDGEMENTS

Support for this work came from National Science Foundation grants ATM 81-16301, OCE 82-00388, and OCE 85-11896 to M. Leinen and also through the award of the URI Industrial Associates Fellowship in 1985 from Exxon. I thank the many technicians and students who generated the data used in this compilation, most of whom I do not know, but including Patricia Price, formerly of Oregon State University, and Tammy King Walsh, University of Rhode Island. I also thank Ray Cranston of the Atlantic Geoscience Centre, Bedford Institute of Oceanography and J.H.F. Jansen of the Netherlands Institute for Sea Research for providing me with unpublished data.

I would like to thank Richard Burroughs for once again being an outside committee member for a defending graduate student at GSO, and for his insight into the problem from outside the immediate area of my work. I would like to thank Mike Arthur for his suggestions and many long discussions of my work. I would especially like to thank my major professor Margaret Leinen for her help in defining the direction my work was to take, pointing me in the right direction to find what was needed, for showing me how to write scientific works, and for consistently providing funding for me, so that I could complete my work. I would also like to thank Ken Hinga for his help and his insight into the workings of GSO.

On a more personal note I would like to thank my friends

at GSO, the girls in the lab who listened to me complain when things went wrong, the other students who drank, laughed and enjoyed life beyond work with me, especially Frank Hall and the intramural football team, White Noise, who helped me blow off steam both on the field and in the bar. Above all I would like to thank my parents for their constant love and support regardless of what I chose to do with my life and my wife Eileen, who supported, comforted, and loved me through the many ups and downs that my work and my moods created.

PREFACE

This thesis is presented in the form of one manuscript, in accordance with the guidelines of the University of Rhode Island Graduate School of Oceanography. The manuscript is to be submitted to the journal, Biogeochemical Cycles. Appendix I consists of an article previously published under the authorship of Margaret Leinen, Douglas Cwienk, G. Ross Heath, Pierre Biscaye, V. Kolla, Jorn Thiede, and J. Paul Dauphin. Much of the plotting and contouring was done by me as was the writing of the initial draft of the text, however the text was heavily revised and the unpublished data used, had been obtained prior to my beginning work on that project. Appendix I, while not an integral part of this thesis, provided data and experience in plotting and handling large data sets, used in the preparation of this thesis. Appendix 2 and 3 contain all of the raw data used to generate both the maps for my thesis and the maps of Leinen, et al, 1986. Appendix 4 contains the calculated values used to generate the sedimentation rate, bulk sediment, organic carbon and opal accumulation rate maps.

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TITLE: Recent and Glacial Age Organic Carbon and Biogenic
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INTRODUCTION

Organic carbon is usually a minor constituent of marine sediments, however its burial plays a very important role in biogeochemical cycles. Marine sediments represent a significant sink for carbon in the marine carbon cycle that has been estimated by many researchers (eg. Garrels and Perry, 1974; Kempe, 1979; Berner, 1982), but has not yet been studied in great detail. In this study we combine maps of the global distribution of organic carbon in deep sea sediments (Premuzic, et al, 1982; Cwienk and Leinen, 1986) with sedimentation and mass accumulation rates to make a quantitative estimate of recent and glacial age organic carbon accumulation in marine sediments.

The main sources of organic carbon to marine sediments are terrestrial organic matter transported to the ocean via rivers and photosynthetic production of marine phytoplanktic organic matter. Chemosynthetic production of organic carbon compounds occurs in hydrothermal vent communities (Corliss, et al, 1979). The net carbon production of these unique areas is probably small and will be ignored for the purposes of this study.

The amount of marine autochthonous organic carbon fixed in near-surface waters by photosynthesis is dependent, in part, on nutrient availability in surface waters. During

respiration a large proportion of this photosynthetic organic carbon is metabolically oxidized and a smaller fraction of it is reformed into different organic carbon compounds. Carbon (CO_2) is cycled through this system of photosynthetic fixation and metabolic liberation. A portion of the organic carbon in this cycle survives oxidation in the water column and is transported to the sediments where most of it is recycled by benthic faunal respiration. A similarly small fraction (ca. 0.5% of the primary production) of the organic carbon reaching the sediments is preserved by burial (Müller and Suess, 1979). Previous studies suggest that on a regional and local basis (e.g. Lisitzin, 1972; Suess, 1980) the rate of organic carbon burial reflects primary productivity in spite of the many processes which diminish carbon fluxes to sediments. Such a relationship between sedimentary organic carbon accumulation and primary productivity (photosynthesis) would allow us to make inferences about surface productivity in the past from sediment accumulation, despite the fact that only 0.01% to 20% (typically 0.5%) of the organic carbon produced is preserved in the sediments (Müller and Suess, 1979).

Whereas river input and primary production (photosynthesis) in surface waters control the amount of organic carbon supplied to the seafloor, many factors modify the concentration of organic carbon buried in the sediments. For example, because organic carbon fluxes may be modified by oxidation in the water column and at the sediment water

interface organic carbon distribution can be altered by depth-dependent oxygen concentrations. In areas where the midwater oxygen-minimum zone intersects the seafloor along continental margins, organic carbon is preferentially preserved in surface sediments (e.g. the Peru margin, Froelich, 1979; Demaison and Moore, 1980). Organic carbon concentrations and accumulation rates may also be influenced by varying burial rates. Higher sedimentation rates remove organic carbon from the zone of oxic benthic metabolism (reduced residence time at the sediment/water interface). The relationship between the rate of organic carbon burial and sedimentation rate is quantitative for specific areas (eg. northeast Pacific, Heath et al, 1977; West Africa, Jansen, et al, 1984). Müller and Suess (1979) have suggested that the relationship between the rate of organic carbon burial and sedimentation rate varies in a systematic fashion in all sediments.

Organic carbon distribution may also be affected by the grain size and mineralogy of the accompanying sediments. Some organic carbon compounds are sorbed onto clays (Weiss, 1969; Morris and Calvert, 1975), thereby apparently increasing organic carbon preservation in the fine fraction. Fine-grained sediments have been found to be higher in organic carbon (Emery and Uchupi, 1972; Bordovskiy, 1965; and others). Of course, this relationship may be the result of depositional energy and higher organic carbon fluxes to the seafloor over the continental slope where finer grained

sediments preferentially accumulate. Müller and Suess (1977) suggested that organic carbon preservation is also related to calcium carbonate concentration, due to sorption of dissolved organic matter onto the surface of calcium carbonate grains. Direct evidence for these effects is lacking.

It has been proposed that primary production in many low latitude oceanic regions was higher during glacial periods than during interglacial periods (e.g. Müller, *et al*, 1983; CLIMAP Project Members, 1976, and Broecker, 1982). Such changes in productivity and the amount of carbon buried would also have affected the CO_2 content of the atmosphere. Evidence from Antarctic ice cores suggests that the CO_2 content of the atmosphere was approximately 90 ppm lower during the last glacial maximum (18 ka) (Neftel, *et al*, 1982). It has been shown that increasing the concentration of CO_2 in the atmosphere would cause a warming of the atmosphere due to the retention of short wave radiation being back-radiated by the earth (Schneider and Kellogg, 1973). This phenomenon is known as the "greenhouse effect". Its possible consequences have caused much concern because of the progressive increase in atmospheric CO_2 concentrations since the industrial revolution, as the result of the burning of fossil fuels.

Any attempt to study changes in the carbon cycle through time or to assess possible responses to anthropogenic influences (e.g. Garrels and Perry, 1974; Kempe, 1979;

Arthur, 1982; etc.) must include an estimate of changes in the rate of removal of organic carbon from the system by sedimentation on the sea floor so that a baseline is available against which to compare estimates for older time periods. Organic carbon accumulation rates are related to productivity, the rates determined here also provide data with which such a relationship can be quantified for estimation of rates of productivity during other time intervals may be made.

Other approaches to estimating rates of organic carbon burial and its role in the carbon cycle are based on net flux measurements at a few localities, which are calculated from surface carbon flux measured by sediment traps and benthic flux measured by benthic respiration and pore water studies. Such studies are necessarily short term and therefore are influenced by seasonal and short-term events, such as organic floc falls (Honjo, 1982). Surface flux minus benthic flux equals the burial flux or accumulation rate. The average organic carbon accumulation rate in sediments integrates the burial flux over longer periods of time (a few kyrs.) and mediates the effects of seasonality, short-term and localized phenomena. By mapping the distribution of organic carbon accumulation on the sea floor, local studies of fluxes may be placed into the context of global or regional trends. In this way such flux studies can be extrapolated globally without having to study fluxes everywhere in the world for extended periods of time.

Biogenic silica (opal) is often a major constituent of marine sediments and its importance has long been recognized. Opal consists primarily of the tests of siliceous marine phytoplankton and zooplankton, which are most abundant in zones of high nutrient availability and therefore it is another possible indicator of surface water biological productivity. Its distribution in ancient sediments has been used by many authors to infer paleoproductivity and paleocirculation (e.g. Pisias, 1974; Molina-Cruz, 1976; Pisias and Leinen, 1984). Like organic carbon, opal produced in the surface waters does not reach the seafloor without dissolution. Opal is subject to dissolution both in the water column and on the seafloor because seawater is everywhere undersaturated with respect to opaline silica (Miskell, et al, 1985). For deep water masses it is a general rule that older water masses (i.e. ones which have been separated from the surface water longer) are less undersaturated (Berger, 1970; Edmond, 1974). This is because dissolved silica is added to the bottom waters by progressive dissolution of opal falling from surface waters and a net upward flux of dissolved silica from sediments to deepwater masses. Unlike calcium carbonate, which is subject to differential dissolution with depth, preservation of opal is largely independent of depth. Opal and organic carbon are similar in that preservation is partially dependent on sedimentation rate, however since other factors may affect the preservation of either or both

to varying degrees, any major differences in their distribution should distinguish areas in which variations are due to preservation rather than to actual variations in productivity.

A global map of recent sedimentation rate and bulk sediment accumulation are presented in this study along with maps previously published which explain the pattern of global sedimentation. Maps of global opal and organic carbon accumulation are presented to show the pattern of accumulation of two organically derived sedimentary components that are not as strongly controlled by water depth as calcium carbonate. With the exception of the opal accumulation map which was generated to contrast with the organic carbon accumulation map, the generation of the maps was done with the ultimate goal of calculating the recent burial rate of organic carbon in submarine sediments.

METHODS

Organic Carbon

There are several techniques for determining carbon in deep sea sediments. Sediment geochemists analyze marine carbon in three categories: 1) carbonate carbon, which in deep-sea sediments is generally the remains of calcareous organisms, 2) organic carbon, which is the remains of living tissue, and 3) total carbon, the carbonate plus the organic carbon. Because these three components are related, only two need to be determined, and the third can be calculated. Some investigators measure both the organic carbon and the

carbonate carbon (Weliky, et al, 1983), while others measure the total carbon and either organic carbon or carbonate and find the third value by difference (Kolpack and Bell, 1968).

Carbonate carbon is measured by adding a strong acid such as hydrochloric or phosphoric acid, which dissolves the carbonate, generating carbon dioxide (Weliky, et al, 1983). The amount of CO_2 generated is measured and the results are compared to standards to determine the concentration. Measurements of carbonate carbon using a carbonate bomb have an accuracy of ca. $\pm 5\%$ (Dunn, 1980), while measurements made with a coulometer are dependent on the accuracy of the sample weight, (Engleman, et al, 1985).

Organic carbon is generally measured by heating the sample to extremely high temperatures and measuring either the weight loss (for samples with high concentrations) or measuring the CO_2 generated by the oxidation of the organic carbon (for samples with low organic carbon concentrations, e.g. LECO, CHN and coulometry techniques) (Gibbs, 1977). Weliky, et al (1983) used a slightly different technique for measuring organic carbon, which consisted of measuring the CO_2 generated by dichromate oxidation of the sample. Carbon of various types is usually measured by instruments such as the LECO Carbon Analyzer or automated CHN (carbon-hydrogen-nitrogen) analyzer, which determine carbon by combusting the sample at high temperatures with purified O_2 and measuring the CO_2 generated (Kolpack and Bell, 1968). The determinations of organic carbon concentration in the

literature generally have an accuracy of ± 0.02 weight percent. High precision and accuracy are required in partitioning total carbon into carbonate and organic carbon because organic carbon is found in concentrations of only 5% to <0.1% in open ocean sediments (Heath et al, 1977). Concentrations are somewhat higher on the continental shelves and slopes (Premuzic, et al, 1982).

There are some problems with the analytical techniques for carbon, which cause inaccuracies in the measurements. When a sample is acidified in order to measure the carbonate content, some of the volatile/soluble portion of the organic carbon can be dissolved by the acid and measured with the carbonate. Similarly when a sample is ashed at high temperatures in order to measure the organic carbon, some of the carbonate carbon is oxidized by the extreme heat (Lyle, written communication). Attempts to reduce the error due to these effects by using a weaker acid or lower temperature may result in incomplete dissolution or oxidation of the desired form of carbon (Froelich, 1980; Weliky et al, 1983). For these reasons the measured organic carbon and carbonate carbon rarely add up to 100% of the total carbon when all three are measured. Froelich (1980) attempted to solve this problem by acidifying samples to remove the carbonate, then analyzing the insoluble residue with a CHN analyzer. The acid-dissolved solution (filtrate) was also analyzed using a modified dissolved organic carbon (DOC) method (Menzel and Vaccaro, 1964; Kerr, 1977). The two values were summed to

obtain the organic carbon percentage. Because of its relative difficulty and time-consuming nature this technique has not been used by many authors. Due to problems in accurately determining the dry bulk density and sedimentation rate, values with errors of less than $\pm 10\%$ of the true value are acceptable.

For this study we used organic carbon and carbonate carbon data from various literature sources. Additional unpublished data for sediments from North Pacific basin, analyzed at Oregon State University, were provided by M. Lyle (written communication). Additional new analyses of organic carbon concentrations in Indian and Atlantic Ocean samples were performed for this study using a Coulombmetrics, Inc. coulometer. Samples were dried, weighed, and a split of the sample was placed in coulometer, where they were acidified with phosphoric acid. The CO_2 generated was then automatically titrated by the coulometer to provide the percentage of calcium carbonate. A second split was placed in an oven at 980°C where the CO_2 generated was swept by a constant flow of ultrapure O_2 into the same automated titrator to determine the total carbon (Huffman, 1977). Standards of pure calcium carbonate were run to ensure that all carbonate carbon was being dissolved or combusted during each of the analyses. The organic carbon was calculated by subtraction.

Biogenic Silica

Opal concentrations used in this study are from the

compilation of Leinen and others (1986). Most of the opal values reported were determined by x-ray diffractometry using alumina as an internal standard (Calvert, 1966; Ellis and Moore, 1973). Although the absolute values indicated by opal determinations have been suspect, recent work (Leinen and King, 1981a, b; Leinen, 1985) shows that the relative abundances indicated by x-ray diffractometry are valid. Leinen and others (1986) also used several techniques to intercalibrate the x-ray diffraction data with other data sets, including 1) comparison of samples analyzed by more than one author, 2) normative partitioning of sediment geochemistry, and 3) standard additions. Their results indicate that the accuracy of uncalibrated x-ray opal determinations is $< \pm 10$ wt%.

Sedimentation Rates

Sedimentation rates were calculated by dividing the depth to a given stratigraphic marker (in centimeters) by the age of that marker (in thousands of years). This yielded the sedimentation rate in centimeters per thousands of years. In the absence of data to the contrary, it was assumed that sedimentation was continuous during the interval between the surface and the stratigraphic datums.

The most reliable stratigraphic markers for determining Holocene and glacial sedimentation rates are the last glacial maximum (at 18 ka) and the end of the last glacial (at 12 ka) as determined from the oxygen isotopic composition of planktonic or benthonic foraminifera (Imbrie,

et al, 1984), and ^{14}C age determinations. Many cores were available for which oxygen isotope stratigraphies had been determined by CLIMAP, a study of the Holocene and glacial global ocean (Moore, et al, 1980; Prell, et al, 1980; CLIMAP Project Members, 1976). Additional sedimentation rates were also available or calculated based on carbon-14 dating of recent sediments, ash layer datums, biostratigraphy and magnetostratigraphy (the Bruhnes/Matuyama (B/M) magnetic reversal at 690 ka (Goodell and Watkins, 1968)). The sedimentation rate estimates for the North Pacific Ocean are based primarily on 18 ka oxygen isotopic determinations and magnetostratigraphy (B/M) with ash layer datums in the eastern equatorial region. All stratigraphy in the southern South Pacific is based on magnetic reversal stratigraphy (B/M Boundary). The Atlantic and Indian Ocean sedimentation rates are based mainly on oxygen isotope stratigraphy with some magnetostratigraphy, carbon-14, and biostratigraphy, particularly on the margins.

Because this study was designed to investigate the accumulation rates of organic carbon for the Holocene (12 ka to present) and for the last glacial maximum, stratigraphies based on oxygen isotope determinations or carbon-14 ages are preferable because no pre-stage 2 sedimentation is included in the rate. The oxygen isotopic stratigraphy is very accurate and allows resolution of the desired interval (Prell, et al, 1986). In some cases the oxygen isotopic stratigraphy is detailed enough to identify the end of the

last glacial at 12 ka. In this case both glacial and interglacial accumulation rates can be determined. In other cases the resolution of the oxygen isotopic stratigraphy was not sufficient to identify the end of the last glacial periods accurately. In this case, if there have been changes in sedimentation rate since the last glacial maximum the differences will be averaged. Average sedimentation rates determined using only the Bruhnes/Matuyama datum represent longer averages and include possible changes that occurred over a number of glacials and interglacials (i.e. average late Pleistocene sedimentation). Carbon-14 dates based on organic carbon provide absolute ages, however the accuracy of these ages is altered by reworking and redeposition of the carbon and to some extent by diagenesis (Erlenkeuser, 1980). Most C-14 ages are too old by 1 to 2 kyrs. Sedimentation rates based on ash layer dates are precise and the ages of many of the ash layer datums are very accurate, but in general they are only useful in small areas.

Accumulation Rates

The bulk sediment accumulation rate is the mass burial flux of sediments. It is calculated by multiplying the dry bulk density (in g/cm^3) and the sedimentation rate. When the bulk accumulation rate is multiplied by the concentration of any sedimentary component (expressed as a fraction of the sediment dry weight) the resulting value is the accumulation rate of that particular component

regardless of dilution by other components or by lithification or compaction by burial.

In this study, accumulation rates, A , were calculated by multiplying the dry bulk density, B_d (in g/cm^3), by the sedimentation rate, S (in cm/kyr), and the concentration of the sedimentary component being studied, C , giving units of $\text{g/cm}^2/1000\text{yr}$:

$$A = B_d SC$$

Dry bulk density is defined as the weight of dry sediment per wet volume of sediment. This value was not available for all cores. Lyle and Dymond (1976) developed a set of equations to estimate the dry bulk density from calcium carbonate concentrations applicable to the North Pacific sediments that are relatively free of biogenic opal. Lyle and Dymond's (1976) reasoning was that because the CaCO_3 is the only major sedimentary component that is significantly different in density from the others in unlithified opal-free deep-sea sediments, its concentration would control the changes in bulk density. Their data for the Pacific Ocean suggested that:

$$B_d = P_t (1 - X_w);$$

$$X_w = 0.83 - 0.36C;$$

$$\text{and } 1/P_t = 0.88 - 0.22C - 0.03C^2$$

where, B_d is the uncompressed dry bulk density, P_t is the wet bulk density, X_w is the water content, and C is the calcium carbonate concentration. Whereas estimates based on this technique appear to be reasonable in the regional

examples cited by Lyle and Dymond, the technique is less reliable for estimating downcore variations in bulk density within a single core (Curry, 1986). Such uncertainty introduces some error into the accumulation rate calculations, but this error is generally smaller than errors in estimating absolute ages for various levels in the cores.

Kominz and others (1977) compared GRAPE (Gamma Ray Attenuation Porosity Evaluator) bulk density measurements from selected cores to the results obtained with the Lyle and Dymond (1976) equations and found good agreement. They used stepwise regression analysis and considered variations in dry bulk density due to age and depth in core to try to improve the equations but could not get significantly better results. Therefore, the Lyle and Dymond equations were used in this study to estimate the dry bulk density when measurements by GRAPE or other direct determinations were not available.

For calculating global organic carbon burial, areas within basins and between contour lines were determined by planimetering the area with a planimeter that had been calibrated by planimetering several known areas at varying latitudes (to ensure that the map was a true equal area projection) on an equal area map.

DISCUSSION

Maps were constructed for the global distribution of sedimentation rates, bulk sediment accumulation rates, organic carbon accumulation rates and opal accumulation rates. Organic carbon concentrations compiled from a literature search and new determinations made for this study were used as the data base for the organic carbon accumulation rate map. A map of global surface sediment opal distribution (Leinen et al, 1986) was used to generate the opal accumulation rate map. A map of bulk density was not generated because in most areas the bulk density was estimated from the CaCO_3 concentration as discussed above. More complete maps of CaCO_3 concentration in surface sediments than could be drawn from this data set have been published (Lisitzin, 1972, Berger, et al, 1976, Biscaye, et al, 1976, Kolla, et al, 1976).

SEDIMENTATION RATE MAP

One of the most important controls on the thickness of sediment accumulating on the sea-floor per unit time (Fig. 1) is the proximity to land and therefore the amount of terrigenous input. Terrigenous sources are dominant on the continental shelves but are also important in deep-sea areas where turbidity currents have deposited sediments, such as in the northeast Pacific and the western North Atlantic. A second important control on sedimentation rates is the varying rate of primary productivity in the surface waters. Major biogenic sedimentary components, carbonate which is

highly depth dependent and opal which is less dependent on water depth, are most important in areas with high nutrient inputs to surface waters, usually nearshore or in areas of upwelling, like the equatorial oceans (Figs. 2 & 3).

Another factor controlling sedimentation rate is the relative rate of preservation of sedimentary components that dissolve in seawater, which is in part related to water depth. For example, CaCO_3 dissolves less rapidly in shallower waters than at abyssal depths and results in higher sedimentation rates on oceanic ridges such as the East Pacific Rise in the South Pacific Ocean and on oceanic plateaus, such as the Ontong-Java Plateau in the western equatorial Pacific and the Rockall Plateau west of Great Britain (Fig. 2). The eolian or windblown input in areas beneath major wind belts, such as the westerlies belt east of Japan, which has desert sources in southeast Asia or the eastern North Atlantic off Northwest Africa, which has sources in the desert Sahara, will also increase the sedimentation rate (e.g., Fig. 4). The lowest sedimentation rates are in areas which receive little eolian and biogenic sediments, and no terrigenous material from downslope transport. These areas, such as the central South Pacific have the lowest accumulation rates in the deep sea and accumulate little other than hydrogenous and hydrothermal sediment (Lyle, in press).

The Pacific Ocean has lower overall sedimentation rates than the Atlantic Ocean for two reasons. The Pacific Ocean

has a ring of trenches circling the deep ocean basin which trap the terrigenous material transported downslope from the continents into the basin. Most of the sea-floor in the Pacific Ocean is also below the calcium carbonate compensation depth (CCD), thereby preventing the accumulation of CaCO_3 on much of the sea-floor, except along the East Pacific Rise and the various seamounts and plateaus.

In the Indian Ocean high sedimentation rates occur southwest and southeast of India, where the Indus Cone and Bengal Fan, respectively, accumulate great quantities of terrigenous material being eroded from the Himalayas. East of Southern Africa preservation of CaCO_3 on the shallow mid-ocean ridges and biogenic silica from the productive convergence at the polar front accounts for the higher sedimentation rate.

BULK SEDIMENT ACCUMULATION RATE

Figure 5 is the map of bulk sediment accumulation rates generated from the bulk densities estimated from CaCO_3 concentration using the equation of Lyle and Dymond (1976) and sedimentation rates. Measured bulk densities were available for a small number of sites in the South Pacific. For many cores sedimentation rate data were available but CaCO_3 concentrations were not. Because there were detailed maps of CaCO_3 available (Berger, et al, 1976, Biscaye, et al, 1976, Kolla, et al, 1976) and we had CaCO_3 data from cores near the sedimentation rate data, we estimated the

CaCO_3 concentration for cores for which such data were not available. The error introduced by such an estimation is at most about 20% which is small compared to the variation in sedimentation rate. The map of bulk sediment accumulation rate (Fig.5) shows the same general features as the sedimentation rate map (Fig.1). This confirms that bulk density, does not vary greatly compared to sedimentation rate and that the latter is the dominant control on mass accumulation rates.

ORGANIC CARBON ACCUMULATION

Organic carbon accumulation rates (Fig. 6) are highest in the equatorial Pacific, along the coasts (particularly the west coast of the United States), south of the Aleutian Islands and in a region extending east of Japan. Along the coasts, the organic carbon accumulation is high as a result of high primary and secondary biological production due to the input of nutrients and as a result of the accumulation of terrestrial organic carbon from the land. The organic carbon accumulation rate is high in the equatorial Pacific because of high primary production in the zone of upwelling (Koblenz-Mishke, et al, 1970). The lobe extending eastward from Japan is a reflection of the high productivity in that area due to upwelling at the confluence of the Kuroshio and Oyashio currents (Koblenz-Mishke, et al, 1970). The high values south of the Aleutian Islands is due to the cumulative effects of slightly higher productivity and high burial rates of terrigenous carbon in turbidites (Koblenz-

Mishke, et al, 1970).

The available data is adequate in the Pacific Ocean but is very sparse, elsewhere. Nonetheless, it is unlikely that any significant areas of high organic carbon accumulation were missed. Some areas that have better sample coverage may have been emphasized compared to regions having comparable values but a fewer number of data points. Data for organic carbon concentration is lacking in much of the Atlantic, Indian and Southern Ocean, therefore estimates of organic carbon accumulation are based on a small number of data points, thought to be representative.

OPAL ACCUMULATION RATES

The opal accumulation rate map (Fig.7) shows highest accumulation rates in the equatorial Pacific, east of Japan, off the northwest coast of Africa, around Antarctica, in the Caribbean and south of India. Aside from the Caribbean which is rather shallow, all of the regions mentioned are known areas of strong mixing and/or upwelling.

In most of the areas where organic carbon is accumulating rapidly, opal is also accumulating rapidly (see Fig. 8). This suggests that early work calling attention to the relationship between organic carbon accumulation, opal accumulation and primary productivity (Lisitzin, 1972; Heath, 1974) over broad areas, is reasonable, although this relationship may not hold for individual sites. This agreement can be seen between a map of estimated primary productivity (Fig.8) generated by Berger and others (1986)

for the Pacific Ocean and the organic carbon accumulation rate for that ocean basin (Fig.6).

GLOBAL ORGANIC CARBON DEPOSITION

One of the major objectives of this study was to determine the total amount of organic carbon being deposited in sediments during the Holocene. For the Pacific Ocean, we estimated the rate of organic carbon deposition by multiplying the areas between contours of organic carbon accumulation by the mean value within that area (Table 1). This procedure could not be used for the Atlantic and Indian Oceans because of the poor data coverage for organic carbon contents. Atlantic and Indian Ocean sedimentation is controlled to a large degree by the bottom topography (e.g. Fig. 1). We therefore divided the Atlantic and Indian deep sea floor into sedimentary and topographic provinces and made new analyses of representative samples from each province in order to determine its average organic carbon accumulation rate (Fig. 10). The organic carbon burial rate was then determined as for that in the Pacific Ocean (Table 1).

The organic carbon accumulation rate on the continental shelves is difficult to estimate. Although organic carbon data for the shelves are not extensive, an estimate was made using DeMaster's (1981) technique for estimating the accumulation rate of biogenic silica on the continental shelves. He chose representative areas of the continental shelves and calculated accumulation rates for them. The

rest of the shelves were assumed to have the same accumulation rates as the area that they most closely resembled oceanographically. Estimates of annual organic carbon burial for the continental shelves and Arctic Ocean were made in this way.

Estimates of organic carbon accumulation for the highly siliceous sediment province of the Antarctic were made using the paleo-productivity equation developed by Sarnthein and others (in press)

$$P = 15.9 C^{0.66} S_B^{0.66} (\rho(1-\phi))^{0.66} S_{B-C}^{-0.71} Z^{0.32}$$

in which, P is productivity in $\text{gC/m}^2/\text{yr}$, C is organic carbon concentration in weight percent, S_B is the sedimentation rate in cm/kyr , $\rho(1-\phi)$ is the dry bulk density in g/cm^3 , S_{B-C} is the sedimentation rate for the organic carbon-free fraction and Z is the water depth in meters.

Average productivity for the Antarctic was estimated at $85 \text{ gC/m}^2/\text{yr}$ based on Berger and others (1986), this is similar to what would be estimated using Koblenz-Mishke and others (1970). The average sedimentation rate of 5.9 cm/kyr was determined from Cooke and Hays (1981). The average water depth is 4000 meters and the dry bulk density 0.4 g/cm^2 . This yielded

$$C = (85/15.9) (5.9)^{0.66} (0.4)^{0.66} (5.86)^{-0.71} (4000)^{0.32} 1.515$$

$$C = 0.65\%$$

Therefore, $(0.0065) (0.4) (5.9) (1000) = 15.34 \text{ mgC/cm}^2/\text{kyr}$ Using this value, an annual organic carbon burial of $0.03 \times 10^{14} \text{ mg/cm}^2/\text{ky}$ (Table 1) was estimated for the circum-Antarctic

highly siliceous sediment belt. A much lower organic carbon accumulation rate was calculated for the remainder of the Antarctic region because it has a slower sedimentation rate (therefore, less effect on preservation), lower productivity and it is subject to erosion over much of its area. Whereas it may seem inappropriate to use the productivity equation in this way, the estimate that it yielded for the circum-Antarctic appears reasonable.

The annual organic carbon burial for the continental shelves (0.04×10^{14} grams C) and the deep-sea (0.21×10^{14} grams C) total 0.25×10^{14} grams carbon (Table 1). This value agrees well with that of Berner (1982) if one excludes the deltaic-shelf sediments, which account for 83% of his estimate of sedimentary organic carbon burial rates (Table 2). We gave no special consideration to deltaic sediments in this study. Berner (1982) determined organic carbon burial in deltaic deposits by multiplying the suspended sediment transport from rivers by the average organic carbon content of the deltaic sediments. Arthur and others (1985) arrived at a global organic carbon burial value comparable to Berner's (Table 2) by balancing the carbon reservoirs with the global $\delta^{13}\text{C}$.

Mopper and Degens (1979) pointed out that organic flocculation in estuaries (and presumably deltas) may control the amount of organic carbon reaching the deep-sea from rivers. This together with Berner's (1982) estimate suggest that delta deposits are an important component of

the carbon burial. We therefore tried to make an estimate of carbon burial in deltas based on sediment accumulation rates that could be compared with the Berner estimate.

Kuehl and others (1982) found that sediments accumulate on the Amazon Delta at a rate of 2 cm/yr over an area of approximately $46,000 \text{ km}^2$ and 0.5 cm/yr over an area of $30,000 \text{ km}^2$ and that the sediments have a dry bulk density of 0.7425 gr/cm^3 for a total of 8×10^{14} grams of sediment accumulating annually on the Amazon Delta. This quantity is twice the suspended sediment transport (3.63×10^{14}) used by Berner (1982) for his calculations and suggests that Berner's carbon burial could be less than half of the actual amount for this delta.

Trefry and Presley (1982) found that sediments are accumulating at a rate of 2 cm/yr on the Mississippi Delta and that approximately 1% of the sediment is organic carbon. The area of the delta is 2000 km^2 . If the dry bulk density is similar to that for the Amazon Delta (0.75), then the annual carbon burial is 0.3×10^{12} grams. The inclusion of Mississippi Fan sediments ($2 \times 10^{10} \text{ gC/yr}$) calculated from DSDP Leg 96 data (Wetzel and Kohl, 1986; Whelan and Tarafa, 1986) does not significantly change this value. This value is approximately one tenth of Berner's (1982) value for the Mississippi Delta, based on the suspended sediment transport. Thus Berner's (1982) value could be as much as ten times higher than the actual value for the Mississippi Delta.

These examples demonstrate that deltas are very important areas of organic carbon burial but that the organic carbon burial estimated by Berner (1982) from river transport for deltas may be in error by up to an order of magnitude. These discrepancies probably result from differences in the processes acting on organic carbon in estuaries and the nearshore environment before it is deposited. It is clear from our examples, however, that estimates of organic carbon burial in deltas based on the suspended river flux are not consistently greater than or less than estimates of burial flux based on sediment composition and sedimentation rate. Because Berner's total carbon burial is comparable to that of Arthur and others (1985) and because there is insufficient data to estimate the true burial rate of organic carbon in all of the world's major river deltas, we have used Berner's estimate for deltaic organic carbon burial, knowing that it may incorporate non-systematic errors of up to an order of magnitude for individual deltas.

The addition of 1.04×10^{14} g organic carbon, buried in river deltas to the 0.21×10^{14} g organic carbon buried in deep sea sediments and 0.04×10^{14} g carbon buried on shelves (exclusive of deltas) yields a total of 1.29×10^{14} g organic carbon buried annually in marine sediments. This value is very similar to that estimated by Berner (1982) and about 10% higher than the Arthur and others organic carbon burial estimated from a mass balance of $\delta^{13}\text{C}$.

Having defined the present (since the last glacial maximum, 18 ka) organic carbon burial rate, it would be a useful exercise to see how this would be affected by a major change in organic carbon deposition such as a sapropel and how glacial organic carbon deposition compares to interglacial deposition.

ORGANIC CARBON BURIAL IN SAPROPELS

Sapropels are organic-rich mud layers commonly found in deep-sea cores from the eastern Mediterranean Sea. The organic carbon content of these layers can be as great as 7% by weight. The origin of these layers is quite controversial, but all mechanisms attribute the increased organic carbon burial to stagnation of bottom waters due to an increase in the vertical stratification. For example, the eastern Mediterranean became well stratified after a rapid influx of freshwater (at 12 to 8ka) from melting of the Eurasian ice-sheet (Ryan, 1972), or as the result of intensified monsoonal rainfall in regions of North Africa which ultimately drain into the Mediterranean (Rossingnol-Strick, et al, 1982). The increased vertical stability, possibly coupled with higher than normal organic carbon production (Jenkins and Williams, 1984) caused rapid depletion of oxygen in bottom waters and enhanced preservation of organic matter to form the organic-rich sediments (Cita, et al, 1973). Because the rapid deposition of organic-rich layers over a large area could have a significant effect on the global marine organic carbon

budget we have estimated the total organic carbon burial resulting from the deposition of this sapropel.

Stanley (1978) showed that the deposition of sapropelic sediments occurred over much of the Mediterranean, but probably no more than 1.5 million square kilometers. Sapoprels usually represent a period of 2000 years and have a rate of deposition of 2 cm/kyr (Dominik and Mangini, 1979). Sapropels have an organic carbon concentration of 2 to 7% (Anastasakis and Stanley, 1984). If we assume a dry bulk density of 0.75 g/cm^3 , comparable to organic-rich deltaic sediments and an organic carbon concentration of 7%, then we can calculate a maximum contribution to the burial flux of 0.016×10^{14} grams carbon buried annually during Mediterranean sapropel deposition. This is much less than 0.1% of the total annual burial of organic carbon in marine sediments today and 5% of the total deep-sea burial. Therefore, the sapropel had an insignificant effect on the global organic carbon burial rate and the global carbon cycle, which includes 7.02×10^{17} grams of carbon readily available in the form of CO_2 in the atmosphere (Freyer, 1979).

GLACIAL vs INTERGLACIAL ORGANIC CARBON ACCUMULATION

It has been proposed by many authors, that primary productivity in the surface oceans was higher during glacials than interglacials (Müller et al, 1983; CLIMAP Project Members, 1976). In order to estimate the difference in glacial versus interglacial organic carbon deposition, we

determined rates for all CLIMAP cores which had oxygen isotopic stratigraphies and organic carbon analyses of glacial and interglacial sediments. There are only 10 such cores in the Pacific Ocean. The depth to the glacial/interglacial transition (at 12ka) was picked from oxygen or carbon isotope data, thereby allowing the determination of the glacial (18 to 12ka) and interglacial (12ka to present) organic carbon accumulation rates (Table 3).

Glacial organic carbon rates were higher in 6 of the 10 cores (Fig 11). These data are inadequate to support or refute the proposal that organic carbon accumulation was higher during glacials, as it would be expected to be if primary productivity had been high-particularly 2 to 3 times higher as proposed by Müller and others (1983). The data do suggest that glacial primary production is higher in areas in which upwelling is presently strong, while it is lower in other areas (Fig. 11). This would agree with Muller and others (1983), who found that glacial primary production increased significantly in areas of present upwelling.

ESTIMATING ORGANIC CARBON ACCUMULATION

It has been proposed (Heath et al, 1977) that there is a correlation between organic carbon accumulation and sedimentation rate ($C_A = 0.01 * Sed^{1.4}$), which occurs because high sedimentation rates sequester organic carbon from degradation at the sediment surface. Using all of the data points for which organic carbon accumulation rates were

calculated (Pacific Ocean), the sedimentation rate versus the organic carbon accumulation rate was plotted (Fig. 12). These two variables are well correlated ($r^2=0.81$).

Müller and Suess (1979) refined this idea by including surface water productivity as an additional variable controlling organic carbon accumulation ($C_A/PP*100=Sed^{1.30}$). In order to test Müller and Suess's (1979) hypothesis, the same data points were plotted but with the organic carbon accumulation rate divided by the primary productivity, as estimated from the Berger and others (1986) primary production map (Fig. 13). The correlation of these points is relatively good ($r^2=0.66$). The data were also divided into regions to determine whether the correlation is better within regions of similar sedimentation (the Australian/New Zealand high productivity region, the Kuroshio/Oyashio confluence region, the Peru/Equatorial high productivity region, the Pacific Coast of North America shelf region, and the Central Gyral regions). The correlation within each of the regions was significantly worse than that for all of the data combined (r^2 between 0.32 and 0.11) except the North American Shelf region ($r^2=0.67$). Our inability to estimate the primary productivity precisely enough may have caused sufficient error to mask the correlation in the regional sets (due to a lower number of observations) while the broader trend was still apparent in the larger data set.

CONCLUSIONS

Organic carbon burial in marine sediments is an

important mechanism for removing carbon from the ocean-atmosphere carbon reservoir. Burial of organic carbon in marine sediments exclusive of deltaic sediments accounts for 0.25×10^{14} grams carbon per year. Organic carbon burial is twice as large in the Pacific Ocean as either the Atlantic or Indian Oceans (Fig. 14). Burial on the shelves and around Antarctica is similar in magnitude to the Atlantic and Indian Oceans, while the semi-enclosed basins of the Mediterranean and Caribbean Seas account for much less. Burial in the Arctic Basin is extremely low. Burial of organic carbon in deltaic sediments is less easily quantified, but the estimate made by Berner on the basis of suspended sediment transport (1.04×10^{14} gC/yr) appears to be reasonable.

Organic carbon burial in Holocene sapropels of the eastern Mediterranean represents an insignificant (less than 0.1%) increase in the global burial of organic carbon.

Organic carbon accumulation in marine sediments is sufficiently independent of sedimentation rate that sedimentation rate alone cannot be used for predicting organic carbon accumulation.

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Table 1. Regional Distribution of Organic Carbon Burial

REGION	AREA MILLIONS SQ.KM	ORG C ACCUM RATE g/cm ² /ky	Total gC/yr
1 Pacific >25 contour	2.2	40.0	8.9x10 ¹¹
1 Pacific 10-25 contour	25.6	17.5	4.5x10 ¹²
1 Pacific 5-10 contour	33.5	7.5	2.5x10 ¹²
1 Pacific 2.5-5 contour	18.7	3.5	6.5x10 ¹¹
1 Pacific 1-2.5 contour	32.9	1.5	4.9x10 ¹¹
1 Pacific <1 contour	28.8	0.4	1.2x10 ¹¹
2 N. Atlantic MAR	5.6	11.0	6.2x10 ¹¹
2 N. Atlantic AP	6.3	4.0	2.5x10 ¹¹
2 N. Atlantic Deep Basins	20.6	5.0	1.0x10 ¹²
2 Argentine AP	4.1	1.5	6.2x10 ¹⁰
2 African Hi Sed Region	1.9	8.0	1.5x10 ¹¹
2 Angolan AP	2.1	12.0	2.5x10 ¹¹
2 S. Atlantic MAR	8.0	11.0	8.8x10 ¹¹
2 S. Atlantic Deep Basins	17.6	5.0	8.8x10 ¹¹
2 Indian Southern Basins	10.9	6.0	6.5x10 ¹¹
2 Indian Central Basins	3.1	4.5	1.4x10 ¹¹
2 Ninety East Ridge	1.4	4.0	5.8x10 ¹⁰
2 Indian Western Basins	10.5	4.5	4.7x10 ¹¹
2 Indian Ocean MIR	18.2	11.0	2.0x10 ¹²
2 Indus Fan	2.0	4.5	8.8x10 ¹⁰
2 Indian Eastern Basins	1.0	3.5	3.4x10 ¹⁰
2 Bengal Fan	3.1	15.0	4.6x10 ¹¹
2 Mediterranean	2.3	2.5	5.9x10 ¹⁰
2 Caribbean & Gulf	4.8	12.0	5.7x10 ¹¹
2 Arctic Ocean	12.1	1.5	1.8x10 ¹¹
2 Shelf E. Coast N. America	1.0	15.0	1.5x10 ¹¹
2 Shelf Australia & NZ	4.7	10.0	4.7x10 ¹¹
2 Shelf Indonesia	7.3	12.0	8.8x10 ¹¹
2 Shelf and North Sea	1.1	8.0	8.8x10 ¹⁰
2 Shelf E. Coast S. America	2.7	15.0	4.1x10 ¹¹
2 Shelf W. Coast N. America	2.4	20.0	4.9x10 ¹¹
2 Shelf W. Coast Africa	1.7	20.0	3.3x10 ¹¹
2 Shelf S. Coast Asia	2.1	20.0	4.2x10 ¹¹
2 Shelf E. Coast Africa	0.8	20.0	1.6x10 ¹¹
2 Shelf E. Coast Asia	3.0	17.0	5.1x10 ¹¹
2 Shelf W. Coast S. America	1.1	10.0	1.1x10 ¹¹
3 Antarctica Hi-Siliceous	18.9	15.3	2.9x10 ¹²
2 Antarctica Lo-Siliceous	18.5	2.5	4.6x10 ¹¹
TOTALS	342.6		2.5x10 ¹³

1 represents values obtained from areas with comprehensive data coverage where contours were drawn, 2 represents values obtained from representative samples within oceanographically similar areas, 3 represents values estimated from paleo-productivity equation (see text).

Table 2. Comparison of Organic Carbon Burial Estimates

SOURCE	REGION	ORG. C X10 ¹⁴	BURIAL G/YR
Berner, 1982	Pelagic Sediments	0.21	
	Deltaic-Shelf	1.04	
	Total	1.25	
Arthur, <u>et al</u> , 1985	Global	1.15	
This study	Pelagic Sediments	0.21	
	Shelf (exc. deltas)	0.04	
	Deltaic Deposits (from Berner, 1982)	1.04	
	Total	1.29	

Table 3. Comparison of Glacial vs. Interglacial Organic Carbon Accumulation Rates

LAT	LONG	CORE	DEPTH meters	AGE ky	SED R cm/ky	DRY BULK DENSITY	ORG C %	ORG C ACC g/cm ² /ky
-11.11	-162.55	rc10-114	2791	12-0	1.00	0.7560	0.17	1.26
				18-12	0.92 O	0.7560	0.17	1.18
3.39	-140.04	rc11-209	4400	10-0	1.00	0.6216	1.40	8.73
				18-10	2.88 O	0.6216	0.65	11.62
-27.17	-102.05	rc8-94	3074	12-0	1.00	0.7280	0.62	4.49
				18-12	0.75 O	0.7280	0.62	3.39
14.31	-96.18	v18-337	3891	12.5-0	7.20	0.2040	3.73	54.75
				18-12.5	23.73 C	0.2040	2.91	140.88
-17.00	-114.11	v19-55	3177	12-0	0.92	0.5186	1.40	6.67
				18-12	1.42 O	0.5186	1.04	7.64
47.57	168.47	v20-119	2739	12-0	1.33	0.1963	0.25	0.65
				18-12	0.92 O	0.1963	1.19	2.14
-5.27	160.29	v28-235	1746	12-0	1.67	0.4281	4.30	30.70
				18-12	2.58 O	0.4281	0.81	8.96
20.06	142.27	v28-255	3261	12-0	1.04	0.4335	0.46	2.10
				18-12	0.50 O	0.4335	1.04	2.25
43.34	-126.28	y66095	2978	12.5-0	8.32	0.1991	1.84	30.49
				18-12.5	44.73 C	0.1991	0.68	60.66
-16.26	-77.34	y71612p	2734	12-0	1.00	0.2063	8.41	17.35
				18-12	2.08 O	0.2063	2.57	11.05

Figure 1: Sedimentation rates in cm/ky. Symbols mark location of core and type of stratigraphic feature used to determine sedimentation rate. ○ indicates oxygen isotope pick, Δ indicates magnetostratigraphic pick, ▽ indicates ash layer datum, ▼ indicates biostratigraphic datum, ● indicates ^{14}C date, and ♦ indicates lithologic determination of age.

Figure 2a: Distribution of CaCO_3 in surface sediments (wt.%) for the Pacific Ocean (Berger, et al, 1976).

Figure 2b: Distribution of CaCO_3 in surface sediments (wt.%) for the Atlantic Ocean (Biscaye and Kolla, 1976).

Figure 2c: Distribution of CaCO_3 in surface sediments (wt.%) for the Indian Ocean (Kolla, et al, 1976).

Figure 3: Distribution of opal in surface sediments (carbonate-free wt.%) (Leinen, et al, 1986).

Figure 4: Distribution of quartz in surface sediments (carbonate-free wt.%) (Leinen, et al, 1986)

Figure 5: Bulk sediment accumulation rates ($\text{g}/\text{cm}^2/\text{ky}$). Symbols mark location of core and type of stratigraphic feature used to determine sedimentation rate. ○ indicates oxygen isotope pick, ▲ indicates magnetostratigraphic pick, ▼ indicates ash layer datum, ▾ indicates biostratigraphic datum, ● indicates ^{14}C date, and ◆ indicates lithologic determination of age.

Figure 6: Organic carbon accumulation rates ($\text{mg}/\text{cm}^2/\text{ky}$). Symbols mark location of core and type of stratigraphic feature used to determine sedimentation rate. $\circ$ indicates oxygen isotope pick, $\triangle$ indicates magnetostratigraphic pick, ∇ indicates ash layer datum, $\blacktriangledown$ indicates biostratigraphic datum, $\bullet$ indicates ^{14}C date, and $\blacklozenge$ indicates lithologic determination of age.

Figure 7: Opal accumulation rates ($\text{mg}/\text{cm}^2/\text{ky}$).

Figure 8: Organic carbon accumulation rate data plotted against opal accumulation rates for all cores containing both.

Figure 9: Distribution of primary production in surface waters ($\text{gC/m}^2/\text{yr}$) (Berger, et al, 1986).

SYNTHETIC PRIMARY PRODUCTIVITY

Figure 9: Distribution of primary production in surface waters ($\text{gC/m}^2/\text{yr}$) (Berger, et al, 1986).

Figure 9: Distribution of primary production in surface waters ($\text{gC/m}^2/\text{yr}$) (Berger, et al, 1986).

SYNTHETIC PRIMARY PRODUCTIVITY

W.H. Berger, K. Fischer, C. Lai and G. Wu

"Primary Production and Organic Carbon Flux in the World Ocean"

AGU, Jan. 13-17, 1986. New Orleans.

$$C_{flux, 500m} = PP/25.$$

Figure 10: Equal area projection of organic carbon accumulation rates ($\text{mg}/\text{cm}^2/\text{ky}$). Regions without data points shown have values estimated from the average of the available data within that region.

Figure 11: Percent change of organic carbon accumulation during glacial time (18 to 12ka) relative to interglacial time (12ka to present). Using the equation (glacial - interglacial) / interglacial.

Figure 12: Organic carbon accumulation rate data plotted against sedimentation rate data for all cores in the Pacific Ocean containing both.

Figure 13: Organic carbon accumulation rate data divided by primary productivity above that site plotted against the sedimentation rate data at that site for all cores containing both in the Pacific Ocean.

SEDIMENTATION RATE

- 1. PACIFIC
- 2. ATLANTIC
- 3. INDIAN
- 4. ARABIAN
- 5. MEDITERRANEAN

$$y = 0.0368 * x^{1.0825} \quad R = 0.81$$

- AUST & NZ
- × GYRES
- + KURO/OYASH
- ▲ PERU & EQ
- W.COAST NA

ANNUAL ORGANIC CARBON ACCUMULATION

Figure 14: Regional annual organic carbon accumulation (gC/yr), exclusive of deltaic sediments.

ANNUAL ORGANIC CARBON ACCUMULATION

THE DISTRIBUTION OF QUARTZ AND BIOGENIC SILICA IN RECENT DEEP SEA SEDIMENTS

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Appendix I: The Distribution of Quartz and Biogenic Silica in Recent Deep Sea Sediments

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THE DISTRIBUTION OF QUARTZ AND BIOGENIC SILICA
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THE DISTRIBUTION OF QUARTZ AND BIOGENIC SILICA IN RECENT DEEP SEA SEDIMENTS

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and G. Ross Heath, Pierre E. Biscaye, V. Kolla, J. Thiede, and J. Paul Dauphin

ABSTRACT

All available quartz and biogenic silica concentrations from deep-sea surface sediments were intercalibrated, plotted, and contoured on a calcium carbonate-free basis. Quartz in pelagic sediments deposited far from land is generally eolian in origin. The distribution reflects dominant wind systems in the Pacific, but in much of the Atlantic and Indian Oceans the distribution pattern is strongly modified by turbidite deposition and bottom current processes. The surface sediment maps show highest concentrations of biogenic silica (opal) along the west African coast, along equatorial divergences in all oceans, and at the Polar Front in the southern Indian Ocean. These are all areas where upwelling is strong and there is high biological productivity.

INTRODUCTION

Although quartz is often a small component of deep-sea sediments, its abundance and distribution pattern can be very useful for the interpretation of sediment source areas, sedimentation processes and paleoclimate. The siliceous remains of plankton are generally a major component of deep-sea sediments; the abundance and distribution of this biogenic silica (opal) have been used to infer the paleoproductivity and paleocirculation of the oceans (e.g. Molina-Cruz, 1977; Pisias, 1979; Pisias and Leinen, 1984). While detailed maps of the other major biological component of sediments, calcium carbonate, have been published (Berger, 1976; Biscaye *et al.*, 1976), world maps of similar detail for quartz or opal, which have been analyzed by many investigators over the years, have not been published. We have compiled all of the published quartz

and opal data determined by the X-ray diffraction technique and have included all of our unpublished analyses as well.

QUARTZ

Since 1955 a great many quantitative analyses of the quartz content of deep-sea sediments have been made by X-ray diffractometry. After Till and Spears (1969) refined the X-ray technique for quartz determination using alumina as an internal standard, it was used routinely for sediment analyses by many oceanographic laboratories. Detailed maps of the quartz distribution in the Atlantic Ocean (Kolla, *et al.*, 1979), Indian Ocean (Kolla and Biscaye, 1977) and North Pacific Ocean (Moore and Heath, 1978; Heath, *et al.*, 1983) are available, but maps of similar data density for the entire Pacific have not been made, although many data are available. In addition, the various data sets have not been intercalibrated.

Quartz is stable at ocean bottom conditions and does not form authigenically in recent sediments. Therefore its source is, with rare exception (Peterson and Goldberg, 1982), continental. Being resistant to abrasion and dissolution, quartz arrives at the sea floor in much the same condition that it reached the sea surface (Rex, 1958). Most quartz in pelagic sediments occurs as chips and shards and although the grain size varies with its origin and transport mechanism, most grains are in the 5-10 μm range (Rex and Goldberg, 1958). The flux of fluvial and hemipelagic sediments decreases rapidly with distance from land. Such sediments are not sources of quartz far from the continents. For these reasons, quartz in pelagic sediment far from land and in locations protected from turbidity current deposition has been inferred to be eolian (Rex and Goldberg, 1958).

Quartz is common in the mineral aerosol transported by wind (Prospero and Bonatti, 1969; Prospero and Carlson, 1972; Blank, *et al.*, 1985). Recent studies have shown that the proportion of quartz in aerosols matches that in sediments accumulating

beneath the aerosol collection site (e.g. Blank, *et al.*, 1985) , further supporting its inferred eolian origin in pelagic sediments.

Methods

We collected all available published and unpublished X-ray diffraction determinations of quartz. Because the X-ray diffraction technique for quartz and opal analysis requires calcium carbonate removal, all data are on a calcium carbonate-free basis and do not reflect influence by this important diluent. (The data sources are listed in Table 1; core identifications, locations, quartz, opal, and carbonate concentrations are listed in Appendix I* .) A few areas have some overlap in data and one, the South Atlantic, has been studied in detail by two sets of investigators (Ellis and Moore, 1973; Kolla *et al.*, 1979). The two independent studies showed the same distribution pattern. The analysis of several samples by both sets of investigators allowed us to intercalibrate the quartz analyses done at Lamont-Doherty Geological Observatory (Biscaye, Kolla) with those done at Oregon State University (Ellis, Heath, Molina-Cruz, Thiede, Dauphin) and the University of Rhode Island (Leinen). A comparison of the samples that had been analyzed by both Kolla, *et al.* (1979) and Ellis and Moore (1973) indicated that the Ellis and Moore values were systematically greater by 5.8 wt% quartz ($r^2 = 0.68$). The Ellis and Moore samples were calibrated to a standard curve of varying percents of quartz in a clay matrix and the details of the conversion factors were reported in Ellis (1972). This curve was used for all subsequent Oregon State University analyses. The exact factors for

* Note to Reviewers: We are including the data Appendix in the manuscript sent out

for review. We will request that the appendix not be published, but be included

in a data archive that is available by mail request from the Society.

converting peak area ratios to weight percent quartz were not given by Kolla *et al.* (1979), and they did not publish a standard curve. As a result, we chose to increase the Kolla *et al.* (1979) quartz values for the Atlantic Ocean and the Kolla and Biscaye (1977) quartz values for the Indian Ocean by 5.8 wt% to match the Oregon State data. The University of Rhode Island data were also intercalibrated with the Oregon State University data (Pisias and Leinen, 1984). The calibrated data were plotted and contoured.

Distribution

The distribution of quartz in pelagic sediments of eolian origin should reflect dominant wind systems and major arid regions (Griffin, *et al.*, 1968; Kolla and Biscaye, 1977; Moore and Heath, 1978; Kolla *et al.*, 1979; Thiede, 1979). If quartz particles settled to the seafloor by Stokesian settling, the fine grain size of the material would lead to slow settling rates. This action by currents would smear or obliterate any pattern of distribution by wind transport. Such is not the case; quartz distributions reflect wind patterns in many regions. Sediment trap research suggests that filter-feeding plankton concentrate inorganic particles from the surface water into fecal pellets causing them to sink rapidly (Honjo, *et al.*, 1982). Large organic aggregates ("marine snow") also increase the sinking rate (Honjo, *et al.*, 1982).

There is a strong latitudinal pattern of quartz distribution in the North Pacific (Fig. 1) that has been related to the mean position of the westerly wind system over this region (Rex and Goldberg, 1958; Griffin, *et al.*, 1968; Moore and Heath, 1978). Numerous sediment and aerosol studies have demonstrated that this sediment is derived from Asia (Rex and Goldberg, 1958; Griffin, *et al.*, 1968; Windom, 1969; Duce, *et al.*, 1980, 1983; Shaw, 1980; Parrington, 1981). The South Pacific has low quartz concentrations reflecting smaller input from continental sediment sources (Thiede, 1979; Dymond, 1981; Schramm and Leinen, in press; Bloomstine and Rea, in press). Although the influence of Australia as a source region for quartz in the southwest Pacific has been

documented by Thiede (1979), this material does not extend across the entire South Pacific.

The Sahara is an important source of eolian sediment in the eastern Atlantic (Kolla and Biscaye, 1977; Sarnthein, 1979). Its relative influence on deep-sea sedimentation drops off markedly to the west, however, and does not extend across the sub-equatorial Atlantic. In the equatorial Atlantic Ocean there is some suggestion of latitudinal banding, but the quartz distribution has been strongly modified by turbidite deposition and bottom processes which are discussed in detail by Kolla, *et al.* (1979).

Quartz is diluted by opal in areas of strong upwelling and along the equatorial divergences. This is very apparent in the eastern equatorial Pacific where carbonate-free sediments are dominated by biogenic silica (Molina-Cruz and Price, 1977, Heath, *et al.*, 1983).

OPAL

Biogenic silica (opal) in deep-sea sediments is dominated by the remains of marine plankton, and is closely related to surface productivity (Pisias, 1974; Molina-Cruz, 1977) because siliceous sediments are not affected by differential dissolution with depth, as are calcareous sediments. Earlier maps of opal distribution in pelagic sediments (Lisitzin, 1972; Heath, *et al.*, 1983) focussed on the Antarctic and the North Pacific. The remainder of the world ocean was highly generalized. Unfortunately, no data points were shown on the Lisitzin map and the data have not been published. The importance of biogenic silica has long been recognized, but its surface distribution has not been mapped in detail previously because of the great difficulty of analyzing opal quantitatively in deep-sea sediments (Leinen, 1977; Eggiman, *et al.*, 1980; DeMaster, 1980).

Methods

Opal can be determined by X-ray diffractometry using alumina as an internal standard (Calvert, 1966; Ellis and Moore, 1973), and in fact most of the investigators

who have analyzed quartz in sediments also determined the opal contents of their samples by the X-ray diffraction technique (e.g. Molina-Cruz and Price, 1977). Most of these regional data sets have never been published, however, because the absolute value of the opal concentrations were suspect. Recent work (Leinen and King, 1981; Leinen, in press) suggests that the relative abundances indicated by the X-ray diffraction analyses are valid. After compiling and contouring the opal data for this study (all data are listed in Appendix I), it was clear that the regional patterns of opal distribution determined by X-ray diffractometry did indeed make sense oceanographically, but needed calibration.

X-ray opal values were calibrated using data from other techniques. These calibrations yielded results that were very consistent for individual deep-sea regions. Data for the equatorial Pacific were calibrated by comparing opal values determined by Heath using X-ray diffractometry with those determined by normative partitioning of sediment geochemistry (Leinen, 1977). Several subtropical South Pacific samples analyzed by Molina-Cruz and Price (1977) also had bulk sediment geochemical analyses. Data for this area were calibrated by comparison with estimates of opal content from geochemical partitioning (Dymond, 1981; Leinen and Pisias, 1984). Central North and South Pacific data (Moore and Heath, 1978) and Indian Ocean data (Kolla and Biscaye, 1977; Moll, *et al.*, in press) were calibrated by the standard additions technique of Leinen and King (1981). Northwest Pacific data were also calibrated by the standard additions technique and by comparison with quantitative microfossil counts (Leinen, in press). Finally, the overlapping analyses of South Atlantic samples (Kolla, *et al.*, 1979; Ellis and Moore, 1973) allowed a direct comparison. Because the Ellis and Moore (1973) data were calibrated using a standard curve and microfossil counts, they were accepted and the Kolla, *et al.* (1979) data were multiplied by a factor of 1.2 to bring them into agreement with the Ellis and Moore data. We did have to adjust the opal values by up to ± 5 wt% in areas of overlap between regions calibrated by different techniques. Because the concentration of opal in the sediments was generally large, this adjustment

introduced an error of <10% of measured value. At the 10 wt% contour interval used on the map, such error would move contours to one side or the other of a point, but would not affect the pattern of the contours. We chose not to include the contours published by Lisitzin (1972) because we could not obtain the core locations or calibrate the data to our x-ray opal analyses.

Distribution

Although the opal data are not ideal and there is certainly room for improvement in the calibration of different data sets, the distribution pattern of the opal data and the good agreement between the X-ray diffraction data and other indicators of biogenic silica concentration (such as microfossil counts and geochemical partitioning) suggest that the data reflect real differences in opal concentration in deep-sea sediments (Fig. 2). The carbonate-free concentrations follow the observed patterns of surface water biological productivity. The equatorial productivity zones in all oceans show up clearly, as do other zones of strong upwelling, such as those off southwest Africa and those associated with the Kuroshio-Oyashio confluence in the northwest Pacific. Siliceous productivity associated with the Polar Front in the Indian Ocean is clearer than that in the southwest Pacific and south Atlantic where there are fewer data. In the equatorial Indian Ocean opal is diluted by terrigenous sediment in the Bengal Fan east of India and west of the central Indian Ridge. In the western equatorial Atlantic it is diluted by terrigenous material from South America.

DISCUSSION

Using the opal concentrations indicated by the intercalibrated data, we were also able to correct the quartz concentrations for dilution by biogenic silica. The resulting map (Fig. 3) reflects the amount of quartz in the non-biogenic sediment. This fraction includes sediments of terrigenous, hydrogenous, and hydrothermal origin as well as trace amounts of sediment of biological origin (e.g. organic carbon, barite, phosphatic fish debris, etc.). Differences in the quantity of quartz in the carbonate- and opal-free

sediment therefore reflect the overall importance of terrigenous material in the sediment as well as the quartz content of specific terrigenous source areas. For example, Dymond (1981) has demonstrated that the non-biogenic sediments of the South Pacific deposited west of the East Pacific Rise crest are dominated by hydrogenous and hydrothermal phases. Thus, it is not surprising that the quartz contents are low. The non-biogenic sediments of the North Pacific are dominated by terrigenous material, however (Griffin, *et al.*, 1968; Windom, 1969; Leinen and Heath, 1981). The distribution pattern in the North Pacific reflects both eolian transport by the major wind systems and differences in the quartz content of terrigenous sources. The latitudinal patterns are much clearer in the opal-free data. In the North Pacific the opal-free data also show a lobe of higher quartz concentrations in the eastern North Pacific at about 20°N which has been attributed to eolian transport from the arid desert regions of Central America and southwestern North America (Moore and Heath, 1978). The map suggests that eolian material transported across the North Pacific from Asia by the westerlies has a similar quartz content to that supplied to subtropical northeast Pacific sediments from the desert regions of North America by the trade winds. The concentration of quartz (calculated on an opal-free basis) also is influenced by the weathering style on the continent. For example, deep-sea sediments contain high concentrations of quartz downwind of major deserts like the Sahara (Sarnthein, 1979; Dauphin, 1982).

Eolian processes are not the only processes controlling quartz distribution in the ocean, however, and in some areas they are not the dominant processes. In the Atlantic Ocean any eolian pattern of latitudinal banding is strongly modified by turbidite deposition on abyssal plains and by contour current winnowing. It is obvious from our results that great care must be taken when choosing where quartz determinations can be used as reliable indicators of eolian transport.

The gross pattern of opal distribution mirrors the surface primary productivity (Koblentz-Mishke, *et al.*, 1970; Heath, *et al.*, 1983) even in areas like the equatorial and

northwest Pacific, where the siliceous sediment is dominated by the skeletal remains of radiolarians which are not primary producers. The similarity between primary productivity and opal distribution is strongest in the Pacific where sediments are dominantly pelagic. Absolute concentrations must be used with care because of problems in calibrating opal techniques discussed earlier, however the map clearly reflects first-order features like the equatorial high productivity belts and some second-order features like the productivity associated with the confluence of the Kuroshio and Oyashio currents in the northwest Pacific.

ACKNOWLEDGEMENTS

We would like to thank the many technicians and students who contributed to the data sets which are combined in this paper. These individuals are acknowledged in the papers which have been published. Patricia Price, formerly of Oregon State University and Tammy King Walsh, URI, performed most of the new, unpublished analyses. The intercalibration work and the summarization work was supported by National Science Foundation grants #ATM - and #OCE - to M. Leinen.

TABLE 1. KEY TO SOURCES OF X-RAY MINERALOGICAL DATA

	AREA	SOURCE	REFERENCE	PREVIOUS MAPS
A.	Indian	Kolla & Biscaye	Kolla and Biscaye (1977) + unpublished data	Kolla and Biscaye (1977)
	Atlantic	Kolla & Biscaye	Kolla <u>et al.</u> , (1979) + unpublished data	Kolla, <u>et al.</u> (1979)
B.	Indian	Dauphin	unpublished	
	Pacific	Dauphin	unpublished	
C.	South Pacific	Thiede	Thiede (1979) + unpublished data	Thiede (1979)
D.	North Pacific	Pisias	Pisias (1974)	
E.	North Pacific	Wenkam	Wenkam (1976)	
F.	North Pacific	Peterson	Peterson (1969)	
G.	Pacific	CLIMAP	unpublished data	
H.	South Atlantic	Ellis	Ellis (1972)	Ellis (1972)
I.	Indian	Leinen	unpublished data	
J.	Pacific	Heath	unpublished data	Moore and Heath (1979) (partial)
K.	Pacific	Molina-Cruz	Molina-Cruz (1976)	Molina-Cruz (1976) Molina-Cruz (1977) Molina-Cruz and Price (1977)
L.	Pacific	Rex	Rex (1958) Rex and Goldberg (1958)	Rex and Goldberg (1958)

FIGURE CAPTIONS

Figure 1. Distribution of quartz in deep sea sediments. All data are corrected for dilution by calcium carbonate. Contours are in weight percent.

Figure 2. Distribution of biogenic silica (opal) in deep sea sediments. All data are corrected for dilution by calcium carbonate. Contours are in weight percent.

Figure 3. Distribution of quartz in the non-biogenic fraction of deep sea sediments. All data are corrected for calcium carbonate and biogenic silica. Contours are in weight percent.

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The following is a list of the table contents and their

locations in the report. It is arranged in the order in which they are presented in the report.

Table 1 - Location of the study area and the study area

Table 2 - The study area and the study area (continued)

Table 3 - The study area and the study area (continued)

Table 4 - The study area and the study area (continued)

Table 5 - The study area and the study area (continued)

Table 6 - The study area and the study area (continued)

Table 7 - The study area and the study area (continued)

Table 8 - The study area and the study area (continued)

Table 9 - The study area and the study area (continued)

Table 10 - The study area and the study area (continued)

Appendix II: Core Information and Concentration of Sedimentary Components

The following is a list of the table headings and their definitions:

LONG = longitude (D is degrees, M is minutes, + is east, and - is west).

LAT = latitude (+ is north and - is south).

CORE ID = the standard core designations (explained on the following page).

ACCESS = sample number used by analyzing laboratory.

DEPTH = water depth above core site (in meters).

SAMP DEPTH = depth in core from which sample was taken (in centimeters).

QTZ % = quartz concentration (in carbonate-free sample).

OPAL % = opal concentration (in carbonate-free sample).

CACO3 % = calcium carbonate concentration.

SOURCE = data source listed on a following page.

Key for Core Identification Codes:

Cores are identified by standard codes used in the literature or the code used by the author from which the data was obtained. These include the following ship codes.

RC = Robert Conrad

V or VM = Vema

AII = Atlantis II

EN = Endeavor

E = Eltanin

TR or TRI = Trident

A = Atlantis

S = Shelf cores from USGS

T = Tyro

X = Data from Tiedemann, 1985 with no ship designation

Data Source Designations:

- 1 Data from Kolla and Biscaye, 1977; Kolla et al, 1979: and Kolla and Biscaye unpublished.
- 2 Data from Dauphin unpublished.
- 3 Data from Thiede, 1979; and unpublished.
- 4 Data from Pisias, 1974.
- 5 Data from Wenkam, 1976.
- 6 Data from Peterson, 1969.
- 7 Data from CLIMAP, unpublished.
- 8 Data from Ellis, 1972.
- 9 Data from Leinen, unpublished.
- 0 or 10 Data from Heath, unpublished.
- 11 Data from Molina-Cruz, 1976.
- 12 Data from Rex, 1958: and Rex and Goldberg, 1958.
 - .1 Data from Prell, et al, 1980.
 - .2 Data from Borole, et al, 1982.
 - .3 Data from Hays, et al, 1976.
 - .4 Data from Streeter, et al, 1982.
 - .5 Data from Balsam, 1981.
 - .6 Data from CLIMAP, 1976.
 - .7 Data from Curry and Lohman, 1982.
 - .8 Data from Hathaway, 1971.
 - .9 Data from Opdyke and Foster, 1970.
 - .01 Data from Tiedemann, 1985.
 - .02 Data from Jansen, et al, 1984; and Jansen personal communication.
 - .03 Data from Goodell and Watkins, 1968.
 - .04 Data from Huang and Watkins, 1977.
 - .05 Data from Prell, 1980; and Peterson and Prell, 1985.
 - .06 Data from Mix and Ruddiman, 1985.
 - .07 Data from Leinen and Graybeal, 1986.
 - .08 Data from Mix and Fairbanks, 1985.
 - .09 Data from Moore, et al, 1980.
 - .001 Data from Sanders, et al, 1965.
 - .002 Data from Honjo, et al, 1982.
 - .003 Data from Yingst and Aller, 1982.
 - .004 Data from Smith, 1978.
 - .005 Data from Tietjen, 1971.
 - .006 Data from van Vleet and Quinn, 1979.
 - .007 Data from Winters et al, 1984a and b, and Cranston, personal communication.
 - .008 Data from Ledbetter, 1985.
 - .009 Data from Ninkovitch and Shackleton, 1975.
 - .0001 Data from this study.
 - .0002 Data from Gardner, 1982.

Data with no source designation is from unpublished organic carbon and calcium carbonate data from Oregon State University.

INDIAN OCEAN

LONG	LAT	CORE	ACCESS	DEPTH	SAMP	QTZ	OPAL	CACO3	SOURCE
D M	D M	ID			DEPTH	%	%	%	
55.45	-2.40	119-195	16812	4206	0	2.76	42.98		1
51.44	8.59	a15558	21115	3985	1- 3	4.91	41.87		1.1
69.30	19.03	arb-52		2240					0.2
69.30	19.03	arb-52		2240					0.2
69.30	19.03	arb-52		2240					0.2
70.09	81.47	arb-54		800					0.2
70.09	81.47	arb-54		800					0.2
70.09	81.47	arb-54		800					0.2
105.33	-43.19	e4527	2111	3779	1- 3	1.91	59.11		1.1
114.21	-45.02	e4528	2112	4032	1- 3	1.73	62.65		1.1
97.32	-29.40	e4811	2114	3462	1- 3	5.40	22.48		1.1
85.25	-39.54	e4822	2115	3380	1- 3	1.79	46.29		1.1
83.43	-39.31	e4823	2116	3517	1- 3	1.83	54.59		1.1
79.54	-38.33	e4827	2117	3285	1- 3	1.74	58.14		1.1
100.01	-41.01	e483	2113	3933	1- 3	2.63	44.52		1.1
51.19	-43.49	md73025		3284					0.08
59.50	-44.04	rc11-101	18812	4806	3- 5	5.83	12.98	19.9087	1.0001
54.13	-34.20	rc11-106	1857	4212	3- 6	3.03	62.55		1
52.30	-31.25	rc11-107	1858	4799	0- 5	4.63	19.81		1
55.53	-27.30	rc11-108	1859	5057	4- 8	4.18	15.30		1
57.57	-24.29	rc11-110	18813	4960	5- 8	2.80	20.38		1
63.04	-30.57	rc11-113	18814	5136	10-12	3.85	22.67		1
66.46	-34.17	rc11-115	18815	4663	4- 6	2.79	22.43		1
69.33	-36.29	rc11-117	18510	4367	5- 7	4.53	45.55		1
71.32	-37.48	rc11-118	1494	4354	4- 8	2.74	37.45		1
74.34	-40.18	rc11-119	1495	3709	6-11	1.69	68.31		1
79.52	-43.31	rc11-120	1423	3193	0- 5	0.51	28.49		1.1
79.52	-43.31	rc11-120	1496	3193	5- 9	0.45	11.85		1
82.15	-39.43	rc11-121	1405	3426	0- 5	2.21	60.63	90.7970	1.1001
86.39	-37.59	rc11-123	1424	3766	0- 5	0.00	59.79	89.4642	1.0001
90.13	-36.06	rc11-124	1425	3775	0- 5	0.86	52.56		1
91.56	-33.38	rc11-125	1406	4305	0- 5	3.94	31.02		1
94.25	-30.04	rc11-126	1407	2336	0- 5	4.85	26.50		1
100.05	-27.49	rc11-130	1426	4508	0- 5	3.32	27.72		1
105.42	-33.03	rc11-133	1408	5367	6- 9	4.99	15.00		1
110.33	-33.04	rc11-134	1427	2345	0- 5	7.12	35.83		1
111.90	-35.15	rc11-135	1409	32767	6- 8	10.43	18.42		1
112.46	-33.47	rc11-137	14010	3043	0	8.25	61.79		1
112.59	-33.48	rc11-139	14011	3157	0	8.70	53.57		1
114.07	-31.34	rc11-141	1428	4347	0- 5	4.87	88.16		1
110.01	-25.29	rc11-145	14012	3869	3- 5	3.83	53.00		1.1
110.01	-25.29	rc11-145		3868		15.03	27.65		9
112.48	-21.25	rc11-146		3869		16.09	6.58		9
112.48	-21.25	rc11-146	1429	2371	0- 5	5.35	31.22		1
112.45	-19.04	rc11-147	14013	1953	3- 5	2.80	55.21		1.1
119.00	-6.01	rc11-150	14014	633	0- 5	0.00	15.31		1
23.15	-52.03	rc11-89	1851	3010	0	0.50	49.58		1
25.43	-56.38	rc11-90	1852	5334	3- 6	3.10	46.08		1
34.11	-56.34	rc11-91	1853	5373	3- 6	2.90	72.87		1
39.57	-52.29	rc11-92	1854	5093	3- 6	1.59	81.63		1

51.58	-56.18	rc11-93	1855	5373	0	0.37	37.05		1
54.05	-52.48	rc11-95	1856	4585	3- 6	3.13	57.59		1
61.12	-50.19	rc11-97	18810	4638	8-10	0.60	41.14		1
61.02	-46.31	rc11-99	18811	4449	5- 8	2.64	30.11		1
34.02	-30.18	rc12-305	18511	2794	4- 6	17.26	11.68		1
37.00	-26.56	rc12-306	21614	2501	3- 5	10.39	8.83		1
40.27	-22.24	rc12-308	21615	2361	0	4.60	4.30		1
41.21	-21.41	rc12-309	21616	3537	3- 5	29.66	5.93		1
41.55	-19.45	rc12-310	2171	2895	0- 5	7.31	7.08		1
47.48	-6.36	rc12-320	18512	4784	4- 6	5.32	27.59		1
50.25	0.18	rc12-322	18513	5077	3- 6	2.80	29.44		1
51.13	4.29	rc12-324	18514	4954	3- 5	6.41	20.10		1
55.00	0.47	rc12-326	18515	4795	3- 5	3.50	25.69		1
57.50	1.41	rc12-327	18516	4446	3- 7	2.44	53.40		1
60.36	3.57	rc12-328	1861	3087	2- 6	2.31	81.58		1
65.12	2.59	rc12-329	18816	3864	3- 5	3.91	23.48		1
76.10	0.48	rc12-333	1862	4233	0- 5	4.81	41.58		1
81.57	6.05	rc12-336	1863	4067	0- 5	5.04	8.46	0.0250	1.0001
86.27	7.45	rc12-338	1864	3830	0- 5	5.93	26.70		1
90.02	9.08	rc12-339	1644	3010	0- 5	7.25	7.09		1.1
88.38	15.03	rc12-342	1865	2840	0- 5	9.09	5.75		1
36.49	-32.33	rc14-05	2172	4784	0- 5	7.73	8.22		1
37.36	-32.35	rc14-06	2173	5057	4- 6	6.98	16.38		1
44.45	-35.31	rc14-07	2174	3288	0	6.31	15.99		1.1
47.53	-39.01	rc14-09		2692					0.1
47.53	-39.01	rc14-09		2692					0.3
51.11	-38.00	rc14-11	1502	3268	3- 8	4.01	73.30		1.3
59.18	-38.45	rc14-12	1503	5271	9-10	1.43	53.67	79.8847	1.3001
49.51	-23.41	rc14-18	1868	3844	0- 5	5.64	20.81	67.1398	1.0001
63.33	-17.34	rc14-19	1869	3568	0- 5	1.60	67.77		1
68.05	-14.52	rc14-20	18817	3568	4- 8	0.99	75.55		1
71.53	-12.28	rc14-21	18610	4462	3- 7	1.96	48.76		1
76.45	-9.11	rc14-23	18818	5376	5- 8	3.69	11.99		1
88.19	-10.55	rc14-29	1649	2869	3- 5	1.25	67.91		1.1
88.47	-11.18	rc14-30	14015	1573	0	2.25	40.71		1
88.34	-9.02	rc14-31	14016	3862	0- 5	1.45	1.05		1
90.01	-2.00	rc14-33	14210	3813	3- 6	4.46	37.98		1
89.57	-0.50	rc14-35	16411	3021	3- 6	5.06	25.56	83.8831	1.1001
90.10	1.28	rc14-37	20816	2226	0	6.74	11.30		1.1
90.10	1.28	rc14-37	14211	2226	0- 5	4.27	38.34		1
92.26	3.45	rc14-38	14212	4199	0	4.25	1.29		1
90.31	5.51	rc14-39	14213	2952	0	20.02	4.73		1
92.44	6.09	rc14-40	14214	4167	0	5.43	25.75		1
100.00	-7.49	rc14-46	14215	5566	0	3.90	39.51		1
100.12	-9.03	rc14-48	14216	5874	0- 5	4.94	14.76		1
103.40	-12.53	rc14-53	1431	4544	6- 9	1.49	67.25		1
99.32	-19.54	rc14-56	1432	5890	0- 5	2.15	25.27		1
99.58	-21.59	rc14-57	1411	5879	0- 4	4.39	22.90		1
102.48	-21.12	rc14-58	1433	4962	2- 5	2.38	14.51		1
106.20	-20.15	rc14-59	1412	5550	0- 5	4.95	27.32		1
112.55	-18.04	rc14-61		2798		15.65	18.88		9
119.27	-15.12	rc14-63		2838		23.38	15.88		9
44.48	-36.52	rc14-8	1866	2736	0	7.04	21.25	92.1298	1.0001
47.53	-39.01	rc14-9	1501	2692	4- 6	1.48	93.66		1

47.53	-39.01	rc14-9	1867	2692	4- 6	6.08	33.58		1
66.06	15.02	rc17-113		3874					0.1
36.53	-36.00	rc17-67	2175	5260	0	7.99	6.69		1
35.57	-35.05	rc17-68	2176	4390	0- 5	10.02	12.10		1
32.36	-31.30	rc17-69	20818	3380	1- 3	10.54	3.41		1.1
36.01	-32.07	rc17-73	20820	2120	0	11.77	4.96		1.1
37.39	-31.32	rc17-74	2177	5096	3- 6	9.54	5.88		1
40.22	-30.28	rc17-75	2178	4922	0	9.68	5.45		1
43.56	-29.17	rc17-76	2179	2284	0- 5	5.93	22.83		1
44.37	-39.57	rc17-78	21710	2398	0- 5	2.86	8.60		1
45.47	-32.16	rc17-80	21711	1860	0- 5	8.20	21.10		1
65.37	-13.13	rc17-98		3409					0.1
112.55	-18.04	rc19-61	1434	2798	0- 5	3.07	50.86		1
37.49	-41.53	rc8-38	1888	3784	2- 5	4.96	41.34		1
42.21	-42.53	rc8-39	1637	4330	4- 6	2.62	59.98	74.2203	1.3001
42.21	-42.53	rc8-39	1491	4330	4- 8	1.26	92.32	74.2203	1.1001
51.16	-43.38	rc8-41	1721	2897	2- 5	6.25	58.84		1
57.22	-48.41	rc8-43	1492	4319	4- 8	0.88	1.00		1.3
62.33	-53.02	rc8-45	1722	4546	0	1.29	25.25		1
65.28	-55.20	rc8-46	1889	2761	0- 5	0.34	8.15		1
71.47	-55.03	rc8-47	1723	3502	5- 8	0.48	22.40		1
86.55	-53.16	rc8-48	7724	1099	4- 6	0.24	11.86		1
81.33	-51.04	rc8-49	1725	3908	0	1.55	30.87		1
92.25	-44.46	rc8-50	1401	3219	0- 5	1.10	74.09		1
93.53	-44.02	rc8-51	1421	2736	0- 5	0.72	61.42		1
101.25	-41.00	rc8-52	1402	4393	0- 5	0.88	51.29	90.5471	1.0001
104.22	-39.23	rc8-53	1422	4429	0- 5	1.18	45.26		1
109.57	-35.49	rc8-55	1403	5435	3- 8	3.62	2.79		1
114.31	-31.17	rc9-150	16310	2703	0	4.34	71.44		1.1
114.23	-30.46	rc9-151	1404	2543	0	4.80	87.27		1
66.35	5.47	rc9-157	1726	4111	0	6.25	4.46		1
63.00	8.44	rc9-159	1727	4576	0- 5	8.90	3.84		1
63.09	12.03	rc9-160	1728	4268	0- 5	9.46	2.54	47.2311	1.0001
59.36	19.34	rc9-161	1729	3332	4- 8	12.60	8.55		1.1
60.25	19.05	rc9-162	17210	3092	0- 5	12.73	9.54	68.3893	1.1001
60.25	19.05	rc9-162	18914	3092	5- 7	13.72	5.94	68.3893	1.0001
58.05	17.53	rc9-163	17211	3005	4- 8	12.44	15.73		1
58.05	17.53	rc9-163	1897	3005	10-12	12.63	10.91		1
49.48	13.21	rc9-164	18910	3171	0- 5	7.10	11.43		1
65.32	3.52	v14-100	1672	3682	5- 8	5.91	12.80		1
59.50	7.31	v14-101a	1673	2390	0- 5	4.85	25.65		1.1
57.11	10.15	v14-102	1674	3915	0- 5	4.34	67.88		1.1
56.14	11.27	v14-103	1675	4232	2- 5	5.90	46.68		1
53.27	13.26	v14-104	1676	2670	3- 6	6.57	41.98		1
32.52	-29.39	v14-77		1818					0.1
37.14	-29.50	v14-78	2151	4948	0- 5	28.99	7.06		1
41.58	-28.34	v14-80	2152	4603	0	55.96	2.79		1
43.47	-28.26	v14-81	1621	3634	12-15	4.38	7.40		1.1
66.48	-11.56	v14-92	1441	2986	0	1.54	1.09		1
64.49	-4.18	v14-95	1671	4513	5- 8	2.76	53.45		1
29.29	-45.14	y16-57	1677	5289	3- 5	12.62	3.74		1
41.58	-47.19	v16-63	1678	3886	0	3.46	62.73		1
45.46	-45.00	v16-65	1507	1618	3- 8	1.45	36.90		1.3
43.30	-37.09	v16-67	2153	3643	0- 5	8.66	33.03		1

57.35	-20.40	v16-74	1679	2906	4- 8	0.43	30.35		1
61.02	-27.15	v16-77	16710	5588	0	1.10	5.10		1
78.40	-29.58	v16-83	1443	2838	6-10	0.61	8.54		1
81.32	-30.00	v16-85	1444	3852	0	1.10	10.17		1
85.47	-33.01	v16-89	1415	3416	0- 5	2.24	30.63		1
73.33	-31.04	v16-93	1414	3851	0- 5	1.79	28.15		1
95.11	-28.01	v16-95	1416	4071	0- 5	1.71	32.01		1
99.15	-31.32	v16-96	1437	2417	0- 5	0.96	39.03		1
101.09	-33.31	v16-97	1436	5960	0- 5	2.06	34.31		1
106.13	-36.08	v16-98	1413	6077	0	4.61	51.59		1
106.13	-36.08	v16-98	1442	6077	0- 5	2.50	14.26		1
81.11	3.22	v17-42	m112680	1814	0	8.50	28.38	57.0000	7
82.37	1.52	v17-43	m112681	3147	0	6.29	37.75	37.5000	7
85.07	-3.34	v17-44	m112682	3358	0	7.78	35.16		7
29.56	-38.59	v18-186	1871	4204	3- 6	13.76	16.53		1
33.55	-38.29	v18-187	2154	3680	0	6.53	3.47		1
37.52	-37.38	v18-188	16711	4960	0- 6	5.50	14.26		1
41.51	-36.07	v18-189	16712	4923	3- 5	4.44	12.40		1
46.34	-32.26	v18-191	2155	2946	0- 5	8.43	6.41		1
48.05	-31.12	v18-192	16713	4396	0- 5	3.80	26.78		1
51.37	-21.26	v18-196	16714	4965	3- 5	0.66	13.70		1
52.51	-18.28	v18-197	16715	4931	0	1.98	17.79		1
63.32	-20.35	v18-200	17616	3305	0- 5	1.08	50.77		1
74.22	-22.23	v18-203	1445	4014	0	2.04	27.26		1
87.07	-25.38	v18-207	1417	2434	0- 5	0.76	29.34		1
93.43	-25.47	v18-209	1418	4449	5- 8	3.11	21.52		1
95.58	-25.46	v18-210	1419	4967	5-10	3.06	19.29		1
99.04	-25.41	v18-211	14110	5343	5- 8	6.21	5.87		1
100.12	-25.43	v18-212	14111	1942	0	4.56	38.91		1
101.56	-25.41	v18-213	14112	4720	0- 5	6.29	1.05		1
108.40	-27.59	v18-214	14113	5147	0- 5	8.39	31.63		1
96.18	14.31	v18-337	m112685	3891	0	10.47	2.76	2.3600	7
96.18	14.31	v18-337	m112685	3891	0	0.00	0.00	2.3597	2
101.40	-11.41	v19-154	14114	4964	0- 5	1.44	33.90		1
101.32	-12.24	v19-155		4731		2.90	26.37		9
101.20	-14.38	v19-156		5363		26.36	4.82		9
101.20	-14.38	v19-156	14115	5363	0- 5	1.83	71.31		1
100.33	-16.20	v19-157		5911		12.14	25.38		9
99.24	-18.11	v19-158		5759		21.26	24.26		9
88.27	-20.48	v19-162	14116	3085	5- 8	1.52	36.13		1
82.12	-20.28	v19-164	1681	4784	5- 8	3.80	7.10		1
82.06	-16.11	v19-166	1682	5400	5- 8	4.47	22.63		1
82.01	-12.44	v19-168	1683	5138	0- 5	1.70	44.44		1
81.37	-10.13	v19-169	1684	5110	0- 5	1.76	84.08		1
81.25	-7.54	v19-170	1685	5218	0- 5	2.87	14.65		1
80.30	-5.32	v19-172	1872	5167	0- 5	6.30	4.44		1
80.35	-3.15	v19-173	1686	4964	3- 5	4.55	12.23		1
80.37	0.27	v19-174	1687	4616	5- 8	5.60	4.89		1
80.44	4.07	v19-175	1873	4343	3- 6	9.58	7.94		1
73.15	8.07	v19-178	1625	2188	0- 5	5.19	22.03		1.1
73.15	8.07	v19-178	2084	2188	0	7.77	16.18		1
69.15	8.09	v19-180	1688	4651	0- 5	5.96	14.89		1
66.57	8.14	v19-181	1689	4610	0- 5	7.85	2.63		1
59.20	6.42	v19-185	1627	2867	2- 7	5.54	4.18		1.1

60.40	6.52	v19-188	1628	3356	1- 5	5.04	7.20		1.1
60.40	6.52	v19-188	1881	3356	2- 5	3.06	7.83		1
55.04	5.58	v19-191	16810	5125	0- 4	4.08	31.40		1
51.28	2.59	v19-193	16811	5106	2- 5	3.63	21.81		1
51.51	-3.34	v19-196	16813	5062	0- 6	2.78	38.18		1
48.46	-3.24	v19-197	16814	4984	0- 5	3.69	23.59		1
45.49	-3.11	v19-198	16815	4609	0- 5	3.38	28.94		1
40.26	-5.20	v19-201	16210	1861	4- 6	3.40	10.04		1.1
41.11	-6.59	v19-202	2086	2589	0- 5	5.34	7.85		1.1
43.49	-10.14	v19-204	1874	3524	3- 6	2.72	36.21		1.1
41.06	-16.56	v19-207	2156	2505	0- 5	7.52	23.40		1
39.30	-17.54	v19-208	2157	2318	6- 9	9.00	8.01		1
41.36	-19.55	v19-209	2158	2924	0- 5	9.49	5.29		1
37.09	-32.32	v19-21	2162	5114	4- 6	18.20	7.29		1
43.41	-20.39	v19-210	2159	3241	0- 5	5.63	5.91		1
42.10	-22.51	v19-211	21510	3177	7-10	4.56	10.55		1
39.58	-23.11	v19-213	21511	3347	0	8.60	8.60		1
38.51	-23.22	v19-214	21512	3092	3- 5	6.82	12.36		1
37.51	-23.31	v19-215	21513	2898	0- 5	7.04	8.77		1
36.47	-25.20	v19-216	21514	2206	0	10.34	10.05		1
38.08	-27.00	v19-217	21515	4836	0	4.57	2.20		1
39.45	-29.27	v19-219	21516	4909	0-20	28.91	7.66		1
38.10	31.42	v19-220	2161	5019	7- 9	7.11	4.98		1
34.24	-33.22	v19-222	16816	2005	0	9.72	20.34		1
31.25	-34.24	v19-223	2163	4116	0- 5	13.96	14.84		1
81.42	2.28	v19-25	burkle	2404	10-13	0.00	41.20	51.4000	7
81.42	2.28	v19-25	plo0047	2404	10-13	0.00	71.00	56.1200	7
82.04	-0.28	v19-27	plo0049	1373	10-13	0.00	38.60	44.0600	7
82.04	-0.28	v19-27	burkle	1373	10-13	0.00	8.80	24.9000	7
84.39	-2.22	v19-28	ml12686	2720	0	4.87	45.12		7
84.39	-2.22	v19-28	burkle	2720	0	0.00	0.00	62.7000	7
83.56	-3.35	v19-29	ml07261	3157	2	0.00	0.00	31.1000	7
83.31	-3.23	v19-30	ml08176	3091	0	9.48	23.56	20.0000	7
96.12	-14.07	v19-41	ml12688	3248	0	7.12	21.81		7
121.12	-16.56	v19-64	ml12691	3570	0	1.19	9.21		7
122.58	-11.44	v20-153		1536		25.83	17.31		9
106.32	-17.06	v20-158	14313	6048	0- 5	0.95	22.47		1
106.32	-17.06	v20-158		6048		16.53	16.94		9
103.32	-17.05	v20-159		5629		21.10	24.26		9
96.28	-17.13	v20-161	1446	5482	0- 5	1.47	26.40		1
96.28	-17.13	v20-161		5482		18.76	9.58		9
93.09	-17.16	v20-162	1447	5645	0	0.17	2.19		1
88.41	-17.12	v20-163	14117	2706	0	2.81	29.56		1
69.14	-21.48	v20-170	16212	2479	2- 5	1.10	33.37		1.1
68.00	-22.18	v20-175	2087	3526	0- 3	2.00	33.52		1.1
66.17	-22.42	v20-176	1875	3946	0- 5	2.78	31.53		1
61.34	-23.50	v20-179	17212	3568	0	1.76	7.00		1
55.23	-24.07	v20-183	17213	4695	0	1.10	18.67		1
51.19	-28.06	v20-186	17214	5037	0- 5	4.89	32.03		1
42.26	-26.27	v20-189	2164	4244	0- 5	15.48	7.22		1
40.54	-25.07	v20-190	2165	4016	5- 8	5.24	7.55	47.3144	1.0001
41.19	-23.56	v20-191	2166	3620	0- 5	8.67	8.31		1
38.37	-30.39	v20-197	1876	4982	2- 5	3.52	7.20		1
85.08	2.50	v21-212	ml12702	3338	0	3.35	37.85		7

85.08	2.50	v21-212	m112703	3338	0	6.07	40.33		7
80.38	3.50	v21-214	m112704	2246	0	8.95	24.30		7
80.38	3.50	v21-214	burkle	2246	0	0.00	0.00	35.5000	7
89.41	-1.31	v21-30	m112695	617	0	0.00	0.00	70.1273	2
89.41	-1.13	v21-30	m112695	617	0	0.68	13.97	70.1300	7
92.05	-3.48	v21-33	thompso	3726	0	0.00	0.00	55.0000	7
92.05	-3.48	v21-33	m112696	3726	0	1.64	73.25		7
25.42	-40.08	v22-130	1877	2428	0- 3	9.95	26.03		1
119.19	18.47	v24-132	1897	2019	2	7.88	2.05		1
120.12	-11.43	v24-187		4266		15.93	15.64		9
115.40	-11.18	v24-188		6956		31.48	21.44		9
110.06	-13.29	v24-191		5340		6.78	11.68		9
110.06	13.29	v24-191	1448	5340	0- 5	1.69	39.67		1
108.08	-16.02	v24-192	14118	5407	0- 5	3.51	50.87		1
108.02	-14.07	v24-193		4513		5.23	29.29		9
106.32	-14.07	v24-193	14119	4513	0- 5	2.26	50.27		1
104.21	-11.09	v24-194		5256		8.17	24.67		9
108.08	-16.02	v24-194		5407		16.14	18.57		9
58.10	-30.55	v24-201	1878	2917	0- 5	4.38	26.84		1
59.13	-34.21	v24-202	1879	5512	3- 6	2.50	49.12		1
59.59	-36.59	v24-203	1509	4997	6-10	2.26	0.44		1.3
45.39	-36.16	v24-208	2167	3231	0- 5	8.09	21.83		1
39.44	-34.45	v24-209	2168	5174	2- 4	8.83	7.09		1
37.13	-31.52	v24-210	2169	4960	3- 5	10.02	7.09		1
38.05	-32.37	v24-211	21610	4995	4-10	5.56	11.42		1
36.24	-34.39	v24-212	17215	5145	3- 5	6.87	4.68		1
120.30	-14.06	v28-342		2730		21.60	16.97		9
117.58	-14.38	v28-344		5658		8.18	15.01		9
96.54	-17.45	v28-351		5678		10.45	10.21		9
96.50	-15.08	v28-352		4722		4.12	5.88		9
97.05	-8.18	v28-353		5297		7.91	32.04		9
98.39	-14.42	v28-354	14410	5824	0- 5	0.02	6.13		1
117.57	-17.40	v28-345		1904		18.87	17.24		9
99.49	-4.08	v29-02	14411	5893	0- 5	11.04	4.09		1
98.21	-3.25	v29-03	14412	4642	0- 5	6.24	8.12		1
95.08	-2.07	v29-04	14413	4347	0- 5	4.24	14.18		1
92.59	-4.37	v29-05	14414	4841	0- 5	1.74	84.72		1
90.14	-6.44	v29-06	14415	3906	0- 5	2.73	59.37		1
88.01	-5.05	v29-07	14416	5092	0- 5	2.18	14.74		1
83.20	4.17	v29-12	17216	4160	0- 5	10.56	5.07		1
85.58	6.14	v29-14	1731	3713	0- 5	5.49	40.19		1
88.44	11.57	v29-15	1732	3173	0	7.78	24.15		1
88.05	14.09	v29-16	1733	1574	0	8.92	13.50		1
85.24	16.38	v29-17	1734	2813	0- 5	6.81	8.74		1
83.35	14.42	v29-19	1735	3182	0- 5	7.30	13.39		1
81.42	11.52	v29-20	1736	3557	0- 5	7.92	8.28		1
73.15	5.02	v29-27	1737	461	0	4.08	5.50		1
77.35	5.07	v29-29	16215	2673	0- 5	3.28	24.56		1.1
76.15	3.05	v29-30	1738	3651	0- 5	5.43	42.24		1.1001
76.19	-1.34	v29-32	1739	4755	0- 5	5.82	27.91		1
78.39	-5.43	v29-38	18710	5167	5- 8	3.98	7.68		1
79.33	-11.46	v29-41	18711	5383	7-10	2.43	49.53		1
69.49	-6.00	v29-45	1631	2860	0- 5	2.21	1.10	73.7205	1.0001
66.35	-8.02	v29-46	1883	4027	3- 6	1.38	1.10		1

63.26	-6.16	v29-48	1633	3882	0- 5	1.07	1.10	1.1
63.33	-10.00	v29-49	17310	3630	0- 5	3.16	91.22	1
63.23	-13.17	v29-50	17311	3966	0- 5	1.38	82.36	1
70.14	-18.53	v29-58	1884	3729	3- 5	1.86	47.16	1
76.35	-18.45	v29-61	1885	4984	9-10	3.44	11.22	1
74.52	-27.17	v29-64	17312	3404	0- 5	2.32	29.57	1
66.03	-31.02	v29-68	17313	4967	0- 5	2.32	29.57	1
67.26	-29.25	v29-70	1886	4393	4- 6	4.04	18.16	1
54.37	-18.04	v29-72	1887	4731	5- 8	0.56	2.34	1
51.32	-19.43	v29-73	17314	4938	0- 5	8.71	10.30	1
53.09	8.38	v29-74	13910	3446	0- 3	5.89	3.69	1
48.46	-27.09	v29-75	17315	2362	0	6.22	22.95	1
43.03	-31.04	v29-78	17316	1626	0	9.15	13.89	1
40.13	-30.47	v29-79	21611	5092	0- 5	6.58	4.92	1
38.16	-34.40	v29-80	21612	5264	2- 7	6.35	15.54	1
35.31	-37.22	v29-81	21613	4834	0- 5	10.57	9.64	1
30.57	-41.32	v29-83	17317	5059	0- 5	15.24	29.26	1
27.36	-43.51	v29-84	15010	5451	7-10	3.20	62.61	1.3
27.23	-49.06	v29-87	15012	5314	4- 9	2.59	5.78	1
27.23	-49.06	v29-87	15013	5314	9-10	2.61	56.32	1.3
25.39	-45.44	v29-89	15014	5945	4- 8	4.63	27.86	1.3
25.44	-43.42	v29-90	15015	5148	14	4.49	19.53	1.3
111.43	-20.55	v30-41		980		17.61	8.97	9
112.35	-22.44	v33-64		0		27.85	12.84	9
97.04	-11.26	v33-64		0		8.75	30.74	9
109.35	-20.33	v33-66		0		15.37	21.84	9
111.41	-20.56	v34-40		1118		16.01	22.12	9
111.45	-20.55	v34-42		958		12.46	10.97	9
89.35	-6.07	v34-53		3812				0.05
59.45	16.32	v34-88		2000				0.05
104.50	-6.14	vm19-149	1438	1554	0- 5	3.94	35.34	1
104.15	-8.27	vm19-150	1439	5678	0- 5	3.72	14.78	1
94.04	-2.02	vm19-160	14310	5159	0- 5	2.71	22.70	1
91.12	-20.56	vm19-161	14311	4846	0- 5	2.90	19.77	1
86.21	-20.39	vm19-163	14312	4169	0- 5	2.39	34.57	1
103.32	-17.05	vm20-159	14314	5629	0- 5	6.16	29.72	1
99.15	-17.11	vm20-160	14315	6328	0	2.05	44.86	1
86.33	2.59	y69106p	po02409	2870	0- 1	2.41	20.64	1.0700
86.29	0.06	y6971p	mo08194	2740	4- 5	2.52	60.69	42.8900
87.56	1.27	y6973p	po01123	2707	0- 2	0.00	0.00	72.0100
77.34	16.27	y71612p	mo09641	2734	0- 1	0.00	0.00	8.4100
77.34	16.27	y71612p	mo08036	2734	2- 4	11.79	11.98	7.4400

NORTH ATLANTIC OCEAN

LONG	LAT	CORE	ACCESS	DEPTH	SAMP	QTZ	OPAL	CACO3	SOURCE
D M	D M	ID			DEPTH	%	%	%	
-76.00	31.00	a15-63		3220					0.5
-74.41	34.49	a15-64	1651	3100	0	16.75	5.22		1.6
-73.37	37.07	a15-65	1652	0	0	12.75	5.33		1.6
-69.00	36.29	a16-424	1654	0	0	7.07	5.50		1.6
-71.15	37.46	a16-45	1511	3329	0	7.48	4.54		1.6
-69.62	38.08	a16-46	1512	3330	0	12.44	4.21		1.6
-68.47	39.33	a16-461	1513	2725	0	19.36	4.37		1.5
-68.47	39.33	a16-461	1513	2725	0	19.36	4.37		1.6
-75.21	31.39	a16-713	1461	0	0	8.15	3.39		1.6
-76.28	31.28	a16-714	1521	0	5	11.53	3.67		1.6
-73.28	17.14	a17-21	1462	0	2	5.77	35.88		1.6
-72.19	16.12	a17-22	1514	3149	10	8.17	7.63		1.6
-68.51	14.59	a17-26	1463	0	3	7.55	4.91		1.6
-75.45	23.56	a17-913	1522	1847	0	7.23	16.15		1
-75.56	24.48	a17-915	1465	0	5	6.73	5.69		1.6
-74.48	16.36	a17-94	1464	2965	2	6.54	18.49		1.6
-36.42	39.16	a18-015	2062	4610	0	6.77	4.75		1
-32.29	38.21	a18-016	1532	2270	10	15.79	4.81		1.6
-26.15	29.07	a18-032	1656	5029	0	9.67	6.57		1.6
-19.18	25.50	a18-039	1658	3470	0	8.80	6.71		1.6
-17.56	15.20	a18-047							0.6
-18.06	15.19	a18-048	1534	0	15	10.14	13.57		1.6
-17.46	12.45	a18-056	1467	2597	2- 5	9.01	21.51		1.6
-21.47	0.36	a18-072	1468	3841	4	3.38	40.09		1.6
-23.00	0.10	a18-073	1224	3750	0- 6	4.13	5.81		1.6
-24.10	0.03	a18-074	16510	3329	0	4.90	23.75		1.6
-45.57	39.27	a18-09							0.6
-43.28	0.30	a18-13	1227	3874	10	9.46	6.67		1
-45.52	3.32	a18-14	1228	3655	10	20.98	5.41		1
-57.20	10.33	a18-17	12313	3765	10	5.77	30.43		1
-17.56	15.20	a18047	1466	0	3	12.39	3.93		1
-70.10	39.48	ads		2750					0.004
-64.42	32.11	ber5		2000				97.3500	0.001
-64.42	32.14	ber6		1500				99.1600	0.001
-64.33	32.15	ber7		2500				96.0300	0.001
-70.47	40.21	cl		97				3.1700	0.001
-70.35	39.55	dl		487				5.2900	0.001
-54.00	13.30	demera-e		5288					0.002
-70.40	39.46	dos1		1850					0.004
-69.36	38.18	dos2		3650					0.004
-70.55	41.18	dsl		40					0.004
-79.23	11.30	dsdp502						48.5000	0.0002
-72.31	38.50	dwd		2200					0.004
-70.35	39.51	e3		824				6.9500	0.001
-21.54	6.39	en66-10g		3527					0.06
-70.45	39.47	fl		1500				14.7800	0.001
-76.40	33.34	fb1		250				84.6000	0.005
-76.25	33.32	fb2		500				83.3000	0.005
-76.10	33.27	fb3		750				61.4000	0.005
-76.54	33.37	fc1		50				61.3000	0.005

-76.51	33.36	fc2	100	56.2000	0.005
-76.06	33.27	fs11	1000	52.5000	0.005
-76.05	33.26	fs12	1250	54.3000	0.005
-76.02	33.26	fs13	1500	56.5000	0.005
-76.01	33.25	fs14	1750	54.3000	0.005
-75.59	33.25	fs15	2000	63.3000	0.005
-75.56	33.24	fs16	2500	71.6000	0.005
-70.39	39.42	gl	2086	19.9500	0.001
-70.35	39.26	gh	2500	26.3700	0.001
-25.24	31.17	gme10-ave			0.007
-25.23	31.17	gme2-ave			0.007
-24.49	31.27	gme24-ave			0.007
-24.53	31.32	gme37-ave			0.007
-70.08	38.47	hh3	2873	32.8700	0.001
-69.32	37.59	ii	3752	33.1500	0.001
-68.41	37.15	jj	4670		0.004
-68.40	37.13	jj3	4540	29.7100	0.001
1.36	71.47	k-11	3900		0.4
-23.45	50.00	k708-1	4053		0.6
-35.01	49.59	k708-4			0.6
-29.34	51.34	k708-6			0.6
-24.05	53.56	k708-7			0.6
-22.33	52.45	k708-8			0.6
-68.05	36.24	kk	4830		0.004
-63.10	40.24	knorr78-14	4617		0.003
-76.05	34.07	lb1	250	79.3000	0.005
-76.01	34.06	lb2	400	71.3000	0.005
-75.55	33.59	lb3	600	60.2000	0.005
-75.51	33.58	lb4	800	53.4000	0.005
-76.14	34.11	lc1	50	58.4000	0.005
-76.11	34.08	lc2	100	55.0000	0.005
-67.25	35.35	ll1	4977	27.9500	0.001
-75.50	33.57	ls11	1000	51.3000	0.005
-75.46	33.56	ls12	1500	51.4000	0.005
-75.45	33.50	ls13	2000	61.4000	0.005
-75.44	33.49	ls14	2500	69.4000	0.005
-16.51	25.10	m-12392	2575		0.06
-66.30	34.45	mm1	5001	39.5800	0.001
-64.08	32.13	nal	4245		0.007
-63.33	22.44	nal4	5840		0.007
-63.33	22.44	nal5	5840		0.007
-63.29	22.54	nal9	5845		0.007
-61.30	25.23	na5	5700		0.007
-63.28	23.03	na8	5850		0.007
-63.27	22.47	nap12		1.3000	0.007
-63.21	22.50	nap14-2		1.7000	0.007
-63.23	22.50	nap14-3		1.9000	0.007
-63.24	22.50	nap15		4.6000	0.007
-63.26	22.53	nap21		1.7000	0.007
-63.28	22.54	nap26		2.2000	0.007
-63.27	22.55	nap48-ave			0.007
-64.31	24.00	nap56-ave			0.007
-63.32	23.35	nap60-ave			0.007
-63.29	22.46	nap8		1.2000	0.007

-63.29	22.46	nap9					4.4000	0.007
-65.49	33.57	nn	5080					0.004
-65.51	33.57	nn1	4950				50.7700	0.001
-65.02	33.07	oo2	4667				65.7700	0.001
-66.06	34.26	rc1-02	1538	5231	4- 6	7.37	6.57	1.6
-73.25	35.32	rc10-288	3678					0.5
-81.06	11.46	rc10-50	1483	2072	2- 5	5.01	19.22	1.6
-74.47	15.51	rc13-151	14611	1484	2	6.28	15.23	1.6
-75.27	16.43	rc13-152	14612	0	0	6.23	21.47	1.6
-75.57	15.04	rc13-153	14613	1400	0	7.38	10.12	1.6
-78.45	14.53	rc13-154	14614	2308	0	4.84	20.88	1.6
-79.50	13.11	rc13-158	1481	715	0- 3	5.38	20.06	1.6
-77.10	14.42	rc13-159	1482	760	0- 3	4.00	13.80	1.6
-30.00	1.52	rc13-189	2333					0.06
-15.51	0.31	rc13-192	1311	1056	2	2.26	38.52	1
-13.41	4.30	rc13-194	1515	4770	6- 8	6.64	16.81	1
-4.31	3.55	rc13-210	1958	1856	2- 4	10.04	3.39	1
-13.21	0.34	rc24-01	3850					0.06
-21.58	42.23	rc5-34	1524	3750	1- 3	4.44	5.27	1.6
-18.35	46.55	rc5-36	1535	4500	15	7.61	4.48	1.6
-19.03	25.52	rc5-54	1536	3295	0- 4	7.07	6.88	1.6
-19.06	19.40	rc5-57	1537	2945	5- 7	6.81	5.32	1.6
-15.24	54.59	rc9-225						0.6
-65.32	14.27	rc9-45	13014	4674	5- 7	6.03	7.83	1
-58.35	11.11	rc9-49	14610	1851	3	2.44	9.24	1.6
33.10	78.30	s1469	21				5.7000	0.8
33.10	78.50	s1470	22				5.9900	0.8
33.10	79.00	s1471	10				1.6800	0.8
32.60	78.60	s1472	16				2.4000	0.8
32.60	78.50	s1473	26				2.5900	0.8
32.50	78.40	s1474	32				12.5800	0.8
32.50	79.00	s1475	24				17.3900	0.8
32.50	79.10	s1476	13				4.7100	0.8
32.40	79.10	s1477	27				10.8700	0.8
32.40	79.30	s1478	12				19.4500	0.8
32.30	79.30	s1479	20				11.6200	0.8
32.30	79.50	s1480	20				10.5200	0.8
32.20	79.50	s1481	25				36.6600	0.8
32.20	80.00	s1482	16				25.8100	0.8
32.10	80.20	s1484	15				33.4800	0.8
31.60	80.10	s1485	21				18.1100	0.8
31.60	80.30	s1486	18				12.4100	0.8
31.50	80.30	s1487	18				17.2000	0.8
31.50	80.50	s1488	17				7.2600	0.8
31.40	80.50	s1489	17				5.6900	0.8
31.30	80.50	s1490	20				9.4800	0.8
31.30	80.60	s1491	13				10.2200	0.8
31.20	81.00	s1492	15				5.0100	0.8
31.10	81.00	s1493	14				2.0500	0.8
30.60	80.60	s1494	19				2.3900	0.8
30.60	81.10	s1495	16				10.2000	0.8
30.50	81.00	s1497	18				5.3400	0.8
30.40	81.00	s1498	20				6.9300	0.8
30.40	81.10	s1499	19				6.2500	0.8

30.30	81.20	S1500	17	11.4100	0.8
30.30	81.00	S1501	26	18.0900	0.8
30.20	80.60	S1502	21	24.8300	0.8
30.20	81.20	S1503	12	8.5900	0.8
30.20	81.20	S1504	15	13.5000	0.8
30.10	81.10	S1505	15	35.9000	0.8
30.10	81.00	S1506	21	49.8900	0.8
29.60	81.00	S1507	22	24.6500	0.8
30.00	81.10	S1508	19	12.1100	0.8
29.50	81.10	S1509	17	3.8400	0.8
29.50	80.60	S1510	22	38.5400	0.8
29.50	80.50	S1511	32	39.1100	0.8
29.40	80.50	S1512	28	37.3300	0.8
29.40	81.00	S1513	18	11.1000	0.8
29.50	81.10	S1514	39	17.7400	0.8
29.40	81.10	S1515	19	8.8700	0.8
29.30	81.10	S1516	16	8.5100	0.8
29.30	81.00	S1517	21	9.4000	0.8
29.20	81.00	S1518	18	9.4400	0.8
29.00	80.50	S1520	17	7.6200	0.8
29.00	80.40	S1521	19	32.2400	0.8
28.60	80.30	S1522	18	49.0400	0.8
29.00	80.20	S1523	47	68.8700	0.8
28.50	80.10	S1524	40	70.7300	0.8
28.50	80.30	S1525	22	51.9200	0.8
28.50	80.40	S1526	18	26.7900	0.8
28.40	80.30	S1527	19	61.6800	0.8
28.40	80.10	S1528	36	68.6500	0.8
28.30	80.10	S1529	40	69.4600	0.8
28.30	80.20	S1530	12	53.4100	0.8
28.20	80.20	S1531	17	54.0700	0.8
28.00	80.20	S1539	22	86.7800	0.8
27.40	80.20	S1545	11	74.8700	0.8
27.10	80.10	S1550	17	69.7100	0.8
27.00	80.00	S1551	20	52.7100	0.8
26.40	80.00	S1553	37	57.0800	0.8
25.00	80.20	S1565	85	95.8200	0.8
24.40	80.10	S1570	88	93.1000	0.8
24.30	81.20	S1571	89	93.2800	0.8
24.30	81.30	S1572	97	92.3700	0.8
24.30	81.40	S1573	107	92.9900	0.8
24.30	81.50	S1574	126	91.3600	0.8
24.30	82.00	S1575	74	93.5100	0.8
24.20	81.60	S1576	228	86.9000	0.8
24.10	81.20	S1580	681	85.7400	0.8
24.20	81.20	S1581	199	93.4000	0.8
24.30	81.20	S1583	188	93.9200	0.8
24.30	80.50	S1584	204	90.7900	0.8
24.20	80.50	S1585	216	93.8600	0.8
24.20	80.40	S1586	707	84.3600	0.8
24.30	80.40	S1587	248	93.7800	0.8
24.40	80.40	S1588	207	94.3900	0.8
24.50	80.30	S1589	149	90.4400	0.8
24.40	80.30	S1590	284	90.7600	0.8

24.50	80.30	s1591	199	90.9900	0.8
24.40	80.20	s1592	757	86.2800	0.8
24.50	80.10	s1593	295	91.0200	0.8
24.60	80.10	s1594	220	89.4400	0.8
24.60	80.00	s1595	500	88.3600	0.8
25.10	80.10	s1596	256	88.3500	0.8
25.10	79.50	s1597	598	88.4800	0.8
25.20	80.00	s1598	484	89.7300	0.8
25.20	79.50	s1599	656	87.9100	0.8
25.30	79.50	s1600	456	87.9000	0.8
25.40	79.50	s1601	683	77.5800	0.8
25.40	79.40	s1602	792	91.5500	0.8
25.50	79.40	s1603	769	92.6200	0.8
25.50	79.50	s1604	797	92.1000	0.8
25.50	79.60	s1605	331	70.6200	0.8
25.60	79.50	s1606	465	85.8100	0.8
26.10	79.50	s1607	266	86.8100	0.8
26.10	79.50	s1608	584	89.4400	0.8
26.20	79.40	s1609	777	89.5200	0.8
26.20	79.50	s1610	494	76.1000	0.8
26.20	79.50	s1611	307	47.3100	0.8
26.30	79.60	s1612	239	52.8700	0.8
26.40	79.50	s1613	382	77.9200	0.8
26.50	79.50	s1614	342	74.0400	0.8
26.60	79.40	s1615	669	82.7500	0.8
26.60	79.30	s1616	742	84.5400	0.8
27.00	79.40	s1617	549	86.4400	0.8
27.00	79.50	s1618	321	*****	0.8
27.10	79.50	s1619	258	54.9600	0.8
27.10	80.00	s1620	72	74.1000	0.8
27.20	80.00	s1621	69	90.2600	0.8
27.20	79.50	s1622	303	64.5700	0.8
27.30	79.50	s1623	286	56.4500	0.8
27.30	80.00	s1624	56	57.6300	0.8
27.40	80.00	s1625	54	39.3000	0.8
27.40	79.50	s1626	229	46.7500	0.8
27.50	79.50	s1627	229	48.3600	0.8
27.50	79.40	s1628	529	81.9000	0.8
27.50	79.30	s1629	678	92.7900	0.8
28.00	79.30	s1630	783	87.7500	0.8
28.00	79.40	s1631	782	75.6800	0.8
28.10	79.40	s1632	479	75.3400	0.8
28.10	79.50	s1633	301	56.9300	0.8
28.20	79.50	s1634	313	57.9200	0.8
28.30	79.50	s1635	348	60.7700	0.8
28.30	80.00	s1636	134	71.5000	0.8
28.40	79.60	s1637	167	57.9000	0.8
28.40	79.50	s1638	406	61.6600	0.8
28.50	79.50	s1639	435	61.7100	0.8
28.50	79.20	s1641	777	92.7800	0.8
29.60	79.30	s1642	752	93.6600	0.8
29.00	79.40	s1643	822	86.5100	0.8
29.10	79.40	s1644	802	84.4100	0.8
29.20	79.40	s1645	712	86.6400	0.8

29.40	79.40	s1647	727	82.9800	0.8
29.50	79.40	s1648	722	85.1000	0.8
30.00	79.40	s1649	871	87.1000	0.8
30.00	79.30	s1650	779	91.9400	0.8
30.20	79.30	s1653	835	88.0100	0.8
30.30	79.30	s1654	752	91.7300	0.8
30.40	79.30	s1655	797	88.6900	0.8
30.40	79.40	s1656	579	88.3800	0.8
30.50	80.00	s1658	146	37.9700	0.8
30.00	80.30	s1695	38	75.3900	0.8
30.10	80.30	s1696	36	69.9400	0.8
30.00	80.20	s1714	86	57.0800	0.8
29.50	80.20	s1715	77	77.6700	0.8
29.20	80.20	s1718	57	66.6300	0.8
29.00	80.10	s1720	111	88.1300	0.8
28.50	80.00	s1721	169	57.8000	0.8
28.60	79.60	s1722	424	58.8000	0.8
29.10	79.60	s1723	494	67.1400	0.8
29.10	80.10	s1724	202	68.6600	0.8
29.20	80.00	s1725	460	70.6900	0.8
29.30	80.00	s1726	494	77.8800	0.8
29.40	79.60	s1727	528	76.0900	0.8
29.50	79.60	s1728	533	78.3300	0.8
29.60	79.60	s1729	504	75.9600	0.8
30.10	79.50	s1731	534	85.8200	0.8
30.10	79.40	s1732	802	78.1200	0.8
30.10	79.40	s1733	861	88.1200	0.8
30.20	79.40	s1734	664	83.3300	0.8
30.20	79.50	s1735	534	65.0300	0.8
30.30	79.50	s1738	480	66.3300	0.8
30.30	79.40	s1739	639	86.0800	0.8
30.40	79.10	s1741	792	93.7000	0.8
30.50	79.20	s1742	752	93.8100	0.8
30.50	79.20	s1743	802	94.1100	0.8
30.50	79.30	s1744	787	88.6200	0.8
30.50	79.40	s1745	461	73.5500	0.8
31.10	79.30	s1748	524	94.6300	0.8
31.20	79.30	s1749	484	94.2600	0.8
31.40	79.30	s1753	166	70.6500	0.8
31.50	79.30	s1756	69	69.5000	0.8
31.50	79.20	s1763	259	65.5300	0.8
31.40	79.20	s1764	504	91.3900	0.8
31.50	79.10	s1765	550	93.0700	0.8
31.50	79.00	s1766	450	94.9000	0.8
31.50	78.50	s1767	455	93.8900	0.8
31.50	78.30	s1768	534	90.8900	0.8
32.00	79.00	s1770	406	84.4100	0.8
32.10	79.00	s1771	181	65.8000	0.8
32.10	78.50	s1772	406	82.5400	0.8
32.20	78.40	s1773	347	45.6400	0.8
32.40	78.50	s1781	38	16.6100	0.8
32.40	78.30	s1782	69	58.7000	0.8
32.40	78.30	s1783	176	52.9500	0.8
32.30	78.20	s1784	244	51.5900	0.8

32.40	78.10	s1785	190	59.7800	0.8
32.50	78.20	s1786	117	61.7000	0.8
32.50	78.30	s1787	41	16.1700	0.8
32.60	78.30	s1788	34	7.6600	0.8
32.60	78.20	s1789	38	9.4400	0.8
33.10	78.20	s1790	33	11.3000	0.8
33.20	78.20	s1791	28	7.2000	0.8
33.20	78.00	s1792	28	2.6200	0.8
33.10	78.00	s1793	38	10.2600	0.8
33.00	78.00	s1794	56	55.7100	0.8
32.50	77.60	s1795	185	33.2000	0.8
32.40	78.00	s1796	248	42.3000	0.8
32.30	77.50	s1798	396	44.4500	0.8
32.40	77.50	s1799	309	35.6300	0.8
32.50	77.50	s1800	266	33.3000	0.8
33.00	77.50	s1801	151	34.5600	0.8
33.10	77.50	s1802	43	10.8600	0.8
33.20	77.50	s1803	29	24.2500	0.8
33.20	77.40	s1804	22	19.3400	0.8
33.30	77.30	s1805	22	33.5400	0.8
33.20	77.30	s1806	25	51.4700	0.8
33.10	77.30	s1807	48	30.3000	0.8
32.60	77.30	s1808	245	12.2500	0.8
32.50	77.30	s1809	310	71.3300	0.8
32.50	77.20	s1810	416	65.3100	0.8
33.00	77.20	s1811	320	65.1000	0.8
33.10	77.20	s1812	241	21.2600	0.8
33.20	77.20	s1813	54	29.4900	0.8
33.30	77.20	s1814	39	26.3100	0.8
33.40	77.20	s1815	35	38.3600	0.8
33.50	77.20	s1816	35	37.6600	0.8
34.00	77.10	s1817	28	14.6100	0.8
34.10	76.60	s1818	33	33.2600	0.8
33.60	76.60	s1819	33	36.8900	0.8
33.50	77.00	s1820	38	58.9600	0.8
33.40	76.60	s1821	38	53.5400	0.8
33.30	76.60	s1822	46	47.9300	0.8
33.20	76.60	s1823	244	15.8600	0.8
33.10	77.00	s1824	339	63.5000	0.8
40.50	66.30	s2194	2115	7.1400	0.8
40.60	66.30	s2195	1240	7.3800	0.8
41.00	66.20	s2196	720	4.9000	0.8
42.40	69.30	s2197	282	1.8000	0.8
41.10	66.10	s2200	941	5.6700	0.8
41.20	65.40	s2201	2451	7.2500	0.8
41.30	65.60	s2202	617	3.4400	0.8
41.40	65.40	s2203	1795	8.7800	0.8
41.50	65.40	s2204	1238	4.3800	0.8
41.40	65.30	s2205	1934	7.6800	0.8
41.30	65.40	s2206	2329	9.3200	0.8
41.50	65.20	s2209	1845	8.9200	0.8
42.00	65.30	s2210	801	4.3100	0.8
42.00	65.00	s2211	1536	10.8900	0.8
42.10	65.10	s2212	1119	7.3600	0.8

38.10	75.10	s2217	10	0.1200	0.8
37.60	75.10	s2218	10	0.1300	0.8
36.40	76.20	s2219	4	0.2000	0.8
36.20	76.10	s2220	4	0.1900	0.8
36.10	76.10	s2221	6	0.1500	0.8
36.00	76.10	s2222	7	0.1600	0.8
35.60	76.30	s2223	7	0.2600	0.8
35.60	76.40	s2224	6	0.2100	0.8
35.50	76.50	s2225	3	0.2700	0.8
36.00	76.40	s2226	6	0.1700	0.8
35.50	76.00	s2227	4	0.0800	0.8
36.00	75.50	s2228	6	0.1200	0.8
36.00	75.50	s2229	4	0.1100	0.8
35.60	75.40	s2230	3	0.3000	0.8
35.50	75.40	s2231	4	0.1100	0.8
35.50	75.40	s2232	4	0.1300	0.8
35.40	75.40	s2233	5	0.1200	0.8
35.20	75.40	s2234	7	1.2900	0.8
35.20	75.50	s2235	5	0.3500	0.8
35.30	75.50	s2236	6	1.4900	0.8
35.20	75.60	s2237	6	0.6200	0.8
35.20	76.10	s2238	6	0.2000	0.8
35.20	76.30	s2239	7	0.2100	0.8
35.20	76.40	s2240	6	0.4700	0.8
35.10	76.30	s2241	6	0.2500	0.8
35.10	76.20	s2242	7	0.3400	0.8
35.10	76.10	s2243	6	1.4800	0.8
35.00	76.40	s2244	7	0.8900	0.8
34.60	76.50	s2245	5	1.5600	0.8
35.00	77.00	s2246	4	0.1900	0.8
33.60	77.60	s2247	5	3.2900	0.8
33.50	78.00	s2248	12	49.0500	0.8
33.50	78.00	s2249	14	3.7800	0.8
33.50	78.30	s2250	13	3.2900	0.8
33.50	78.30	s2250u		4.5700	0.8
33.40	78.50	s2251	12	11.7400	0.8
33.30	78.60	s2252	8	9.9700	0.8
33.20	79.00	s2253	12	7.7900	0.8
33.10	79.10	s2254	10	9.0200	0.8
33.20	79.20	s2255	6	0.2000	0.8
33.10	79.10	s2256	5	1.3200	0.8
33.10	79.10	s2257	8	2.3700	0.8
32.60	79.10	s2258	13	1.3900	0.8
32.50	79.30	s2261	4	5.3100	0.8
32.40	80.20	s2263	6	1.7600	0.8
32.30	80.20	s2264	9	4.2000	0.8
32.30	80.20	s2265	9	12.3900	0.8
32.30	80.30	s2266	12	0.5300	0.8
32.30	80.40	s2267	5	17.2500	0.8
32.20	80.40	s2268	11	0.7700	0.8
32.00	80.60	s2270	8	0.3000	0.8
31.50	81.00	s2271	9	0.7000	0.8
31.50	81.10	s2272	7	0.5100	0.8
31.40	81.10	s2273u		1.1900	0.8

31.20	81.20	s2277	6	1.0300	0.8
30.50	81.20	s2282	8	2.6700	0.8
30.30	81.20	s2284	8	3.5200	0.8
30.40	81.30	s2286	7	2.7600	0.8
31.40	81.00	s2291	8	6.2800	0.8
31.50	80.50	s2292	13	3.9800	0.8
31.50	80.50	s2293	9	5.2700	0.8
31.60	80.50	s2294	10	18.3400	0.8
32.50	79.60	s2300	8	1.3400	0.8
32.50	79.60	s2301	8	6.2600	0.8
33.10	79.20	s2302	4	0.3300	0.8
33.10	79.20	s2303	5	0.3200	0.8
33.30	79.10	s2304	7	0.4100	0.8
33.40	77.50	s2305	10	10.8200	0.8
33.50	77.50	s2306	13	53.2600	0.8
34.10	77.50	s2307	14	13.4000	0.8
34.10	77.40	s2308	13	6.0200	0.8
34.20	77.30	s2309	13	6.9300	0.8
34.30	77.20	s2310	11	12.9200	0.8
34.30	77.10	s2311	9	12.5100	0.8
34.40	77.00	s2312	15	34.6700	0.8
34.40	76.50	s2313	15	5.5300	0.8
34.40	76.40	s2314	16	3.0700	0.8
34.30	76.30	s2315	16	3.1700	0.8
34.40	76.30	s2316	16	25.0600	0.8
34.40	76.20	s2317	16	39.5900	0.8
34.50	76.10	s2318	16	31.6100	0.8
35.00	75.60	s2319	17	6.1500	0.8
35.10	75.50	s2320	16	6.0300	0.8
35.10	75.40	s2321	16	3.0900	0.8
35.10	75.30	s2322	16	3.4700	0.8
35.20	75.30	s2323	16	2.5500	0.8
35.30	75.30	s2324	15	2.5800	0.8
35.40	75.20	s2325	18	7.7400	0.8
35.50	75.30	s2326	17	5.4500	0.8
35.60	75.30	s2327	16	0.7300	0.8
36.00	75.40	s2328	17	2.3500	0.8
36.10	75.40	s2329	18	7.0500	0.8
36.30	75.50	s2330	9	1.3900	0.8
36.30	75.50	s2331	10	0.5500	0.8
36.50	75.50	s2332	11	1.8600	0.8
36.50	75.60	s2333	8	1.6200	0.8
33.00	76.30	s2334	755	71.0500	0.8
32.50	76.50	s2335	741	69.7000	0.8
32.20	76.50	s2336	990	68.4600	0.8
32.10	77.20	s2337	762	77.7000	0.8
32.00	77.20	s2338	825	62.8000	0.8
31.30	77.20	s2340	1029	82.5400	0.8
31.20	77.40	s2341	818	97.0800	0.8
31.00	77.30	s2342	930	94.6600	0.8
30.50	77.50	s2343	898	95.8700	0.8
30.30	77.30	s2344	882	93.8100	0.8
30.20	77.20	s2345	1000	91.3600	0.8
30.00	76.60	s2346	977	91.4800	0.8

29.60	76.40	s2347	1382	89.9400	0.8
29.50	76.50	s2348	1034	95.0500	0.8
29.30	76.60	s2349	1036	95.3300	0.8
29.40	77.10	s2350	905	94.9700	0.8
29.30	77.30	s2351	951	94.7500	0.8
29.20	77.40	s2352	915	96.8300	0.8
29.00	77.30	s2353	1065	93.3200	0.8
28.50	77.20	s2354	1070	97.2500	0.8
28.60	76.60	s2356	1095	92.0600	0.8
28.50	76.50	s2357	1295	89.7400	0.8
28.30	77.00	s2358	1075	96.4600	0.8
28.20	77.20	s2359	1097	96.6100	0.8
27.60	77.30	s2360	1126	98.6700	0.8
27.50	77.40	s2361	1178	93.7000	0.8
27.50	78.00	s2362	1080	97.8900	0.8
28.00	78.10	s2363	1078	98.2400	0.8
28.10	78.30	s2364	792	97.6500	0.8
28.16	78.45	s2365	919	97.4100	0.8
28.29	79.01	s2366	841	98.0600	0.8
28.45	78.45	s2367	842	95.4600	0.8
29.00	79.01	s2368	803	96.5900	0.8
29.15	78.45	s2369	848	98.4600	0.8
29.31	79.00	s2370	787	93.8100	0.8
29.45	78.45	s2371	793	97.2800	0.8
30.01	79.00	s2372	798	95.3600	0.8
30.16	78.45	s2373	804	98.5900	0.8
30.31	79.01	s2374	876	94.2500	0.8
30.48	78.45	s2375	949	93.7800	0.8
30.31	78.30	s2376	806	98.0400	0.8
30.22	78.05	s2377	813	97.8400	0.8
30.27	78.06	s2378	829	98.3200	0.8
30.29	78.04	s2379	825	98.4700	0.8
30.50	78.05	s2380	949	97.2300	0.8
31.04	78.09	s2381	849	95.2200	0.8
31.02	78.19	s2382	851	94.1300	0.8
30.56	78.34	s2383	845	98.6400	0.8
30.55	78.43	s2384	843	86.7700	0.8
30.57	78.55	s2385	802	98.4300	0.8
31.00	79.00	s2386	782	96.7100	0.8
31.23	78.40	s2389	512	98.8100	0.8
31.29	78.00	s2392	649	99.3100	0.8
31.39	77.47	s2393	610	98.7800	0.8
31.47	77.37	s2394	751	96.4800	0.8
31.49	77.44	s2395	693	98.6900	0.8
31.54	77.58	s2396	648	97.4500	0.8
32.00	78.15	s2397	651	24.7400	0.8
30.15	79.44	s2413	640	91.8000	0.8
30.16	79.55	s2414	510	86.2100	0.8
30.18	80.07	s2415	217	62.2400	0.8
27.01	79.55	s2430	203	51.4400	0.8
26.36	80.00	s2432	136	69.0500	0.8
26.16	80.03	s2434	106	91.2700	0.8
25.45	80.04	s2436	46	81.9800	0.8
25.35	80.00	s2437	341	90.4500	0.8

25.42	79.48	s2439	818	98.1600	0.8
25.56	79.46	s2440	828	96.0400	0.8
26.00	79.34	s2441	753	97.5300	0.8
26.08	79.19	s2442	532	96.3000	0.8
24.60	79.11	s2443	526	97.3700	0.8
26.30	79.00	s2444	697	96.7300	0.8
26.39	79.10	s2445	720	98.7200	0.8
26.45	79.16	s2446	673	94.4600	0.8
26.54	79.10	s2447	516	97.6100	0.8
27.01	79.16	s2448	584	97.7400	0.8
27.04	79.28	s2449	753	88.3300	0.8
27.11	79.40	s2450	478	88.6600	0.8
27.22	79.41	s2451	462	85.5700	0.8
27.25	79.30	s2452	715	92.3300	0.8
27.27	79.12	s2453	403	96.8500	0.8
27.30	79.04	s2454	372	96.8100	0.8
27.33	78.45	s2455	568	97.1700	0.8
27.38	78.31	s2456	893	93.9300	0.8
27.53	78.32	s2457	1029	94.9000	0.8
27.55	78.45	s2458	874	94.5900	0.8
28.00	78.59	s2459	832	96.4200	0.8
28.08	79.16	s2460	742	95.7600	0.8
28.14	79.30	s2461	874	90.2900	0.8
28.27	79.45	s2462	454	74.2900	0.8
28.40	79.26	s2464	828	97.0300	0.8
28.45	79.15	s2465	843	96.8300	0.8
29.01	79.32	s2466	760	98.7700	0.8
29.16	79.13	s2467	790	97.1300	0.8
29.25	79.40	s2468	803	90.3100	0.8
29.44	79.52	s2469	659	84.6200	0.8
29.55	79.34	s2470	930	95.0600	0.8
30.04	79.41	s2471	894	83.8600	0.8
30.09	79.33	s2472	776	95.5000	0.8
30.15	79.15	s2473	830	97.9700	0.8
30.34	79.32	s2474	828	90.7700	0.8
30.41	79.31	s2475	900	96.8400	0.8
30.52	79.10	s2476	743	95.9800	0.8
31.08	79.08	s2478	648	92.7800	0.8
31.23	79.09	s2479	491	97.2000	0.8
-56.00	32.45	sap-ave	5558		0.007
-56.00	32.29	sap12	5556		0.007
-55.59	32.31	sap15	5556		0.007
-55.54	32.31	sap20	5556		0.007
-56.01	32.29	sap39	5556		0.007
-55.56	32.28	sap40	5556		0.007
-55.59	32.31	sap53	5557		0.007
-70.42	40.02	s12	200	9.6600	0.001
-70.40	39.58	s13	300	5.7400	0.001
-70.40	39.57	s14	400	6.1600	0.001
-55.55	31.33	sohm-s2	5581		0.002
-18.32	32.50	sp8-4			0.6
-7.00	4.19	stat2			
9.57	-6.00	t78-30	3040		0.02
7.58	-5.11	t78-33	4120		0.02

7.48	-6.50	t78-34		4270					0.02
8.48	-8.36	t78-42		4470					0.02
10.07	-7.48	t78-45		4070					0.02
10.45	-6.50	t78-46		2100					0.02
8.04	-3.58	t78-49		4340					0.02
10.35	-6.13	t80-10		1988					0.02
5.02	-6.08	t80-4		5059					0.02
7.59	-8.00	t80-6		4457					0.02
9.02	-7.00	t80-7		3946					0.02
9.53	-6.48	t80-8		3678					0.02
-74.03	13.58	tr148-5tw		4020			14.6608		0.0001
-79.18	13.15	tr149-6tw		3290			60.4758		0.0001
-11.48	38.49	tr174-4tw		4310			46.9812		0.0001
-44.55	36.48	tr21-az02		4961			43.9824		0.0001
-45.05	56.16	tr41-2g		3598			21.6580		0.0001
-29.30	59.37	tr41-4a		1745			35.3192		0.0001
-28.45	59.44	tr41-7		1550			37.8182		0.0001
-38.00	42.10	tr85-9		4206			67.5563		0.0001
-18.05	26.14	v10-82	1741	3775	6- 8	7.92	5.27		1
-21.23	25.13	v10-83	1742	4530	0- 2	17.71	4.81		1
-24.04	24.24	v10-84	1743	5255	0- 2	22.37	6.43		1
-27.15	23.22	v10-85	1744	5755	4- 6	13.11	3.19		1
-74.24	17.00	v12-122	2063	2800	0- 3	19.58	10.88		1
-16.03	1.45	v12-80	1745	4918	2- 4	5.38	41.68		1
-18.25	0.10	v12-82	1746	6147	2- 4	3.66	25.63		1
-18.35	0.12	v12-83	1747	6754	8-10	3.34	16.50		1
-39.54	0.12	v15-168	1301	4219	10-12	6.33	5.09		1.6
-67.06	21.34	v15-187	1581	5293	2- 4	9.71	3.38		1
-76.41	27.46	v15-200	1391	1959	2	11.24	19.52		1
-50.21	17.56	v16-20	1303	4539	0- 5	5.90	6.85		1.6
-43.20	15.24	v16-205	1582	4043	4- 6	6.95	5.66		1
-51.52	30.00	v16-209	1392	4673	2	6.26	2.83		1
-57.00	36.18	v16-211	1551	5266	1- 4	7.63	5.88		1
-58.11	45.57	v16-215	1583	384	3- 6	9.67	4.36		1
-51.11	48.56	v16-219	1584	346	2- 4	37.98	8.42		1
-36.48	5.04	v16-25	1305	4254	0- 5	5.05	10.72		1.6
-17.58	0.23	v17-154	1312	3588	0	4.14	43.64		1
-41.54	32.45	v17-165	1486	3925	0- 2	6.19	5.13		1.6
-60.15	44.50	v17-176	1585	271	2- 5	13.26	5.17		1
-54.52	43.29	v17-178		4006					0.5
-54.52	43.29	v17-178		4006					0.5
-48.50	55.14	v17-191	1586	3768	2- 4	17.74	11.46		1
-54.06	57.51	v17-197	1552	3402	3- 6	6.04	11.02		1
-80.26	11.45	v17-39	1485	3435	1- 4	8.26	9.45		1.6
-65.11	29.28	v18-2	1553	4781	2- 6	7.27	2.97		1
-66.08	26.47	v18-3	1554	4993	2- 5	5.56	4.67		1
-80.14	15.02	v18-357	1487	1818	3- 5	6.81	22.28		1.6
-78.22	13.14	v19-19	14615	3760	2	5.21	15.36		1.6
-79.21	10.36	v19-21	1451	3168	0- 3	1.35	2.34		1.6
-4.35	2.45	v19-282	2067	4566	3- 5	2.62	58.58		1
-0.19	0.41	v19-286	1749	4896	3- 5	8.88	26.11		1
-5.15	1.33	v19-288	1314	5130	0	4.23	37.76		1
-5.15	2.00	v19-291	1315	4956	2	4.14	25.58		1.6
-5.09	2.09	v19-292	1316	4896	2	3.99	34.40		1

-4.47	2.19	v19-293	1317	4814	2	4.50	28.18	1
-9.05	1.25	v19-296	1241	5017	2- 4	2.43	44.81	1
-25.22	10.15	v19-302	1587	5583	5- 7	6.27	11.10	1
-31.54	17.54	v19-305	17410	4868	0- 2	9.69	4.03	1
-45.08	31.10	v19-309	1588	4544	1- 2	3.64	3.55	1.6
-48.18	33.18	v19-310	1589	4607	3- 6	3.88	2.77	1
-66.29	16.06	v19-9	1393	4519	2	6.26	10.17	1
-3.42	0.39	v199-285	1748	4204	3- 5	9.71	41.93	1
-30.08	8.28	v20-235	15810	5242	1- 3	7.29	10.55	1
-32.36	11.59	v20-236	15811	5916	1- 3	6.87	9.03	1
-34.27	14.12	v20-237	15812	5978	1- 3	8.54	4.19	1
-36.19	16.28	v20-238	1382	5233	2	8.01	5.36	1
-41.30	22.08	v20-241	1394	4372	2	7.11	4.30	1.6
-43.39	23.22	v20-242	14616	4565	5	5.56	8.54	1.6
-55.02	30.27	v20-246	1555	5592	3- 5	3.59	4.34	1
-58.21	31.50	v20-247	1556	5532	2- 5	5.71	4.50	1
-64.23	33.13	v20-249	1557	4674	3- 5	6.42	4.59	1
-65.50	36.45	v20-251	1558	4903	1- 4	10.39	3.61	1
-70.24	36.05	v21-2		4455				0.5
-45.15	43.29	v22-15	15815	4415	4- 6	16.00	8.39	1
-20.07	3.23	v22-186	1516	4471	0- 2	7.68	8.48	1.6
-20.55	4.40	v22-188	19615	2600	2- 4	9.48	15.23	1.6
-20.19	11.40	v22-194	1383	4903	3	10.33	22.97	1
-19.27	13.25	v22-195	13110	4210	2	8.61	22.72	1
-18.58	13.50	v22-196	13111	3728	2	7.50	15.89	1
-18.35	14.10	v22-197	1313	3167	2	7.43	21.73	1.6
-29.09	19.02	v22-209	1384	4735	4	8.46	5.46	1
-52.18	32.39	v22-230	15814	5048	2- 4	4.72	4.42	1
-54.10	33.29	v22-231	15813	5535	2- 4	7.92	3.36	1
-41.15	8.43	v22-26	1967	3720	0	9.13	4.07	1
-22.41	21.18	v23-100	17413	4579	0- 2	11.27	4.97	1
-25.32	19.53	v23-101	17414	4482	0- 2	10.60	5.06	1
-45.04	17.22	v23-109	1396	4325	1- 2	7.01	6.44	1
-45.52	17.38	v23-110		3746				0.06
-58.17	17.24	v23-129	1598	4870	5- 8	4.61	11.56	1
-60.49	18.36	v23-130	1599	6747	0- 3	5.75	3.27	1
-61.47	20.41	v23-131	15910	5453	1- 3	4.69	2.97	1
-63.10	22.38	v23-132	15911	5812	1- 3	5.72	2.42	1
-61.40	22.48	v23-133	15912	5755	2- 4	6.53	2.18	1
-61.27	24.07	v23-134	1386	5819	1- 3	13.72	3.77	1
-61.18	26.44	v23-137	1386	5819	8	5.46	2.05	1
-61.17	27.35	v23-138	1562	5720	4- 6	4.63	2.21	1
-64.22	29.01	v23-139	1563	4510	1- 3	5.02	3.25	1
-69.36	37.05	v23-145		4349				0.5
-44.36	51.24	v23-20	15816	4127	0- 3	15.94	9.23	1
-44.33	56.05	v23-23	1517	3292	2- 5	4.58	8.87	1.08
-43.10	58.16	v23-25	1592	1030	2- 4	9.60	10.50	1
-24.37	60.10	v23-31	1559	2178	0- 2	3.28	21.21	1
-26.01	61.24	v23-32	15510	1329	0- 4	0.87	18.31	1
-26.23	61.35	v23-33	15511	873	1- 4	2.48	29.83	1
-27.32	62.40	v23-38	15512	1426	1- 4	9.76	28.35	1
-27.55	62.11	v23-42	2069	1514	0- 3	7.81	8.90	1
-28.03	61.23	v23-43	15513	1362	0- 4	1.44	27.44	1
-29.48	59.49	v23-53	15514	1099	0- 3	1.29	34.41	1

-7.07	65.46	v23-58							0.6
-0.01	68.02	v23-59	20610	3083	2- 5	6.08	6.72		1
-8.19	70.03	v23-60	1454	2973	1	5.09	5.93		1.6
-7.23	74.02	v23-61	1518	1928	2- 5	11.66	4.69		1
-0.12	77.57	v23-63	1455	3050	1	10.54	4.11		1.6
-6.41	70.59	v23-70	1519	3047	2- 5	6.88	5.50		1
-2.43	68.33	v23-73	15110	2970	1- 3	5.67	4.57		1
-9.36	68.11	v23-74	1456	1926	1- 4	2.40	9.02		1.6
-11.19	56.10	v23-80	15515	2592	2- 4	21.67	4.03		1
-16.50	54.15	v23-81	1211	2393	10	5.53	3.30		1
-21.56	52.53	v23-82	1457	3974	4	4.32	7.47		1.6
-24.15	49.52	v23-83	15516	3871	5- 7	3.68	21.31		1.6
-16.55	46.00	v23-84	15512	4513	5- 7	8.59	4.55		1.6
-17.02	37.24	v23-86	1593	4175	1- 3	4.35	2.28		1
-19.42	34.05	v23-87	1594	5127	2- 4	5.01	7.47		1
-25.03	29.51	v23-90	1595	5394	4- 6	6.10	14.51		1
-28.34	29.35	v23-91	20611	2758	0- 3	3.37	7.68		1
-28.15	30.04	v23-92	1596	2210	2- 4	5.43	4.84		1
-23.24	30.27	v23-93	1597	5310	1- 3	6.17	8.49		1
-20.09	30.37	v23-94	1561	5380	0- 4	12.03	7.62		1
-15.06	29.48	v23-96	1395	3471	2	4.15	5.14		1
-19.18	23.07	v23-98	1385	3506	4	4.15	5.14		1.6
-73.30	36.30	v24-1	20612	3012	4- 6	16.85	5.16		1.5
-68.58	22.31	v24-262	15914	5517	1- 3	6.30	1.51		1
-77.57	15.19	v24-28	1458	2274	2- 5	2.23	5.43		1.6
-71.08	28.33	v25-2	15915	5409	1- 3	4.90	2.37		1
-67.28	28.43	v25-3	15916	5130	1- 3	5.90	6.59		1
-48.01	24.19	v25-30	1398	4096	3- 4	5.26	3.25		1
-52.35	24.43	v25-33	1399	941	2	4.56	1.94		1
-53.36	20.23	v25-35	1387	5269	8	5.13	2.62		1
-63.56	28.44	v25-4	1564	5203	1- 4	7.34	3.78		1
-50.39	12.33	v25-42	2061	4707	2- 5	9.66	4.01		1
-45.09	11.30	v25-44	1459	4049	3	5.82	5.63		1.6
-33.29	1.22	v25-59	1973	3824	2- 5	7.88	6.39		1.6
-34.50	3.17	v25-60		3749					0.06
-34.49	3.17	v25-60	15113	3749	4- 6	7.17	12.87		1
-53.09	8.38	v25-74	13910	3446	3	5.89	3.69		1
-53.10	8.35	v25-75		2743					0.06
-46.52	4.41	v26-107	14512	3224	2	9.01	2.80		1.6
-56.53	15.28	v26-113	13913	5231	2- 3	4.89	7.17		1
-74.27	16.08	v26-124	14513	3005	3	7.73	15.28		1.6
-68.34	24.30	v26-153	1601	5706	1- 3	11.12	2.72		1
-65.18	24.29	v26-154	1602	5773	3- 6	5.11	2.21		1
-65.16	27.27	v26-156	1566	5035	1- 4	5.35	3.11		1
-72.23	36.03	v26-176		3942					0.5
-72.23	36.03	v26-176		3942					0.5
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-72.34	37.33	v26-177		2979					0.5
-40.29	26.28	v26-24	13911	4213	1- 2	9.40	5.27		1
-55.23	26.26	v26-28	13912	6293	2	6.22	2.21		1
-40.39	27.04	v26-29	1389	4519	2- 4	7.21	4.73		1
-36.55	19.51	v26-34	17415	5601	0- 2	8.67	2.40		1
-34.14	17.42	v26-35	13810	5123	2	7.94	4.03		1
-31.33	16.32	v26-36	17416	5181	2- 4	9.53	2.45		1

-31.06	16.38	v26-37	15114	4898	1- 3	9.73	6.19	1
-31.33	16.22	v26-38	1751	5181	4- 6	10.29	5.48	1
-31.34	16.33	v26-39	1752	5059	0- 2	10.70	5.11	1
-59.10	32.37	v26-4	1565	4781	4- 7	6.85	4.85	1
-26.07	19.20	v26-41	14510	4341	4	11.05	8.75	1.6
-18.11	9.34	v26-46	14511	2898	1- 4	3.61	8.06	1.6
-17.52	5.50	v26-49	15115	4621	10	9.05	8.26	1
-17.55	6.16	v26-50	13113	4826	2	8.19	4.05	1
-22.52	61.14	v27-106	15614	1900	5- 8	1.79	22.56	1
-23.58	59.27	v27-107	15615	2492	2- 4	5.79	20.73	1
-58.03	43.29	v27-11	1603	3488	1- 3	12.72	6.34	1
-18.29	56.54	v27-110	2072	1264	4- 6	10.01	4.85	1
-24.05	56.04	v27-111	15616	2809	3- 6	12.03	17.84	1
-25.31	56.08	v27-112	1571	3217	4- 6	4.70	34.86	1
-27.37	56.10	v27-113	1572	2622	4- 6	2.05	30.79	1
-33.04	55.03	v27-114	1605	2532	3- 6	1.30	40.59	1
-30.20	52.50	v27-116	1607	3202	5- 7	2.84	24.81	1
-19.13	50.58	v27-120	14812	4376	5- 7	6.25	7.21	1
-16.58	48.18	v27-122	1573	4696	2- 5	14.56	5.77	1
-14.58	44.37	v27-127	1574	5095	1- 4	11.18	2.34	1
-9.36	45.12	v27-129	1575	4578	2- 4	12.44	2.88	1
-51.05	42.03	v27-13	1604	3294	5- 7	10.03	7.67	1
-12.06	48.00	v27-134	1576	3350	2- 4	17.81	3.85	1
-17.04	42.42	v27-137	13811	4883	4	9.10	2.14	1
-27.17	42.03	v27-139	1577	2465	4- 6	11.55	7.42	1
-46.50	41.21	v27-14	1567	4453	4- 6	19.77	9.38	1
-1.28	61.51	v27-142	15611	954	0- 3	53.04	8.73	1
-13.33	39.36	v27-144	1608	4894	1- 3	8.65	2.06	1
-10.42	38.09	v27-146	1609	4921	5- 7	6.45	0.59	1
-13.58	33.35	v27-161	1753	4445	0- 2	5.88	2.77	1
-16.52	34.12	v27-162	1578	4281	1- 4	4.04	6.99	1
-40.55	35.01	v27-163	16011	3704	2- 4	3.48	3.82	1
-17.22	31.30	v27-163	13914	4530	0	7.51	4.25	1
-22.43	25.51	v27-166	1759	4945	2- 4	13.63	8.05	1
-26.35	25.56	v27-167	13915	5099	2	10.18	5.32	1
-30.19	25.52	v27-168	1755	5526	6- 8	11.48	3.36	1
-32.26	25.50	v27-169	1756	4960	4- 6	8.59	3.02	1
-37.18	50.06	v27-17	14514	4054	4- 7	7.12	14.82	1.6
-34.02	24.26	v27-170	1757	6224	3- 5	9.23	2.70	1
-32.33	21.44	v27-171	13916	4639	1- 2	11.40	3.49	1
-25.00	12.51	v27-174	16010	4912	1- 3	8.71	12.90	1
-22.07	8.48	v27-175	13114	5481	2	7.59	22.20	1
-26.39	5.06	v27-178	1321	4327	0	6.57	16.67	1.6
-38.48	52.06	v27-19	1529	3466	4- 6	9.62	7.51	1.6
-46.12	54.00	v27-20	14515	3510	5	5.42	13.25	1.6
1.59	1.00	v27-234	1759	4618	0- 2	10.85	22.54	1
-11.49	3.03	v27-248	13115	4543	0	3.44	33.08	1.6
-13.38	1.02	v27-250	13116	4942	0	4.92	48.58	1
-28.00	22.36	v27-255	17511	5554	0- 2	10.06	2.38	1
-29.59	26.25	v27-256	17512	5079	2- 4	5.54	4.35	1
-34.53	26.46	v27-259	17513	5596	4- 6	7.15	2.23	1
-31.06	25.56	v27-260	17514	5590	8-10	10.18	3.25	1
-40.55	35.01	v27-263						0.6
-43.43	36.31	v27-264	16012	4801	2- 4	3.80	5.60	1

-44.17	35.38	v27-267	16013	4722	0- 3	5.05	4.85	1
-56.40	37.02	v27-269	1579	5066	4- 7	8.23	4.53	1
-59.59	37.20	v27-270	16014	4700	0- 5	10.61	3.80	1
-37.17	60.42	v27-32	1606	2953	3- 6	4.91	16.90	1
-30.57	63.01	v27-34	1568	2283	0- 4	10.39	14.27	1
-28.16	64.03	v27-35	1569	1353	1- 4	22.52	11.68	1
-3.16	62.29	v27-41	15610	635	1- 4	16.63	19.96	1
-11.31	67.35	v27-46	15210	1728	3- 5	3.37	10.78	1.6
-13.33	68.28	v27-47	14516	1717	1- 4	4.26	7.88	1.6
8.35	72.11	v27-60	15211	2525	5- 7	11.41	4.17	1
12.39	74.30	v27-69	15213	2265	1- 2	7.73	4.55	1
6.55	76.28	v27-74	1488	2778	4- 6	5.63	4.24	1
10.48	76.25	v27-76	15215	2113	1- 3	9.44	3.63	1
-5.43	74.12	v27-83	1489	3416	2- 4	7.20	3.28	1
-1.36	68.38	v27-84	14810	3404	2- 4	11.29	6.19	1.6
4.02	67.22	v27-85	2071	1227	2- 5	19.88	3.39	1
1.07	66.36	v27-86						0.6
1.07	66.36	v27-86	14811	2900	4- 6	23.43	6.71	1.4
3.29	67.08	v27-95	15612	1250	3- 6	11.35	2.67	1
-4.20	61.01	v27-96	15613	1138	3- 6	39.65	10.59	1
-54.15	30.30	v28-101	1617	5592	2- 5	6.53	3.62	1
-62.11	31.47	v28-103	1618	4887	2- 6	4.92	4.64	1
-76.36	17.02	v28-119	13812	1781	4	5.71	25.41	1.6
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-78.41	11.56	v28-122	13813	3623	3- 6	7.49	14.35	1.6
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-80.45	11.36	v28-128	13815	3264	3	6.81	16.97	1.6
-80.24	11.07	v28-129	13816	3400	3- 6	7.67	14.04	1.6
-29.34	64.47	v28-14	1549	925	1- 3	2.19	31.43	1.6
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-9.34	67.07	v28-35	14814	1376	1- 2	2.98	19.59	1
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-6.07	68.02	v28-56						0.6
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-7.52	64.52	v28-59	2074	2622	2- 4	4.40	10.23	1
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-11.27	60.33	v28-65	15713	1232	0- 3	15.60	13.78	1
-15.11	60.37	v28-66	15714	2043	0- 3	5.20	28.40	1
-18.44	60.37	v28-67	15715	2494	0- 3	1.61	22.45	1
-11.53	57.44	v28-72	15716	1772	0- 3	12.28	3.80	1
-22.10	55.23	v28-74	14816	2437	6- 8	3.01	32.20	1
-22.16	49.27	v28-82	16015	3935	0- 3	3.38	34.22	1
-19.59	47.28	v28-83	16016	4559	0- 3	4.02	5.78	1
-32.35	44.32	v28-89	1612	3643	0- 3	7.56	7.60	1
-42.01	42.11	v28-91	1613	4982	0- 4	14.24	8.70	1
-46.60	40.47	v28-92	1614	4552	1- 4	10.91	10.05	1
-48.34	39.45	v28-93	1615	5382	2- 5	12.14	12.99	1
-58.03	35.08	v28-95	1616	4352	0- 3	6.21	4.64	1
-3.31	3.43	v29-146	17515	3653	4- 6	2.46	30.81	1
0.51	3.57	v29-150	17516	4289	3- 5	8.38	9.21	1
0.14	2.52	v29-151	1761	4759	3- 5	10.13	25.43	1
-8.01	1.28	v29-155	1762	5075	0- 2	4.13	48.58	1
-11.05	2.10	v29-158	1763	4682	0- 2	5.49	42.90	1
-12.36	6.16	v29-159	1764	3768	3- 5	7.16	22.43	1

-16.37	5.54	v29-160	1765	4971	3- 5	7.32	17.27	1
-15.50	6.47	v29-161	1766	4807	0- 2	6.23	21.31	1
-15.45	6.54	v29-162	1767	4768	0- 2	5.25	18.74	1
-14.56	7.44	v29-163	1768	3907	0- 2	5.02	21.36	1
-14.19	9.08	v29-164	1769	582	2- 4	11.26	15.23	1
-20.57	14.59	v29-166	17610	4159	0- 2	11.64	16.34	1
-17.55	16.23	v29-167	17611	2822	0- 2	11.46	13.47	1
-18.04	17.58	v29-168	17612	2833	0- 2	13.48	11.01	1
-20.00	20.04	v29-169	17613	3508	0- 2	13.18	8.72	1
-20.04	22.28	v29-170	17614	4455	0- 2	7.80	8.17	1
-16.21	29.39	v29-171	17615	3695	2- 4	4.50	6.25	1
-44.10	5.02	v29-172	1666	3722	0	2.22	7.42	1.6
-29.23	33.40	v29-173k						0.6
-47.13	2.30	v29-174	1668	1394	0	0.96	10.72	1.6
-46.41	4.30	v29-175	16610	3351	0	0.24	11.47	1.6
-25.43	41.32	v29-177	2075	3391	2- 4	4.20	7.27	1
-25.00	42.51	v29-178	2076	3448	0- 4	15.12	5.27	1
-24.32	44.01	v29-179	2077	3331	2- 5	6.16	6.34	1
-23.52	45.18	v29-180	2078	3179	3- 5	6.24	4.95	1
-6.44	66.44	v29-210	20710	2460	3- 5	6.79	5.28	1
-5.27	68.23	v29-219	20711	3384	3- 5	5.09	6.97	1
-53.09	8.38	v29-74	13910	3446	3	5.89	3.69	1
-32.30	44.07	v30-100	20715	3519	0- 5	10.09	6.52	1
-32.30	44.07	v30-101	20716	3504	2- 4	9.21	7.28	1
-22.18	29.13	v30-232	1787	4988	0- 2	16.52	7.65	1
-20.29	25.27	v30-233	1788	4315	1- 3	9.63	4.97	1
-19.43	26.00	v30-234	1789	3951	1- 3	9.55	6.75	1
-17.20	25.09	v30-237	17810	2996	0- 2	9.61	5.38	1
-20.04	23.39	v30-239	17811	3901	0- 2	12.95	5.97	1
-19.38	23.24	v30-241	17812	3702	2- 4	8.21	4.03	1
-19.28	23.21	v30-242	17813	3625	3- 5	10.55	4.11	1
-22.10	21.24	v30-243	17814	4487	3- 5	14.12	6.58	1
-27.19	5.21	v30-36		4245				0.06
-27.19	5.21	v30-36	17616	4245	6- 8	8.95	16.76	1
-23.04	0.13	v30-41k		3874				0.06
-19.56	6.18	v30-45	17016	3568	0	9.67	19.15	1
-18.05	12.26	v30-46	1772	3378	5- 7	8.06	10.73	1
-19.20	17.07	v30-48	1773	3351	2-4	11.39	10.89	1
-21.05	18.26	v30-49	1773	3093	0- 2	13.57	9.61	1.08
-19.55	19.52	v30-50	1775	3409	0- 2	12.21	9.15	1
-19.55	19.52	v30-51	1776	3409	0- 2	13.60	11.88	1
-19.55	19.52	v30-51k		3409				0.06
-21.19	21.14	v30-52	1777	4269	2- 4	14.46	6.56	1
-19.12	22.39	v30-53	1779	3506	3- 5	11.65	8.34	1
-18.04	22.02	v30-53	1778	2160	2- 4	12.52	7.52	1
-17.40	23.11	v30-55	17710	1692	3- 5	13.95	6.03	1
-19.06	24.07	v30-56	17711	3150	3- 5	12.93	7.09	1
-16.40	24.41	v30-57	17712	1213	3- 5	20.88	5.99	1
-20.53	25.43	v30-58	17713	4492	0- 2	10.76	6.84	1
-19.31	25.43	v30-59	17714	3760	2- 4	9.65	5.59	1
-16.50	25.34	v30-61	17715	3170	4- 6	9.90	5.40	1
-16.55	25.50	v30-62	17716	942	3- 5	19.92	4.64	1
-15.09	26.36	v30-67	1781	1953	0- 3	14.16	5.49	1
-19.08	26.55	v30-68	1782	3841	3- 5	6.82	6.38	1

-18.49	32.12	v30-69	1783	4353	2- 4	3.55	8.15	1
-18.55	32.19	v30-70	1784	4304	0- 2	4.35	6.84	1
-19.51	32.18	v30-71	1785	4124	0- 2	4.88	7.25	1
-24.13	32.43	v30-73	1786	5225	3- 5	7.15	8.73	1
-33.08	39.57	v30-96	20712	3188	2- 4	5.06	7.55	1
-32.56	41.00	v30-97	20713	3371	3- 5	6.74	6.97	1.08
-32.27	43.09	v30-99	20714	3594	1- 3	29.28	6.53	1
-24.12	9.19	v31-2	17815	1922	2- 4	9.30	10.23	1
-32.25	34.47	v32-8		3252				0.06
-70.55	38.53	v4-1		2867				0.5
-11.37	35.03	v4-32	16515	2296	0	7.18	2.38	1.6
-33.08	37.14	v4-8	16513	1655	0	0.74	53.44	1.6
-20.31	14.48	x164012		4061	tp			0.01
-20.34	14.25	x164021		4203	tp			0.01
-20.32	14.23	x164032		4234	tp			0.01
-21.18	12.40	x164041		4787	tp			0.01
-21.25	12.16	x164051		4870	tp			0.01
-21.37	9.52	x164061		5141	tp			0.01
-21.58	9.02	x164071		4586	tp			0.01
-21.27	9.01	x164081		4239	tp			0.01
-20.51	8.55	x164101		3969	tp			0.01
-19.54	9.31	x164111		4622	tp			0.01
-19.51	9.34	x164121		4607	tp			0.01
-19.18	10.01	x164131		4397	tp			0.01
-19.06	9.34	x164151		3841	tp			0.01
-19.24	9.52	x164161		4336	tp			0.01
-19.44	10.05	x164171		4627	tp			0.01
-16.38	9.53	x164182		130	tp			0.01
-16.44	9.54	x164191		312	tp			0.01
-17.32	9.56	x164201		806	tp			0.01
-17.53	9.53	x164212		1507	tp			0.01
-19.38	9.14	x164222		4694	tp			0.01
-19.20	9.02	x164241		4648	tp			0.01
-19.02	9.08	x164251		4802	tp			0.01
-18.26	8.15	x164263		4766	tp			0.01
-18.42	7.37	x164282		4645	tp			0.01
-19.25	6.44	x164291		4275	tp			0.01
-19.59	5.37	x164301		2811	tp			0.01
-20.18	5.30	x164311		2986	tp			0.01
-22.03	3.00	x164321		4515	tp			0.01
-24.01	3.21	x164331		4530	tp			0.01
-23.45	4.22	x164351		4571	tp			0.01
-17.56	16.56	x164373		2766	tp			0.01

SOUTH ATLANTIC OCEAN

LONG	LAT	CORE	ACCESS	DEPTH	SAMP	QTZ	OPAL	CACO3	SOURCE
D M	D M	ID			DEPTH	%	%	%	
-36.39	-31.59	a1160-13		2739					0.7
-24.10	-0.03	a18-074							0.6
-26.02	-0.46	a18-076	1469	3512	3	4.23	38.27		1.6
-33.37	-6.59	a18-083	1226	4297	3- 5	6.72	4.85		1
-1.32	-7.34	clr1220		4313	2- 5	5.00	29.00	96.0000	8
7.10	-25.40	clr143		4106	5- 7	12.00	9.00	79.0000	8
9.26	-25.46	clr144		4554	3- 6	11.00	14.00	67.0000	8
5.29	-8.04	clr216		4249	0- 5	6.00	33.00	19.0000	8
-6.14	-7.49	clr227		4178	4- 6	9.00	50.00	97.0000	8
-11.07	-8.17	clr240		3201	3- 5	6.00	47.00	98.0000	8
-19.02	-4.35	ch315		4349	0	9.00	35.00	88.0000	8
-18.55	-6.38	ch316		4713	0	10.00	22.00	84.0000	8
-14.05	-7.20	ch324a		3722	0	6.00	35.00	95.0000	8
-13.04	-8.23	ch326		3116	0	5.00	40.00	74.0000	8
-9.27	-8.39	ch329		3714	0	8.00	57.00	92.0000	8
-38.05	-30.55	chn-11588		2941					0.7
-35.39	-29.55	chn115-70		2340					0.7
-38.12	-30.53	chn115-89		3152					0.7
-38.22	-30.51	chn115-90		3384					0.7
-38.26	-30.50	chn115-91		3576					0.7
-38.50	-30.26	chn115-92		3934					0.7
15.07	-33.51	lsda159	?	4150	0- 4	34.00	11.00	69.0000	8
1.58	-31.21	lsda163	?	4190	0- 3	11.00	19.00	96.0000	8
-7.20	-29.42	lsda167	?	4152	0- 5	11.00	12.00	94.0000	8
-9.25	-28.51	lsda168	?	3930	8-12	12.00	11.00	92.0000	8
-15.32	-24.03	lsda178	?	4045	0- 5	10.00	13.00	92.0000	8
-12.55	-19.44	lsda183	?	3500	0- 5	6.00	12.00	99.0000	8
-10.17	-18.33	lsda185	?	3460	5- 7	5.00	11.00	97.0000	8
-11.14	-5.42	lsda199	?	2900	4- 6	5.00	83.00	98.0000	8
-15.07	-24.04	rc08-18	1951	3977	2- 5	5.66	17.00		1
71.32	-37.48	rc11-118		4354					0.3
74.34	40.18	rc11-119		3709					0.3
79.52	43.31	rc11-120		3193					0.3
-32.54	-12.49	rc11-19	7415	4493	0	8.64	3.34		1
-33.59	-16.09	rc11-20	7416	4446	0	5.75	9.11		1
-35.58	-17.16	rc11-21	1952	4021	0	7.69	5.68		1
-32.42	-20.09	rc11-22	7722	4167	0	7.84	4.17		1
-32.37	-22.47	rc11-23	7733	4793	0	23.04	4.41		1
-31.46	-25.04	rc11-24	774	5242	0	6.73	30.37		1
-30.04	-28.35	rc11-26	1953	2349	4- 6	5.63	10.14		1
-33.37	-31.19	rc11-34	779	4235	0	4.14	8.39		1
-35.06	-34.43	rc11-35	7710	4319	0	3.15	6.96		1
-35.16	-33.52	rc11-36	7711	4222	0	4.21	5.64		1
-35.32	-31.59	rc11-37	7712	2578	0	4.10	6.09		1
-38.14	-28.42	rc11-38	7713	4775	0	0.31	3.04		1
-39.00	-29.19	rc11-40	7714	4299	0	4.14	3.32		1
-37.33	-31.56	rc11-41	7715	4107	0	5.55	8.60		1
-9.52	-50.52	rc11-78	1493	3115	4- 8	1.89	89.40		1.3
-4.36	-49.00	rc11-79		3385	0- 2	13.00	19.00	7.0000	8
-0.03	-46.45	rc11-80	1954	3656	7- 9	6.09	67.58		1

-0.03	-46.45	rc11-80		3656	3- 5	9.00	55.00	69.0000	8.3
5.13	-43.54	rc11-81		4704	3- 5	22.00	18.00	38.0000	8
9.43	-41.36	rc11-83		4718	0	20.00	9.00	21.0000	8.3
18.27	-35.47	rc11-86	16312	2829	3- 5	18.86	8.96		1
-64.00	-55.09	rc12-234	19711	2027	2- 4	31.90	13.27	20.6584	1.0001
-57.40	-43.28	rc12-241	1955	3499	0	15.59	10.93		1
-25.47	-38.41	rc12-267	1497	4144	7-10	4.11	7.88		1.3
-23.42	-47.54	rc12-289	1498	4484	4- 9	3.88	60.70		1.3
-17.48	-42.35	rc12-291	1956	3508	0	6.96	17.76		1
-10.06	-37.16	rc12-294	1957	3308	2- 4	0.92	8.91		1
5.11	-2.17	rc13-205	1959	3731	4- 6	2.93	59.58		1
8.59	-18.59	rc13-226	19510	4775	2- 4	3.36	38.89		1
8.52	-21.53	rc13-227	19511	4301	3- 5	4.47	22.47		1
11.12	-22.20	rc13-228	19512	3204	0	3.92	21.90		1
11.18	-25.30	rc13-229	19513	4191	2- 4	4.68	35.58		1
-3.35	-37.32	rc13-242	19514	4266	2- 4	2.90	29.98		1
1.19	-36.54	rc13-243	1499	1235	11-12	3.33	15.12		1.3
11.40	-42.31	rc13-251	14910	1082	4- 8	5.69	43.03		1.3
7.38	-46.36	rc13-253	14911	2494	4- 9	2.89	58.52		1.3
5.08	-48.34	rc13-254	14912	1712	4- 8	5.55	70.66		1.3
2.54	-50.35	rc13-255		3332					0.3
-0.21	-53.11	rc13-256		2525					0.3
-3.00	-55.00	rc13-257		2836					0.3
-8.41	-56.07	rc13-261	14913	1120	2- 6	6.15	26.92		1.3
11.34	-55.05	rc13-273	14914	1780	4- 9	4.52	45.19		1.3
13.26	-50.43	rc13-275	14915	830	5- 7	1.61	76.10		1.3
14.42	-47.42	rc13-276	14916	1555	3- 7	3.71	81.60		1.3001
-20.51	-42.59	rc15-93	1505	3762	3- 8	4.44	29.95		1.3
-13.13	-46.05	rc15-93	19515	2714	4- 6	7.03	42.15		1
-20.51	-42.54	rc15-94		3762					0.3
-29.46	-42.56	rc15-98	1506	4416	5- 9	6.34	11.85		1.3
-10.12	-5.02	rc24-16		3543					0.06
-11.55	-1.21	rc24-7		3899					0.06
-20.32	-19.20	rc8-15		4707	10-11	7.00	4.00	4.0000	8
-14.42	-23.21	rc8-16		4440	10-11	12.00	10.00	79.0000	8
-9.26	-26.34	rc8-19		3636	4- 6	9.00	8.00	94.0000	8
-9.26	-26.34	rc8-28		4089	9-10	13.00	14.00	90.0000	8
-5.11	7.58	t78-33		4120			35.10	17.6000	0.02
-8.51	4.24	t78-38		5490			39.60	20.8000	0.02
-8.36	8.47	t78-42		4470				29.7000	0.02
-7.48	10.07	t78-45		4070				8.5000	0.02
-6.50	10.45	t78-46		2100				3.5000	0.02
-5.56	9.20	t80-11		3453				0.9000	0.02
-29.28	-26.20	v12-16		5570	0- 2	7.00	8.00	5.0000	8
-31.58	-27.29	v12-17	881	4740	0	2.65	3.16		1
-34.30	-28.42	v12-18		4022	5- 7	13.00	7.00	82.0000	8
-56.34	-35.40	v12-23	882	7	15	13.18	8.04		1
-35.38	-46.00	v12-36	551	82	0	8.77	8.19		1
-59.13	-45.23	v12-41	552	1880	0	21.45	11.56		1
-56.32	-40.43	v12-49	553	1015	0	16.68	12.18		1
-32.52	-39.36	v12-52	883	5015	10	5.18	24.77		1
-32.52	-39.36	v12-52		5016	8-10	19.00	10.00	4.0000	8
-20.23	-40.54	v12-53		3797	0-10	13.00	14.00	78.0000	8
-6.07	-41.14	v12-54		4082	0-10	4.00	9.00	90.0000	8

7.01	-22.59	v12-66		2759	1- 4	12.00	16.00	90.0000		8
10.41	-5.38	v12-71	12311	2255	10	4.75	24.76			1
9.53	-5.54	v12-73		3054	0- 3	11.00	11.00	4.0000		8
-46.12	-32.50	v14-19	554	3977	8-10	6.77	14.42			1
-52.26	-35.30	v14-21	884	139	0	8.74	10.96			1
-63.32	-53.53	v14-39	8816	1791	0	20.99	10.28			1
-62.58	-52.45	v14-42	885	305	10	12.86	8.02			1
-55.05	-56.45	v14-46	886	3429	10	14.60	14.10			1
-40.04	-52.44	v14-48	887	3771	10	2.52	99.99			1
-25.09	-65.62	v14-54	888	6181	10	1.91	99.05			1
-23.58	-57.34	v14-56	889	5134	10	1.37	70.25			1
-17.06	-57.34	v14-57	8810	4978	10	1.52	99.99			1
-65.35	-52.52	v15-108	557	108	0	14.19	8.09			1
-47.24	-50.23	v15-137	8811	2681	10	15.11	29.98	12.3284	1.0001	1
-48.04	-47.57	v15-140	8812	6086	10	6.77	13.17			1
-51.32	-44.54	v15-142	1961	5856	2- 4	12.45	10.30			1
-49.47	-33.10	v15-157	1962	1123	0	10.95	6.29			1
-82.30	-3.15	v15-32	1484	2853	1- 4	4.87	59.27			1
-68.40	-51.30	v15-92	556	37	0	11.81	13.17			1
-60.26	-50.30	v16-144	561	1410	2- 5	12.06	18.81			1
-57.22	-49.20	v16-146	562	353	0	29.25	5.26			1
-40.20	-45.04	v16-150	563	4980	0	17.92	13.67			1
-61.28	-46.45	v16-151	564	128	0	8.61	12.10			1
-62.06	-44.31	v16-154	565	97	0	23.31	10.40			1
-63.16	-42.51	v16-156	566	70	0	4.34	13.67			1
-57.20	-43.58	v16-165	568	3566	0	11.97	23.47			1
-43.00	-33.25	v16-185	9316	4437	0- 4	6.95	17.44			1
-40.25	-32.55	v16-186		4746	5	15.00	8.00	1.0000		8
-40.05	-31.28	v16-187		3643	9-10	16.00	6.00	53.0000		8
-42.27	-27.57	v16-190	8814	2919	0	0.25	0.39			1
-35.17	-15.56	v16-197	711	4078	1- 3	6.72	14.79			1
-22.47	-13.54	v16-32		5276	10	12.00	6.00	4.0000		8
-19.43	-15.20	v16-33		4360	0	8.00	12.00	79.0000		8
-16.13	-17.02	v16-34		3530	8- 9	4.00	4.00	95.0000		8
-11.26	-19.22	v16-36	2064	3329	0- 3	5.72	8.58			1
-11.26	-19.22	v16-36		3329	4- 7	8.00	5.00	92.0000		8
-8.57	-21.20	v16-37		3908	0- 3	9.00	4.00	94.0000		8
-6.46	-22.59	v16-38		4925	7	11.00	10.00	56.0000		8
-4.46	-24.44	v16-39		4596	3- 6	9.00	6.00	90.0000		8
-65.08	-51.26	v16-42	558	126	0	19.29	11.34			1
5.26	-30.58	v16-44		5127	5	7.00	3.00	71.0000		8
-58.09	-42.04	v16-59	567	124	0	25.81	1.23			1
-35.53	-50.15	v17-125	8815	4689	0	8.24	79.91			1
-44.42	-53.35	v18-110	1963	2610	6- 8	13.94	15.24			1
-37.47	-36.58	v18-163		5000	3- 7	15.00	14.00	11.0000		8
-34.20	-36.34	v18-164	8813	4525	0	4.31	9.51			1
-34.02	-36.34	v18-164		4525	10	43.00	8.00	5.0000		8
-30.02	-36.10	v18-165		4328	0	55.00	10.00	23.0000		8
-27.07	-34.29	v18-166	2065	4227	14	7.72	12.41			1
-27.07	-34.29	v18-166		4527	5- 8	15.00	9.00	37.0000		8
-23.41	-33.29	v18-167		4265	9-10	2.00	0.00	68.0000		8
-16.16	-30.30	v18-169		3319	0	0.00	0.00	92.0000		8
-9.26	-30.23	v18-173		3815	0- 1	10.00	9.00	93.0000		8
-6.28	-30.28	v18-174		4651	5- 7	12.00	7.00	88.0000		8

-3.35	-31.07	v18-175		4146	0	11.00	15.00	90.0000	8
-0.54	-31.11	v18-176		4468	0	6.00	4.00	93.0000	8
8.56	-33.01	v18-180		5050	4- 8	10.00	4.00	3.0000	8
-35.07	-0.30	v18-25	713	4498	0	8.44	0.78		1
-31.47	-10.10	v18-27	715	4684	0	6.81	6.22		1
-38.18	-13.02	v18-28	716	430	0	40.40	5.56		1
-36.06	-14.26	v18-29	717	4459	0	48.66	2.83		1
-30.58	-17.40	v18-30	1508	4942	0- 5	7.70	9.11		1
-41.07	-36.24	v18-35		4942					0.3
-35.32	-1.52	v18-56	714	3979	0	5.84	5.12		1
13.07	-30.35	v19-240	19712	3103	3	6.87	10.49		1
10.36	-29.37	v19-241		4493	4- 9	0.00	2.00	74.0000	8
6.15	-27.15	v19-244		4865	0- 2	12.00	15.00	68.0000	8
4.42	-26.12	v19-245		2725	0- 5	9.00	3.00	96.0000	8
3.20	-25.25	v19-247		5002	3- 4	10.00	8.00	91.0000	8
4.50	-24.34	v19-248	1964	3321	0	5.03	19.05		1
8.23	-18.20	v19-262		4918	3- 5	2.00	0.00	76.0000	8
6.36	-15.55	v19-263		5278	0	14.00	2.00	8.0000	8
2.13	-13.23	v19-267		5585	0	12.00	15.00	17.0000	8
4.39	-3.19	v19-281	2066	4566	2- 5	2.60	60.74		1
5.32	-1.17	v19-283	1965	3442	0	2.52	58.06		1
-7.45	-28.26	v20-209		4257	0	13.00	15.00	90.0000	8
-10.20	-28.13	v20-212	19713	3523	4	5.11	15.77		1
-10.02	-28.13	v20-212		3523	0- 2	8.00	8.00	95.0000	8
-16.21	-28.38	v20-215		4114	0	10.00	9.00	91.0000	8
-18.50	-28.41	v20-216		4451	0	9.00	7.00	83.0000	8
-23.03	-28.33	v20-217		4601	0	2.00	2.00	51.0000	8
-27.38	-28.40	v20-218		5115	0- 8	14.00	7.00	30.0000	8
-29.13	-29.02	v20-219		3092	6- 8	12.00	6.00	96.0000	8
-28.53	-22.53	v20-221		5298	8- 9	13.00	6.00	6.0000	8
-28.07	-19.29	v20-222		5148	0	12.00	6.00	4.0000	8
-28.44	-15.21	v20-223		5318	0	13.00	6.00	5.0000	8
-31.19	-9.48	v20-225		5214	0	13.00	4.00	7.0000	8
-31.19	-9.48	v20-225	7113	5214	0	5.75	4.45		1
-32.05	-7.38	v20-226	7114	5092	0	6.72	4.45		1
-32.05	-7.38	v20-226		5092	0	17.00	6.00	9.0000	8
-34.38	-4.14	v20-227	2068	3812	2- 5	7.41	3.03		1
-36.25	-2.29	v20-228	1966	3676	0	8.06	4.31		1
3.54	-18.43	v21-170	m112697	4131	0	18.12	3.20	0.9500	7
-26.00	-49.09	v22-101		4506	0	16.00	10.00	2.0000	8
-21.24	-49.50	v22-103		3871	3- 6	11.00	38.00	11.0000	8
-19.29	-49.00	v22-104		4321	5	15.00	46.00	4.0000	8
-10.54	-46.08	v22-106		3037	7	18.00	32.00	54.0000	8
-6.38	-44.28	v22-107		3898	0- 3	8.00	36.00	87.0000	8
-3.15	-43.11	v22-108		4171	8- 9	7.00	36.00	83.0000	8.3
-3.15	-43.11	v22-108	19610	4171	0	4.25	44.89		1
-0.15	-41.58	v22-109		733	8-10	2.00	9.00	98.0000	8
5.06	-39.45	v22-110		5145	10	14.00	17.00	24.0000	8
9.56	-37.33	v22-113		5073	10	31.00	20.00	35.0000	8
13.41	-36.01	v22-115		4854	10	63.00	7.00	15.0000	8
8.22	-35.05	v22-139		4825	8- 9	2.00	11.00	3.0000	8
2.21	-33.37	v22-140		4433	10	13.00	12.00	62.0000	8
2.10	-32.21	v22-146		2177	0- 1	0.00	5.00	89.0000	8
1.55	-28.43	v22-159		3471	0	11.00	18.00	93.0000	8

0.56	-26.22	v22-163		4442	0	11.00	15.00	87.0000	8
0.31	-23.08	v22-165		5198	10	10.00	5.00	74.0000	8
-1.57	-20.38	v22-166		5530	0- 5	18.00	7.00	24.0000	8
-3.54	-18.43	v22-167		6020	4- 7	10.00	11.00	19.0000	8
-5.11	-17.18	v22-168		4625	0	8.00	19.00	84.0000	8
-5.11	-17.28	v22-168	19611	4625	2- 4	3.15	22.10		1
-7.34	-14.38	v22-170		4131	1- 3	5.00	15.00	98.0000	8
-9.20	-13.06	v22-171	19612	4155	2- 4	4.29	25.95		1
-9.49	-12.40	v22-172	19613	4127	0	5.82	19.57		1
-10.09	-12.23	v22-173		3878	0- 2	4.00	7.00	99.0000	8
-12.49	-10.04	v22-174	19614	2630	0	3.12	37.43		1
-14.37	-7.45	v22-177		3290					0.06
-14.37	-7.45	v22-177	19714	2630	10-12	1.11	18.81		1
-16.27	-3.18	v22-180	17411	4338	0- 2	2.94	75.54		1
-17.16	-0.33	v22-182		3776					0.06
-17.16	-0.33	v22-182	17412	3614	0- 2	4.34	56.83		1
-30.10	-13.00	v22-224		5405	0	13.00	6.00	5.0000	8
-34.15	-9.33	v22-38		3797					0.06
-34.15	-9.33	v22-38	1968	3797	0	3.59	40.85		1
-33.55	-11.11	v22-39	7312	4841	3- 5	10.96	5.42		1
-33.54	-11.14	v22-40	7313	4614	0	8.72	6.30		1
-33.30	-14.03	v22-41	7314	4574	0	7.11	5.35		1
-33.10	-15.20	v22-42	7315	4543	0	11.21	7.19		1
-33.43	-17.02	v22-43	7316	4565	0	5.00	5.98		1
-32.24	-18.35	v22-44	741	2363	tp	7.17	6.93		1
-32.15	-20.15	v22-45	742	2263	2- 5	5.97	10.56		1
-31.21	-23.22	v22-46	743	2799	0	5.73	5.59		1
-30.46	-25.16	v22-47	744	954	0	2.62	2.75		1
-29.58	-26.54	v22-48	745	2862	7-10	2.22	4.22		1
-38.57	-30.02	v22-74	7410	2213	0	7.15	5.34		1
-39.33	-30.31	v22-75	7411	2624	3- 6	6.02	9.28		1
-39.33	-32.26	v22-77	7412	2579	0	4.40	9.37		1
-47.59	-34.37	v22-79	7413	2479	0	11.37	15.75		1
-54.05	-37.07	v22-82	7414	1040	0	12.31	12.26		1
-51.31	-38.40	v22-84	582	5167	0	27.06	10.89		1
-46.27	-41.36	v22-86	1969	5110	1- 3	9.18	9.97		1.3
4.09	-34.51	v24-219		5174	4- 6	16.00	9.00	10.0000	8
-2.49	-32.02	v24-221	20613	4204	0- 3	4.62	13.35		1
-3.12	-34.13	v24-222		3944	0- 2	6.00	14.00	95.0000	8
-4.57	-34.54	v24-225		1790	7- 8	3.00	9.00	75.0000	8
-9.48	-34.55	v24-228		4085	0- 2	5.00	9.00	92.0000	8
-10.36	-34.27	v24-229	19616	4202	0	3.93	9.03		1
-10.36	-34.27	v24-229		4202	5- 6	7.00	9.00	92.0000	8
-13.50	-33.57	v24-231		3439	0- 2	7.00	8.00	95.0000	8
-13.50	-33.57	v24-231	1971	3438	2- 4	4.96	11.54		1
-19.33	-33.15	v24-235	20614	3722	0- 3	6.01	10.68		1
-19.33	-33.15	v24-235		3722	0- 2	10.00	9.00	93.0000	8
-26.44	-32.12	v24-237	20115	4193	0- 3	6.07	8.71		1
-29.00	-31.47	v24-238		3585	2	11.00	8.00	87.0000	8
-29.00	-31.47	v24-239	731	3539	0	3.57	6.71		1
-28.12	-31.44	v24-240	732	4327	0	5.98	8.79		1
-30.17	-31.36	v24-241	733	3944	0	4.38	8.24		1
-30.51	-31.32	v24-242	734	4089	0	4.32	6.14		1
-30.57	-31.32	v24-242		4089	2	12.00	9.00	74.0000	8

-36.59	-30.39	v24-248		2131	0- 2	8.00	12.00	97.0000	8
-38.59	-30.07	v24-249	735	4184	0	8.35	9.01		1
-39.22	-30.11	v24-250	736	4813	0	1.01	6.36		1
-39.22	-30.11	v24-250		4813	3- 5	20.00	7.00	7.0000	8
-39.28	-30.08	v24-251	737	4111	0	4.18	7.86		1
-44.41	-25.57	v24-253	738	2069	0	9.91	7.67		1
-36.43	-22.58	v24-254	739	4029	0	17.93	6.76		1
-36.43	-22.58	v24-254		4029	0- 3	32.00	7.00	35.0000	8
-33.50	-22.30	v24-255	7310	4947	0	12.31	7.39		1
-35.14	-3.33	v25-56	1972	3512	0	9.46	2.91		1.6
-41.47	-0.05	v26-104	1663	3864	0	8.28	4.11		1.6
-37.57	-23.58	v26-63	1974	3619	6- 8	10.08	4.62		1
-40.24	-27.46	v26-82	1975	2807	0	6.80	6.95		1
-25.30	-0.04	v27-181	1758	3601	0- 2	5.39	35.98		1
-16.52	-36.34	v27-192	1976	3087	2- 5	3.99	11.97		1
11.27	-10.04	v27-228	1977	2392	5- 7	3.69	5.71		1
11.00	-7.27	v27-229	1978	3908	3- 5	3.00	11.87		1
7.33	-0.14	v27-232	1979	2615	3- 5	4.66	24.72	36.0689	1.0001
-1.31	-7.50	v27-239	19710	4464	4- 6	2.12	96.42	86.4654	1.0001
-5.00	-2.03	v27-240	17510	5115	4- 6	2.36	64.75		1
-6.03	-0.12	v29-144		2685					0.06
-25.39	-1.45	v30-38	1771	5138	5- 7	5.81	16.79		1
-23.09	-0.12	v30-40		3706					0.06
-32.12	-3.13	v9-11		4715	0- 2	10.00	5.00	70.0000	8
-22.29	-8.25	v9-16		5937	0	8.00	8.00	6.0000	8
-15.55	-8.59	v9-18		4005	10	3.00	14.00	90.0000	8
-13.18	-9.57	v9-20	719	1242	3- 5	12.20	16.52		1
-18.39	-8.09	v9-22	7111	4755	3-10	3.75	48.26		1
-18.38	-8.09	v9-22		4735	10	12.00	27.00	90.0000	8
-21.02	-5.53	v9-23	7112	5760	0	20.25	7.77		1

NORTH PACIFIC OCEAN

LONG	LAT	CORE	ACCESS	DEPTH	SAMP	QTZ	OPAL	CACO3	SOURCE
D M	D M	ID			DEPTH	%	%	%	
-126.24	46.15	660410	mlo2834	3002	6- 8			0.3410	0.09
-128.08	43.08	66042		3786	0	0.00	0.00	2.7110	6
-127.44	43.07	660913		4016	0	0.00	0.00	1.1370	6
-128.29	43.43	660920		2597	20	0.00	0.00	43.2620	6
-126.28	43.34	66095						0.7106	
-126.28	43.34	66095	moo2852	2980	4- 6			0.6699	
-124.59	42.07	67112		1365	19	0.00	0.00	5.3230	6
-129.51	45.10	68084		2700	6	0.00	0.00	10.6870	6
-131.01	46.42	68088	moo7167	488	2- 3			61.5793	
-127.02	41.16	69102	moo2922	2615	5- 7			0.5708	
-127.22	41.17	69103	moo9237	2880	0- 1			0.6144	
-128.09	41.19	69104	moo3026	3130	1- 3			0.4614	
-127.38	42.32	70041	moo9353	2960	0- 1			0.9561	
-162.33	44.56	70114p	moo2892	5492	0- 9			0.7978	
-119.45	32.52	ahf10614	mc09908	1275	5- 7	11.86	3.73	36.1500	7
-119.49	32.52	ahf10614	m109908	1275	5	11.86	3.73		5
-119.33	32.51	ahf10626	mc05586	1400	0	10.45	4.87	36.2100	0.09
-119.33	32.51	ahf11343		1171				21.1000	0.09
-160.59	29.39	aries40pgnso4942		5701	2- 9			0.7311	
-160.59	29.39	aries40pg						1.1680	
174.57	36.35	aries45pg						0.2496	
174.57	36.35	aries45pgnso4943		5195	7-12			0.4582	
178.50	36.33	aries48g nso4944		4482	3- 7			5.7827	
178.50	36.33	aries48g						13.0494	
-108.01	10.29	bnfc43	ms09061	2720	2- 4	3.75	35.86	65.9827	5.09
-109.01	10.29	bnfc43	ms09061	2720	2	3.75	35.86		5
-109.01	10.29	bnfc43pgzms09061		2720	2- 4	3.75	35.86	65.9800	7.09
-143.11	45.34	cuspl1g	nso0905	4590	7-12			1.0648	
-143.11	45.34	cuspl1g						1.4440	
-143.07	37.15	cuspl7g						1.0360	
-143.07	37.15	cuspl7g	nso4946	5260	0- 5			0.5394	
-135.24	31.05	cusplg	nso4945	4940	6-12			0.3820	
-135.24	31.05	cusplg						0.5693	
-134.15	34.27	cuspl2g	nso4947	5120	2- 7			0.4683	
-134.15	34.27	cuspl2g						0.1565	
-140.38	43.58	cuspl9g	nso0904	4350	2- 8			5.7008	
-140.38	43.58	cuspl9g						14.9103	
-126.43	21.27	dwbg2	ms05222	4370		18.73	3.38	94.2000	0.09
-128.32	41.16	fanbg22	ms05223	3220		15.45	9.69	0.7400	0
-128.12	40.08	fanbg27	ms05224	4507		18.01	9.00	0.7100	0
-117.18	28.12	fanhms1	ms06782	3690	0	13.08	4.65		5
-118.14	30.17	fanhms2	ms06790	2970	0	16.93	4.93		5
-118.42	30.06	fanhms3	ms06806	3535	0	8.36	8.27		5
-8.12	1.05	g76-510							
-12.49	0.00	g76-514							
-5.06	4.59	g76-527							
-5.06	4.56	g76-528							
-6.43	2.52	g76-55							
-156.05	23.36	hilol2g						0.6120	
-156.05	23.36	hilol2g	nso4951	4270	6-11			0.5083	

-127.37	28.15	hilo2g	ms05225	4560		16.70	4.29	0.6600	0
-134.31	24.47	hilo3g	ms05226	4700		13.91	3.28	0.5200	0
-143.58	22.57	hilo5g	ms05227	4850		14.14	2.74	0.6400	0
169.48	40.30	jnyii10g	nso4959	5550	12-17			2.4797	
165.32	39.56	jnyii11g	nso4960	5350	5-13			1.8706	
165.32	39.56	jnyii11g						1.2279	
160.53	39.47	jnyii12g	nso4961	5510	7-13			2.8866	
160.53	39.47	jnyii12g						1.2128	
153.10	38.28	jnyii17	gso0442	5690	0- 2			49.0507	
-162.28	24.34	jnyii1g	nso4952	4940	5-24			0.7799	
-162.28	24.34	jnyii1g						0.8146	
148.14	37.04	jnyii20	gso0439	5730	0- 2			9.8945	
-170.21	30.19	jnyii3	gso0445	5490	0- 2			10.6933	
-174.15	33.04	jnyii4g	nso4954	5530	4-12			0.5031	
-174.15	33.04	jnyii4g						0.6914	
-177.43	35.25	jnyii5g	nso4955	4320	5-17			38.8151	
-177.43	35.25	jnyii5g						55.2053	
178.10	37.56	jnyii6g	nso4956	5250				1.5069	
178.10	37.56	jnyii6g						0.9406	
173.59	40.12	jnyii7	gso0443	4340	0- 2			87.2546	
172.33	40.29	jnyii8g						55.7460	
172.33	40.29	jnyii8g	nso4958	4250				32.8341	
177.41	27.05	jnyiv12	gso0444	5850	0- 2			88.1443	
150.42	29.18	jnyiv41	gso0440	5880	0-10			51.5084	
-109.49	25.46	1-35	gso0450	1025	0-10			11.2130	
-110.12	25.33	1-39	gso0449	2030	0-10			47.3912	
-110.33	25.24	1-43	gso0435	976	0-10			47.2943	
-110.41	25.19	1-45	gso0433	414	0-10			9.8684	
-110.45	25.20	1-46	gso0432	805	0-10			8.9205	
-110.59	22.53	lapdlg	ms08956	2322	0- 2	10.48	2.25		5.09
-110.59	22.53	lapdlg	ms08956	2322	0	10.48	2.25	1.9391	5
-129.22	40.35	lfgs47g	ms05228	3240		15.08	7.98	0.4749	0
-127.45	38.35	lfgs48g	ms05229	4617		16.04	5.21		0
-127.03	37.38	lfgs49g	ms05230	5061		11.52	12.13	0.5077	0
-125.56	36.19	lfgs50g	ms05231	4599		13.31	7.00		0
-124.06	36.33	lfgs68g	ms05232	3922		13.22	10.34		0
-157.56	1.45	lirlffcl0mh02025	2687			1.77	81.90	79.3650	0
-160.42	3.15	lirlffclamh02005	4542			4.01	60.30	76.0190	0
-130.58	23.15	lsdh102g	ms05235	4850		15.32	2.49		0
-125.49	27.29	lsdh103g	ms05234	4450		14.09	3.65	0.6351	0
-123.59	28.37	lsdh104g	ms05233	4360		12.91	5.76	0.5945	0
-104.00	8.48	m77-7b		3116					
-92.46	6.33	m77-9b		1568					
127.01	41.16	mc02922	69102	2615	5- 7	0.00	0.00	0.5700	7
-135.32	41.06	men20g	nso0907	4080	8-16			2.6859	
-135.32	41.06	men20g						0.8219	
-142.52	40.41	men25g	nso0909	4700	0- 9			1.3647	
-139.22	40.44	men26g	nso0910	4540	6-14			1.6459	
-125.15	34.02	men4g	mol0130	4640	0	13.11	5.98		5
-131.43	33.36	mfz1gc4	mh04187	0		24.27	4.47	0.9837	0
-136.23	31.47	mfz2002	mh02006	0		17.10	3.54	0.6384	0
-134.39	33.19	mfz2gc1	mh04188	0		23.68	3.89	0.8525	0
-151.22	29.58	mfz4ffc4	mh02007	0		17.31	2.57	0.5993	0
-151.18	28.36	mfz6pc121mh02008		0		14.55	2.90	0.5998	0

126.24	43.16	ml01608	660410	3002	1- 4	0.00	0.00	3.8000	7
-137.06	15.09	msn155g	mo10129	4992	0	13.17	3.61		5
-137.06	15.09	msn155g	ms05238	4992		11.24	4.01		0
-126.30	24.18	msn157	ms06742	4414	3	13.44	2.36		5
-122.57	29.07	msn158g	ms05239	4075		15.63	4.94	0.8347	0
-135.12	20.01	msn3g	ms05236	5220		16.03	3.62	0.5971	0
-139.18	16.55	msn4g	ms05237	5355		13.02	4.27	0.6309	0
-141.28	42.19	mukb6	nso0911	4480	0-13			1.1708	
-144.29	45.03	mukb7g	nso0912	4722	8-13			1.4116	
-144.29	45.03	mukb7g						0.8205	
-144.28	45.01	mukb8g						1.2644	
-144.28	45.01	mukb8g	nso0913	4690	0-10			1.6438	
-144.27	45.38	mukh7	nso0915	4699	4-10			1.8038	
-144.27	45.38	mukh7						1.7637	
-144.27	45.39	mukh8g						2.2987	
-144.27	45.39	mukh8g	nso0916	4681	4-12			1.8074	
-156.57	53.15	mukh9g	nso0917	4540	3-14			0.8595	
-119.53	23.35	pap2g	ms05240	4169		16.77	5.33	0.7578	0
-143.29	9.22	rc10-102	ml05788	5084	0	10.67	8.97	0.3437	0
-143.38	10.02	rc10-103		5253					
150.23	6.46	rc10-149		4451					
154.03	14.48	rc10-153	ml02240	5460	0	14.72	3.79	0.5206	0
157.49	22.20	rc10-156		5402					
159.08	24.46	rc10-157		5682					
160.36	28.07	rc10-158	ml03814	5892	0	15.69	2.02	0.7666	0.9
162.19	31.13	rc10-159	ml02245	5894	0	19.74	3.98	0.7147	0.9
159.56	32.29	rc10-160	ml03815	4621	0	13.85	2.64	0.8035	0.9
158.00	33.05	rc10-161	ml02301	3587	1- 3	18.35	5.56	39.2400	7.09
158.00	33.05	rc10-161	ml02301	3587	0	21.74	5.56	39.2398	0.09
158.48	31.25	rc10-162		3913					
157.30	32.43	rc10-163							0.9
150.23	33.24	rc10-167	mlo5002	6092	0- 1			0.5077	0.9
150.23	33.24	rc10-167	ml05002	6092	0- 1	12.43	3.93	0.5077	7.09
150.23	33.24	rc10-167	ml03816	6092	0	13.26	3.33	0.7700	0.09
148.26	32.23	rc10-168							0.9
151.04	32.31	rc10-169							0.9
152.14	32.29	rc10-170							0.9
153.02	32.29	rc10-171	ml02252	5544	0	13.91	5.13	0.5193	0.9
154.38	32.29	rc10-172							0.9
156.27	37.41	rc10-173		4056					
157.35	32.35	rc10-174		3191					
159.10	34.35	rc10-175							0.9
160.40	34.47	rc10-176		4226					
170.51	37.12	rc10-177		5302					
172.20	37.48	rc10-178	ml09171	5808	0- 1	15.90	1.50		7.09
173.43	39.38	rc10-179	ml03817	4312	0	14.10	6.06	1.4771	0.9
176.50	44.05	rc10-181	ml05790	5698	0	16.03	7.25	0.3864	0.9
177.52	45.37	rc10-182	ml05791	5561	0	15.40	5.92	0.3218	0.9
179.04	49.31	rc10-184		4986					
177.11	50.12	rc10-186		6591					
175.40	50.40	rc10-187		6216					
176.54	52.33	rc10-188		3673					
-178.04	52.15	rc10-189		3422					
-177.41	53.12	rc10-190		3733					

179.12	53.15	rc10-191	3025						
178.27	53.38	rc10-192	3684						
-179.01	55.01	rc10-194	3801						
176.56	55.58	rc10-195	3835						
177.05	54.42	rc10-196	1007						
178.34	54.54	rc10-197	397						
-174.01	1.36	rc10-199	4698						
-175.13	48.32	rc10-201							0.9
-173.00	45.37	rc10-202							0.9
-171.57	41.42	rc10-203	m105792 5883	0	16.42	4.60	0.1952		0.9
-170.03	44.37	rc10-205	m107158 6081	0	16.17	6.05			0.9
-170.26	47.13	rc10-206	m103818 5497	0	16.37	2.70	0.8905		0.9
-171.33	50.55	rc10-207	7264						
-171.46	51.38	rc10-208	3737						
-172.38	50.48	rc10-210	7284						
-171.45	50.03	rc10-211	m105793 5137	0	9.32	11.22	0.6294		0
-164.08	50.59	rc10-214	4731						
-158.06	51.01	rc10-215	4887						
-151.10	50.58	rc10-216	m103819 4989	0	5.33	4.77	0.9077		0.09
-146.05	50.57	rc10-217	mh04200 4338	0	12.04	0.79	0.2827		0
-139.33	51.03	rc10-219	3786						
-133.44	51.03	rc10-220	3157						
-131.37	50.33	rc10-221	2834						
-135.14	49.57	rc10-222	3559						
-134.39	49.18	rc10-223	3645						
-127.45	48.45	rc10-225	2536						
-127.16	47.27	rc10-226	2534						
-128.00	46.18	rc10-227	2774						
-127.00	45.56	rc10-228	2765						
-126.09	45.35	rc10-229	2582						
-128.25	40.28	rc10-230	m103820 3200	0	14.94	3.93	0.9593		0
-128.34	37.58	rc10-231	4726						
-128.39	35.35	rc10-232	m105794 4674	0	12.36	5.07	0.9720		0
-129.06	28.38	rc10-234	m107159 4281	0	14.53	4.70			0
-129.25	25.50	rc10-235	m105795 4737	0	14.00	3.35	0.9193		0
-128.17	22.58	rc10-236	4491						
-125.07	21.15	rc10-237	4468						
-114.31	16.37	rc10-240	m108053 3598	0	5.89	14.52			5
-107.53	14.21	rc10-242	m108055 3835	0	5.73	6.51			5
-107.53	13.06	rc10-243	m105796 3012	0	4.63	18.97	18.2175		0
-98.44	11.08	rc10-245	3680						
-95.20	9.41	rc10-246	m108063 3884	0	4.24	28.67			5
-91.33	8.27	rc10-248	m108061 3493	0	3.12	29.05			5
-87.03	7.19	rc10-249	m108058 3233	2	5.30	21.62			5
-93.16	4.21	rc10-57	3338						
-94.47	6.08	rc10-58	3660						
-96.19	5.34	rc10-59	3662						
-101.43	3.20	rc10-62	3120						
-104.27	2.19	rc10-63	3468						
-105.41	1.49	rc10-64	3499						
-108.37	0.41	rc10-65							0.09
-114.54	1.20	rc10-70	3891						
114.42	1.27	rc10-71	3860						
-113.37	2.48	rc10-72	3780						

-111.37	5.42	rc10-74		4100						
-110.28	6.50	rc10-75		3696						
-109.17	11.54	rc10-86	m108059	3288	2	5.72	17.84			5
-110.13	16.39	rc10-88	m102237	3660	0	7.60	17.55	0.7375		0
-113.28	15.08	rc10-89		3919						
-116.38	13.46	rc10-90	m106714	4261	2	12.31	5.74			5
-120.99	12.16	rc10-91	m106716	4471	0	11.73	7.60			5
-120.10	12.17	rc10-91	m102238	4471	0	10.91	7.31	1.1574		0
-125.20	7.18	rc10-93		4610						
-127.20	5.40	rc10-94	m103813	4356	0	6.19	19.22	54.7457		0
136.27	31.06	rc11-161		4449						
139.02	33.12	rc11-162		1763						
152.42	39.32	rc11-163		5559						
162.38	35.20	rc11-164		5158						
166.34	37.03	rc11-165		4978						
-163.21	44.29	rc11-166								0.9
-170.14	42.10	rc11-169	m107160	5665	0	15.89	4.99			0.9
-163.21	44.29	rc11-170	m13465	5451	0	14.11	2.38			7.09
-159.40	46.36	rc11-171	m105991	5167	0	11.54	7.16	0.4000		0.9
-164.53	51.15	rc11-172	estimat	4808						7.09
-164.58	53.12	rc11-173		3607						
-151.21	52.35	rc11-174		1618						
-144.44	56.57	rc11-176	m103821	3819	0	13.29	2.38	1.1017		0
-145.39	53.30	rc11-179		4067						7.09
-142.54	53.09	rc11-180	m103822	3860	0	7.68	6.54	1.2100		0
-140.31	49.43	rc11-184	m103823	3959	0	15.98	4.48	0.9764		0
-143.25	47.60	rc11-185	m103824	4438	0	19.87	5.33	3.8981		0
-127.12	47.54	rc11-186		2582						
-130.07	47.09	rc11-187		2670						
-134.25	45.58	rc11-189		3922						
-139.57	44.31	rc11-191	m103916	4387	0	6.76	1.91	0.4862		0
-139.57	42.02	rc11-192		4116						
-140.03	39.57	rc11-193	m103917	4748	0	14.45	1.04	0.4042		0.9
-139.57	35.00	rc11-194								0.9
-139.59	31.51	rc11-195	m103918	4934	0	14.44	0.49	0.5279		0.9
-139.56	29.11	rc11-196								0.9
-139.59	26.24	rc11-197	m103825	4413	0	17.98	1.59	0.5298		0
-139.60	21.31	rc11-198	m103826	5378	0	13.11	1.78	0.4040		0.9
-140.02	19.29	rc11-199		5574						
-140.02	14.52	rc11-200		4828						
-140.05	12.32	rc11-202	m105994	4996	0	10.55	6.36	0.6700		0
-139.53	8.47	rc11-206		5086						
-139.58	5.21	rc11-208	m102276	4720	0	7.24	35.65	70.4838		0
-140.04	3.39	rc11-209	m13827	4400	0	2.50	88.57	73.8479		0.09
-140.03	1.49	rc11-210	m112664	4420	0	1.52	80.07			7.09
-140.03	1.49	rc11-210	m112664	4420	0	1.52	80.07			2
-170.08	51.06	rc10-212		7231						
152.57	18.05	rc12-129		5218						
151.34	20.25	rc12-130		5801						
149.17	23.26	rc12-131		5804						
146.47	26.40	rc12-132		5431						
144.25	29.06	rc12-133		5854						
142.47	31.13	rc12-134	m102287	6564	0	9.14	17.51	0.7229		0
141.50	32.39	rc12-135		6736						

137.54	33.14	rc12-136	3673						
134.09	33.00	rc12-138							
134.09	32.18	rc12-139							
134.12	31.50	rc12-140							
134.13	30.36	rc12-141							
134.47	29.41	rc12-142	4799						
133.17	29.46	rc12-143	2350						
132.14	29.07	rc12-144	4931						
131.58	29.20	rc12-145	5620						
131.25	29.33	rc12-146	3922						
134.04	30.44	rc12-151	4464						
135.23	30.44	rc12-152	4259						
137.04	30.10	rc12-153	4486						
137.44	30.52	rc12-154	4189						
137.08	31.44	rc12-155	4228						
136.35	32.28	rc12-156	m102288 4318	0	21.00	5.49	0.7608	0	
135.16	32.32	rc12-157	4784						
135.36	31.54	rc12-158	4449						
137.07	31.38	rc12-159	4281						
137.47	31.31	rc12-160	4091						
138.17	32.15	rc12-161	3782						
138.02	33.00	rc12-162	4030						
137.52	33.30	rc12-163	4001						
141.53	36.27	rc12-164	2319						
143.51	37.04	rc12-165	6485						
145.45	38.49	rc12-166	m107165 5243	0	16.23	21.16		0	
144.56	40.57	rc12-168	3862						
146.04	43.00	rc12-169	1844						
148.12	42.39	rc12-170	7240						
149.58	42.21	rc12-171	4940						
151.37	42.07	rc12-172	5097						
-157.56	20.47	rc12-173	1476						
-157.14	50.06	rc12-174	4903						
-157.14	45.43	rc12-175	4929						
-157.50	43.00	rc12-176	m103829 5365	0	14.60	3.92	0.4413	0.09	
-158.24	53.54	rc12-178	6384						
-157.02	52.29	rc12-179	4601					0.09	
-155.52	54.30	rc12-180	5517						
-158.57	47.09	rc12-181	5141						
-157.48	46.07	rc12-182	5267						
-159.02	44.00	rc12-183	m103830 5449	0	11.56	2.09	0.3245	0	
-158.57	38.00	rc12-184	5576						
-159.00	35.16	rc12-185	5929						
-158.58	32.25	rc12-186	5993						
-158.20	28.20	rc12-187	5360						
-157.56	24.16	rc12-188	39.68						
-157.52	23.53	rc12-189	4431						
-158.23	22.27	rc12-190	4927						
-160.17	19.20	rc12-191	4826						
-163.00	16.57	rc12-192	5773						
-165.52	16.05	rc12-193	5295						
-167.18	13.49	rc12-194	5152						
-168.42	9.41	rc12-195	5222						
178.25	7.35	rc12-199	5565						

174.52	1.28	rc12-200	4691					
-91.16	10.26	rc12-30	3716					0.008
-92.39	12.60	rc12-32	4034					0.008
-93.57	14.50	rc12-33	412					
90.02	9.08	rc12-339	3010					
90.01	12.42	rc12-340	3012					
90.34	15.10	rc12-343	2666					
95.08	11.12	rc12-345	2692					
94.12	8.44	rc12-348	3797					
111.13	6.33	rc12-350	1950					
113.35	5.02	rc12-351	1229					
114.01	6.00	rc12-352	2303					
114.33	7.27	rc12-353	525					
114.13	7.30	rc12-354	1161					
114.30	7.30	rc12-355	1344					
114.13	7.30	rc12-356	1390					
120.14	8.58	rc12-357	2049					
124.12	9.10	rc12-358	1524					
124.08	15.06	rc12-361	3528					0.09
126.11	23.57	rc12-365	2787					
126.20	26.35	rc12-366	1644					
132.15	37.35	rc12-377	2226					
134.32	36.57	rc12-378	1401					
134.33	36.54	rc12-379	1010					
135.42	37.15	rc12-380	1622					
133.48	38.55	rc12-381	1437					
132.40	39.55	rc12-382	3027					
133.07	39.43	rc12-383	2677					
133.17	40.00	rc12-384	5826					
134.26	40.50	rc12-385	3532					
134.36	40.48	rc12-386	3497					
135.12	40.06	rc12-387	838					
136.08	39.07	rc12-388	2496					
136.30	38.55	rc12-389	2650					
136.02	39.42	rc12-390	1103					
135.43	39.59	rc12-391	898					
135.43	39.59	rc12-392	1008					
135.39	40.46	rc12-393	3048					
136.14	40.19	rc12-394	2338					
137.36	39.47	rc12-397	2840					
137.31	40.31	rc12-398	2664					
144.51	40.55	rc12-400	3900					
148.08	40.50	rc12-401 m112670	5415	0	8.40	25.24		5.09
148.08	40.50	rc12-401 m112670	5415	0	8.40	25.24		2
150.44	40.11	rc12-402 m103831	5332	0	12.09	11.46	0.5230	0
152.33	36.52	rc12-403	5912					
155.30	31.16	rc12-404	5068					
156.53	28.19	rc12-405	6190					
154.37	25.35	rc12-406 m102289	5801	0	14.52	3.41	1.0000	0
154.58	25.44	rc12-407	5768					
156.36	27.30	rc12-408	6128					
159.15	30.18	rc12-409	5742					
161.19	32.23	rc12-410	5693					
163.43	35.48	rc12-411	5550					

166.59	40.41	rc12-412	m112671	5656	0	15.58	6.79		7
166.59	40.41	rc12-412	m112671	5656	0	15.58	6.79		2.09
166.54	43.17	rc12-413	m112672	4872	0	15.99	3.43		7
166.54	43.17	rc12-413	m112672	5015	0	15.99	3.43	0.3584	2.09
166.54	43.17	rc12-413	m103832	4872	0	13.38	9.50	0.3600	0
163.18	44.17	rc12-414		5291					
164.09	41.17	rc12-415	m102292	4872	0	15.76	5.05	0.7553	0
166.44	36.24	rc12-416	m112673	5319	0	19.26	3.59		7
166.44	36.24	rc12-416	m112673	5319	0	19.26	3.59		2.09
170.01	38.06	rc12-417		3849					
171.30	40.06	rc12-419	m112674	6179	0	16.40	5.38		7
171.30	40.06	rc12-419	m112674	6179	0	16.40	5.83		2.09
179.55	54.28	rc12-420		3414					
179.51	54.26	rc12-421		1853					
179.37	54.24	rc12-422		252					
175.46	54.36	rc12-423		2261					
172.57	56.01	rc12-424		3826					
170.28	56.27	rc12-425		1531					
163.59	57.36	rc12-426		3160					
179.42	53.37	rc12-429		1628					
-111.59	20.59	rc12-43	m109234	3336	0	9.51	5.88		5
-171.30	47.24	rc12-430		5638					
-167.49	43.38	rc12-431	m102295	5749	0	16.06	4.44	0.6709	0
-164.02	38.51	rc12-432		5097					
162.40	36.13	rc12-433	m112675	5900	0	9.52	2.82		7
162.40	36.13	rc12-433	m112675	5900	0	9.52	2.82		2.09
-162.40	36.13	rc12-434	m102295	5900	0	18.65	2.61	0.5567	0
-160.34	32.43	rc12-435		5781					
-159.45	31.12	rc12-436		5885					
-158.07	28.12	rc12-437		5544					
-118.48	20.32	rc12-46	m108054	4072	0	14.53	3.67		5
-119.52	19.52	rc12-47	m108062	4226	0	13.90	1.73		5
-129.56	13.49	rc12-52	m108056	4909	2	10.94	2.30		5
-134.32	11.02	rc12-57	m107926	4867	0	0.00	0.00	0.2700	0
-136.23	9.50	rc12-58	m107927	4823	0	0.00	0.00	0.5300	0
-137.41	8.59	rc12-59	m107161	4660	0	5.83	5.96	0.7600	0
-144.59	4.39	rc12-65	m107162	4868	0	7.07	30.00	26.6400	0
-148.28	3.13	rc12-67	m107928	4777	0	0.00	0.00	54.7400	0
-148.59	6.33	rc12-68	m107163	4508	0	9.12	27.79	45.4200	0
-161.43	16.28	rc12-78		5590					
-163.32	13.50	rc12-79		5460					
-164.60	7.31	rc12-81		4982					
-165.01	4.32	rc12-82		4854					
-165.03	3.41	rc12-83	m107164	5351	0	4.47	43.82	0.9200	0
-167.52	0.39	rc12-85	m107929	5106	0	0.00	0.00	11.2900	0
-95.39	0.06	rc13-110		3231					
-106.54	0.58	rc13-118		3687					
-107.13	2.32	rc13-119		3792					
-107.14	3.51	rc13-120		3753					
-106.54	5.25	rc13-121		3821					
-162.56	28.34	rc13-123	m108064	5535	0	2.83	17.60		5
-100.32	12.50	rc13-124		3455					
-101.12	12.45	rc13-125		3382					
-102.12	12.09	rc13-126		3147					

-101.30	12.08	rc13-127	3288						
-99.39	16.09	rc13-128	5365						
-100.14	13.55	rc13-129	3649						
-99.02	12.27	rc13-130	3451						
-96.45	11.34	rc13-131	4330						
-97.39	7.52	rc13-132	3484						
-94.02	10.01	rc13-133	3797						
-95.23	9.39	rc13-134	4098						
-91.52	6.37	rc13-135	3579						
96.02	0.51	rc13-137	3436						
94.08	1.49	rc13-138	2655						
-90.56	4.45	rc13-139	3032						
-166.39	19.34	rc13-16	5242						
-170.04	19.05	rc13-17	3374						0.09
-170.59	8.33	rc13-19	5169						
-170.55	5.43	rc13-20	5901						
-171.08	2.28	rc13-21	5298						
-175.04	0.02	rc13-23	5218						
-175.04	4.57	rc13-24	5316						
-175.03	10.51	rc13-25	4605						
-175.14	13.51	rc13-26	4217						
-175.18	13.52	rc13-28	4488						
178.20	13.55	rc13-30	5506						
177.11	12.18	rc13-31	5638						
177.14	6.41	rc13-32	5482						
-167.10	0.22	rc13-48	5393						
-166.58	8.32	rc13-51	5161						
-167.02	11.59	rc13-52	5176						
-167.00	13.57	rc13-53	5442						
-163.46	13.58	rc13-54	5546						
-160.58	13.57	rc13-55	5737						
164.26	8.53	rc13-56	4925						
-160.50	9.31	rc13-57	4868						
-157.08	10.22	rc13-58	5343						
-153.42	9.37	rc13-59	5203						
-153.19	6.52	rc13-60	5017						
-153.11	5.22	rc13-61	4786						
-153.09	3.06	rc13-62	m106001 4846	0	4.18	60.00	56.6600	0	
-153.04	1.21	rc13-63	4420					0.09	
157.33	39.41	rc14-105	m109505 5630	1- 2	13.71	9.00		7.09	
155.42	45.50	rc14-106	4823					0.09	
147.56	36.58	rc14-99	m112679 5652	0	14.77	14.35		7.09	
147.56	36.58	rc14-99	m112679 1639	0	14.77	14.35		2	
-134.07	17.25	rc15-13	m108060 5009	0	14.50	5.34		5	
-133.46	36.03	rc15-7	m107166 5209	0	14.12	4.87		0	
-133.20	28.19	ris120pg	ms05248 4420		17.97	3.20		0	
-129.37	28.18	ris123pg	ms05249 4660		16.60	3.00		0	
-126.38	28.27	ris125g	ms05250 4550		14.06	4.06	0.7170	0	
-123.36	28.47	ris127g	ms05251 4300		12.36	4.34		0	
-117.21	24.15	ris3g	ms05246 3935		16.79	4.18		0	
-117.29	20.19	ris5g	ms05247 4015		13.48	5.36		0	
-157.58	16.03	s68ff1	mh02024 5360		4.24	7.01	0.6100	0	
-172.11	0.35	s68pc25	mh02018 5660		4.91	28.03	0.6200	0	
-164.50	7.40	s68pc29lamh02019	4960		9.98	12.82	24.4340	0	

-167.31	7.00	s68pc301amh02020	4767		9.32	24.52	38.1810	0
-173.05	5.27	s68pc311amh02021	5797		6.16	20.78	0.4580	0
-179.32	3.52	s68pc33 mh02022	5670		6.23	19.16	0.5454	0
173.01	6.11	s68pc351amh02023	4912		3.66	47.58	88.2027	0
149.98	0.02	sah8pz	4308		0.00	0.00	88.5000	7
-130.04	41.03	scan5pg ms05242	3268		13.92	7.95		0
-140.35	41.01	scan6pg ms05243	4544		16.51	3.10		0
-140.01	33.04	scan7pg ms05244	5032		14.34	2.97		0
-140.01	28.12	scan8pg ms05245	4792		15.91	2.59		0
-83.58	3.37	tr63-31						
-119.10	22.27	tril10g ms05256	4121		16.41	4.81		0
-119.00	23.19	trillg ms06679	4025	0	15.72	3.20		5
-118.26	23.19	trillg ms05257	4025		15.61	4.41		0
-118.25	25.29	tril2g ms06687	4180	0	19.90	3.42		5
-118.26	25.58	tril2g ms05258	4180		18.22	4.86		0
-118.06	27.48	tril3g ms05259	3692		13.52	6.32	0.6013	0
-118.04	28.15	tril4g ms05260	4112		12.02	5.91		0
-96.21	12.38	tri5g ms06702	4039	0	6.25	19.88		5
-112.57	15.38	tri5pg ms05252	3929		6.82	12.67		0
-113.00	17.30	tri7g ms06663	3697	0	7.87	9.84		5
-113.00	17.30	tri7pg ms05253	3697		7.62	9.58		0
-112.57	19.06	tri8pg ms05254	3463		8.24	6.73		0
-118.01	20.48	tri9g ms05255	3992		14.17	6.10	0.6370	0
-85.06	4.15	v15-30	1750					0.009
-81.11	3.32	v17-42 m112680	1814	0	8.50	28.38	57.0000	2.09
-82.37	1.52	v17-43 m112681	3147	0	6.29	37.75	37.5000	2.09
-118.28	3.10	v18-318 m101268	4191	0	4.38	61.42	79.3300	7.09
-118.28	3.10	v18-318 m112694	4191	0	4.38	61.42	79.3312	2
-118.28	3.10	v18-318 m112684	4191	0	0.00	0.00	79.3312	2.09
-117.00	4.14	v18-319 m103924	4160	0	1.89	51.83	71.5804	0
-107.09	8.46	v18-324 m103925	3517	0	3.67	20.54	21.5213	0
-103.05	10.16	v18-328 m103926	3239	0	3.88	6.27	3.1657	0
-98.53	12.54	v18-333 m103927	3341	0	7.41	7.93	0.9592	0
-96.18	14.31	v18-337 m112685	3891	0	10.47	2.76	2.3597	2.09
-95.43	15.08	v18-338	5253					
-85.43	6.04	v18-349 plo7963	1818	0-10			55.9669	0.008
-85.16	5.42	v18-350 plo7964	1838	0-10			53.5156	
163.11	6.40	v19-101 m103932	4921	0	8.36	14.36	10.3464	0
160.43	8.47	v19-102 m103933	5017	0	6.45	1.62	4.6500	0
158.13	10.42	v19-104 m103934	5636	0	11.00	2.53	0.6000	0
156.40	11.58	v19-105 m103935	5810	0	11.19	1.13	0.6800	0
149.10	12.19	v19-108 m103936	5976	0	6.24	0.00	0.6700	0
142.00	11.51	v19-109 m103937	4294	0	3.87	5.59	2.7100	0
135.52	11.40	v19-112 m103936	4773	0	6.05	26.61	1.0500	0
131.03	11.20	v19-115 m103939	5821	0	1.89	12.19	0.8200	0
-81.42	2.28	v19-25	2404				51.4000	0.09
-174.35	29.05	v20-100 m103437	5340	0	17.42	0.92	0.8700	0.9
-176.57	28.18	v20-101 m102126	4460	0	17.13	3.24	66.6600	0.9
-177.49	31.11	v20-102 m103438	5216	0	17.21	1.62	0.8700	0.9
-177.50	33.59	v20-103 m105968	3442	0	16.01	10.36	71.5900	0.09
-178.10	37.18	v20-104 m103439	5449	0	15.06	1.30	1.0300	0.9
-178.17	39.00	v20-105 m105971	5336	0	16.27	5.90	1.2500	0.09
-178.28	40.52	v20-106 m103440	5832	0	16.17	1.77	1.2800	0
-178.52	43.24	v20-107	5872	0	15.47	5.66	0.4800	0.09

-179.14	45.27	v20-108	m103441	5625	0	12.47	1.26	1.0500	0.9
-179.39	47.19	v20-109	m102139	5629	0	14.33	7.87	0.4000	0.9
-172.43	50.22	v20-118	m103442	5360	0	11.11	1.94	0.9300	0
168.47	47.57	v20-119	m102026	2739	0	14.09	21.03	0.6890	7.09
168.47	47.57	v20-119	m109190	2739	0- 2	15.17	9.03		7
168.47	47.57	v20-119	m102141	2739	0- 2	12.63	28.08	53.4600	0.9
167.45	47.24	v20-120	s105256	6216	0- 2	16.41	4.81		7.09
167.45	47.24	v20-120	m105268	6216	0	0.00	15.81	0.0800	7
167.45	47.24	v20-120	m103443	6216	0	0.00	12.35	0.6200	0.09
164.16	46.58	v20-121	m112693	5859	0	10.03	20.50		7
164.16	46.58	v20-121	m112693	5859	0	10.03	20.50		2.09
161.41	46.34	v20-122	m112694	5563	0	7.32	8.49		7.09
161.41	46.34	v20-122	m112694	5563	0	7.32	8.49		2
157.55	46.15	v20-123	m103947	4903	0	7.37	7.77	0.4900	0.09
154.30	45.50	v20-124	m103444	5534	0	7.79	29.14	0.6800	0.09
155.52	42.09	v20-126	m103948	5512	0	9.11	24.31	0.4800	0.09
156.55	40.17	v20-127	m103445	5583	0	12.52	9.05	0.9400	0
156.35	37.41	v20-129	m103949	5766	0	14.02	4.92	0.4100	0.09
151.00	36.20	v20-131	m103950	5858	0	14.03	2.92	0.6900	0
142.32	32.55	v20-136	m103951	6306	0	9.63	4.83	0.4900	0
137.58	29.51	v20-137	m103952	3919	0	11.12	0.00	1.1200	0
135.33	28.52	v20-138	m103953	4244	0	18.67	1.52	0.7300	0
132.53	27.34	v20-139	m103954	3782	0	8.17	0.00	6.1100	0
135.31	5.55	v20-146	m103955	4702	0	7.48	17.73	0.6100	0
-163.02	37.41	v20-146	m103459	3968	0	16.03	3.57	12.7900	0
-117.01	8.09	v20-29	m103423	4116	0	5.01	22.81		0
-128.59	10.35	v20-35	m105798	4801	0	10.50	15.72		0
-145.23	14.23	v20-47	m103424	4986	0	6.91	1.21	0.6000	0
-145.21	14.26	v20-48	m103425	4640	0	0.85	5.14	0.6900	0
-153.52	17.21	v20-57	m103426	5106	0	4.09	6.13	0.2000	0
-155.52	23.21	v20-64	m103940	4204	0	11.52	0.00	0.8200	0
-153.12	25.51	v20-65	m103941	5363	0	14.24	0.00	0.8200	0.9
-151.10	28.00	v20-66	m103942	5338	0	14.20	0.00	0.9600	0.9
-146.48	30.58	v20-68	m103427	5788	0	16.20	1.23	0.4800	0.9
-140.51	35.42	v20-70	m103943	5207	0	17.84	0.00	0.9800	0
-137.51	37.42	v20-71	m103944	5302	0	16.09	0.56	0.4100	0
-132.22	41.04	v20-74	m103428	3749	0	13.08	1.61	1.2900	0.9
-126.10	48.12	v20-75	m103429	1657	0	14.14	3.76	0.5500	0.9
-127.39	47.54	v20-76							0.9
-131.02	47.15	v20-78							0.9
-133.18	46.50	v20-79	m103430	3711	0	11.26	1.37	0.8000	0.9
-135.00	46.30	v20-80	m105962	3801	0	14.53	4.30	36.9400	0
-136.30	46.14	v20-81	m103431	4232	0	15.66	1.77	0.8900	0.9
-138.14	45.56	v20-82	m102111	4294	0	14.56	4.53	0.7000	0.9
-139.24	45.45	v20-83							0.9
-141.11	45.27	v20-84							0.9
-143.37	44.54	v20-85	m103945	3817	0	15.36	1.45	6.1000	0.09
-148.06	43.37	v20-86	m103946	5138	0	13.12	2.00	0.7700	0.9
-149.55	41.48	v20-87	m103432	4819	0	1.1200	0.9		
-151.39	40.11	v20-88	m102112	5081	0	17.94	2.94	0.8000	0.9
-153.35	38.12	v20-89							0.9
-155.37	38.48	v20-90	m103433	5991	0	16.03	0.95	1.1200	0.9
-157.42	37.18	v20-91							0.9
-159.38	36.18	v20-92	m102116	5764	0	18.75	2.70	0.7200	0.9

-161.28	35.27	v20-93							
-163.14	34.36	v20-94							
-164.47	33.35	v20-95					0.8394	0.9	
-164.47	33.35	v20-95	m103434	5804	0		0.7710	0	
-166.42	33.02	v20-96	m105962	5771	0	14.61	3.32	0.9200	0.9
-168.44	32.04	v20-97	m103435	5841	0	15.58	0.90	0.8400	0.9
-170.35	31.10	v20-98	m103436	5673	0	16.27	0.94	0.8400	0.9
131.26	23.35	v21-100		5233					0
131.01	23.29	v21-101	m103963	5293	0	14.51	1.97	0.2600	0
126.56	25.10	v21-109	m103964	1964	0	23.06	1.47	32.7200	0
127.58	23.55	v21-112		5960					
132.08	19.52	v21-115	m103965	5484	0	9.20	0.94	0.4100	0
134.30	19.34	v21-116		5826					
136.24	15.32	v21-119						0.3869	0
136.24	15.32	v21-119	m103966	4184	tp			0.6914	
136.24	15.32	v21-119	m103966	4184	0	7.30	1.27	0.3900	0
135.22	15.16	v21-120		4987					
133.20	15.07	v21-122		4746					
130.04	14.08	v21-124	m103967	5764	0	6.80	0.00	0.2000	0
127.03	13.00	v21-126	m103968	5075	0	6.47	0.00	0.2000	0
126.13	12.55	v21-127	m102175	5477	0	8.73	9.24	0.6000	0
126.23	20.43	v21-134		5298					
130.03	21.28	v21-135	m103969	5929	0	8.37	0.47	0.3800	0
134.04	23.27	v21-136		5042					
136.56	24.38	v21-137		4971					
139.29	26.02	v21-138	m103970	4418	0	0.11	0.00	0.3100	0
144.18	27.47	v21-139	m103457	6009	0	8.90	12.60	0.6000	0.9
146.53	28.33	v21-140	m102176	5949	0	14.29	6.83	0.2800	0.9
154.04	30.48	v21-141							0.9
156.25	31.35	v21-142							0.9
160.01	32.41	v21-144							0.9
164.50	34.03	v21-145	m103458	6088	0	19.36	2.23	0.8400	0.9
163.02	37.41	v21-146	m103459	3968	0	16.03	3.57	7.7993	0.09
163.02	37.41	v21-146						12.7943	0.9
162.05	39.33	v21-147	m103460	5256	0	10.41	0.43	0.5900	0.9
160.36	42.05	v21-148	m102183	5477	2- 4	12.30	7.85	0.8900	0.09
160.36	42.05	v21-148	m102183	5477	0	13.35	7.85	0.8900	0
160.28	45.08	v21-149							0.9
162.01	48.00	v21-150	m103461	5416	0	9.81	12.78	0.8800	0.9
163.38	52.16	v21-151	m103462	5055	0	6.89	6.85	0.4900	0.09
165.39	55.47	v21-152		3279					
168.19	57.21	v21-153		3532					
169.37	58.06	v21-154		3338					
172.08	54.47	v21-155		2999					
176.20	55.05	v21-156	m103463	3418	0	7.65	14.86	0.4800	0
179.50	57.30	v21-160		3779					
179.15	59.34	v21-161		3237					
-177.13	58.33	v21-162		2317					
-172.26	1.54	v21-164		1919					
-165.35	52.21	v21-170	m112697	7011	0	18.12	3.20	0.9467	2
-164.57	49.53	v21-171	m112698	5013	16	22.21	2.12	0.4854	2.9
-164.57	49.53	v21-171	m103464	5013	0	3.92	18.42	0.3200	0.09
-164.21	47.40	v21-172	m112699	5198	35	11.82	1.55	0.5570	2.09
-164.21	47.40	v21-172	m103971	5198	0	13.34	0.00	0.5500	0.9

-163.33	44.22	v21-173	m103465	5993	0	14.11	2.38	0.4400	0.09
-162.30	40.08	v21-174	m112700	5691	25	15.02	5.13		2.09
-162.30	40.08	v21-174	m103466	5691	0	11.85	1.60	0.4000	0.09
-161.06	38.22	v21-175	m112701	5654	12	16.21	3.72	0.7799	2.9
-161.06	38.22	v21-175	m103467	5654	0	15.02	0.81	0.4000	0.09
-160.19	34.54	v21-176							0.9
-160.08	33.52	v21-177	m103972	6022	0	16.73	0.00	0.7600	0
-159.42	31.31	v21-178	m102196	5720	0	19.59	2.71	1.0500	0.9
-159.34	30.43	v21-179							0.9
-159.11	28.24	v21-180	m103468	5676	0	14.01	1.62	0.4800	0.9
-158.21	28.51	v21-181							0.9
-157.02	29.51	v21-182	m102201	5824	0	15.84	2.71		0.9
-157.00	27.15	v21-183							0.9
-157.54	25.03	v21-184							0.9
-159.21	23.01	v21-185		4857					
-158.09	20.52	v21-187		3762					
-154.11	16.49	v21-189	m105977	4947	0	3.23	9.92	0.2800	0.9
-150.00	13.44	v21-191		5218					
-142.48	11.42	v21-194		5099					
-136.11	9.48	v21-196		4819					
-130.11	8.38	v21-197		4890					
-113.49	5.03	v21-202		4039					
-110.53	4.23	v21-203	m103973	3928	0	3.26	44.29	53.0700	0
-106.23	3.11	v21-205							
-100.17	0.01	v21-207	m103469	3352	0	0.74	78.79	34.6200	0
-97.28	0.50	v21-208		3446					
-85.08	2.50	v21-212	m112703	3338	60	6.07	40.33		2
-85.08	2.50	v21-212	m112702	3338	0	3.35	37.85		2.09
-80.38	3.50	v21-214	m112704	2246	0	8.95	24.30	35.5000	2.09
-89.21	0.57	v21-29		712		1.50	62.50		2.09
-96.14	8.18	v21-36	m103446	3649	0			71.1668	
-101.35	7.07	v21-38						35.4346	
-101.35	7.07	v21-38	m103447	4171	0			37.5036	
-106.46	5.31	v21-40	m103448	3182	0			61.8248	
-106.46	5.31	v21-40						61.1436	
-112.22	4.20	v21-42	m103449	4142	0			61.9183	
-112.22	4.20	v21-42						60.4096	
-116.59	6.10	v21-44	m103450	4535	0			53.6008	
-116.59	6.10	v21-44						49.5119	
-158.06	20.55	v21-59		2055					0.09
-158.09	20.51	v21-60		3751					
-161.26	21.36	v21-61		4583					
-165.14	22.14	v21-62	m102148	4625	0	10.89	3.73	3.7700	0
-169.41	22.51	v21-63	m103451	4674	0	13.69	0.00	1.1200	0.9
-173.13	23.27	v21-64							0.9
-176.51	23.58	v21-65	m103452	5365	0	12.72	0.00	1.1600	0.9
179.21	24.31	v24-66		5601					
176.16	24.58	v21-67	m103453	5879	0			0.8820	0.9
176.16	24.58	v21-67						0.6970	
169.02	26.26	v21-69	m102157	5982	0	15.25	3.52	0.3900	0.9
166.04	27.05	v21-70	m103958	5954	0	14.08	2.62	0.7000	0.9
162.31	27.54	v21-71	m102162	5954	0	17.08	2.88	0.6700	0.9
158.50	28.47	v21-72		5369					
154.36	29.28	v21-73	m103454	5872	0	14.50	1.04	0.9100	0.9

150.50	29.51	v21-74	m103455	6015	0	14.81	2.00	0.7600	0.9
147.41	30.04	v21-75	m103456	6119	0	14.87	2.01	0.6800	0.9
176.16	24.58	v21-76	m103453	5879	0	12.69	0.80	0.8800	0.9
138.23	34.02	v21-80	m103959	4400	0	14.21	0.00	0.4900	0
136.30	29.02	v21-81		4352					
138.13	27.56	v21-82		4565					
140.03	27.54	v21-83	m103960	3702	0	15.11	7.12	1.5700	0
142.30	27.58	v21-85		1684					
145.03	27.53	v21-86		5717					
145.03	27.53	v21-87							0.9
145.39	23.35	v21-89							0.9
144.23	23.57	v21-90		5841					
144.23	23.57	v21-91	m105974	5841	0	6.38	9.76	1.0800	0
143.10	23.00	v21-92		4283					
142.28	24.37	v21-93		2878					
136.05	23.41	v21-97	m103961	4868	0	7.84	1.03	0.4100	0
134.26	23.06	v21-98		2135					
132.14	23.32	v21-99	m103962	5148	0	15.11	2.32	0.1600	0
179.44	16.08	v24-100	m103999	5330	0	12.78	0.00	0.1200	0
178.53	13.10	v24-101		3336					
170.55	4.51	v24-104	m104000	4501	0	8.12	24.18	60.6400	0
165.19	2.04	v24-107	m102216	4160	0	9.65	22.39	49.9044	0
162.12	1.13	v24-108	m102219	4113	0	8.09	22.16	61.9300	0
158.48	0.26	v24-109	m112705	2367	50	9.78	11.74		2.09
158.48	0.26	v24-109	m104001	2367	0	8.43	11.83	72.9900	0
156.42	2.21	v24-110	m104002	2613	0	10.43	11.70	68.2600	0
153.22	7.56	v24-112	m104003	4964	0	12.60	3.92	0.9700	0
152.05	11.19	v24-113	m104004	5861	0	12.10	3.23	0.2500	0
150.33	14.42	v24-114	m104005	5993	0	9.57	1.05	0.1600	0
149.09	17.55	v24-115	m104006	5544	0	7.78	2.00	0.0800	0
142.22	18.36	v24-117	m104007	3706	0	3.72	11.20	11.4200	0
138.44	18.42	v24-118	m104008	5123	0	6.16	25.01	0.1600	0
135.01	18.39	v24-119	m104009	5630	0	6.32	0.41	0.1600	0
128.23	18.30	v24-121	m104010	5431	0	11.17	1.05	0.7300	0
125.28	18.32	v24-122	m104011	4870	0	10.86	1.60	0.2400	0
119.50	14.14	v24-126		2518					
120.04	18.11	v24-128		3189					
120.31	7.21	v24-135		4276					
132.26	3.31	v24-139	m104012	3350	0	9.86	13.42	45.5800	0
135.33	3.04	v24-140		4464					
138.28	2.52	v24-141	m104013	4383	0	10.15	6.95	1.0800	0
141.18	2.04	v24-143	m104014	3191	0	12.62	10.26	38.0300	0
144.53	1.50	v24-146	m104015	4526	0	11.15	6.00	1.1600	0
151.25	10.20	v24-147	m104016	4918	0	9.17	6.85	0.2400	0
-90.37	6.19	v24-38		3647					
-93.34	4.53	v24-39		3413					
-97.08	3.04	v24-40	m103978	3204	0	2.41	53.56	66.0700	0
-105.09	1.40	v24-46	m103979	3574	0	1.26	72.00	57.1200	0
-106.59	1.43	v24-47	m103980	3652	0	0.06	80.79	61.3500	0
-109.20	1.43	v24-48		3720					
-112.44	0.49	v24-49	m103981	3878	0	0.86	77.60	61.2500	0
-114.32	1.48	v24-50		3856					
-120.20	1.40	v24-51	m103982	4409	0	3.26	48.30	47.3900	0
-124.49	1.54	v24-52b	m103983	4702	0	0.57	88.80	17.5900	0

-129.01	1.51	v24-53	m105983	4473	0	1.51	79.00	54.1900	0
-131.42	1.51	v24-54	m103984	4479	0	1.68	77.30	48.8700	0
-136.15	2.14	v24-56	m103985	4341	0	1.14	63.28	67.3600	0
-141.40	2.16	v24-58		4490					
-145.32	2.34	v24-59		4662					
-149.00	2.48	v24-60	m105980	4859	0	3.94	61.00	19.5300	0
-153.35	3.04	v24-62		4834					
-159.04	4.10	v24-64	m103986	3933	0	1.73	83.40	78.0600	0
-157.32	6.40	v24-65	m103987	4726	0	9.28	12.17	39.4400	0
-154.32	13.08	v24-69	m105799	5451	0	11.77	7.80	1.1500	0
-161.19	19.18	v24-71	m103988	5092	0	7.12	0.00	0.2500	0
-164.41	17.31	v24-72		5473					
-166.47	16.29	v24-73	m103989	5234	0	10.85	0.00	0.2500	0
-169.51	14.53	v24-74	m103990	5669	0	8.40	0.00	0.4500	0
-170.55	14.20	v24-75		4429					
-172.55	13.18	v24-76	m103991	5680	0	1.70	0.30	0.5000	0
-177.46	10.28	v24-78	m103992	5312	0	8.27	3.94	0.3300	0
173.00	10.53	v24-80		5374					
161.04	16.48	v24-84							
158.52	17.51	v24-85	m103993	5510	0	11.66	0.00	0.6200	0
161.19	19.03	v24-86		3985					
161.23	19.04	v24-87	m103994	4879	0	13.80	0.00	0.1600	0
162.58	19.52	v24-88		4808					
165.07	20.52	v24-89	m103995	5544	0	5.99	0.00	0.1600	0
170.52	23.39	v24-91		5936					
174.00	24.57	v24-92		5909					
176.13	25.48	v24-93		5782					
177.46	26.34	v24-94		5700					
177.46	27.36	v24-95	m103996	5287	0	14.83	0.00	0.2500	0
177.59	27.40	v24-96	m103997	3305	0	13.93	0.00	73.3300	0
178.04	24.48	v24-97							0.9
178.47	21.47	v24-98	m103998	5444	0	14.49	0.00	0.3300	0.9
-159.11	3.15	v28-139	m102231	3490	3- 4	6.52	31.78	80.7900	7
-116.56	14.46	v28-165	ms06713	4155	2	10.84	5.95		5
-118.25	13.27	v28-167	m106717	4208	2	9.39	1.44		5
-119.42	13.30	v28-168	m106715	545	0	3.81	0.70		5
-131.04	7.07	v28-172	m107923	4594	0	0.00	0.00	32.0300	0
-131.45	6.31	v28-173	m107924	4310	0	0.00	0.00	61.3100	0
-133.32	5.05	v28-175	m107925	4469	0	0.00	0.00	65.3300	0
-142.56	5.09	v28-181	m102222	4925	0	7.36	28.60	10.8100	0
-146.40	2.55	v28-185	m102225	4656	0	4.27	58.50	46.3500	0
-173.56	2.46	v28-201		3217					0.09
-179.29	0.57	v28-203		3243					0.09
160.29	1.01	v28-238	m102228	3120	0- 2	3.84	27.03		7.09
160.29	1.01	v28-238	m102228	3120	0	4.17	27.03	72.5500	0
159.11	3.15	v28-239	m102231	3490	3- 4	7.12	31.78	80.7900	7.09
159.11	3.15	v28-239	9082	3490	0-25	9.31	15.41	75.8300	7
159.11	3.15	v28-239	m102231	3490	0	7.73	31.78	80.7900	0
138.32	11.04	v28-243	m112708	2129	0	6.74	8.94		7.09
138.32	11.04	v28-243	m112708	2129		6.74	8.94		2
138.32	11.04	v28-243	m112709	2129	200	6.61	10.57		2
147.52	14.35	v28-249	m112710	2569	0	5.83	6.54		7
147.52	14.35	v28-249	m112711	2569	20	6.58	8.97		2
147.52	14.35	v28-249	m112710	2569	0	5.83	6.54		2.09

142.27	20.06	v28-255	m112712	3261	0	6.00	7.92	45.8400	7.09
142.27	20.06	v28-255	m112712	3261	0	6.00	7.92	45.9444	2
139.58	28.26	v28-294	m112713	2308	0	6.82	10.24	49.0500	7
139.58	28.26	v28-294	m112713	2308	0	6.82	10.24	49.0466	2.09
134.08	28.32	v28-304		2942					0.09
177.54	35.19	v32-126		3870					0.09
151.05	31.34	v32-139		2032					0.09
151.37	30.55	v36-1232p			6- 8	18.56	17.60		8
152.16	30.21	v36-1233p			10-12	19.79	1.58		8
152.16	30.46	v36-1234p			10-12	18.54	14.31		8
151.49	30.30	v36-1235p			8-10	19.49	15.48		8
152.03	32.21	v36-1241p			10-12	21.58	32.59		8
152.16	35.05	v36-1245p			12-14	10.20	14.21		8
163.32	32.41	v36-1246p			3- 5	23.90	7.40		8
164.32	32.06	v36-1247p			2- 4	21.30	7.89		8
163.29	32.09	v36-1248p			3- 5	21.32	14.83		8
164.16	32.24	v36-1249p			8-10	22.87	3.69		8
164.46	32.38	v36-1250p			2- 4	22.60	8.21		8
-147.59	0.02	wah8ff2		4308				88.5000	0.09
-126.24	43.16	y660410	mo01608	3002		15.43	6.20	1.0400	0.09
-126.28	43.34	y66095	mo01709	2978		11.60	0.00	1.3000	0.09
-127.01	41.16	y69102	mc02922	2615		14.98	3.74	0.6200	0.09
-86.33	2.59	y69106p	poo2409	2870	0- 1			1.0672	0.09
-85.02	4.09	y69108p	mlo4203	3390	0- 2			16.7652	
-82.59	2.05	y69109p	mlo4235	3721	0 -1			11.6879	
-86.29	0.06	y6971p		2740		2.52	60.69	42.8900	4.09
-87.56	2.59	y6973p	2870	0	0	0.86	7.37	64.2953	4
-87.56	1.27	y6973p	2707	10	10	0.38	3.54	74.4000	4.09
-154.58	45.00	y70111p						0.7351	
-154.58	45.00	y70111p	noo2318	5342	0- 5			1.2037	
-157.25	45.04	y70112p	noo2319	5372	0- 6			1.7202	
-159.58	44.58	y70113p	noo2320	5342	3- 9			1.9096	
-162.33	44.56	y70114p	noo2321	5342	0- 5			1.7012	
-165.01	44.56	y70115p	noo2333	5410	0- 5			2.0285	
-167.37	44.59	y70116p	mo03256	5189	0- 8			2.4569	
-170.55	44.59	y70117p	noo2323	7022	0- 5			1.5204	
-172.58	44.59	y70118p	noo2324	6339	0- 5			1.9499	
-177.30	45.01	y70120p	noo2325	5680	0- 5			2.4369	
180.00	45.06	y70121p						0.6929	
180.00	45.06	y70121p	noo2326	5635	0- 5			2.1115	
177.13	45.12	y70122p	noo2327	5610	0- 9			1.1724	
177.13	45.12	y70122p						0.1632	
-172.19	45.23	y70124p						0.326	
-172.19	45.23	y70124p	mo03258	5650	0- 5			0.9771	
176.12	46.00	y70126p	noo2328	5840	0- 8			1.0946	
-136.05	45.00	y7013p						1.23	
-136.05	45.00	y7013p	noo2314	4155	5-10			1.6804	
-138.00	45.00	y7014p						2.3757	
-138.00	45.00	y7014p	noo2315	4265	0- 8			1.3885	
-140.00	45.00	y7015p						0.6551	
-140.00	45.00	y7015p	mo03255	4374	0- 5			1.381	
-142.35	45.00	y7016p	noo2316	4583	0-11			1.4427	
-145.24	45.00	y7017p						4.2004	
-145.24	45.00	y7017p	noo2317	4746	0- 6			0.8624	

-170.05	50.23	y70230p	moo3259	5344	0	-5			0.7006
-170.05	50.23	y70230p							0.2461
-163.00	52.19	y70232p	noo2329	4908	0-	5			0.8174
-163.00	52.19	y70232p							0.1233
-146.24	55.60	y70239p	moo3260	4019	0-	8			0.5885
-146.24	55.60	y70239p							0.082
-141.04	57.10	y70241p	moo3261	3384	0-	7			0.7074
-141.04	57.10	y70241p							1.8459
-143.40	59.05	y70451	noo3555	3650	0-	5			0.7841
-143.40	59.05	y70451							0.9842
-143.42	58.55	y70452p	noo3559	3651	0-	5			0.8597
-143.42	58.55	y70452p							0.5325
-140.41	56.05	y70454p	noo3560	3511	0-	5			1.1043
-140.41	56.05	y70454p							2.8516
-139.15	50.23	y70459g							0.6587
-139.15	50.23	y70459g	noo3556	3774	0-	5			0.6705
-139.12	51.38	y70460g							1.1091
-139.12	51.38	y70460g	noo3558	3707	0-	5			0.9409
-136.15	51.09	y70461							0.2471
-136.15	51.09	y70461	noo3557	3575	0-	5			0.7551
-120.03	34.16	y7110117	moo7480	570	15-	22			2.1776
-120.03	34.16	y7110117pm	moo4670	570	0-	1			1.8269
-84.58	6.53	y7131	poo7277	1824	0-	2			9.0619
-85.09	7.10	y7132	poo7278	2164	0-	2			6.6831
-85.30	7.03	y7133	poo7279	2551	0-	2			15.4008
-85.30	7.03	y7133			0-	2			2.1554
-84.58	5.48	y7134	poo7280	2628	0-	2			12.1446
-84.56	5.55	y7135	poo7281	2363	0-	2			14.771
-85.22	6.23	y7136	poo7282	1945	0-	2			35.574
-85.35	6.33	y7137	poo7283	1631	0-	2			36.3618
-102.37	6.08	y71990p	doo4789	3295	5-	10			70.3077
-106.19	6.45	y71993p	doo4790	3521	5-	10			75.21
-106.17	6.39	y71994p	d004791	3687	5-	10			78.7611
-116.60	29.13	y7323mg1	mo08946	3957	0		11.43	6.54	5
-114.35	24.35	y7324mg1	mo10128	4133	0		10.64	5.41	5
-114.35	24.35	y7324mg4	mo08939	4138	0		10.72	4.92	0.1499
-104.50	14.15	y7325mg	mo08932	3395	0		6.80	11.20	5
-119.02	25.24	y74216mg	mo09778	3670	0		14.98	1.84	5
-116.06	24.42	y74218mg	mo09773	2795	0		11.75	5.91	40.1527
-112.25	23.44	y74222mg	mo09761	3054	0		7.51	7.80	0.5970
-113.57	20.15	y74231mg1	mo09788	3590	0		10.05	6.43	5
-124.28	22.34	y74234mg4	mo09789	3910	0		13.53	1.45	5
-145.06	20.11	y74239gct	mo09790	5320	0		12.26	2.26	5
-109.31	17.52	zapg2	ms05267	3640			6.96	15.71	0
-135.57	31.10	zts742	ms06743	4672	2		14.56	1.43	5
-134.58	31.06	zts743	ms06726	4569	2		34.70	1.25	5
-133.00	31.18	zts7446	ms06718	4569	4		15.39	2.25	5
-131.03	31.23	zts746	ms06734	4526	5		14.11	2.20	5
-144.55	28.40	ztsvi139gms	05261	5048			7.91	3.31	0.4000
-143.17	30.12	ztsvi140gms	05262	5050			8.07	2.78	1.1600
-137.41	31.01	ztsvi141gms	05263	4613			5.37	2.76	0
-135.57	31.10	ztsvi142gms	05264	4672			5.03	2.39	0
-134.58	31.06	ztsvi143gms	05265	4569			3.18	2.75	0
-133.00	31.18	ztsvi144gms	05266	4549			6.34	4.21	0

SOUTH PACIFIC OCEAN

LONG	LAT	CORE	ACCESS	DEPTH	SAMP	QTZ	OPAL	CACO3	SOURCE
D M	D M	ID			DEPTH	%	%	%	
-176.49	-15.15	7tow105	ts08930	2163	0	2.32	15.91		9
-176.46	-20.24	7tow72	ts08929	2730	6	2.14			
-107.47	-8.27	amph19	dso5448	3090	18-23			76.3648	
-107.26	-8.29	amph21	dso5449	3120	17-23			0.8063	
-106.54	-8.42	amph23	dso5450		18-23			84.3145	
-105.53	-9.03	amph25	dso5452	3660	7-12			82.6114	
-110.52	-10.33	amph27	dlo5592	3090	5-10			77.3472	
-111.09	-18.31	amph30	dso5453		15-20			88.2087	
-112.11	-18.28	amph31	dso5454	3160	17-22			87.2309	
-114.57	-18.24	amph32	dso5455	3075	19-24			47.8610	
-114.56	-18.20	amph33	dso5456	3220	17-22			54.0185	
-176.45	-18.35	antp226	ts08636	2472	0	2.32	34.61		9
-175.54	-17.09	antp231	ts08637	2238	0	2.06	35.10		9
-78.38	-36.15	e10-12	mel2636	4113	1- 2	19.50	2.00		11
-78.38	-36.15	e10-12	mel2636	4113	1- 2	19.50	2.00		11
-74.59	-61.05	e10-18							0.03
-82.45	-55.57	e10-2							0.03
-82.50	-57.11	e10-3							0.03
-78.53	-56.58	e10-30							0.03
-82.54	-61.01	e10-6	mel2634	4777	0- 1	16.12	1.00		11
-82.54	-61.01	e10-6	mel2634	4777	0- 1	16.12	1.00		11
-83.18	-62.14	e10-7	mel2635	4695	4- 5	20.30	2.50		11
-83.18	-62.14	e10-7	mel2635	4695	4- 5	20.30	2.50		11
-114.42	-54.54	e11-1		3477					0.09
-114.28	-64.51	e11-11							0.03
-115.05	-65.52	e11-12							0.03
-115.01	-65.49	e11-13	mel2554	4704	0- 2	7.40	19.00		11.03
-115.01	-65.49	e11-13	mel2554	4704	0- 2	7.40	19.00		11
-114.44	-68.17	e11-15	mel2637	4240	0- 1	5.35	2.40		11
-114.44	-68.17	e11-15	mel2637	4240	0- 1	5.35	2.40		11
-110.46	-64.51	e11-17	mel2555	3458	0- 2	17.99	3.15		11
-110.46	-64.51	e11-17	mel2555	3458	0- 2	17.99	3.15		11
-115.06	-56.04	e11-2							0.09
-90.50	-67.56	e11-22							0.03
-89.39	-67.09	e11-23	mel2638	4258	0- 1	18.94	3.25		11
-89.39	-67.09	e11-23	mel2638	4258	0- 1	18.94	3.25		11
-89.03	-65.53	e11-24							0.03
-86.36	-63.30	e11-26	mel2639	4631	0- 1	19.50	2.60		11
-86.36	-63.30	e11-26	mel2639	4631	0- 1	19.50	2.60		11
-115.14	-56.54	e11-3	mel2551	4004	0- 2	5.75	47.10		11.03
-115.14	-56.54	e11-3	mel2551	4004	0- 2	5.75	47.10		11.09
-115.13	-57.41	e11-4							0.03
-114.43	-58.57	e11-5							0.03
-114.56	-59.54	e11-6							0.03
-114.47	-60.55	e11-7	mel2552	5005	0- 2	0.00	21.20		11.03
-114.47	-60.55	e11-7	mel2552	5005	0- 2	0.00	21.20		11
-115.10	-61.57	e11-8							0.03
-115.04	-62.50	e11-9	mel2553	4986	0- 2	2.26	23.20		11.03
-115.04	-62.50	e11-9	mel2553	4986	0- 2	2.26	23.20		11
-29.48	-61.09	e12-11							0.03

-28.35	-60.34	e12-14						0.03
-31.06	-60.52	e12-15						0.03
-31.16	-59.23	e12-17						0.03
-34.01	-59.02	e12-19						0.03
-37.01	-59.05	e12-20						0.03
-54.25	-60.31	e12-26						0.03
-107.03	-65.40	e13-14						0.03
-121.18	-65.37	e13-16						0.03
-124.07	-65.41	e13-17						0.03
-130.16	-65.37	e13-18						0.03
-90.03	-56.05	e13-2						0.03
-129.47	-62.01	e13-20						0.03
-130.34	59.35	e13-21						0.03
-89.29	-57.00	e13-3						0.03
-90.59	-58.49	e13-5						0.03
-89.28	-59.36	e13-6	me12640	4304	2- 3	7.49	18.00	11.03
-89.28	-59.36	e13-6	me12640	4304	2- 3	7.49	18.00	11
-89.41	-61.14	e13-7						0.03
-90.08	-61.58	e13-8						0.03
-89.40	-63.06	e13-9						0.03
-125.09	-59.57	e14-14						0.03
-159.55	-51.55	e14-2						0.03
-159.59	-53.54	e14-3						0.03
-159.52	-54.55	e14-4						0.03
-160.06	-57.01	e14-6						0.03
-160.09	-58.03	e14-7						0.03
-160.17	-59.40	e14-8						0.03
-95.00	-61.58	e15-1						0.03
-109.55	-60.07	e15-11						0.03
-119.55	-56.03	e15-16						0.03
-149.49	56.01	e15-28						0.03
-99.58	-61.03	e15-7						0.03
-104.58	-61.04	e15-8						0.03
-90.48	-57.46	e16-4						0.03
161.55	-58.59	e16-6						0.03
-134.52	-65.01	e17-10						0.03
-134.40	-66.00	e17-11						0.03
-134.36	-67.08	e17-12						0.03
-130.44	-68.07	e17-14						0.03
-126.45	-68.08	e17-15						0.03
-124.27	-67.30	e17-16						0.03
-110.46	-67.54	e17-18						0.03
-106.48	-68.04	e17-19						0.03
-103.04	-67.55	e17-20	me12306	4386	0- 1	48.63	4.85	11
-103.04	-67.55	e17-20	me12306	4386	0- 1	48.63	4.85	11
-97.59	-67.58	e17-23						0.03
-95.07	-64.47	e17-26	me12642	4486	1- 2	5.45	2.15	11
-95.07	-64.47	e17-26	me12642	4486	1- 2	5.45	2.15	11
-94.58	-64.18	e17-27						0.03
-95.06	-63.00	e17-28						0.03
-94.42	62.05	e17-29						0.03
-135.17	-62.01	e17-8						0.03
-99.19	-58.00	e18-4						0.03
-104.54	-62.05	e19-5						0.03

-107.58	-61.56	e19-6							0.03
-109.05	-67.09	e19-7	mel2312	5026	0-	1	2.50	36.70	11.03
-109.05	-67.09	e19-7	mel2312	5026	0-	1	2.50	36.70	11
-105.23	-55.00	e20-13	mel2644	4313	0-	1	5.40	54.85	11
-105.23	-55.00	e20-13	mel2644	4313	0-	1	5.40	54.85	11
-99.43	-51.57	e20-15	mel2645	4204	1-	2	6.89	38.00	11
-99.43	-51.57	e20-15	mel2645	4204	1-	2	6.89	38.00	11
-111.20	-44.33	e20-18	mel2646	2853	1-	2	2.54	4.00	11.09
-111.20	-44.33	e20-18	mel2646	2853	1-	2	2.54	4.00	11
-144.50	-49.00	e20-2							0.03
-145.03	-51.07	e20-3							0.03
-109.51	-39.59	e21-10	mel2563	3130	0-	2	0.99	3.70	11
-109.51	-39.59	e21-10	mel2563	3130	0-	2	0.99	3.70	11
-119.35	-40.21	e21-12	mel2322	4131	0-	2	2.70	2.60	11
-119.35	-40.21	e21-12	mel2322	4131	0-	2	2.70	2.60	11
-120.03	-43.59	e21-13	mel2648	3931	3-	4	4.29	2.00	11
-120.03	-43.59	e21-13	mel2648	3931	3-	4	4.29	2.00	11
-120.04	-49.01	e21-14	mel2564	3303	0-	2	6.15	49.30	11
-120.04	-49.01	e21-14	mel2564	3303	0-	2	6.15	49.30	11
-120.03	-52.01	e21-15	mel2565	2984	0-	2	6.74	49.30	11.09
-120.03	-52.01	e21-15	mel2565	2984	0-	2	6.74	49.30	11
-119.56	-55.29	e21-17							0.03
-87.57	-32.59	e21-2	mel2647	3640	2-	3	3.10	6.00	11
-87.57	-32.59	e21-2	mel2647	3640	2-	3	3.10	6.00	11
-120.10	-60.15	e21-20							0.03
-120.16	-61.08	e21-21	mel2325	4950	0-	1	0.69	41.65	11.03
-120.16	-61.08	e21-21	mel2325	4950	0-	1	0.69	41.65	11
-101.56	-62.30	e21-22	mel2326	4877	0-	1	1.20	21.75	11.03
-101.56	-62.30	e21-22	mel2326	4877	0-	1	1.20	21.75	11
-95.28	-38.19	e21-7	mel2560	3348	0-	2	1.90	10.60	11
-95.28	-38.19	e21-7	mel2560	3348	0-	2	1.90	10.60	11
-94.40	-37.25	e21-8	mel2319	3075	0-	1	1.39	5.90	11
-94.40	-37.25	e21-8	mel2319	3075	0-	1	1.39	5.90	11
-96.54	-39.53	e21-8	mel2561	3540	0-	2	1.85	9.40	11
-96.54	-39.53	e21-8	mel2561	3540	0-	2	1.85	9.40	11
-105.04	-40.00	e21-9	mel2562	3904	0-	2	1.90	10.60	11
-105.04	-40.00	e21-9	mel2562	3904	0-	2	1.90	10.60	11
-115.51	-64.03	e23-15	mel2331	4841	2-	3	1.35	37.65	11
-115.51	-64.03	e23-15	mel2331	4841	2-	3	1.35	37.65	11
-115.00	-58.59	e23-18	mel2333	5247	0-	1	2.15	1.14	11
-115.00	-58.59	e23-18	mel2333	5247	0-	1	2.15	1.14	11
-95.05	-60.30	e23-4	mel2649	4896	0-	1	4.80	25.60	11
-95.05	-60.30	e23-4	mel2649	4896	0-	1	4.80	25.60	11
-83.15	-36.38	e25-1	mel2650	3987	1-	2	2.15	1.14	11
-83.15	-36.38	e25-1	mel2650	3987	1-	2	2.15	1.14	11
-114.47	-50.06	e25-10	mel2569	2876	0-	2	4.70	49.25	11.09
-114.47	-50.06	e25-10	mel2569	2876	0-	2	4.70	49.25	11
-85.55	-39.56	e25-2	mel2651	3858	0-	1	6.04	3.80	11
-85.55	-39.56	e25-2	mel2651	3858	0-	1	6.04	3.80	11
-82.57	-39.57	e25-3	mel2652	3995	0-	1	4.14	1.05	11
-82.57	-39.57	e25-3	mel2652	3995	0-	1	4.14	1.05	11
-81.57	-41.58	e25-4	mel2653	3585	0-	1	6.30	4.60	11
-81.57	-41.58	e25-4	mel2653	3585	0-	1	6.30	4.60	11
-78.35	-41.20	e25-5	mel2654	3746	0-	1	7.50	3.60	11

-78.35	-41.20	e25-5	mel2654	3746	0-	1	7.50	3.60	11
-94.54	-50.06	e25-7	mel2566	4542	0-	2	5.75	14.10	11
-94.54	-50.06	e25-7	mel2566	4542	0-	2	5.75	14.10	11
-100.02	-50.02	e25-8	mel2567	4049	0-	2	3.90	41.65	11
-100.02	-50.02	e25-8	mel2567	4049	0-	2	3.90	41.65	11
-105.07	-50.04	e25-9	mel2568	3822	0-	2	5.99	5.20	11
-105.07	-50.04	e25-9	mel2568	3822	0-	2	5.99	5.20	11
176.30	-66.04	e27-3		1934					0.04
174.36	-68.03	e27-4		1886					0.04
-159.49	-68.03	e33-3		1940					0.04
-120.01	-63.14	e33-16		2687					0.04
-61.50	-60.03	e4-10							0.03
-87.51	-69.24	e42-10	mel2658	3019	3-	4	14.69	3.35	11
-87.51	-69.24	e42-10	mel2658	3019	3-	4	14.69	3.35	11
-89.07	-68.59	e42-12	mel2659	3536	3-	4	6.60	2.65	11
-89.07	-68.59	e42-12	mel2659	3536	3-	4	6.60	2.65	11
-119.44	-64.56	e42-7	mel2655	4841	0-	1	0.00	36.40	11
-119.44	-64.56	e42-7	mel2655	4841	0-	1	0.00	36.40	11
-92.30	-64.31	e42-8	mel2656	4615	5-	6	10.45	1.70	11
-92.30	-64.31	e42-8	mel2656	4615	5-	6	10.45	1.70	11
-80.24	-69.59	e42-9	mel2657	564	0-	1	17.15	2.80	11
-80.24	-69.59	e42-9	mel2657	564	0-	1	17.15	2.80	11
-114.07	-55.05	e45-62		2250					0.09
-114.26	-47.33	e45-74		1900					0.09
-114.25	-46.27	e45-77		2081					0.09
-114.22	-45.03	e45-79		2000					0.09
-68.35	-60.06	e5-10							0.03
-67.30	-59.01	e5-11							0.03
-67.55	-62.16	e5-15							0.03
-67.53	-62.57	e5-16							0.03
-68.10	-63.57	e5-17							0.03
-71.21	-63.12	e5-25							0.03
-69.14	-57.09	e5-8							0.03
-109.59	-60.04	e50-15		2335					0.09
-56.03	-55.44	e6-11							0.03
-56.32	-57.01	e6-12							0.03
-56.02	-58.55	e6-14							0.03
-58.56	-59.07	e6-29							0.03
-59.08	-57.03	e6-30							0.03
-58.24	-56.15	e6-5							0.03
-58.50	-57.10	e6-6							0.03
-44.50	-54.06	e7-1							0.03
-48.10	-66.34	e7-12							0.03
-48.58	-59.02	e7-17							0.03
-48.53	-53.01	e7-18							0.03
-49.10	-55.56	e7-4							0.03
-44.49	-58.09	e7-6							0.03
-44.45	-58.43	e7-7							0.03
-27.27	-54.14	e8-5							0.03
-39.56	-49.50	e9-4							0.03
-39.52	-46.50	e9-5							0.03
-119.50	-19.25	gc2							0.07
-119.53	-19.24	gc5							0.07
-119.44	-19.24	gc6							0.07

-116.50	-18.56	gc8						0.07
114.58	-19.30	gc16						0.07
-106.02	-9.59	k71042610dho5442	6-11			86.2854		
-110.03	-10.32	k71042611dho5434	5- 7			78.7737		
-110.02	-10.44	k71042611dho5440	5-10			75.4304		
-110.30	-10.37	k71042611dho5338	5- 9			50.9173		
-110.13	-10.33	k71042612dho5432	5-10			59.8933		
-110.27	-10.23	k71042612dho5435	5-10			57.3317		
-106.32	-6.07	k71042615dho5441	7-10			80.7453		
158.03	-11.19	lsdh68	ts08927	3080	3	4.97	20.24	9
163.13	-6.40	lsdh76	ts08928	3560	4	4.49	27.64	9
145.23	-9.49	novaa28	tso8638	1774	0	17.93	5.30	9
145.25	-10.27	novaa29	ts08639	1013	0	17.99	6.02	9
145.30	-10.15	novaa30	ts08640	1161	0	15.82	6.69	9
145.50	-12.17	novaa31	ts08641	3558	0	17.06	6.32	9
152.55	-14.08	novaa32	ts08642	4582	0	10.69	9.49	9
167.23	-21.41	novaa36	ts08643	2148	0	8.74	19.54	9
172.14	-21.41	novaa37	ts08644	3125	0	2.56	24.62	9
164.58	-23.00	novaa40	ts08645	3617	0	20.38	14.67	9
158.13	-28.12	novaa48	ts08646	2220	0	18.55	10.46	9
158.19	-28.08	novaa50	ts08647	2253	0	18.85	11.40	9
161.31	-28.16	novaa53	ts08648	1607	0	18.13	16.00	9
168.59	-27.37	novaa64	ts08649	3182	0	6.35	31.60	9
176.39	-12.53	novah20	ts08650	3663	0	2.66	27.87	9
175.19	-12.34	novah34	t108924	2629	1	1.82	31.09	9
171.12	-28.18	novahv15	ts08926	3489	0	5.39	30.58	9
153.15	-28.24	novahv9	ts08925	3403	0	17.07	14.46	9
-107.37	-7.17	oc7312	dbo6284	3200	5-10		75.6514	
-103.34	-12.56	oc7313	dbo6286	4240	5-10		6.0394	
-113.44	-20.42	oc7324	dbo6288	2145	5-10		43.3004	
-106.09	-23.52	oc7325	dbo6290	3709	5-10		22.6260	
-95.18	-20.03	oc7336	dbo6293	4313	5-10		1.4101	
-101.04	-17.52	oc7337	dbo6295	4247	5-10		5.1511	
-102.01	-18.08	oc7338	dbo6297	4090	5-10		28.4146	
-103.29	-13.04	oc73433	dbo6341		5-10		3.0035	
165.02	-33.30	opr476108tu08655	3040	2	11.32	15.31		9
153.33	-31.34	opr476156tu08653	3770	0	30.13	6.21		9
159.27	-33.09	opr476184tu08654	3610	4	20.42	9.45		9
166.32	-33.32	opr476223ty8656	2860	0	11.94	17.70		7.09
166.32	-33.32	opr476223tuo8956	2860	0	0.00	0.00		9
-172.51	-46.19	rc-79	ml09134	4949	0	17.55	1.85	9
-114.48	-34.52	rc-890	ml11887	3396	0- 2	4.42	0.50	11
-114.48	-34.52	rc-890	ml11887	3396	0- 2	4.42	0.50	11
-146.28	-4.16	rc10-106	mh02239	4590	0	5.23	27.40	81.6330
-162.55	-11.11	rc10-114	ml12662	2791	0	0.09	58.06	90.5646
-162.55	-11.11	rc10-114	ml12662	2791	0	0.09	58.06	2
-163.18	-10.35	rc10-115	ml05789	3135	0	4.21	45.30	86.8021
-165.22	-6.49	rc10-117	t108737	3523	0	2.79	49.87	9
157.58	-14.32	rc10-131	t108738	2933	0	4.99	14.31	9
151.32	-15.22	rc10-133	t108740	2717	0	9.86	10.90	9
153.07	-13.17	rc10-134	t108741	4603	0	11.37	2.00	9
153.21	-12.25	rc10-135	t108742	3902	0	11.83	11.86	9
154.32	-10.22	rc10-136	t108743	3977	0	6.62	21.83	9
154.34	-4.85	rc10-138	t108744	3563	0	2.26	2.63	9

156.26	-3.02	rc10-139	t108745	1781	0	5.49	14.09	67.9249	9
156.26	-3.02	rc10-139	t111000	2836	10	6.07	26.67	9.0400	3.09
156.26	-3.02	rc10-139	t108745	1781	0	0.00	14.09		7
156.59	-2.39	rc10-140	m112663	1679	35	7.38	12.81	79.3179	2
156.59	-2.39	rc10-140	t108746	1679	0	4.98	9.38		9.09
156.59	-2.39	rc10-140	m112663	1679	35	0.00	0.00	79.3179	2
156.59	-2.39	rc10-140	t108746	1679	0	4.98	9.38		7
156.18	-1.08	rc10-141	t108747	1904	0	5.24	6.07		9
155.14	-0.48	rc10-142	t108748	2294	0	7.81	18.46		9
153.59	-0.20	rc10-143	t108749	3074	0	10.30	8.49		9
-116.30	-1.40	rc10-69	m111894	4200	0- 2	0.00	87.41		11
-116.30	-1.40	rc10-69	m111894	4200	0- 2	0.00	87.41		11
-134.19	-0.55	rc10-97		4305					0.09
-139.43	-1.59	rc11-211	m103828	4319	0	0.74	89.60	83.8245	0
-140.51	-6.08	rc11-213	m112668	4343	0	0.75	73.98		2
-140.51	-6.08	rc11-213	m112668	4343	0	0.75	73.98		7.09
-139.58	-14.49	rc11-220	m112666	2950	11	4.40	10.48		2.09
-139.58	-14.52	rc11-220	m112665	2950	0	2.43	14.36		7
-139.58	-14.49	rc11-220	m112665	2950	0	2.43	14.36		2
-110.48	-8.48	rc11-230	m104881	3259	14-19			73.0017	
-110.48	-8.48	rc11-230	m112667	3259	0	2.56	46.50		2
-110.48	-8.48	rc11-230	m109104	3259	1- 2	2.49	17.00	73.0017	11.09
-110.48	-8.48	rc11-230	m109104	3259	1- 2	2.4		11	
-110.48	-8.48	rc11-230	m112667	3259	0	2.56	46.50		7
-106.58	-11.20	rc11-232	d104355	3762	15-18			87.8235	
-100.57	-13.19	rc11-234	m108179	3645	0- 2	3.54	15.60		11
-100.57	-13.19	rc11-234	m108179	3645	0- 2	3.54	15.60		11
-95.38	-11.36	rc11-235	m104882	3702	10-15			86.9478	
-174.38	-26.01	rc12-100	t108750	4171	0	9.12	9.21		9
-174.37	-26.01	rc12-101	t108751	4356	0	7.78	8.82		9
179.44	-26.00	rc12-103	t108752	2401	0	4.22	10.87	81.9264	9.09
179.44	-26.00	rc12-103	t108752	2401	0	4.22	10.87		7
179.44	-26.00	rc12-103	t111020	2401	0	2.76	42.61	10.3350	3
179.44	-26.00	rc12-103	t111020	2401	0	2.76	42.61	2.7600	7.09
176.42	-26.04	rc12-104	t108753	4330	0	1.38	1.18		9
176.42	-26.04	rc12-105	t108754	4404	0	4.33	15.65		9
174.01	-26.01	rc12-106	t108755	4669	0	4.51	13.89		9
169.12	-26.00	rc12-107	t111041	3115	2	3.83	33.29	10.4033	3.09
169.12	-26.00	rc12-107	t108756	3115	0	5.62	22.13		9
169.12	-26.00	rc12-107	t111041	3115	2- 5	3.83	33.29	80.0300	7
169.12	-26.00	rc12-107	t108756	3115	0	0.00	22.13	80.0328	7.09
165.49	-26.02	rc12-108	t108757	3354	0	11.41	12.16		9
157.52	-25.53	rc12-109	t108758	2930	0	16.85	7.23		9
157.52	-25.53	rc12-109	t18758	2930	0	0.00	7.23		7
157.52	-25.53	rc12-109	t111062	2930	3	14.62	9.43	9.7800	3
157.52	-25.53	rc12-109	t111062	2930	0- 3	14.62	9.43	73.3300	7.09
154.54	-26.00	rc12-110	t108759	1942	0	24.28	2.30		9
159.03	-24.08	rc12-112	t108760	2566	0	15.31	16.42		9
163.31	-24.53	rc12-113	t108761	2454	0	13.75	18.50		9
170.26	-24.46	rc12-114	t108762	3997	0	9.83	15.58		9
173.16	-22.05	rc12-115	t108763	1875	0	3.08	10.95		9
175.06	-19.28	rc12-116	t108764	3136	0	2.07	0.00		9
174.30	-16.25	rc12-117	t108765	2734	0	2.20	8.55		9
-157.42	-39.30	rc12-118	m109152	4826	2	2.69	11.28		9

174.01	-12.59	rc12-118	t108766	3233	0	2.53	25.06		9
168.23	-3.44	rc12-121	t18767	3519	0	0.00	34.01		7
168.23	-3.44	rc12-121	t111083	3519	0	4.44	35.43	10.4800	3.09
168.23	-3.44	rc12-121	t111083	3519	0	4.44	35.43	77.4400	7
168.23	-3.44	rc12-121	t108767	3519	0	5.96	34.01		9
166.43	-1.16	rc12-122	t108768	4250	0	7.43	32.15		9
176.12	-4.17	rc12-201	t108769	5029	0	2.44	35.46		9
-171.31	-8.28	rc12-205	t108770	4846	0	6.13	10.02		9
-177.36	-24.14	rc12-210	t108771	1529	0	3.02	18.80		9
-170.45	-31.31	rc12-213	m109149	5700	4	8.91	4.10		9
-171.22	-34.44	rc12-214	m109150	5760	0	3.29	10.24		9
-167.54	-35.28	rc12-215	t108772	4912	0	12.58	2.83		9
-160.27	-37.28	rc12-217	m109151	4942	0	10.61	2.72		9
-154.37	-41.42	rc12-219	m109153	5004	6	2.65	11.18		9
-151.17	-43.42	rc12-220	m109154	5293	0	11.63	3.04		9
-146.03	-46.25	rc12-221	m109155	5024	2	12.77	7.03		9
-138.10	-48.49	rc12-223	m109156	4572	0	10.77	17.21		9
-133.41	-51.13	rc12-224	m109157	4663	6	11.05	14.97		9
-123.08	-53.40	rc12-225	m109158	2964	2	9.22	27.64		9
-123.08	-53.40	rc12-225	m19158	2964	2- 4	9.22	27.64		7
-123.08	-53.39	rc12-225	m111847	2964	0- 2	10.38	18.12		11
-123.08	-53.40	rc12-225	m112669	2964	30	9.43	27.74		2
-123.08	-53.39	rc12-225	m111847	2964	0- 2	10.38	18.12	11.09	
-111.56	-55.14	rc12-227	m111848	3802	2- 3	5.59	56.52		11
-111.56	-55.14	rc12-227	m109159	3802	2	6.75	60.32		9
-111.56	-55.14	rc12-227	m111848	3802	2- 3	5.59	56.52		11
-100.18	-55.35	rc12-228	m111849	4420	0- 2	6.35	35.36		11
-100.18	-55.35	rc12-228	m109160	4420	0	6.03	46.26		9
-100.18	-55.35	rc12-228	m111849	4420	0- 2	6.35	35.36		11
-88.57	-55.03	rc12-230	m109161	4685	4	6.61	36.04		9
-88.57	-55.03	rc12-230	m111850	4685	0- 2	6.72	11.61		11
-88.57	-55.03	rc12-230	m111850	4685	0- 2	6.72	11.61		11
-82.57	-55.32	rc12-231	m111851	5349	1- 2	7.68	4.42		11
-82.57	-55.32	rc12-231	m111851	5349	1- 2	7.68	4.42		11
-82.57	-55.32	rc12-231	m109162	5349	13	8.88	13.29		9
-77.17	-56.00	rc12-232	m111852	4296	1- 2	15.61	2.06		11
-77.17	-56.00	rc12-232	m111852	4296	1- 2	15.61	2.06		11
-77.17	-56.00	rc12-232	m109163	4296	5	15.21	1.73		9
-164.29	-0.11	rc12-86	m107930	5336		0.00	0.00	1.1500	0
-81.17	-16.06	rc13-100	m108039	4570	0- 2	12.26	7.80		11
-81.17	-16.06	rc13-100	m108039	4570	0- 2	12.26	7.80		11
-86.01	-6.58	rc13-105	m108177	4173	0- 2	11.63	13.20		11
-86.01	-6.58	rc13-105	m108177	4173	0- 2	11.63	13.20		11
-98.41	-0.32	rc13-111	m108175	3252	0- 2	1.78	60.50		11
-98.41	-0.32	rc13-111	m108175	3252	0- 2	1.78	60.50		11
-103.38	-1.39	rc13-113	m112678	3195	0	0.24	97.41		2
-103.38	-1.39	rc13-113	m112678	3195	0	0.24	97.41	7.09	
-106.54	-0.19	rc13-117	m108174	3733	0- 2	3.25	50.70		11
-106.54	-0.19	rc13-117	m108174	3733	0- 2	3.25	50.70		11
-87.45	-2.51	rc13-140		1204					0.009
178.01	-8.28	rc13-35	t108773	4740	0	6.74	9.62		9
-177.25	-14.31	rc13-36	t110876	2867	0	2.08	25.58	8.6067	3
177.25	-11.52	rc13-37	t108774	3067	0	2.58	23.34		9
177.06	-14.31	rc13-38	t108775	2867	0	2.34	31.36		9

177.06	-14.31	rc13-38	tl18775	2867	0	2.34	31.36		7.09
177.06	-14.31	rc13-38	tl10876	2867	0	2.08	25.58	67.8900	7
177.06	-14.31	rc13-38	tl18775	2867	0	2.34	31.36		7
177.06	-14.31	rc13-38	tl10876	2867	0	2.08	25.58	67.8900	7
176.50	-15.53	rc13-39	tl08776	2116	0	2.72	9.35		9
176.41	-17.23	rc13-40	tl08777	2798	0	6.49	21.20		9
-177.10	-15.40	rc13-41	tl08778	2221	0	3.08	0.00		9
-173.39	-13.26	rc13-42	tl08779	4729	0	3.64	23.89		9
-167.00	-8.33	rc13-45	tl08781	3948	0	3.43	41.19		9
-152.53	-0.09	rc13-64	ml07931	4766	0	0.00	0.00	36.1200	0
-152.51	-1.54	rc13-65	ml07932	4887	0	0.00	0.00	40.9300	0
-152.38	-4.48	rc13-66	ml07933	5332	0	0.00	0.00	0.9400	0
-151.45	-8.24	rc13-69	ml07934	5015	0	0.00	0.00	0.3700	0
-151.11	-10.23	rc13-71	ml07935	5088	0	0.00	0.00		0
-124.14	-19.01	rc13-81	ml12676	3751	0	0.81	6.06		2
-124.14	-19.01	rc13-81	ml12677	3751	10	1.50	8.56		2.09
-124.14	-19.02	rc13-81	ml12676	3751	0	0.81	6.06		7
-120.41	-18.58	rc13-82	dlo6023	3555	3- 8			50.2869	
-117.33	-19.02	rc13-83	dlo6024	3418	4- 9			90.5593	
-114.54	-18.48	rc13-84	dlo6025	3285	4- 9			81.2174	
-111.16	-17.09	rc13-85	dlo6026	3349	4- 9			93.1682	
-112.32	-17.29	rc13-87	dlo6027	3025	7-12			81.9213	
-115.10	-18.25	rc13-88	dlo6028	3210	4- 9			77.7079	
-111.17	-18.26	rc13-89	dlo6029	3340	4- 9			91.5810	
-109.26	-19.00	rc13-90	dlo6030	3667	5-10			89.1803	
-106.33	-19.00	rc13-91	dlo6031	3935	4- 9			38.5202	
-103.39	-18.53	rc13-92	dlo6032	4122	8-13			15.4133	
-100.55	-18.43	rc13-93	dlo6033	4162	6-12			29.9866	
-98.09	-18.31	rc13-94	dlo6034	4151	10-15			0.2654	
-95.38	-18.20	rc13-95	dlo6035	4268	10-15			2.8000	
-92.53	-17.58	rc13-96	ml08187	4290	0- 1	7.09	5.50		11
-92.53	-17.58	rc13-96	ml08187	4290	0- 1	7.09	5.50		11
-86.52	-16.59	rc13-98	ml08038	4437	0- 2	9.74	7.20		11
-86.52	-16.59	rc13-98	ml08038	4437	0- 2	9.74	7.20		11
-84.34	-16.31	rc13-99	ml08185	4684	0- 2	10.99	6.90		11
-84.34	-16.31	rc13-99	ml08185	4684	0- 2	10.99	6.90		11
-171.41	-12.15	rc14-43	tl08780	4872	0	5.07	8.46		9
-138.26	-25.07	rc15-31	ml09165	4212	1	2.05	0.00		9
-135.24	-26.47	rc15-32	ml09166	4248	1	2.09	0.00		9
-129.12	-27.04	rc15-37	ml09167	3860	0	3.43	0.00		9
-127.51	-33.14	rc15-40	ml09168	3720	1	3.22	0.00		9
-120.05	-26.56	rc15-41	dlo6036	3484	5-10			84.5314	
-117.18	-25.59	rc15-42	dlo6037	3601	5-10			53.2306	
-113.10	-26.23	rc15-43	ml11897	2595	0- 4	0.10	0.00		11
-113.10	-26.23	rc15-43	ml11897	2595	0- 4	0.10	0.00	1.3152	11
-116.45	-23.32	rc15-45	dlo6039	3200	15-22			63.0641	
-111.06	-24.51	rc15-47	dlo6040	3045	5-10			89.8841	
-101.13	-26.54	rc15-49	dlo6041	3286	4- 8			84.8678	
-96.18	-27.44	rc15-50	dlo6042	3722	15-20			41.5334	
-93.54	-28.11	rc15-51	ml11853	3952	0- 3	0.49	1.62	17.8532	11
-93.54	-28.11	rc15-51	ml11853	3952	0- 3	0.49	1.62		11
-85.59	-29.14	rc15-52	ml08043	3780	0- 2	3.60	5.30		11.09
-85.59	-29.14	rc15-52	ml08043	3780	0- 2	3.60	5.30		11
-82.07	-29.58	rc15-53	ml08044	4085	0- 2	5.42	6.50		11

-82.07	-29.58	rc15-53	m108044	4085	0-	2	5.42	6.50	11
-78.13	-30.36	rc15-54	m108045	4169	0-	2	0.88	2.60	11
-78.13	-30.36	rc15-54	m108045	4169	0-	2	0.88	2.60	11
-74.56	-31.05	rc15-55	m108046	4294	0-	2	8.03	9.80	11
-74.56	-31.05	rc15-55	m108046	4294	0-	2	8.03	9.80	11
-73.27	-34.41	rc15-58	m108048	5110	0-	2	14.73	3.70	11
-73.27	-34.41	rc15-58	m108048	5110	0-	2	14.73	3.70	11
-77.12	-40.37	rc15-61		4078					0.09
-77.13	-45.17	rc15-62	m111856	2809	0-	2	4.97	2.03	11
-77.13	-45.17	rc15-62	m111856	2809	0-	2	4.97	2.03	11
-77.59	-47.55	rc15-63	m111857	3696	0-	2	13.58	2.85	11
-77.59	-47.55	rc15-63	m111857	3696	0-	2	13.58	2.85	11
-76.25	-51.28	rc15-64	m111858	3200	0-	2	39.89	3.22	11
-76.25	-51.28	rc15-64	m111858	3200	0-	2	39.89	3.22	11
-80.35	-60.01	rc15-67	m111859	5033	0-	1	15.65	2.80	11
-80.35	-60.01	rc15-67	m111859	5033	0-	1	15.65	2.80	11
-71.22	-65.23	rc15-71	m111860	3440	0-	2	16.92	2.67	11
-71.22	-65.23	rc15-71	m111860	3440	0-	2	16.92	2.67	11
-66.36	-59.47	rc15-73	m111861	3658	0-	2	21.96	0.44	11
-66.36	-59.47	rc15-73	m111861	3658	0-	2	21.96	0.44	11
-62.17	-66.26	rc15-75	m111862	3981	0-	2	16.41	0.82	11
-62.17	-66.26	rc15-75	m111862	3981	0-	2	16.41	0.82	11
-141.09	-23.30	rc15-30	m109164	4546	1		3.22	0.41	9
-108.53	-29.20	rc17-208	m111863	3135	0-	1	0.00	3.85	11
-108.53	-29.20	rc17-208	m111863	3135	0-	1	0.00	3.85	11
-106.24	-36.15	rc17-209	m111864	3671	0-	1	0.00	2.02	11
-106.24	-36.15	rc17-209	m111864	3671	0-	1	0.00	2.02	11
-101.42	-48.26	rc17-211	m111902	4353	0-	1	4.56	18.70	11
-101.42	-48.26	rc17-211	m111902	4353	0-	1	4.56	18.70	11
-84.58	-51.33	rc17-213	m111866	4455	0-	2	16.50	6.90	11
-84.58	-51.33	rc17-213	m111866	4455	0-	2	16.50	6.90	11
-77.00	-52.26	rc18-17	m111870	2189	0-	2	21.85	2.86	11
-77.00	-52.26	rc18-17	m111870	2189	0-	2	21.85	2.86	11
-76.51	-47.12	rc18-18	m111871	3404	0-	2	14.30	2.60	11
-76.51	-47.12	rc18-18	m111871	3404	0-	2	14.30	2.60	11
-57.45	-56.29	rc18-3	m111867	4137	0-	2	33.73	2.04	11
-57.45	-56.29	rc18-3	m111867	4137	0-	2	33.73	2.04	11
-94.59	-46.57	rc18-34	m111903	4494	0-	2	4.44	3.03	11
-94.59	-46.57	rc18-34	m111903	4494	0-	2	4.44	3.03	11
-56.38	-60.29	rc18-4	m111868	4007	0-	2	25.05	2.87	11
-56.38	-60.29	rc18-4	m111868	4007	0-	2	25.05	2.87	11
-74.26	-58.33	rc18-9	m111869	4679	0-	2	16.62	5.44	11
-74.26	-58.33	rc18-9	m111869	4679	0-	2	16.62	5.44	11
155.44	-58.03	rc8-71	t110897	3224	3		0.00	17.87	4.1950 3.09
155.44	-58.03	rc8-71	t110897	3224	3-	5	0.00	17.87	22.1500 7
-175.46	-44.47	rc8-78	m109133	1756	0		20.05	2.12	7
-175.46	-44.47	rc8-78	m109133	1756	0		20.05	2.12	9
-175.46	-44.47	rc8-78	t110918	1756	10		21.15	7.50	37.1430 3.09
-162.54	-48.18	rc8-80	m109135	4997	4		14.03	2.20	9
-159.03	-47.57	rc8-81	m109136	5130	2		14.06	2.42	9
-154.15	-46.56	rc8-82	m109137	4308	6		11.05	6.37	9
-149.45	-45.53	rc8-83	m109138	4738	2		11.07	7.44	9
-133.12	-41.34	rc8-85	m109139	5022	5		6.99	3.12	9
-125.30	-39.28	rc8-87	m109140	4583	6		2.83	0.00	9

-125.30	-39.28	rc8-87	m111885	4583	0- 2	2.12	0.42		11
-125.30	-39.28	rc8-87	m111885	4583	0- 2	2.12	0.42		11
-121.55	-38.00	rc8-88	m111886	4583	0- 2	2.70	0.19		11
-121.55	-38.00	rc8-88	m111886	4583	0- 2	2.70	0.19		11
-118.06	-36.23	rc8-89	m109141	3900	2	4.77	9.76		9
-111.54	-33.25	rc8-91	m109142	2723	2	5.13	9.66		9
-111.54	-33.25	rc8-91	m111888	2723	0- 2	1.25	0.94		11
-111.54	-33.25	rc8-91	m111888	2723	0- 2	1.25	0.94		11
-108.30	-31.33	rc8-92	m104866	2710	5-10			78.5465	
-108.30	-31.33	rc8-92	m111889	2710	0- 2	0.00	0.00		11
-108.30	-31.33	rc8-92	m111889	2710	0- 2	0.00	0.00		11
-105.14	-29.22	rc8-93	m109143	3157	4	0.39	6.20		9
-102.05	-27.17	rc8-94	m104868	3074	10-15			87.2870	0.09
-97.11	-22.38	rc8-95	m104869	3926	5-10			32.6273	
-95.37	-19.45	rc8-96	m104870	3334	5-10			92.5390	
-94.07	-16.50	rc8-97	m104871	2737	4- 9			94.9114	
-92.35	-13.28	rc8-98	m108180	3853	0- 1	7.34	14.60		11
-92.35	-13.28	rc8-98	m108180	3853	0- 1	7.34	14.60		11
-117.36	-25.34	rc9-100	d106019	642	0-15			0.8198	
-118.28	-25.50	rc9-101	d106020	3043	3- 8			83.6549	
-119.56	-23.26	rc9-102	d106021	3368	2- 7			84.3527	
-120.34	-26.32	rc9-103	d106022	3488	6-11			85.0490	
179.33	-44.13	rc9-106	t108718	931	0	19.06	3.18		9
179.34	-44.13	rc9-107	t108719	902	0	19.24	3.19		9
177.22	-45.45	rc9-108	t108720	4314	0	18.49	2.64		9
-174.34	-45.08	rc9-109	m109144	3351	0	9.99	1.10		9
-172.01	-42.52	rc9-110	t18721	1917	0	17.34	3.35	53.2277	7.09
-172.01	-42.52	rc9-110	t110938	1917	0	13.92	2.82	7.1910	3.09
-172.01	-42.52	rc9-110	t110938	1917	0	13.92	2.82	53.2300	7
-172.01	-42.52	rc9-110	t108721	1917	0	17.34	3.35		9
-168.45	-39.51	rc9-111	t108722	4777	0	7.97	0.98		9
-168.08	-38.48	rc9-112	t108723	3146	0	8.40	1.14		9
-167.03	-36.43	rc9-113	t108724	4751	0	7.94	2.52		9
-165.03	-33.41	rc9-114	m109145	5453	0	11.47	2.66		9
-163.43	-31.23	rc9-115	m109146	5376	0	10.28	4.05		9
-166.47	-26.26	rc9-117	m109147	5634	0	11.03	3.84		9
-168.45	-24.31	rc9-118	m109148	5720	0	12.57	3.28		9
-179.41	-24.46	rc9-121	t108725	2153	0	2.35	30.50		9
174.40	-26.34	rc9-123	t108726	4244	0	2.95	9.96		9
172.36	-28.45	rc9-124	t108727	2540	0	5.39	1.82		9.09
170.13	-31.37	rc9-125	t108728	4125	0	9.69	22.22		9
168.44	-33.14	rc9-126	t110959	0	0- 3	13.60	15.60		3
168.44	-33.14	rc9-126	t18729	2060	0	13.43	12.33		7
168.44	-33.14	rc9-126	t110959	2060	0	13.60	15.60	68.5359	3.09
168.44	-33.14	rc9-126	t108729	2060	0	13.43	12.33		9
168.44	-33.14	rc9-126	t110959	2060	0	13.60	15.60	68.5400	7
167.54	-34.01	rc9-127	t108730	1533	0	16.84	11.06		9
166.07	-36.13	rc9-128	t108731	1234	0	14.15	5.66		9
163.08	-39.31	rc9-129	t18732	2836	0	16.87	10.27		7.09
163.08	-39.31	rc9-129	t108732	2836	0	16.87	10.27		9
163.08	-39.31	rc9-129	t110979	2836	5	15.21	10.43	82.4934	3.09
156.54	-45.59	rc9-131	t108733	4603	0	15.66	6.86		9
152.48	-44.47	rc9-132	t108734	4709	0	19.53	7.12		9
148.22	-45.45	rc9-133	t108735	4082	0	19.52	14.67		9

143.47	-44.05	rc9-134	t108736	4570	0	24.96	3.50		9
79.09	18.00	rc9-77		2905					
-73.08	-17.34	rc9-82	m109622	5000	0- 1	24.86	4.40		11
-73.08	-17.34	rc9-82	m109622	5000	0- 1	24.86	4.40		11
-73.54	-21.20	rc9-83	m109121	4332	0- 1	7.00	2.10		11
-73.54	-21.20	rc9-83	m109121	4332	0- 1	7.00	2.10		11
-72.29	-23.33	rc9-86	m108042	4208	0- 2	10.28	10.60		11
-72.29	-23.33	rc9-86	m108042	4208	0- 2	10.28	10.60		11
-76.21	-23.05	rc9-87	m108041	4508	2- 4	7.93	5.60		11
-76.21	-23.05	rc9-87	m108041	4508	2- 4	7.93	5.60		11
-81.03	-22.27	rc9-89	m108040	4422	0- 3	7.28	10.10		11
-81.03	-22.27	rc9-89	m108040	4422	0- 3	7.28	10.10		11
-87.13	-21.47	rc9-90	m108186	4190	0- 1	6.80	6.90		11
-87.13	-21.47	rc9-90	m108186	4190	0- 1	6.80	6.90	90.6665	11
-90.58	-21.26	rc9-91	m108049	5110	2- 4	6.60	8.40		11
-90.58	-21.26	rc9-91	m108049	5110	2- 4	6.60	8.40	90.5738	11
-102.14	-20.19	rc9-94	m111891	3939	0- 2	3.36	0.05		11
-102.14	-20.19	rc9-94	m111891	3939	0- 2	3.36	0.05	16.1668	11
-110.59	-22.47	rc9-96	m111892	3577	0- 2	2.52	0.00	72.2381	11
-110.59	-22.47	rc9-96	m111892	3577	0- 2	2.52	0.00		11
-112.46	-23.30	rc9-97	m104878	3394	0- 5			77.4285	
-115.27	-24.36	rc9-99	m104879	2625	5-10			82.1827	
162.02	-0.51	s68pc111amh02014	3988			8.84	24.52	71.7300	0
158.46	-1.36	s68pc15	th08651	0	0	5.89	21.18		9
160.04	-1.00	s68pc151amh02012	2532			6.97	28.91	76.9400	0
165.41	-4.54	s68pc201amh02015	2236			6.11	24.34	86.0500	0
168.11	-3.47	s68pc21a	mh02009	5569		4.76	9.49	0.2700	0
172.04	-4.20	s68pc22	th08652	0	0	5.16	21.63		9
172.04	-4.20	s68pc221amh02016	3397			5.65	26.73	79.4900	0
-178.45	-2.03	s68pc241amh02017	5290			2.59	32.73	0.6600	0
173.50	-9.07	s68pc4	mh02010	5288		2.38	18.49	0.5000	0
161.17	-7.15	s68pc6	mh02011	1680		3.44	21.09	72.9300	0
159.29	-7.14	s68pc8	mh02013	2172		3.80	18.48	52.5200	0
-102.38	-7.26	scan94pg	doo4816	3990	15-20			64.5069	
-82.30	-3.15	v15-32		1529					0.009
-82.41	-6.08	v15-33	m108178	4040	0- 2	14.94	7.80		11.009
-82.41	-6.08	v15-33	m108178	4040	0- 2	14.94	7.80		11
-81.47	-7.36	v15-42		2438					0.009
-84.28	-12.51	v15-46	m108183	4583	0- 2	9.55	7.20		11
-84.28	-12.51	v15-46	m108183	4583	0- 2	9.55	7.20		11
-73.40	-33.27	v15-53	m112784	3915	0- 2	7.74	2.80		11
-73.40	-33.27	v15-53	m112784	3915	0- 2	7.74	2.80		11.09
-77.45	-34.22	v15-56	m108047	4137	0- 3	7.34	9.40		11
-77.45	-34.22	v15-56	m108047	4137	0- 3	7.34	9.40		11
-74.25	-38.07	v15-62	m111873	2316	0- 3	10.52	2.90		11
-74.25	-38.07	v15-62	m111873	2316	0- 3	10.52	2.90		11
171.30	-46.42	v16-122	t111135	1265	0	23.92	4.07	43.4200	7.09
171.30	-46.42	v16-122	t111135	1265	0	23.92	4.07	5.6900	3
-163.19	-54.30	v16-127	m109122	4471	0	13.68	4.63		9
-142.53	-59.22	v16-129	m109123	3651	0	0.54	19.86		9
-117.24	-59.19	v16-131	m109124	5029	0	2.85	33.00		9
-117.24	-59.20	v16-131	m111876	5029	0- 3	1.90	74.10		11
-117.24	-59.20	v16-131	m111876	5029	0- 3	1.90	74.10		11
-95.03	-61.56	v16-133	m111877	5062	0- 2	18.47	3.94		11

-95.03	-61.57	v16-133	m109125	5062	4	16.21	6.26		9
-95.03	-61.56	v16-133	m111877	5062	0- 2	18.47	3.94		11
-91.15	-61.54	v16-134	m109126	5138	4	14.39	5.30		9
-91.15	-61.54	v16-134	m111878	5138	0- 3	21.09	2.48		11
-91.15	-61.54	v16-134	m111878	5138	0- 3	21.09	2.48		11
-85.07	-3.34	v17-44	m112682	3358	0	7.78	35.16	48.1500	2.09
-77.44	-37.13	v17-52	m111880	4147	0- 2	11.06	2.82		11
-77.44	-37.13	v17-52	m111880	4147	0- 2	11.06	2.82		11
-74.53	-41.14	v17-52	m111873	989	0- 2	6.63	0.77		11
-74.53	-41.14	v17-52	m111873	989	0- 2	6.63	0.77		11
-76.35	-45.34	v17-55	m111881	3636	0- 3	15.68	1.60		11
-75.10	-40.33	v17-55	m111881	3636	0- 3	4.05	3.46		11
-76.35	-45.34	v17-55	m111881	3636	0- 3	15.68	1.60		11
-75.10	-40.33	v17-55	m111881	3636	0- 3	4.05	3.46		11
-78.46	-49.25	v17-58	m111882	3863	0- 3	14.79	2.57		11
-78.46	-49.25	v17-58	m111882	3863	0- 3	14.79	2.57		11
-74.29	-57.02	v17-88	m111883	4063	0- 2	20.19	2.86		11
-74.29	-57.02	v17-88	m111883	4063	0- 2	20.19	2.86		11
-75.07	-62.11	v17-92	m111905	4087	0- 3	16.20	4.80		11
-75.07	-62.11	v17-92	m111905	4087	0- 3	16.20	4.80		11
-68.15	-62.02	v17-93	m111884	3922	0- 3	18.33	3.04		11
-68.15	-62.02	v17-93	m111884	3922	0- 3	18.33	3.04		11
140.37	-38.34	v18-222	t111156	1904	6	20.58	1.65	8.3725	3.09
140.37	-38.35	v18-222	t111156	4672	6- 9	20.58	1.65	54.4400	7
-162.53	-11.32	v18-260		2716					
-161.26	-11.57	v18-262		2685					
-127.41	-3.37	v18-311	m103922	4559	0	1.69	73.60	50.2400	0
-126.12	-2.51	v18-312	m112683	4614	0	3.44	87.52		2.09
-126.12	-2.51	v18-312	m112683	4614	0	3.44	87.52	71.2480	7.09
-122.55	-1.14	v18-314	m103923	4495	0	1.01	81.60	56.2800	0
-77.51	-54.33	v18-68		3982					
-75.57	-60.29	v18-72	m111906	4695	0- 2	19.53	0.84		11
-75.57	-60.29	v18-72	m111906	4695	0- 2	19.53	0.84		11
-69.49	-62.44	v18-75	m111907	3959	0- 2	20.10	0.69		11
-69.49	-62.44	v18-75	m111907	3959	0- 2	20.10	0.69		11
-82.04	-0.28	v19-27		1373			8.80	24.9000	0.09
-84.39	-2.22	v19-28	m112687	2720	130	6.47	36.96		2
-84.39	-2.22	v19-28	m112686	2720	0	4.87	45.21	28.3000	2.09
-83.56	-3.35	v19-29		3157				28.3000	0.09
-83.31	-3.32	v19-30	m108176	3091	0- 2	9.47	23.60		11.08
-83.31	-3.32	v19-30	m108176	3091	0- 2	9.47	23.60	20.0000	11.09
-81.31	-11.59	v19-36	m108184	4731	0- 1	14.31	4.60		11
-81.31	-11.59	v19-36	m108184	4731	0- 1	14.31	4.60		11
-86.39	-12.30	v19-38	m108182	4276	0- 1	9.41	12.90		11
-86.39	-12.30	v19-38	m108182	4276	0- 1	9.41	12.90		11
-89.08	-12.43	v19-39	m108181	4173	0- 1	7.40	10.90		11
-89.08	-12.43	v19-39	m108181	4173	0- 1	7.40	10.90		11
-92.53	-13.13	v19-40	d1o4855	3693	14-19			80.3205	
-96.12	-14.06	v19-41	m112688	3248	0	7.12	21.81	84.4600	2.09
-108.52	-17.01	v19-44	d1o4857	3621	2- 7			90.4458	
-110.23	-17.01	v19-45	d1o4858	3446	21-26			88.3068	
-110.51	-17.00	v19-46	d1o6002	3484	5-10			90.2449	
-111.53	-17.02	v19-49	d1o6004	3250	12-17			88.7818	
-112.12	-17.02	v19-50	d1o6005	3186	17-22			86.5175	

-112.34	-17.01	v19-51	d1o4860	2988	11-16			82.8639	
-112.55	-17.01	v19-52	d1o6006	3155	6-10			75.3124	
-113.31	-17.01	v19-53	m112689	3058	0	0.01	6.55		7
-113.31	-17.01	v19-53	m112689	3058	0	0.01	6.55	40.4346	2.09
-113.54	-17.02	v19-54	d1o4861	2964	25-30			44.9909	
-114.11	-17.00	v19-55	m112690	3177	0	0.01	15.04	59.2494	2.09
-114.11	-17.00	v19-55	m112690	3177	0	0.01	15.04		7
-114.53	-17.00	v19-57	d1o6009	3168	3- 8			76.0089	
-115.12	-16.58	v19-58	d1o6010	3334	5-10			77.4899	
-115.33	-16.58	v19-59	d1o6011	3309	3- 7			85.0793	
-115.56	-16.58	v19-60	d1o5012	3329	10-15			87.0786	
-116.18	-16.57	v19-61	d1o6013	3422	23-28			83.4746	
-116.48	-16.58	v19-62	d1o6014	3422	15-20			80.6400	
-121.12	-16.56	v19-64	m112691	3570	0	1.19	9.21		2
-121.12	-16.56	v19-64	m112692	3570	10	0.25	3.55	89.0000	2.09
-124.38	-16.65	v19-65		3867					2.09
-169.21	-18.08	v19-80	t108678	4839	0	6.63	3.23		9
-173.30	-12.15	v19-87	t108679	4621	0	3.42	21.41		9
-174.53	-11.06	v19-88	t108680	4497	0	5.21	17.30		9
-176.26	-9.48	v19-89	t108681	4212	0	2.42	0.00		9
-177.10	-9.11	v19-90	m103930	5358	0	6.79	4.31	0.7100	0
172.00	-0.52	v19-96	m103931	4252	0	3.58	13.91	66.5831	0.09
-89.41	-1.31	v21-30	m112695	617	0	0.68	13.97	70.1273	2.09
-92.05	-3.48	v21-33	m112696	3726	0	1.64	73.25	55.0000	2.09
-95.19	-7.31	v21-35	d1o4862	3939	5-10			63.2710	
-96.14	-8.18	v21-36	m103446	3649	0	3.80	0.68	80.1900	0
-98.43	-7.42	v21-37	d1o4863	4219	14-19			53.8086	
-101.35	-7.07	v21-38	m103447	4171	0	2.03	27.02	37.5036	0
-106.46	-5.31	v21-40	m103448	3182	0	0.49	41.62	61.1436	0
-112.22	-4.20	v21-42	m103449	4142	0	0.92	77.60	60.4096	0
-116.59	-6.10	v21-44	m103450	4535	0	1.20	55.56	49.5119	0
-135.03	-14.53	v21-52	m109127	4431	4	1.02	1.10		9
-136.43	-17.39	v21-53	m109128	3391	2	4.12	4.23		9
-137.36	-18.58	v21-54	m109129	4071	2	2.24	1.07		9
-138.49	-21.07	v21-55	m109130	4268	2	2.56	1.99		9
-140.26	-23.47	v21-56	m109131	4318	4	3.21	0.23		9
-142.23	-25.36	v21-57	m109132	4343	0	2.20	2.65		9
157.22	-0.50	v24-148	t108682	1906	0	6.94	14.27		9
157.27	-1.41	v24-149	t108683	1659	0	6.91	19.83	64.7122	9
157.27	-1.41	v24-149	m104017	1659	0	6.37	18.01	64.7100	0
155.42	-2.12	v24-150	m104018	1849	0	6.72	16.77	61.7280	0
154.57	-2.25	v24-151	t108685	2591	0	6.35	15.39		9
153.32	-3.18	v24-152	t108686	2410	0	3.03	1.43		9
153.28	-4.30	v24-153	t108687	4130	0	7.55	6.06		9
151.14	-12.03	v24-154	t108688	4235	0	14.16	1.69		9
150.12	-12.52	v24-155	t108689	4559	0	13.24	4.46		9
149.04	-13.49	v24-156	t108690	4519	0	13.46	8.90		9
147.55	-14.57	v24-157	t108691	1212	0	12.63	14.85		9
155.42	-2.12	v24-158	t108684	1849	0	7.09	17.88		9
146.51	-15.55	v24-158	t108692	1754	0	19.70	7.86		9
146.24	-16.33	v24-159	t108693	1403	0	17.96	6.58		9
147.36	-18.07	v24-160	t108694	1007	0	16.59	6.74		9
151.27	-18.12	v24-161	t108695	1670	0	12.33	17.57		9
152.33	-17.22	v24-162	t108696	1328	0	7.93	17.49		9

153.34	-15.27	v24-163	t108697	4656	0	11.82	6.74		9
153.58	-13.52	v24-164	t108698	4526	0	16.00	3.38		9
152.21	-15.21	v24-165	t108699	4063	0	13.91	4.20		9
150.47	-16.31	v24-166	t111206	781	5	6.36	11.21	10.8950	3
150.47	-16.31	v24-166	t108700	781	0	4.14	3.23		9
150.47	-15.31	v24-166	t18700	781	0	4.14	3.23	84.9438	7.09
148.03	-15.71	v24-167	t108701	1143	0	7.81	2.30		9
146.52	-16.20	v24-168	t108702	1785	0	14.74	3.91		9
148.01	-14.13	v24-169	t108703	2056	0	1.86	0.13		9
146.53	-13.31	v24-170	t108704	2243	0	14.92	9.62		9
145.51	-14.18	v24-171	t108705	2714	0	19.31	1.85		9
146.49	-14.41	v24-172	t108706	1690	0	16.56	10.17		9
148.06	-11.46	v24-173	t108707	3360	0	15.50	4.92		9
150.52	-11.07	v24-174	t108708	1004	0	9.04	13.60		9
150.18	-11.25	v24-175	t108709	2618	0	12.72	14.39		9
150.49	-12.14	v24-176	t108710	4422	0	12.92	3.82		9
149.40	-13.12	v24-177	t108711	4535	0	18.65	2.79		9
148.50	-14.06	v24-178	t108712	3997	0	11.52	9.26		9
148.47	-15.49	v24-179	t108713	1053	0	6.14	4.76		9
149.00	-18.30	v24-181	t108714	1099	0	13.35	4.36		9
147.30	-17.31	v24-182	t108715	1369	0	13.71	5.73		9
146.15	-15.20	v24-183	t108716	2215	0	27.29	6.57		9
146.12	-12.52	v24-184	t108717	2992	0	14.75	8.74		9
179.29	-0.57	v28-203		3243					0.09
167.46	-8.24	v28-229	t111226	3669	0	2.80	16.48	60.6100	7
167.46	-8.24	v28-229	t111226	3669	0	2.80	16.48	8.3900	3.09
166.45	-5.30	v28-230	m112706	2992	0	3.81	30.34	80.4241	2.09
160.29	-5.27	v28-235	t111247	1740	0	3.52	21.94	9.6950	3
160.29	-5.27	v28-235	t111247	1746	0	3.52	21.94	44.9400	7.09
-160.29	-1.01	v28-238	m12228	3120	0	4.17	27.03	72.5499	7.09
166.45	-5.30	v28-239	m112707	2992	25	4.49	25.88	80.7933	2
-82.26	-0.05	y69103p	mo08014	1808	1- 3	3.72	22.60	30.5277	11
-82.26	-0.05	y69103p	mo08014	1808	1- 3	3.72	22.60		11
-81.31	-2.18	y69104mg	mo08015	3892	0- 5	10.85	13.90	0.5740	11
-81.31	-2.18	y69104mg	mo08015	3892	0- 5	10.85	13.90		11
-91.51	-1.01	y6980mg1	mo08193	3408	0- 4	1.60	65.90	18.4575	11
-91.51	-1.01	y6980mg1	mo08193	3408	0- 4	1.60	65.90		11
82.05	-10.14	y7127p	mo08034	4569	2- 4			0.4957	
-85.56	-1.39	y71312	zoo6849	2584	0- 1			58.3996	
-85.36	-1.12	y71316	zoo6903	2227	0- 1			67.3376	
-85.01	-1.06	y71324	zoo6947	2099	0- 1			51.5968	
-85.07	-0.59	y71325	zoo6998	2395	0- 1			56.8759	
-85.42	-0.32	y71331	zoo7065	2840	0- 1			83.5322	
-77.34	-16.26	y71612p	mo08036	2734	2- 4	11.97	7.90	2.8512	11.09
-77.34	-16.26	y71612p	mo08036	2734	2- 4	11.97	7.90		11
-75.47	-17.40	y7161462	mo08037	4625	1- 3	8.94	8.80	0.4165	11
-75.47	-17.40	y7161462	mo08037	4625	1- 3	8.94	8.80		11
-74.21	-16.56	y71618g2	mo09619	7280	1- 2	24.86	4.40		11
-74.21	-16.56	y71618g2	mo09619	7280	1- 2	24.86	4.40		11
-76.19	-15.16	y71624p	zoo4829	4899	13-14			69.1608	
-79.07	-14.37	y7164p	mo08035	4518	3- 4	13.42	9.30		11
-79.07	-14.37	y7164p	mo08035	4518	3- 4	13.42	9.30	0.3849	11
-82.05	-10.14	y71727p	mo08034	4569	2- 4	17.35	6.70		11
-82.05	-10.14	y71727p	mo08034	4569	2- 4	17.35	6.70		11

-85.00	-11.01	y71728g2	mo08033	4491	5- 7	12.04	8.10		11
-85.00	-11.01	y71728g2	mo08033	4491	5- 7	12.04	8.10	0.4218	11
-88.40	-10.03	y71730g2	mo08032	4237	2- 3	10.25	16.60		11
-88.40	-10.03	y71730g2	mo08032	4237	2- 3	10.25	16.60	0.4182	11
-93.06	-10.45	y71732p	mo08030	3850	2- 3	7.02	19.30	65.0330	11
-93.06	-10.45	y71732p	mo08030	3850	2- 3	7.02	19.30		11
-92.40	-10.00	y71733g4	mo08031	4093	2- 3	8.26	23.50		11
-92.40	-10.00	y71733g4	mo08031	4093	2- 3	8.26	23.50	45.9413	11
-97.56	-9.58	y71735p	mo08029	4010	1- 2	3.64	27.30		11
-97.56	-9.58	y71735p	mo08029	4010	1- 2	3.64	27.30	55.7886	11
-102.51	-10.08	y71736g1	mo08028	4541	4- 5	1.97	27.10		11
-102.51	-10.08	y71736g1	mo08028	4541	4- 5	1.97	27.10		11
-106.20	-10.46	y71738g3	mo08027	3691	2- 3	2.75	25.60		11
-106.20	-10.46	y71738g3	mo08027	3691	2- 3	2.75	25.60	78.8522	11
-108.14	-10.42	y71739mg1doo	4784	3429	5-10			90.0599	
-110.00	-10.41	y71743mg1doo	4783	3165	5-10			77.1530	
-110.01	-10.42	y71744p	doo4815	3167	5-10			74.2680	
-110.05	-11.04	y71745p		3096					0.09
-110.03	-11.20	y71746mg3doo	4782	3180	5-10			80.4972	
-110.06	-11.18	y71747mg2doo	4799	3188	5-10			80.3259	
-110.11	-11.20	y71748p	doo4814	3128	5-10			82.2894	
-110.19	-11.06	y71749mg3doo	4813	3116	5-10			62.1816	
-110.35	-11.07	y71751ff	doo4800	3209	5-10			53.2157	
-110.42	-10.43	y71752p	doo4812	3198	7-12			56.8870	
-110.44	-10.53	y71753p	doo4801	3180	5-10			63.9615	
-103.45	-10.60	y71754mg3doo	4802	5343	5-10			0.4982	
-82.13	-8.42	y71870p	mo08023	4378	5- 6	16.12	4.60		11
-82.13	-8.42	y71870p	mo08023	4378	5- 6	16.12	4.60	0.3015	11
-81.36	-8.10	y71877p	mo08024	5121	0- 2	20.20	6.90		11
-81.36	-8.10	y71877p	mo08024	5121	0- 2	20.20	6.90	0.5199	11
-106.56	-6.23	y719101g	doo4795	3175	5-10			73.4165	
-106.34	-6.27	y719102g	doo4800	3262	5-10			75.2086	
-106.31	-6.23	y719103ff	doo4796	3253	5-10			75.4914	
-107.05	-6.05	y719104ff	doo4805	2988	5-10			67.2431	
-107.07	-6.04	y719106ff	doo4806	3130	5-10			70.7564	
-107.18	-6.03	y719109g	doo4797	3240	5-10			77.0722	
-107.19	-5.56	y719110p	doo4807	3196	5-10			66.2658	
-107.29	-5.51	y719111p	doo4808	3499	5-10			52.5337	
-107.14	-6.16	y719115ff	doo4798	3139	5-10			63.8645	
-85.57	-5.00	y71984p	mo08022	4010	2- 4	9.51	25.70		11
-85.57	-5.00	y71984p	mo08022	4010	2- 4	9.51	25.70	1.0399	11
-87.28	-5.02	y71985p	mo08021	3858	1- 3	6.04	49.70		11
-87.28	-5.02	y71985p	mo08021	3858	1- 3	6.04	49.70	22.5070	11
-90.47	-5.05	y71986p	mo08020	3877	4- 6	3.79	38.90		11
-90.47	-5.05	y71986p	mo08020	3877	4- 6	3.79	38.90	41.9277	11
-93.04	-5.03	y71987p	mo08019	3858	0- 2	4.74	53.50		11
-93.04	-5.03	y71987p	mo08019	3858	0- 2	4.74	53.50	43.2086	11
-99.26	-5.00	y71988p	mo08018	3650	4- 5	1.51	55.50		11
-99.26	-5.00	y71988p	mo08018	3650	4- 5	1.51	55.50	60.0020	11
-101.01	-5.59	y71989p	mo08017	3990	2- 4	1.84	46.00	57.6015	11
-101.01	-5.59	y71989p	mo08017	3990	2- 4	1.84	46.00		11
-106.27	-6.39	y71996p	doo4792	3470	5-10			75.0616	
-106.48	-6.36	y71997g	doo4793	3319	5-10			75.0616	
-106.35	-6.31	y71998ff	doo4794	3305	5-10			76.3146	

-104.52	-5.57	y7991p	mo08016	3512	3- 5	1.47	47.50	46.8307	11
-104.52	-5.57	y7991p	mo08016	3512	3- 5	1.47	47.50		11
161.37	-33.23	z21081	ty9687	1448	5- 6	22.48	4.08	78.1963	7.09

Appendix 1: Organic Carbon Concentration, Age and Depth
in Stratigraphic Horizons

The following is a list of the table headings and their definitions:

OWC = Organic Carbon Concentration

AM = Age of Stratigraphic Marker (in years)

DM = Depth to Stratigraphic Marker (in feet)

The above definitions are being given for reference. The table is a summary of the possible values.

Appendix III: Organic Carbon Concentration, Age and Depth to Stratigraphic Marker

The following is a list of the table headings and their definitions:

ORG C % = organic carbon concentration.

AGE = age of stratigraphic marker (in thousands of years).

DEPTH = depth to that stratigraphic marker (in centimeters).

The core identification codes ending with >* signify that the DEPTH is a minimum, due to possible hiatuses.

INDIAN OCEAN

CORE ID	ORG C %	AGE (Ka)	DEPTH (cm)	SOURCE
al5558		18	98	1.1
arb-52		12.3	35	0.2
arb-52		8.2	15	0.2
arb-52		17.5	55	0.2
arb-54		7.3	45	0.2
arb-54		4.3	15	0.2
arb-54		29.9	85	0.2
e4527		18	30	1.1
e4528		18	31	1.1
e4811		18	32	1.1
e4822		18	82	1.1
e4823		18	32	1.1
e4827		18	62	1.1
e483		18	22	1.1
md73025		17.2	327	0.08
rc11-101	0.42			1.0001
rc11-120		18	84	1.1
rc11-121	0.41	18	80	1.1001
rc11-123	0.32			1.0001
rc11-145		18	50	1.1
rc11-147		18	50	1.1
rc12-336	0.75			1.0001
rc12-339		18	80	1.1
rc14-07		18	60	1.1
rc14-09		18	70	0.1
rc14-09		18	100	0.3
rc14-11		18	80	1.3
rc14-12	0.46	18	100	1.3001
rc14-18	0.43			1.0001
rc14-29		18	20	1.1
rc14-35	0.32	18	35	1.1001
rc14-37		18	40	1.1
rc14-8	0.46			1.0001
rc17-113		18	30	0.1
rc17-69		18	50	1.1
rc17-73		18	20	1.1
rc17-98		18	53	0.1
rc8-39	0.42	18	40	1.3001
rc8-39	0.42	18	90	1.1001
rc8-43		18	40	1.3
rc8-52	0.4			1.0001
rc9-150		18	60	1.1
rc9-160	1.14			1.0001
rc9-161		18	170	1.1
rc9-162	0.26	18	50	1.1001
rc9-162	0.26			1.0001
vl4-101a		18	70	1.1
vl4-102		18	40	1.1
vl4-77		18	29	0.1
vl4-81		18	35	1.1

v16-65	18	40	1.3
v17-42	18	52	7
v17-43	18	40	7
v17-44	18	40	7
v18-337	18	220	2
v19-178	18	40	1.1
v19-185	18	30	1.1
v19-188	18	50	1.1
v19-201	18	70	1.1
v19-202	18	30	1.1
v19-204	18	20	1.1
v19-25	18	55	7
v19-27	18	30	7
v19-28	18	130	7
v19-28	18	130	7
v19-29	18	56	7
v19-30	18	100	7
v19-41	18	30	7
v19-64	18	13	7
v20-170	18	20	1.1
v20-175	18	20	1.1
v20-190	0.61		1.0001
v21-214	18	63	7
v21-30	18	250	7
v21-33	18	45	7
v24-203	18	180	1.3
v29-29	18	80	1.1
v29-30	0.28	80	1.1001
v29-45	1.33		1.0001
v29-48	18	30	1.1
v29-84	18	120	1.3
v29-87	18	20	1.3
v29-89	18	120	1.3
v29-90	18	60	1.3
v34-53	19	20	0.05
v34-88	18.1	98.5	0.05
y6971p	18	140	7
y6973p	18	130	7
y71612p	18	24	7

NORTH ATLANTIC OCEAN

CORE ID	ORG C %	AGE (Ka)	DEPTH (cm)	SOURCE
a15-63		11.4	74	0.5
a15-64		18	750	1.6
a15-65		18	126	1.6
a16-424		18	75	1.6
a16-45		18	171	1.6
a16-46		18	109	1.6
a16-461		6.4	37	1.5
a16-461		18	100	1.6
a16-713		18	100	1.6
a16-714		18	80	1.6
a17-21		18	40	1.6
a17-22		18	60	1.6
a17-26		18	50	1.6
a17-915		18	138	1.6
a17-94		18	40	1.6
a18-016		18	70	1.6
a18-032		18	30	1.6
a18-039		18	30	1.6
a18-047		18	312	0.6
a18-048		18	500	1.6
a18-056		18	100	1.6
a18-072		18	40	1.6
a18-073		18	38	1.6
a18-074		18	50	1.6
a18-09		18	60	0.6
ads	1.33			0.004
ber5	0.15			0.001
ber6	0.15			0.001
ber7	0.22			0.001
cl	1.24			0.001
dl	0.42			0.001
demera-e	0.30			0.002
dos1	1.00			0.004
dos2	1.30			0.004
ds1	1.90			0.004
dsdp502	0.41	690	1225	0.0002
dwd	1.21			0.004
e3	0.52			0.001
en66-10g		14	26.5	0.06
f1	1.03			0.001
fb1	0.43			0.005
fb2	0.23			0.005
fb3	0.96			0.005
fc1	0.19			0.005
fc2	0.09			0.005
fs11	1.45			0.005
fs12	1.56			0.005
fs13	1.16			0.005
fs14	1.11			0.005
fs15	1.04			0.005

fs16	1.05			0.005
gl	0.59			0.001
gh	0.80			0.001
gme10-ave	0.41			0.007
gme2-ave	0.39			0.007
gme24-ave	0.47			0.007
gme37-ave	0.44			0.007
hh3	0.56			0.001
ii	0.44			0.001
jj	0.08			0.004
jj3	0.34			0.001
k-11		13	27	0.4
k708-1		18	134	0.6
k708-4		18	90	0.6
k708-6		18	60	0.6
k708-7		18	63	0.6
k708-8		18	106	0.6
kk	0.69			0.004
knorr78-1	0.61			0.003
lb1	0.26			0.005
lb2	0.40			0.005
lb3	0.91			0.005
lb4	1.82			0.005
lc1	0.06			0.005
lc2	0.06			0.005
ll1	0.23			0.001
ls11	1.70			0.005
ls12	1.90			0.005
ls13	1.23			0.005
ls14	1.11			0.005
m-12392		19	197	0.06
mm1	0.28			0.001
na1	0.35			0.007
na14	0.22			0.007
na15	0.26			0.007
na19	0.27			0.007
na5	0.32			0.007
na8	0.32			0.007
nap12	0.38			0.007
nap14-2	0.52			0.007
nap14-3	0.47			0.007
nap15	0.34			0.007
nap21	0.36			0.007
nap26	0.36			0.007
nap48-ave	0.13			0.007
nap56-ave	0.38			0.007
nap60-ave	0.27			0.007
nap8	0.42			0.007
nap9	0.35			0.007
nn	0.64			0.004
nn1	0.31			0.001
oo2	0.24			0.001
rc10-2		18	60	1.6
rc10-288		5.5	45	0.5

rc10-50		18	100	1.6
rc13-151		18	60	1.6
rc13-152		18	60	1.6
rc13-153		18	60	1.6
rc13-154		18	60	1.6
rc13-158		18	80	1.6
rc13-159		18	83	1.6
rc13-189		16.2	61.5	0.06
rc24-01		18.5	78	0.06
rc5-34		18	40	1.6
rc5-36		18	93	1.6
rc5-54		18	10	1.6
rc5-57		18	100	1.6
rc9-225		18	135	0.6
rc9-49		18	30	1.6
s1469	0.03			0.8
s1470	0.72			0.8
s1471	0.13			0.8
s1472	0.06			0.8
s1473	0.05			0.8
s1474	0.14			0.8
s1475	0.02			0.8
s1476	0.02			0.8
s1477	0.08			0.8
s1478	0.07			0.8
s1479	0.02			0.8
s1480	0.04			0.8
s1481	0.05			0.8
s1482	0.1			0.8
s1484	0.07			0.8
s1485	0.01			0.8
s1486	0.09			0.8
s1487	0.03			0.8
s1488	0.2			0.8
s1489	0.68			0.8
s1490	0.08			0.8
s1491	0.07			0.8
s1492	0.03			0.8
s1493	0.05			0.8
s1494	0.07			0.8
s1495	0.02			0.8
s1497	0.02			0.8
s1498	0.08			0.8
s1499	0.09			0.8
s1500	0.09			0.8
s1501	0.07			0.8
s1502	0.03			0.8
s1503	0.28			0.8
s1504	0.08			0.8
s1505	0.05			0.8
s1506	0.07			0.8
s1507	0.04			0.8
s1508	0.11			0.8
s1509	0.09			0.8

s1510	0.07	0.8
s1511	0.06	0.8
s1512	0.08	0.8
s1513	0.08	0.8
s1514	0.09	0.8
s1515	1.06	0.8
s1516	1.35	0.8
s1517	0.16	0.8
s1518	1.22	0.8
s1520	0.95	0.8
s1521	0.2	0.8
s1522	0.09	0.8
s1523	8.26	0.8
s1524	0.11	0.8
s1525	0.07	0.8
s1526	0.15	0.8
s1527	0.08	0.8
s1528	0.06	0.8
s1529	0.16	0.8
s1530	0.09	0.8
s1531	0.09	0.8
s1539	0.09	0.8
s1545	0.08	0.8
s1550	0.13	0.8
s1551	6.24	0.8
s1553	0.09	0.8
s1565	0.07	0.8
s1570	0.14	0.8
s1571	0.23	0.8
s1572	0.18	0.8
s1573	0.14	0.8
s1574	0.16	0.8
s1575	0.23	0.8
s1576	0.36	0.8
s1580	0.278	0.8
s1581	0.16	0.8
s1583	0.1	0.8
s1584	0.12	0.8
s1585	0.05	0.8
s1586	0.57	0.8
s1587	0.1	0.8
s1588	0.15	0.8
s1589	0.23	0.8
s1590	0.18	0.8
s1591	0.26	0.8
s1592	0.46	0.8
s1593	0.12	0.8
s1594	0.16	0.8
s1595	0.4	0.8
s1596	0.21	0.8
s1597	0.39	0.8
s1598	0.21	0.8
s1599	0.53	0.8
s1600	0.22	0.8

s1601	0.16	0.8
s1602	0.11	0.8
s1603	0.09	0.8
s1604	0.14	0.8
s1605	0.1	0.8
s1606	0.17	0.8
s1607	0.28	0.8
s1608	0.2	0.8
s1609	0.23	0.8
s1610	0.15	0.8
s1611	0.17	0.8
s1612	0.13	0.8
s1613	0.2	0.8
s1614	0.3	0.8
s1615	0.29	0.8
s1616	0.23	0.8
s1617	0.3	0.8
s1618	0.55	0.8
s1619	0.81	0.8
s1620	0.16	0.8
s1621	0.15	0.8
s1622	0.85	0.8
s1623	0.93	0.8
s1624	0.79	0.8
s1625	0.4	0.8
s1626	0.62	0.8
s1627	0.5	0.8
s1628	0.36	0.8
s1629	0.14	0.8
s1630	0.12	0.8
s1631	0.19	0.8
s1632	0.64	0.8
s1633	1.22	0.8
s1634	1.28	0.8
s1635	1.37	0.8
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s1637	0.6	0.8
s1638	1.18	0.8
s1639	1.34	0.8
s1641	0.09	0.8
s1642	0.05	0.8
s1643	0.14	0.8
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s1645	0.21	0.8
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s1648	0.15	0.8
s1649	0.27	0.8
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s1654	0.09	0.8
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s1656	0.09	0.8
s1658	0.32	0.8
s1695	0.06	0.8

s1696	0.08	0.8
s1714	0.11	0.8
s1715	0.12	0.8
s1718	0.25	0.8
s1720	0.19	0.8
s1721	0.63	0.8
s1722	1.16	0.8
s1723	0.75	0.8
s1724	0.43	0.8
s1725	0.85	0.8
s1726	0.58	0.8
s1727	0.47	0.8
s1728	0.35	0.8
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s1731	0.08	0.8
s1732	0.15	0.8
s1733	0.15	0.8
s1734	0.14	0.8
s1735	0.14	0.8
s1738	0.1	0.8
s1739	0.1	0.8
s1741	0.03	0.8
s1742	0.06	0.8
s1743	0.07	0.8
s1744	0.17	0.8
s1745	0.23	0.8
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s1749	0.09	0.8
s1753	0.55	0.8
s1756	0.2	0.8
s1763	0.77	0.8
s1764	0.07	0.8
s1765	0.08	0.8
s1766	0.08	0.8
s1767	0.07	0.8
s1768	0.07	0.8
s1770	0.26	0.8
s1771	0.7	0.8
s1772	0.19	0.8
s1773	0.67	0.8
s1781	0.21	0.8
s1782	0.32	0.8
s1783	0.5	0.8
s1784	0.44	0.8
s1785	0.46	0.8
s1786	0.32	0.8
s1787	0.18	0.8
s1788	0.18	0.8
s1789	0.11	0.8
s1790	0.16	0.8
s1791	0.21	0.8
s1792	0.16	0.8
s1793	0.15	0.8
s1794	0.27	0.8

s1795	0.34	0.8
s1796	0.47	0.8
s1798	0.47	0.8
s1799	0.41	0.8
s1800	0.48	0.8
s1801	0.42	0.8
s1802	0.17	0.8
s1803	0.15	0.8
s1804	0.18	0.8
s1805	0.3	0.8
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s1807	0.19	0.8
s1808	0.42	0.8
s1809	0.45	0.8
s1810	0.33	0.8
s1811	0.79	0.8
s1812	0.44	0.8
s1813	0.26	0.8
s1814	0.22	0.8
s1815	0.26	0.8
s1816	0.27	0.8
s1817	0.04	0.8
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s1819	0.04	0.8
s1820	0.07	0.8
s1821	0.04	0.8
s1822	0.06	0.8
s1823	0.06	0.8
s1824	0.09	0.8
s2194	0.64	0.8
s2195	0.96	0.8
s2196	0.6	0.8
s2197	1.86	0.8
s2200	0.81	0.8
s2201	0.5	0.8
s2202	0.36	0.8
s2203	0.71	0.8
s2204	0.33	0.8
s2205	0.3	0.8
s2206	0.5	0.8
s2209	0.55	0.8
s2210	0.11	0.8
s2211	0.82	0.8
s2212	0.97	0.8
s2217	0.06	0.8
s2218	0.05	0.8
s2219	14.6	0.8
s2220	3.19	0.8
s2221	1.62	0.8
s2222	1.7	0.8
s2223	2.58	0.8
s2224	1.63	0.8
s2225	1.2	0.8
s2226	3.18	0.8

s2227	0.3	0.8
s2228	1.45	0.8
s2229	0.09	0.8
s2230	0.27	0.8
s2231	0.19	0.8
s2232	0.31	0.8
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s2234	0.72	0.8
s2235	0.12	0.8
s2236	1.97	0.8
s2237	0	0.8
s2238	0.22	0.8
s2239	1.79	0.8
s2240	4.26	0.8
s2241	2.38	0.8
s2242	0.19	0.8
s2243	0.83	0.8
s2244	4.79	0.8
s2245	3.93	0.8
s2246	3.79	0.8
s2247	0.25	0.8
s2248	0.22	0.8
s2249	0.13	0.8
s2250	0.05	0.8
s2250u	0.07	0.8
s2251	0.1	0.8
s2252	0.08	0.8
s2253	0.05	0.8
s2254	0.11	0.8
s2255	0.18	0.8
s2256	0.09	0.8
s2257	0.04	0.8
s2258	0.04	0.8
s2261	0.06	0.8
s2263	0.15	0.8
s2264	0.22	0.8
s2265	0.06	0.8
s2266	0.08	0.8
s2267	0.26	0.8
s2268	0.07	0.8
s2270	0.13	0.8
s2271	0.27	0.8
s2272	0.4	0.8
s2273u	0.47	0.8
s2277	0.47	0.8
s2282	0.9	0.8
s2284	0.07	0.8
s2286	1.88	0.8
s2291	0.11	0.8
s2292	0.06	0.8
s2293	0.2	0.8
s2294	0.06	0.8
s2300	1.7	0.8
s2301	0.97	0.8

s2302	0.13	0.8
s2303	1.25	0.8
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s2305	0.03	0.8
s2306	0.24	0.8
s2307	0.06	0.8
s2308	0.09	0.8
s2309	0.06	0.8
s2310	0.08	0.8
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s2315	0.15	0.8
s2316	0.09	0.8
s2317	0.17	0.8
s2318	0.08	0.8
s2319	0.16	0.8
s2320	0.1	0.8
s2321	0.14	0.8
s2322	0.13	0.8
s2323	0.13	0.8
s2324	0.11	0.8
s2325	0.1	0.8
s2326	0.07	0.8
s2327	0.06	0.8
s2328	0.1	0.8
s2329	0.09	0.8
s2330	0.09	0.8
s2331	0.06	0.8
s2332	0.11	0.8
s2333	0.11	0.8
s2334	0.45	0.8
s2335	0.18	0.8
s2336	0.9	0.8
s2337	0.53	0.8
s2338	0.58	0.8
s2340	0.23	0.8
s2341	0.03	0.8
s2342	0.11	0.8
s2343	0.05	0.8
s2344	0.07	0.8
s2345	0.15	0.8
s2346	0.13	0.8
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s2348	0.15	0.8
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s2350	0.09	0.8
s2351	0.1	0.8
s2352	0.09	0.8
s2353	0.07	0.8
s2354	0.06	0.8
s2356	0.12	0.8
s2357	0.14	0.8

s2358	0.07	0.8
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s2370	0.06	0.8
s2371	0.11	0.8
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s2375	0.04	0.8
s2376	0.04	0.8
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s2385	0.09	0.8
s2386	0.05	0.8
s2389	0.06	0.8
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s2393	0.05	0.8
s2394	0.03	0.8
s2395	0.05	0.8
s2396	0.05	0.8
s2397	0.06	0.8
s2413	0.19	0.8
s2414	0.13	0.8
s2415	0.46	0.8
s2430	0.41	0.8
s2432	0.33	0.8
s2434	0.33	0.8
s2436	0.27	0.8
s2437	0.38	0.8
s2439	0.14	0.8
s2440	0.11	0.8
s2441	0.1	0.8
s2442	0.09	0.8
s2443	0.17	0.8
s2444	0.15	0.8
s2445	0.08	0.8
s2446	0.13	0.8
s2447	0.07	0.8
s2448	0.07	0.8

s2449	0.08			0.8
s2450	0.34			0.8
s2451	0.43			0.8
s2452	0.12			0.8
s2453	0.08			0.8
s2454	0.31			0.8
s2455	0.12			0.8
s2456	0.09			0.8
s2457	0.11			0.8
s2458	0.09			0.8
s2459	0.06			0.8
s2460	0.13			0.8
s2461	0.07			0.8
s2462	0.66			0.8
s2464	0.09			0.8
s2465	0.08			0.8
s2466	0.09			0.8
s2467	0.05			0.8
s2468	0.12			0.8
s2469	0.18			0.8
s2470	0.09			0.8
s2471	0.11			0.8
s2472	0.07			0.8
s2473	0.03			0.8
s2474	0.08			0.8
s2475	0.07			0.8
s2476	0.19			0.8
s2478	0.1			0.8
s2479	0.06			0.8
sap-ave	0.42			0.007
sap12	0.58			0.007
sap15	0.46			0.007
sap20	0.59			0.007
sap39	0.46			0.007
sap40	0.36			0.007
sap53	0.38			0.007
s12	0.37			0.001
s13	0.33			0.001
s14	0.60			0.001
sohm-s2	0.50			0.002
sp8-4		18	30	0.6
stat2	2.39			
t78-30		10.5	672.5	0.02
t78-33		13.9	61.5	0.02
t78-34		19.9	616	0.02
t78-42		11.9	8	0.02
t78-45		11.6	45	0.02
t78-46		20	475	0.02
t78-49		26.9	256	0.02
t80-10		15.3	264.5	0.02
t80-4		8.6	102.5	0.02
t80-6		32.9	132.5	0.02
t80-7		13.5	72.5	0.02
t80-8		13	134	0.02

tr148-5tw	0.59		0.0001
tr149-6tw	0.67		0.0001
tr174-4tw	0.3		0.0001
tr21-az02	0.38		0.0001
tr41-2g	0.31		0.0001
tr41-4a	1.07		0.0001
tr41-7	0.56		0.0001
tr85-9	0.3		0.0001
v15-168	18	100	1.6
v16-20	18	50	1.6
v16-25	18	35	1.6
v17-165	18	40	1.6
v17-178	12.1	148	0.5
v17-178	10.6	226	0.5
v17-39	18	100	1.6
v18-357	18	50	1.6
v19-19	18	80	1.6
v19-21	18	60	1.6
v19-291	18	80	1.6
v19-309	18	31	1.6
v20-241	18	30	1.6
v20-242	18	29	1.6
v21-2	4.3	43	0.5
v22-186	18	30	1.6
v22-188	18	20	1.6
v22-197	18	72	1.6
v23-110	14	18	0.06
v23-143	11.8	94	0.5
v23-23	24	140	1.08
v23-58	18	40	0.6
v23-60	18	70	1.6
v23-63	18	20	1.6
v23-74	18	60	1.6
v23-82	18	106	1.6
v23-83	18	99	1.6
v23-84	18	90	1.6
v23-98	18	80	1.6
v24-1	8.1	60	1.5
v24-28	18	60	1.6
v25-44	18	30	1.6
v25-59	18	40	1.6
v25-60	15.6	42.5	0.06
v25-75	14.7	102	0.06
v26-107	18	100	1.6
v26-124	18	60	1.6
v26-176	3.8	44	0.5
v26-176	24.8	560	0.5
v26-176	8.2	163	0.5
v26-177	9.6	95	0.5
v26-41	18	43	1.6
v26-46	18	40	1.6
v27-17	18	35	1.6
v27-178	18	55	1.6
v27-19	18	39	1.6

v27-20		18	85	1.6
v27-248		18	82	1.6
v27-263		18	20	0.6
v27-46		18	30	1.6
v27-47		18	20	1.6
v27-84		18	40	1.6
v27-86		18	20	0.6
v27-86		13	25	1.4
v28-119		18	80	1.6
v28-122		18	100	1.6
v28-127		18	60	1.6
v28-128		18	40	1.6
v28-129		18	80	1.6
v28-14		18	140	1.6
v28-25		18	20	1.6
v28-56		18	40	0.6
v28-56		13	40	1.4
v29-172		18	50	1.6
v29-173k		18	25	0.6
v29-174		18	40	1.6
v29-175		18	40	1.6
v30-36		16.5	38	0.06
v30-41k		18.7	45	0.06
v30-49		19	88	1.08
v30-51k		18.6	55	0.06
v30-97		16	100	1.08
v32-8		14	60	0.06
v4-1		6.7	56	0.5
v4-32		18	30	1.6
v4-8		18	60	1.6
x164012	1			0.01
x164021	0.46	8.2	42.64	0.01
x164032	0.45	8.2	30.34	0.01
x164041	0.42	8.2	26.24	0.01
x164051	0.43	8.2	27.88	0.01
x164061	0.64	8.2	28.7	0.01
x164071	0.49	8.2	22.14	0.01
x164081	0.47	8.2	24.6	0.01
x164101	0.49	8.2	29.52	0.01
x164111	0.42	8.2	17.22	0.01
x164121	0.57	8.2	24.6	0.01
x164131	0.63	8.2	30.34	0.01
x164151	0.61	8.2	22.14	0.01
x164161	0.59	8.2	26.24	0.01
x164171	0.65	8.2	30.34	0.01
x164182	0.07			0.01
x164191	0.62			0.01
x164201	1.36	8.2	41	0.01
x164212	0.59			0.01
x164222	0.6	8.2	10.66	0.01
x164241	0.63	8.2	18.86	0.01
x164251	0.65	8.2	22.14	0.01
x164263	0.72	8.2	32.8	0.01
x164272	0.72	8.2	29.438	0.01

x164291	0.7	8.2	31.16	0.01
x164301	0.64	8.2	17.22	0.01
x164311	0.48	8.2	15.58	0.01
x164321	0.52	8.2	44.28	0.01
x164331	0.53			0.01
x164351	0.52			0.01
x164373	1.48			0.01

q15-01		18	40	0.4
q15-02		18	40	0.4
q15-03		18	40	0.4
q15-04		18	40	0.4
q15-05		18	40	0.4
q15-06		18	40	0.4
q15-07		18	40	0.4
q15-08		18	40	0.4
q15-09		18	40	0.4
q15-10		18	40	0.4
q15-11		18	40	0.4
q15-12		18	40	0.4
q15-13		18	40	0.4
q15-14		18	40	0.4
q15-15		18	40	0.4
q15-16		18	40	0.4
q15-17		18	40	0.4
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q15-23		18	40	0.4
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q15-29		18	40	0.4
q15-30		18	40	0.4
q15-31		18	40	0.4
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q15-34		18	40	0.4
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q15-39		18	40	0.4
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q15-41		18	40	0.4
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q15-82		18	40	0.4
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q15-88		18	40	0.4
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q15-90		18	40	0.4
q15-91		18	40	0.4
q15-92		18	40	0.4
q15-93		18	40	0.4
q15-94		18	40	0.4
q15-95		18	40	0.4
q15-96		18	40	0.4
q15-97		18	40	0.4
q15-98		18	40	0.4
q15-99		18	40	0.4
q15-100		18	40	0.4

SOUTH ATLANTIC OCEAN

CORE ID	ORG C %	AGE (Ka)	DEPTH (cm)	SOURCE
a1160-13		15	10	0.7
a18-074		18	50	0.6
a18-076		18	40	1.6
chn-11588		20	10	0.7
chn115-70		19	30	0.7
chn115-89		18	30	0.7
chn115-90		18	6	0.7
chn115-91		18	10	0.7
chn115-92		18	25	0.7
rc11-118		18	40	0.3
rc11-119		18	40	0.3
rc11-120		18	80	0.3
rc11-78		18	180	1.3
rc11-80		18	80	8.3
rc11-83		18	340	8.3
rc12-234	0.35			1.0001
rc12-267		18	60	1.3
rc12-289		18	60	1.3
rc13-243		18	40	1.3
rc13-251		18	20	1.3
rc13-253		18	40	1.3
rc13-254		18	60	1.3
rc13-255		18	140	0.3
rc13-256		18	400	0.3
rc13-257		18	20	0.3
rc13-261		18	80	1.3
rc13-273		18	60	1.3
rc13-275		18	60	1.3
rc13-276	0.35	18	40	1.3001
rc15-93		18	100	1.3
rc15-94		18	110	0.3
rc15-98		18	100	1.3
rc24-16		14	60	0.06
rc24-7		17.5	115	0.06
t78-33	1.11	11	62	0.02
t78-38	0.63	11	7	0.02
t78-42	0.54	11	15	0.02
t78-45	1.5	14	50	0.02
t78-46	2.07	18.6	469	0.02
t80-11	3.17	500	1796	0.02
v15-137	0.39			1.0001
v18-35		18	120	0.3
v22-108		18	100	8.3
v22-177		17.6	63	0.06
v22-182		14.9	55	0.06
v22-38		14	32.5	0.06
v22-86		18	60	1.3
v25-56		18	60	1.6
v26-104		18	150	1.6
v27-232	1.76			1.0001

v27-239	0.51			1.0001
v29-144		14	70	0.06
v30-40		12.4	44.5	0.06
100000	1.7451	18	40.7	0.06
100001	1.8041			
100002	1.8190			
100003	2.0296			
100004	2.0743			
100005	2.1363			
100006	2.2128			
100007	2.4273			
100008	2.2747			
100009	2.2747			
100010	2.2879	15	270	0.06
100011	2.2879	15	270	0.06
100012	2.2879	15	270	0.06
100013	2.2879	15	270	0.06
100014	2.2879	15	270	0.06
100015	2.2879	15	270	0.06
100016	2.2879	15	270	0.06
100017	2.2879	15	270	0.06
100018	2.2879	15	270	0.06
100019	2.2879	15	270	0.06
100020	2.2879	15	270	0.06
100021	2.2879	15	270	0.06
100022	2.2879	15	270	0.06
100023	2.2879	15	270	0.06
100024	2.2879	15	270	0.06
100025	2.2879	15	270	0.06
100026	2.2879	15	270	0.06
100027	2.2879	15	270	0.06
100028	2.2879	15	270	0.06
100029	2.2879	15	270	0.06
100030	2.2879	15	270	0.06
100031	2.2879	15	270	0.06
100032	2.2879	15	270	0.06
100033	2.2879	15	270	0.06
100034	2.2879	15	270	0.06
100035	2.2879	15	270	0.06
100036	2.2879	15	270	0.06
100037	2.2879	15	270	0.06
100038	2.2879	15	270	0.06
100039	2.2879	15	270	0.06
100040	2.2879	15	270	0.06
100041	2.2879	15	270	0.06
100042	2.2879	15	270	0.06
100043	2.2879	15	270	0.06
100044	2.2879	15	270	0.06
100045	2.2879	15	270	0.06
100046	2.2879	15	270	0.06
100047	2.2879	15	270	0.06
100048	2.2879	15	270	0.06
100049	2.2879	15	270	0.06
100050	2.2879	15	270	0.06
100051	2.2879	15	270	0.06
100052	2.2879	15	270	0.06
100053	2.2879	15	270	0.06
100054	2.2879	15	270	0.06
100055	2.2879	15	270	0.06
100056	2.2879	15	270	0.06
100057	2.2879	15	270	0.06
100058	2.2879	15	270	0.06
100059	2.2879	15	270	0.06
100060	2.2879	15	270	0.06
100061	2.2879	15	270	0.06
100062	2.2879	15	270	0.06
100063	2.2879	15	270	0.06
100064	2.2879	15	270	0.06
100065	2.2879	15	270	0.06
100066	2.2879	15	270	0.06
100067	2.2879	15	270	0.06
100068	2.2879	15	270	0.06
100069	2.2879	15	270	0.06
100070	2.2879	15	270	0.06
100071	2.2879	15	270	0.06
100072	2.2879	15	270	0.06
100073	2.2879	15	270	0.06
100074	2.2879	15	270	0.06
100075	2.2879	15	270	0.06
100076	2.2879	15	270	0.06
100077	2.2879	15	270	0.06
100078	2.2879	15	270	0.06
100079	2.2879	15	270	0.06
100080	2.2879	15	270	0.06
100081	2.2879	15	270	0.06
100082	2.2879	15	270	0.06
100083	2.2879	15	270	0.06
100084	2.2879	15	270	0.06
100085	2.2879	15	270	0.06
100086	2.2879	15	270	0.06
100087	2.2879	15	270	0.06
100088	2.2879	15	270	0.06
100089	2.2879	15	270	0.06
100090	2.2879	15	270	0.06
100091	2.2879	15	270	0.06
100092	2.2879	15	270	0.06
100093	2.2879	15	270	0.06
100094	2.2879	15	270	0.06
100095	2.2879	15	270	0.06
100096	2.2879	15	270	0.06
100097	2.2879	15	270	0.06
100098	2.2879	15	270	0.06
100099	2.2879	15	270	0.06
100100	2.2879	15	270	0.06

NORTH PACIFIC OCEAN

CORE ID	ORG C %	AGE (Ka)	DEPTH (cm)	SOURCE
660410	1.7341	18	462	0.09
66095	1.6047			
66095	1.9196			
68088	2.0844			
69102	1.9215			
69103	1.7863			
69104	1.528			
70041	1.4653			
70114p	0.2743			
ahf10614	0.2743			7
ahf10614	5.2879	13	125	5
ahf10626	6.6218	18	300	0.09
ahf11343		18	279.5	0.09
aries40pg	0.3198			
aries40pg	0.4156			
aries45pg	1.128			
aries45pg	0.665			
aries48g	0.3242			
aries48g	0.7661			
bnfc43	1.8227	18	19	5.09
bnfc43pgz		18	17	7.09
cuspl1g	0.3967			
cuspl1g	0.0422			
cuspl7g	0.1857			
cuspl7g	0.3553			
cusplg	0.1867			
cusplg	0.3242			
cuspl2g	0.1565			
cuspl2g	0.1888			
cuspl9g	0.526			
cuspl9g	0.1142			
dwb2		18	30	0.09
fanbg22	1.3768			0
fanbg27	0.5793			0
g76-510	0.597	12.3	34.5	
g76-514	0.396	13.5	41	
g76-527	1.157			
g76-528	1.195			
g76-55	0.763	10.5	25	
hilo12g	0.264			
hilo12g	0.1566			
hilo2g	0.2887			0
hilo3g	0.3176			0
hilo5g	0.2284			0
jny1110g	0.3725			
jny1111g	0.3555			
jny1111g	0.0427			
jny1112g	0.0445			
jny1112g	0.3436			
jny1117	0.6744			

jny111g	0.1073			
jny111g	0.2865			
jny1120	5.7228			
jny113	1.1069			
jny114g	0.353			
jny114g	0.107			
jny115g	0.4676			
jny115g	0.2292			
jny116g	0.0721			
jny116g	0.3992			
jny117	0.2103			
jny118g	0.411			
jny118g	0.6902			
jnyiv12	0.0635			
jnyiv41	0.3795			
1-35	1.0445			
1-39	0.6985			
1-43	0.6151			
1-45	5.3559			
1-46	1.1496			
lapdlg		18	32	5.09
lapdlg	3.5589			5
lfgs47g	0.6355			0
lfgs49g	0.8641			0
lirlffcl0	1.3620			0
lirlffcla	1.0735			0
lsdh103g	0.3488			0
lsdh104g	0.5612			0
m77-7b	1.229			
m77-9b	0.639			
men20g	0.0514			
men20g	0.261			
men25g	0.3112			
men26g	0.0525			
mfz1gc4	0.2620			0
mfz2002	0.3067			0
mfz2gcl	0.2444			0
mfz4ffc4	0.4448			0
mfz6pcl21a	0.1780			0
msn158g	0.3748			0
msn3g	0.3184			0
msn4g	0.4568			0
mukb6	0.702			
mukb7g	0.2956			
mukb7g	0.0366			
mukb8g	0.0916			
mukb8g	0.2778			
mukh7	0.1784			
mukh7	0.3786			
mukh8g	0.1293			
mukh8g	0.3731			
mukh9g	0.0519			
pap2g	0.5790			0
rc10-102	0.5038			0

rc10-153	0.2263			0
rc10-158	0.3880	690	103.5	0.9
rc10-159	0.4042	690	200.1	0.9
rc10-160	0.6836	690	496.8	0.9
rc10-161		18	8	7.09
rc10-161	1.8816	18	8	0.09
rc10-163		690	338.1	0.9
rc10-167	1.1091	690	1518	0.9
rc10-167	1.1091	18	44	7.09
rc10-167		18	44	0.09
rc10-168		690	662.4	0.9
rc10-169		690	814.2	0.9
rc10-170		690	255.3	0.9
rc10-171	0.2627	690	552	0.9
rc10-172		690	207	0.9
rc10-175		690	848.7	0.9
rc10-178		18	31	7.09
rc10-179	1.6228	690	669.3	0.9
rc10-181	0.6003	690	765.9	0.9
rc10-182	0.2914	690	814.2	0.9
rc10-201		690	1104	0.9
rc10-202		690	1152.3	0.9
rc10-203	0.3666	690	393.3	0.9
rc10-205		690	1145.4	0.9
rc10-206	0.5132	690	772.8	0.9
rc10-211	0.4145			0
rc10-216	0.1261	18	10.5	0.09
rc10-217	0.5011			0
rc10-230	0.7199			0
rc10-232	0.4689			0
rc10-235	0.2647			0
rc10-243	2.8041			0
rc10-65		18	67	0.09
rc10-88	0.5965			0
rc10-91	0.3611			0
rc10-94	2.3060			0
rc11-166		690	1097.1	0.9
rc11-169		690	972.9	0.9
rc11-170		18	20	7.09
rc11-171	0.6100	690	434.7	0.9
rc11-172		18	40	7.09
rc11-176	0.4978			0
rc11-179		18	40.5	7.09
rc11-180	0.8400			0
rc11-184	0.5478			0
rc11-185	1.0123			0
rc11-191	0.4217			0
rc11-193	0.4815	690	179.4	0.9
rc11-194		690	172.5	0.9
rc11-195	0.2817	690	207	0.9
rc11-196		690	207	0.9
rc11-197	0.3764			0
rc11-198	0.4715	690	144.9	0.9
rc11-202	0.5000			0

rc11-208	1.2926			0
rc11-209	1.4040	18	33	0.09
rc11-210		18	41	7.09
rc12-134	0.7266			0
rc12-156	0.6587			0
rc12-176	0.5420	18	9.5	0.09
rc12-179		18	60.5	0.09
rc12-183	0.3261			0
rc12-30		84	344	0.008
rc12-32		84	300	0.008
rc12-361		18	20.5	0.09
rc12-401		18	260	5.09
rc12-402	0.7372			0
rc12-406	0.3900			0
rc12-412		18	37.5	2.09
rc12-413	0.6420	18	32	2.09
rc12-415	0.3694			0
rc12-416		18	25	2.09
rc12-419		18	60	2.09
rc12-431	0.4645			0
rc12-433		18	10	2.09
rc12-434	0.2499			0
rc12-57	0.5500			0
rc12-58	0.5900			0
rc12-59	0.3100			0
rc12-65	2.0100			0
rc12-67	1.5800			0
rc12-83	1.6700			0
rc12-85	2.9500			0
rc13-17		18	30.5	0.09
rc13-63		18	55.5	0.09
rc14-105		18	110	7.09
rc14-106		18	80	0.09
rc14-99		18	98	7.09
ris125g	0.3665			0
s68ff1	0.0000			0
s68pc25	0.0000			0
s68pc291a	2.5582			0
s68pc301a	2.0087			0
s68pc311a	1.0950			0
s68pc33	0.2596			0
s68pc351a	0.7215			0
tr63-31		8	260	
tr113g	0.6178			0
tr19g	0.5036			0
v15-30		230	612	0.009
v17-42	5.03	18	84.5	2.09
v17-43	2.44	18	73.5	2.09
v18-318		18	15.5	7.09
v18-318	0.861	18	15	2.09
v18-319	1.791			0
v18-324	3.2126			0
v18-328	2.4601			0
v18-333	1.6249			0

v18-337	3.7269	18	220.5	2.09
v18-338		7.5	746.5	
v18-349	1.3995	84	36	0.008
v18-350	0.9836			
v19-101	1.7785			0
v19-102	1.25			0
v19-104	0.69			0
v19-105	0.45			0
v19-108	0.52			0
v19-109	1.24			0
v19-112	0.58			0
v19-115	0.45			0
v19-25	4.05	18	80.5	0.09
v20-100	1.9	690	241.5	0.9
v20-101	1.38	690	179.4	0.9
v20-102	0.47	690	172.5	0.9
v20-103	1.49	18	23.5	0.09
v20-104	0.42	690	607.2	0.9
v20-105	0.58	18	5	0.09
v20-106	0.38			0
v20-107	0	18	12	0.09
v20-108	0.3	690	793.5	0.9
v20-109	0.61	690	269.1	0.9
v20-118	1.89			0
v20-119	0.2473	18	21	7.09
v20-119	1.22	690	634.8	0.9
v20-120		18	54	7.09
v20-120	1.9			7
v20-120		18	54	0.09
v20-121		18	59	2.09
v20-122		18	80	7.09
v20-123	0.53	18	79	0.09
v20-124	1.92	18	121	0.09
v20-126	0.64	18	111	0.09
v20-127	1.89			0
v20-129	0.71	18	139	0.09
v20-131	0.52			0
v20-136	0.42			0
v20-137	1.06			0
v20-138	0.47			0
v20-139	1.1			0
v20-146	0.57			0
v20-47	1.93			0
v20-48	0.31			0
v20-57	1.98			0
v20-64	0.39			0
v20-65	0.34	690	89.7	0.9
v20-66	0.35	690	62.1	0.9
v20-68	0.39	690	131.1	0.9
v20-70	0.45			0
v20-71	0.4			0
v20-74	1.84	690	131.1	0.9
v20-75>*	2.69	690	4140	0.9
v20-76>*		690	4133.1	0.9

v20-78>*		690	924.6	0.9
v20-79>*	0.5	690	752.1	0.9
v20-80	1.56			0
v20-81>*	0.31	690	248.4	0.9
v20-82>*	0.56	690	110.4	0.9
v20-83>*		690	103.5	0.9
v20-84>*		690	365.7	0.9
v20-85	1.23	18	4.5	0.09
v20-86>*	0.43	690	986.7	0.9
v20-87	1.87	690	186.3	0.9
v20-88	0.57	690	110.4	0.9
v20-89		690	6624	0.9
v20-90	0.38	690	2622	0.9
v20-91		690	144.9	0.9
v20-92	0.39	690	151.8	0.9
v20-93		690	151.8	
v20-94		690	151.8	
v20-95	0.5393	690	220.8	0.9
v20-95	0.5825			0
v20-96	0.54	690	124.2	0.9
v20-97	0.44	690	220.8	0.9
v20-98	0.4	690	220.8	0.9
v21-101	0.36			0
v21-109	0			0
v21-115	0.27			0
v21-119	0.1187			0
v21-119	0.287			
v21-119	0.12			0
v21-124	0.4			0
v21-126	0.38			0
v21-127	0.5			0
v21-135	1.95			0
v21-138	0.47			0
v21-139	0.38	690	1104	0.9
v21-140	0.31	690	255.3	0.9
v21-141		690	296.7	0.9
v21-142		690	358.8	0.9
v21-144		690	731.4	0.9
v21-145	1.9	690	476.1	0.9
v21-146	1.0642	18	68.5	0.09
v21-146>*	2.2315	690	952.2	0.9
v21-147>*	1.93	690	1200.6	0.9
v21-148	0.39	18	20	0.09
v21-149>*		690	1200.6	0.9
v21-150>*	0.56	690	883.2	0.9
v21-151	1.93	18	10	0.09
v21-156	1.94			0
v21-170	0.7614			2
v21-171	1.95	18	16	0.09
v21-171>*	0.1543	690	23.04	2.9
v21-172	0.22	18	35	2.09
v21-172	0.1782	690	565.8	0.9
v21-173	0.63	18	17.5	0.09
v21-174	1.95	18	25	2.09

v21-174		18	25	0.09
v21-175	0.3664	690	476.1	2.9
v21-175	0.64	18	12	0.09
v21-176		690	151.8	0.9
v21-177	0.34			0
v21-178	0.4	690	103.5	0.9
v21-179		690	34.5	0.9
v21-180	0.49	690	207	0.9
v21-181		690	110.4	0.9
v21-182	0.27	690	172.5	0.9
v21-183		690	69	0.9
v21-184		690	110.4	0.9
v21-189	1.47	690	117.3	0.9
v21-203	1.18			0
v21-207	2.48			0
v21-212		18	60.5	2.09
v21-214		18	105.5	2.09
v21-29		18	165.5	2.09
v21-36	1.2407			
v21-38	2.0282			
v21-38	2.1099			
v21-40	1.7134			
v21-40	1.6516			
v21-42	1.6914			
v21-42	1.4854			
v21-44	0.9391			
v21-44	1.6434			
v21-59		18	16.5	0.09
v21-62	0.25			0
v21-63	0.35	690	103.5	0.9
v21-64		690	117.3	0.9
v21-65	0.36	690	165.6	0.9
v21-67	0.3714	690	117.3	0.9
v21-67	0.3492			
v21-69	0.49	690	75.9	0.9
v21-70	0.35	690	62.1	0.9
v21-71	1.89	690	89.7	0.9
v21-73		690	524.4	0.9
v21-74	1.91	690	138	0.9
v21-75	0.47	690	448.5	0.9
v21-76		690	897	0.9
v21-80	0.49			0
v21-83	1.1			0
v21-87		690	841.8	0.9
v21-89		690	117.3	0.9
v21-91	0.81			0
v21-97	0.32			0
v21-99	0.42			0
v24-100	0.37			0
v24-104	1.09			0
v24-107	1.472			0
v24-108	1.47			0
v24-109	0.83	18	50	2.09
v24-110	0.71			0

v24-112	0.8			0
v24-113	0.44			0
v24-114	0.25			0
v24-115	0.22			0
v24-117	1.6			0
v24-118	0.28			0
v24-119	0.14			0
v24-121	0.25			0
v24-122	0.39			0
v24-139	1.63			0
v24-141	1.31			0
v24-143	1.43			0
v24-146	1.26			0
v24-147	0.46			0
v24-40	1.35			0
v24-46	1.39			0
v24-47	1.7			0
v24-49	1.46			0
v24-51	2.5			0
v24-52b	0			0
v24-53	2.3			0
v24-54	0			0
v24-56	1.53			0
v24-60	2.74			0
v24-64	0.43			0
v24-65	2.26			0
v24-69	0.49			0
v24-71	1.97			0
v24-73	0.36			0
v24-74	0.43			0
v24-76	0.14			0
v24-78	0.43			0
v24-85	0.22			0
v24-87	0.3			0
v24-89	0.24			0
v24-95	0.38			0
v24-96	0.73			0
v24-97		690	103.5	0.9
v24-98	0.32	690	62.1	0.9
v28-181	2.23			0
v28-185	2.68			0
v28-201		18	20.5	0.09
v28-203		18	40	0.09
v28-238	1.25	18	36	7.09
v28-239	0.8	18	27	7.09
v28-243		18	20	7.09
v28-249		18	20	2.09
v28-255	0.4641	18	15	7.09
v28-294	1.0399	18	15	2.09
v28-304		18	72.5	0.09
v32-126		18	40.5	0.09
v32-139		18	5.5	0.09
v36-1247p				8
wah8ff2		18	32	0.09

y660410	1.93	18	222	0.09
y66095	1.84	18.2	372	0.09
y69102	1.92	18	118	0.09
y69106p	1.8719	18	33.5	0.09
y69108p	3.3383			
y69109p	3.0526			
y6971p	2.51	18	175	4.09
y6973p	0	18	132.5	4.09
y70111p	0.3156			
y70111p	0.0118			
y70112p	0.3161			
y70113p	0.2709			
y70114p	0.1734			
y70115p	0.2916			
y70116p	0.1002			
y70117p	0.2701			
y70118p	0.121			
y70120p	0.0926			
y70121p	0.1666			
y70121p	0.0169			
y70122p	0.0543			
y70122p	0.0304			
y70124p	0.0759			
y70124p	0.3924			
y70126p	0.4453			
y7013p	0.4234			
y7013p	0.0724			
y7014p	0.1799			
y7014p	0.4934			
y7015p	0.5893			
y7015p	0.1264			
y7016p	0.3619			
y7017p	0.2915			
y7017p	0.116			
y70230p	0.8059			
y70230p	0.0905			
y70232p	0.2002			
y70232p	0.6969			
y70239p	0.7344			
y70239p	0.1002			
y70241p	0.7051			
y70241p	0.1785			
y70451	0.2769			
y70451	95.34			
y70452p	0.2061			
y70452p	0.8935			
y70454p	0.2178			
y70454p	0.775			
y70459g	0.232			
y70459g	0.106			
y70460g	0.1869			
y70460g	0.6404			
y70461	0.6404			
y70461	0.1869			

y7110117	3.9487			
y7110117p	4.2541			
y7131	3.6327			
y7132	3.1681			
y7133	1.2771			
y7133	3.2464			
y7134	3.2678			
y7135	4.1326			
y7136	2.9115			
y7137	2.8819			
y71990p	1.2788			
y71993p	1.3705			
y71994p	1.2444			
y7324mg4	1.1395	14.5	410	5
y74218mg	1.2787			5
y74222mg	1.5584			5
ztsvi139g	0.31			0
ztsvi140g	0.27			0

SOUTH PACIFIC OCEAN

CORE ID	ORG C %	AGE (Ka)	DEPTH (cm)	SOURCE
amph18	1.8453			
amph19	1.1036			
amph21	0.9598			
amph23	0.9781			
amph25	1.0974			
amph27	0.2191			
amph30	0.6308			
amph31	0.3998			
amph32	1.6871			
amph33	1.1533			
e10-18		690	2500	0.03
e10-2		690	800	0.03
e10-3		690	5800	0.03
e10-30		690	10000	0.03
e11-1		18	41	0.09
e11-11		690	4000	0.03
e11-12		690	15400	0.03
e11-13		690	14100	11.03
e11-2		18	141	0.09
e11-22		690	10200	0.03
e11-24		690	10500	0.03
e11-3		18	61	11.09
e11-3		690	11300	11.03
e11-4		690	7600	0.03
e11-5		690	4500	0.03
e11-6		690	5300	0.03
e11-7		690	8900	11.03
e11-8		690	14500	0.03
e11-9		690	9600	11.03
e12-11		690	300	0.03
e12-14		690	3600	0.03
e12-15		690	6900	0.03
e12-17		690	12500	0.03
e12-19		690	7200	0.03
e12-20		690	7600	0.03
e12-26		690	12000	0.03
e13-14		690	2600	0.03
e13-16		690	4700	0.03
e13-17		690	4600	0.03
e13-18		690	5600	0.03
e13-2		690	3400	0.03
e13-20		690	1600	0.03
e13-21		690	1600	0.03
e13-3		690	2400	0.03
e13-5		690	2500	0.03
e13-6		690	1500	11.03
e13-7		690	1200	0.03
e13-8		690	900	0.03
e13-9		690	2900	0.03
e14-14		690	5700	0.03

e14-2	690	1800	0.03
e14-3	690	1400	0.03
e14-4	690	6500	0.03
e14-6	690	5200	0.03
e14-7	690	4200	0.03
e14-8	690	5300	0.03
e15-1	690	2200	0.03
e15-11	690	1100	0.03
e15-16	690	1300	0.03
e15-28	690	4800	0.03
e15-7	690	4400	0.03
e15-8	690	2600	0.03
e16-4	690	4400	0.03
e16-6	690	300	0.03
e17-10	690	4100	0.03
e17-11	690	7800	0.03
e17-12	690	3800	0.03
e17-14	690	5300	0.03
e17-15	690	4000	0.03
e17-16	690	500	0.03
e17-18	690	12100	0.03
e17-19	690	5100	0.03
e17-23	690	13500	0.03
e17-27	690	1100	0.03
e17-28	690	1400	0.03
e17-29	690	1800	0.03
e17-8	690	7800	0.03
e18-4	690	3700	0.03
e19-5	690	600	0.03
e19-6	690	5300	0.03
e19-7	690	1400	11.03
e20-18	18	31	11.09
e20-2	690	5300	0.03
e20-3	690	5500	0.03
e21-15	18	41	11.09
e21-17	690	1100	0.03
e21-20	690	11400	0.03
e21-21	690	2900	11.03
e21-22	690	9600	11.03
e25-10	18	41	11.09
e27-3	690	489.9	0.04
e27-4	690	669.3	0.04
e33-16	690	476.1	0.04
e33-3	690	793.5	0.04
e4-10	690	6100	0.03
e45-62	18	38.5	0.09
e45-74	18	40.5	0.09
e45-77	18	31.5	0.09
e45-79	18	38.5	0.09
e5-10	690	2000	0.03
e5-11	690	3300	0.03
e5-15	690	4600	0.03
e5-16	690	7400	0.03
e5-17	690	10400	0.03

e5-25		690	8400	0.03
e5-8		690	6200	0.03
e50-15		18	21.5	0.09
e6-11		690	900	0.03
e6-12		690	4900	0.03
e6-14		690	3300	0.03
e6-29		690	6800	0.03
e6-30		690	2800	0.03
e6-5		690	700	0.03
e6-6		690	2400	0.03
e7-1		690	4300	0.03
e7-12		690	7400	0.03
e7-17		690	5700	0.03
e7-18		690	3400	0.03
e7-4		690	8800	0.03
e7-6		690	5600	0.03
e7-7		690	6200	0.03
e8-5		690	2200	0.03
e9-4		690	5800	0.03
e9-5		690	5100	0.03
gc16		10	1.5	0.07
gc2		38	1.5	0.07
gc5		25	1	0.07
gc6		25	1	0.07
gc8		28	6.5	0.07
k710426106	1.0466			
k710426110	1.0129			
k710426112	0.9441			
k710426114	1.7104			
k710426120	1.3501			
k710426123	1.6207			
k710426155	1.1213			
oc7312	0.9026			
oc7313	0.8728			
oc7324	1.5494			
oc7325	1.7418			
oc7336	0.7408			
oc7337	0.9894			
oc7338	1.3955			
oc73433	0.9346			
opr476223		18	45	7.09
rc10-106	0.8398			0
rc10-114	0.1664	18	18	2.09
rc10-115	0.0000			0
rc10-139	0.8897			9
rc10-139		18	31.5	3.09
rc10-140	0.1451			2
rc10-140		18	35	9.09
rc10-97		18	42.5	0.09
rc11-211	0.8819			0
rc11-213		18	15	7.09
rc11-220		18	11	2.09
rc11-230	1.0605			
rc11-230	1.0605	18	45	11.09

rc11-232	0.4020			
rc11-235	0.6371			
rc12-103	0.5046	18	41.5	9.09
rc12-103		18	41.5	7.09
rc12-107		18	41.5	3.09
rc12-107	0.8002	18	41.5	7.09
rc12-109	0.9813	18	21.5	7.09
rc12-121		18	31.5	3.09
rc12-121	1.1882			7
rc12-225		18	30	11.09
rc12-86	2.1400			0
rc13-113		18	5	7.09
rc13-140		230	833	0.009
rc13-38		18	35	7.09
rc13-38	0.4684			7
rc13-64	2.3300			0
rc13-65	1.9700			0
rc13-66	0.4700			0
rc13-69	0.5500			0
rc13-71	0.5000			0
rc13-81		18	10	2.09
rc13-82	5.0160			
rc13-83	0.2237			
rc13-84	0.4749			
rc13-85	0.1007			
rc13-87	0.4952			
rc13-88	0.5608			
rc13-89	0.4012			
rc13-90	0.1242			
rc13-91	1.2629			
rc13-92	15.4133			
rc13-93	0.9552			
rc13-94	0.3432			
rc13-95	0.9074			
rc15-41	0.4670			
rc15-42	1.9828			
rc15-43	55.2329			11
rc15-45	0.7579			
rc15-47	0.2798			
rc15-49	0.3617			
rc15-50	1.5964			
rc15-51	1.3978			11
rc15-52		18	12.5	11.09
rc15-61		18	68.5	0.09
rc8-71	1.5374			7
rc8-71		18	50	3.09
rc8-78	1.2365	18	45	3.09
rc8-92	0.9552			
rc8-93		26.7	22.5	9
rc8-94	0.6164	18	16.5	0.09
rc8-95	0.835			
rc8-96	0.3062			
rc8-97	0.2715			
rc9-100	0.1916			

rc9-101	0.4922			
rc9-102	0.3785			
rc9-103	0.3749			
rc9-110	0.8032	18	30	7.09
rc9-110		18	29	3.09
rc9-124		18	31.5	9.09
rc9-126	1.3196	18	21.5	3.09
rc9-129		18	30	7.09
rc9-129	1.009	18	32.5	3.09
rc9-77		14	16	
rc9-90	0.4009			11
rc9-91	0			11
rc9-94	0			11
rc9-96	0			11
rc9-97	0.8093			
rc9-99	0.6439			
s68pcl11a	1.1977			0
s68pcl51a	0.9679			0
s68pc201a	0.6015			0
s68pc21a	0.4607			0
s68pc221a	0.8924			0
s68pc241a	0.5457			0
s68pc4	0.3198			0
s68pc6	0.8889			0
s68pc8	1.278			0
scan94pg	1.6648			
v15-32		230	608	0.009
v15-33		230	1034	11.009
v15-42		230	615	0.009
v15-53		18	36.5	11.09
v16-122		18	31.5	7.09
v17-44	1.56	18	75.5	2.09
v18-222		18	38.5	3.09
v18-222	1.84			7
v18-260		9.9	17.5	
v18-262		28	24	
v18-311	2.42			0
v18-312	1.3443	18	25	7.09
v18-312		18	25	2.09
v18-314	2.2568			0
v18-68		6.7	17.5	
v19-27	2.04	18	110.5	0.09
v19-28	2.49	18	180.5	2.09
v19-29		18	180.5	0.09
v19-30		12	87	11.08
v19-30	2.76	18	170.5	11.09
v19-40	0.8073			
v19-41	1.37	18	30.5	2.09
v19-44	0.7624			
v19-45	0.674			
v19-46	0.1681			
v19-49	0.022			
v19-50	0.0337			
v19-51	0.7871			

v19-52	0.7182			
v19-53	1.6232	18	38	2.09
v19-54	1.7915			
v19-55	1.404	18	20	2.09
v19-57	1.1297			
v19-58	0.932			
v19-59	0.4963			
v19-60	0.4914			
v19-61	0.5889			
v19-62	1.389			
v19-64		18	13.5	2.09
v19-65		18	15.5	2.09
v19-90	0.5754			0
v19-96	1.2707	18	15	0.09
v21-30	0.1451	18	250.5	2.09
v21-33		18	45.5	2.09
v21-35	1.6431			
v21-36	11.36			0
v21-37	2.0635			
v21-38	2.0282			0
v21-40	1.7134			0
v21-42	1.6914			0
v21-44	1.9391			0
v24-149	0.9252			9
v24-150	1.0532			0
v24-166	0.7026	18	45	7.09
v28-203		18	40	0.09
v28-229	1.1179			7
v28-229		18	41.5	3.09
v28-230	0.4749	18	20.5	2.09
v28-235	4.3029	18	40.5	7.09
v28-238	1.2547	18	38	7.09
v28-239	0.7946			2
y69103p	2.517			11
y69104mg	3.1578			11
y6980mg1	3.1353			11
y7127p	0.9855			
y71312	2.0526			
y71316	1.6651			
y71324	3.4564			
y71325	2.7604			
y71331	0.8969			
y71612p	8.4076	18	24.5	11.09
y7161462	1.23			11
y71624p	1.3664			
y7164p	0.7013			11
y71728g2	0.4494			11
y71730g2	0.6298			11
y71732p	1.3667			11
y71733g4	1.9325			11
y71735p	1.9009			11
y71736g1	1.075			11
y71738g3	0.7735			11
y71739mg1	0.3937			

y71743mg1	1.0824			
y71744p	1.2719			
y71745p		18	9.5	0.09
y71746mg3	0.7411			
y71747mg2	0.8867			
y71748p	0.7661			
y71749mg3	1.1855			
y71751ff	1.6346			
y71752p	1.6891			
y71753p	1.7452			
y71754mg3	0.5902			
y71870p	1.3788			11
y71877p	2.4326			11
y719101g	1.5607			
y719102g	1.5115			
y719103ff	1.2768			
y719104ff	67.2431			
y719106ff	1.2099			
y719109g	0.0271			
y719110p	1.7421			
y719111p	2.0415			
y719115ff	1.4419			
y71984p	2.7302			11
y71985p	2.9494			11
y71986p	2.0524			11
y71987p	2.3404			11
y71988p	2.227			11
y71989p	1.7559			11
y71996p	1.2534			
y71997g	1.1233			
y71998ff	1.103			
y7991p	1.8358			11
z21081	0.8147	18	45	7.09

The results of the tests are listed in Table 1. The results are given in terms of the sedimentation rate and the accumulation rate.

The sedimentation rate is defined as the rate at which the sediment is deposited. The accumulation rate is defined as the rate at which the sediment is accumulated. The sedimentation rate is given in terms of the sedimentation rate and the accumulation rate. The accumulation rate is given in terms of the sedimentation rate and the accumulation rate.

The sedimentation rate is given in terms of the sedimentation rate and the accumulation rate. The accumulation rate is given in terms of the sedimentation rate and the accumulation rate. The sedimentation rate is given in terms of the sedimentation rate and the accumulation rate. The accumulation rate is given in terms of the sedimentation rate and the accumulation rate.

Appendix IV: Sedimentation and Accumulation Rates

The following is a list of the table headings and their definitions:

SED RATE = Sedimentation rate (in cm/kyr).

SED ACCUM = bulk sediment accumulation rate (in $\text{g/cm}^2/\text{kyr} \times 10$).

ORG C % = organic carbon concentration (in whole sediment sample).

ORG C ACCUM = organic carbon accumulation rate (in $\text{mg/cm}^2/\text{kyr}$ divided by 10).

OPAL ACCUM = opal accumulation rate (in $\text{mg/cm}^2/\text{kyr}$ divided by 10).

OPAL % = opal concentration (in whole sediment sample).

Capital letters following the sedimentation rate data indicate type of stratigraphic datum used to determine sedimentation rate. O is oxygen isotope picks, B is biostratigraphic markers, M is magnetostratigraphic markers, L is lithostratigraphic markers, and C is carbon-14 dating. The core identification symbols ending with @ signify that the calcium concentration was estimated for the purposes of calculating the dry bulk density.

INDIAN OCEAN

CORE ID	SED RATE	SED ACCUM	ORG C ACCUM	OPAL ACCUM	OPAL %	DRY BULK DENSITY	SOURCE
al5558@	5.444 O	3.037		44.50	14.65	0.5578	1.1
arb-52@	1.829 C	0.784				0.4284	0.2
arb-52@	2.846 C	1.219				0.4284	0.2
arb-52@	3.143 C	1.346				0.4284	0.2
arb-54@	2.843 C	1.218				0.4284	0.2
arb-54@	3.488 C	1.495				0.4284	0.2
arb-54@	6.164 C	2.641				0.4284	0.2
e4527@	1.667 O	1.050		15.52	14.78	0.6303	1.1
e4528@	1.722 B	1.085		17.00	15.66	0.6303	1.1
e4811@	1.778 O	1.261		4.25	3.37	0.7090	1.1
e4822@	4.556 O	3.422		15.84	4.63	0.7511	1.1
e4823@	1.778 O	1.261		10.32	8.19	0.7090	1.1
e4827@	3.444 O	2.442		21.30	8.72	0.7090	1.1
e483@	1.222 B	0.867		5.79	6.68	0.7090	1.1
md73025@	19.012 C	8.727		0.00	0.00	0.4590	0.08
rc11-120@	4.667 O	2.941		20.95	7.12	0.6303	1
rc11-121	4.444 B	3.369	1.82	18.79	5.58	0.7580	1.1001
rc11-145@	2.778 O	1.858		19.69	10.60	0.6688	9
rc11-147@	2.778 O	1.858		20.51	11.04	0.6688	1.1
rc12-339@	4.444 O	2.040		7.23	3.55	0.4590	1.1
rc14-07@	3.333 O	2.363		5.67	2.40	0.7090	1.1
rc14-09@	3.889 O	1.228				0.3159	0.1
rc14-09@	5.556 O	4.173				0.7511	0.3
rc14-11@	4.444 O	2.972		43.58	14.66	0.6688	1.3
rc14-12	5.556 O	3.710	2.56	40.07	10.80	0.6679	1.3001
rc14-29@	1.111 O	0.510		17.32	33.96	0.4590	1.1
rc14-35@	1.944 O	1.361	0.62	5.61	4.12	0.6999	1.1001
rc14-37@	2.222 O	1.020		5.76	5.65	0.4590	1
rc17-113@	1.667 O	0.765				0.4590	0.1
rc17-69@	2.778 O	1.029		2.28	2.22	0.3703	1.1
rc17-73@	1.111 O	0.700		0.87	1.24	0.6303	1.1
rc17-98@	2.944 O	2.088				0.7090	0.1
rc8-39	2.222 O	1.388	0.93	21.46	15.46	0.6244	1.3001
rc8-39	5.000 O	3.122	2.10	74.30	23.80	0.6244	1.1001
rc8-43@	2.222 O	0.702		0.53	0.75	0.3159	1.3
rc9-150@	3.333 O	2.229		31.85	14.29	0.6688	1.1
rc9-161@	9.444 O	4.335		18.53	4.28	0.4590	1.1
rc9-162	2.778 O	1.616	0.72	4.87	3.02	0.5817	1.0001
vl4-101a@	3.889 O	2.451		15.72	6.41	0.6303	1.1
vl4-102@	2.222 O	1.239		29.45	23.76	0.5578	1.1
vl4-77@	1.611 B	0.740				0.4590	0.1
vl4-81@	1.944 O	1.226		2.27	1.85	0.6303	1.1
vl6-65@	2.222 O	1.020		18.82	18.45	0.4590	1.3
vl7-42	2.889 O	1.455		17.76	12.20	0.5037	7
vl7-43	2.222 O	0.854		20.16	23.59	0.3845	7
vl7-44@	2.222 O	0.823		18.81	22.85	0.3703	7
vl8-337	12.222 O	2.494				0.2040	7
vl9-178@	2.222 O	1.486		6.55	4.41	0.6688	1
vl9-185@	1.667 O	0.765		1.60	2.09	0.4590	1.1
vl9-188@	2.778 O	1.751		3.15	1.80	0.6303	1

v19-201@	3.889 B	2.036	8.18	4.02	0.5236	1.1
v19-202@	1.667 O	0.818	2.89	3.53	0.4907	1.1
v19-204@	1.111 O	0.351	9.53	27.16	0.3159	1.1
v19-25	3.056 O	1.429	28.62	20.02	0.4678	7
v19-27	1.667 O	0.705	15.22	21.59	0.4228	7
v19-28	7.222 O	3.914			0.5419	7
v19-28@	7.222 O	3.914	65.87	16.83	0.5419	7
v19-29	3.111 O	1.085			0.3487	7
v19-30	5.556 O	1.610	30.35	18.85	0.2899	7
v19-41@	1.667 O	0.400	7.86	19.63	0.2402	7
v19-64@	0.722 O	0.332	1.53	4.61	0.4590	7
v20-170@	1.111 O	0.700	5.84	8.34	0.6303	1.1
v20-175@	1.111 O	0.700	5.87	8.38	0.6303	1.1
v21-214@	3.500 O	0.841	18.38	21.87	0.2402	7
v21-30	13.889 O	8.253	34.44	4.17	0.5942	2
v21-33	2.500 O	1.227			0.4907	7
v24-203@	10.000 O	2.164	0.90	0.42	0.2164	1.3
v29-29@	4.444 O	2.040	25.05	12.28	0.4590	1.1
v29-30	4.444 O	0.859	36.27	42.24	0.1932	1.1001
v29-48@	1.667 O	0.930	0.36	0.39	0.5578	1.1
v29-84@	6.667 O	1.601	90.22	56.35	0.2402	1.3
v29-87@	1.111 O	0.240	12.86	53.50	0.2164	1.3
v29-89@	6.667 O	1.601	40.15	25.07	0.2402	1.3
v29-90@	3.333 O	2.363	6.92	2.93	0.7090	1.3
v34-53@	1.053 C	0.483			0.4590	0.05
v34-88@	5.442 C	2.670			0.4907	0.05
y6971p	7.778 O	3.234	112.10	34.66	0.4158	7
y6973p	7.222 O	4.391			0.6080	7
y71612p	1.333 O	0.310			0.2325	7

NORTH ATLANTIC OCEAN

CORE ID	SED RATE	SED ACCUM	ORG C ACCUM	OPAL ACCUM	OPAL %	DRY BULK DENSITY	SOURCE
a15-63@	64.048 C	13.857				0.2164	0.02
a15-64@	41.667 O	16.620		52.05	3.13	0.3989	1.6
a15-65@	30.955 C	6.697				0.2164	0.02
a16-424@	27.778 O	6.941		82.89	11.94	0.2499	1.6
a16-45@	23.750 C	5.139				0.2164	0.02
a16-461@	22.581 C	9.007				0.3989	0.5
a16-461@	21.321 C	4.613				0.2164	0.5
a16-46@	19.878 C	7.929				0.3989	0.5
a16-713@	17.333 O	4.331				0.2499	0.6
a16-714@	17.288 C	3.740				0.2164	0.02
a17-21@	12.231 C	2.646				0.2164	0.5
a17-22@	11.919 C	2.579				0.2164	0.02
a17-26@	11.579 C	4.619				0.3989	0.5
a17-915@	10.368 C	5.783				0.5578	0.06
a17-94@	10.308 C	2.230				0.2164	0.02
a18-016@	10.000 C	3.989				0.3989	0.5
a18-032@	9.896 C	3.947				0.3989	0.5
a18-039@	9.517 C	2.059				0.2164	0.02
a18-047@	9.500 O	3.789		10.32	2.72	0.3989	1.6
a18-048@	8.358 C	3.095				0.3703	0.5
a18-056@	8.182 C	3.264				0.3989	0.5
a18-072@	7.966 C	2.516				0.3159	0.5
a18-073@	7.778 O	1.868		52.84	28.29	0.2402	1.6
a18-074@	7.667 O	5.128		5.84	1.14	0.6688	1.6
a18-09@	7.500 O	2.369				0.3159	0.6
dsdp502	7.444 O	4.152				0.5578	0.6
dsdp502	7.407 C	2.955		9.15	3.10	0.3989	1.5
en66-10g@	7.000 O	2.792		8.93	3.20	0.3989	1.6
k-11@	6.939 C	1.667				0.2402	0.06
k708-1@	6.491 C	2.589				0.3989	0.5
k708-4@	6.250 C	4.432		4.63	1.05	0.7090	1.08
k708-6@	6.056 O	2.075		6.12	2.95	0.3427	1.6
k708-7@	5.889 O	3.712		6.93	1.87	0.6303	1.6
k708-8@	5.889 O	3.712				0.6303	0.6
m-12392@	5.833 C	1.843		12.26	6.65	0.3159	1.08
rc1-02@	5.781 C	1.676		5.86	3.50	0.2899	1.5
rc10-288@	5.556 O	1.470		26.88	18.28	0.2647	1.6
rc10-50@	5.556 O	2.216		4.51	2.03	0.3989	1.6
rc13-151@	5.556 O	3.501		8.27	2.36	0.6303	1.6
rc13-152@	5.556 O	3.501		16.82	4.81	0.6303	1.6
rc13-153@	5.556 O	1.904		7.09	3.72	0.3427	1.6
rc13-154@	5.556 O	1.904		6.78	3.56	0.3427	1.6
rc13-158@	5.556 O	3.296		14.19	4.31	0.5933	1.6
rc13-159@	5.556 O	1.610		5.63	3.50	0.2899	1.6
rc13-189@	5.556 O	1.610		3.61	2.24	0.2899	1.6
rc24-01@	5.500 O	3.466		18.47	5.33	0.6303	1.6
rc5-34@	5.400 C	2.479	1.29			0.4590	0.01
rc5-36@	5.370 C	1.162				0.2164	0.02
rc5-54@	5.200 C	1.643	0.76			0.3159	0.01
rc5-57@	5.167 O	2.214		5.45	2.46	0.4284	1.6

rc9-225@	5.000 O	3.545				0.7090	0.6
rc9-49@	5.000 O	2.142		5.36	2.50	0.4284	1.6
sp8-4@	5.000 C	1.579	2.15			0.3159	0.01
t78-30@	4.722 O	1.884		14.97	7.95	0.3989	1.6
t78-33@	4.632 C	1.587		10.68	6.73	0.3427	1.08
t78-34@	4.611 O	2.414		13.33	5.52	0.5236	1.6
t78-42@	4.556 O	1.439		35.70	24.81	0.3159	1.6
t78-45@	4.444 O	2.327		14.30	6.14	0.5236	1.6
t78-46@	4.444 O	2.479		12.18	4.91	0.5578	1.6
t78-49@	4.444 O	2.801		2.57	0.92	0.6303	1.6
t80-10@	4.444 O	2.181		5.04	2.31	0.4907	1.6
t80-4@	4.444 O	2.327		18.67	8.02	0.5236	1.6
t80-6@	4.444 O	2.479		22.05	8.89	0.5578	1.6
t80-7@	4.444 O	1.646		27.37	16.63	0.3703	1.6
t80-8@	4.424 C	0.957				0.2164	0.02
v15-168@	4.286 C	3.219				0.7511	0.06
v16-20@	4.216 C	1.935				0.4590	0.06
v16-25@	4.167 O	1.316		5.43	4.13	0.3159	1.6
v17-165@	4.027 C	0.871				0.2164	0.02
v17-178@	4.000 C	1.059	0.76			0.2647	0.01
v17-178@	4.000 O	1.160		20.16	17.38	0.2899	1.6
v17-39@	3.889 O	2.757		1.99	0.72	0.7090	1.6
v18-357@	3.889 O	1.440		5.55	3.85	0.3703	1.6
v19-19@	3.879 C	0.839				0.2164	0.02
v19-21@	3.800 C	1.006	0.70			0.2647	0.01
v19-291@	3.796 C	2.393				0.6303	0.06
v19-309@	3.700 C	1.169	0.74			0.3159	0.01
v20-241@	3.700 C	1.169	0.76			0.3159	0.01
v20-242@	3.700 C	1.476	0.66			0.3989	0.01
v21-2@	3.600 C	2.136	1.05			0.5933	0.01
v22-186@	3.590 C	1.880	1.35			0.5236	0.01
v22-188@	3.500 O	2.206				0.6303	0.6
v22-197@	3.500 C	2.206	1.41			0.6303	0.01
v23-110@	3.400 C	2.017	0.87			0.5933	0.01
v23-145@	3.333 O	2.363		18.95	8.02	0.7090	1.6
v23-23@	3.333 O	0.966		6.97	7.22	0.2899	1.6
v23-58@	3.333 O	1.859		9.30	5.00	0.5578	1.6
v23-60@	3.333 O	1.859		1.52	0.82	0.5578	1.6
v23-63@	3.333 O	1.053		5.19	4.93	0.3159	1.6
v23-74@	3.333 O	1.636		7.45	4.55	0.4907	1.6
v23-82@	3.333 O	2.363				0.7090	0.6
v23-83@	3.333 O	1.745		5.33	3.05	0.5236	1.6
v23-84@	3.333 O	1.636		15.37	9.40	0.4907	1.6
v23-98@	3.333 O	1.636		15.80	9.66	0.4907	1.6
v24-1@	3.333 O	1.636		4.00	2.44	0.4907	1.6
v24-28@	3.333 O	1.636		11.21	6.85	0.4907	1.6
v25-44@	3.333 O	1.859				0.5578	0.6
v25-59@	3.333 O	1.636		11.25	6.88	0.4907	1.6
v25-60@	3.200 C	1.898	0.80			0.5933	0.01
v25-75@	3.200 C	1.185	0.70			0.3703	0.01
v26-107@	3.077 C	0.814		3.26	4.00	0.2647	1.4
v26-124@	3.056 O	1.926		8.03	4.17	0.6303	1
v26-176@	3.000 C	1.111	0.52			0.3703	0.01
v26-176@	3.000 C	1.028	0.59			0.3427	0.01

v26-176@	2.957	C	1.095				0.3703	0.06
v26-177@	2.778	O	1.648		3.39	2.06	0.5933	1
v26-41@	2.778	O	2.086		4.96	2.38	0.7511	1.6
v26-46@	2.778	O	0.805		3.16	3.93	0.2899	1.6
v27-178@	2.778	O	0.877		4.88	5.57	0.3159	1.6
v27-17@	2.778	O	1.751		9.75	5.57	0.6303	1.6
v27-19@	2.724	C	1.932				0.7090	1
v27-20@	2.700	C	0.925	0.56			0.3427	0.01
v27-248@	2.700	C	0.925	0.60			0.3427	0.01
v27-263@	2.700	C	1.000	0.49			0.3703	0.01
v27-46@	2.406	C	1.807				0.7511	0.06
v27-47@	2.389	O	1.251		4.38	3.50	0.5236	1.6
v27-84@	2.355	M	1.059	0.43			0.4497	0.0002
v27-86@	2.303	C	1.452				0.6303	1
v27-86@	2.300	C	0.852	0.54			0.3703	0.01
v28-119@	2.222	O	0.823		3.31	4.02	0.3703	1.6
v28-122@	2.222	O	1.669		6.69	4.01	0.7511	1.6
v28-127@	2.222	O	0.644		5.91	9.18	0.2899	1.6
v28-128@	2.222	O	1.576		1.51	0.96	0.7090	1.6
v28-129@	2.222	O	0.702		8.93	12.73	0.3159	1.6
v28-14@	2.222	O	0.823		4.31	5.24	0.3703	1.6
v28-25@	2.222	O	0.588				0.2647	0.6
v28-56@	2.222	O	1.318		7.31	5.55	0.5933	1.6
v28-56@	2.222	O	0.588		5.36	9.11	0.2647	1.6
v29-172@	2.222	O	1.318		14.19	10.76	0.5933	1.6
v29-173k@	2.222	O	1.486		1.52	1.03	0.6688	1.6
v29-174@	2.222	O	1.401		1.85	1.32	0.6303	1.6
v29-175@	2.222	O	0.952				0.4284	0.6
v30-36@	2.167	O	1.134		3.41	3.00	0.5236	1.6
v30-41k@	2.111	O	1.586		0.92	0.58	0.7511	1.6
v30-49@	2.100	C	0.778	0.33			0.3703	0.01
v30-51k@	2.100	C	1.171	0.75			0.5578	0.01
v30-97@	2.077	C	0.602				0.2899	0.4
v32-8@	1.944	O	1.300		3.85	2.96	0.6688	1.6
v4-1@	1.944	O	1.226		3.28	2.68	0.6303	1.6
v4-32@	1.923	C	0.883		2.96	3.36	0.4590	1.4
v4-8@	1.900	C	1.060	0.51			0.5578	0.01
x164021@	1.893	C	1.056				0.5578	0.06
x164032@	1.775	M	0.798	0.33			0.4497	0.0002
x164041@	1.722	O	1.221		0.65	0.53	0.7090	1.6
x164051@	1.667	O	0.571		3.69	6.47	0.3427	1.6
x164061@	1.667	O	0.526		4.26	8.09	0.3159	1.6
x164071@	1.667	O	1.252		1.06	0.85	0.7511	1.6
x164081@	1.667	O	0.873		2.34	2.68	0.5236	1.6
x164101@	1.667	O	1.115		1.26	1.13	0.6688	1.6
x164111@	1.667	O	0.930				0.5578	0.6
x164121@	1.667	O	0.873		2.29	2.63	0.5236	1.6
x164131@	1.667	O	1.115		0.96	0.86	0.6688	1.6
x164151@	1.667	O	0.930		0.77	0.83	0.5578	1.6
x164161@	1.611	O	1.078		1.84	1.71	0.6688	1.6
x164171@	1.389	O	0.775				0.5578	0.6
x164201@	1.300	C	0.481	0.29			0.3703	0.01
x164222@	1.286	C	0.810				0.6303	0.06
x164241@	1.111	O	0.510				0.4590	0.6

x164251@	1.111	O	0.381	1.25	3.28	0.3427	1.6
x164263@	1.111	O	0.351	2.07	5.91	0.3159	1.6
x164282@	1.111	O	0.788	1.10	2.88	0.7090	0.6
x164291@	1.111	O	0.381	1.10	2.88	0.3427	1.6
x164301@	1.111	O	0.620	3.30	5.33	0.5578	1.6
x164311@	0.672	C	0.155	1.42	1.28	0.2306	0.02
x164321@	0.556	O	0.291	0.80	2.75	0.5236	1.6

SOUTH ATLANTIC OCEAN

CORE ID	SED RATE	SED ACCUM	ORG C ACCUM	OPAL ACCUM	OPAL %	DRY BULK DENSITY	SOURCE
a18-074@	2.778 O	1.549				0.5578	0.6
a18-076@	2.222 O	1.239		16.60	13.39	0.5578	1.6
a1160-13@	0.667 C	0.372				0.5578	0.7
chn-11588@	0.500 C	0.171				0.3427	0.7
chn115-70@	1.579 C	0.585				0.3703	0.7
chn115-89@	1.667 O	0.571				0.3427	0.7
chn115-90@	0.333 O	0.114				0.3427	0.7
chn115-91@	0.556 O	0.190				0.3427	0.7
chn115-92@	1.389 O	0.476				0.3427	0.7
rc11-118@	2.222 O	1.401				0.6303	0.3
rc11-119@	2.222 O	1.452				0.6532	0.3
rc11-120@	4.444 O						0.3
rc11-78@	10.000 O	2.306		189.64	82.25	0.2306	1.3
rc11-80	4.444 O	2.605		44.41	17.05	0.5861	8.3
rc11-83	18.889 O	5.573		39.62	7.11	0.2950	8.3
rc12-267@	3.333 O	0.966		6.09	6.30	0.2899	1.3
rc12-289@	3.333 O	0.882		45.52	51.60	0.2647	1.3
rc13-243@	2.222 O	0.588		7.56	12.85	0.2647	1.3
rc13-251@	1.111 O	0.381		11.47	30.12	0.3427	1.3
rc13-253@	2.222 O	1.239		25.39	20.48	0.5578	1.3
rc13-254@	3.333 O	1.053		55.80	53.00	0.3159	1.3
rc13-255@	7.778 O	1.868				0.2402	0.3
rc13-256@	22.222 O	5.124				0.2306	0.3
rc13-257@	1.111 O	0.240				0.2164	0.3
rc13-261@	4.444 O	0.962		24.59	25.57	0.2164	1.3
rc13-273@	3.333 O	0.721		30.96	42.93	0.2164	1.3
rc13-275@	3.333 O	0.882		57.07	64.68	0.2647	1.3
rc13-276	2.222 O	0.429		35.03	81.60	0.1932	1.3001
rc15-93@	5.556 O	3.716		22.26	5.99	0.6688	1
rc15-94@	6.111 O	4.087				0.6688	0.3
rc15-98@	5.556 O	1.610		15.27	9.48	0.2899	1.3
rc24-16@	4.286 C	3.219				0.7511	0.06
rc24-7@	6.571 C	3.665				0.5578	0.06
t78-33	5.636 C	1.565	1.74	45.27	28.92	0.2777	0.02
t78-38	0.636 C	0.187	0.12	5.87	31.36	0.2940	0.02
t78-42	1.364 C	0.465	0.25			0.3410	0.02
t78-45	3.571 C	0.832	1.25			0.2330	0.02
t78-46	25.215 C	5.279	10.93			0.2093	0.02
t80-11	3.592 C	0.709	2.25			0.1973	0.02
v18-35@	6.667 O	1.569				0.2354	0.3
v22-108	5.556 O	3.849		23.55	6.12	0.6927	1
v22-177@	3.580 C	2.689				0.7511	1
v22-182@	3.691 C	2.326				0.6303	1
v22-38@	2.321 C	0.733				0.3159	1
v22-86@	3.333 O	0.721		6.83	9.47	0.2164	1.3
v25-56@	3.333 O	1.859		1.89	1.02	0.5578	1.6
v26-104@	8.333 O	2.632		8.11	3.08	0.3159	1.6
v29-144@	5.000 C	2.295				0.4590	0.06
v30-40@	3.589 C	2.129				0.5933	0.06

NORTH PACIFIC OCEAN

CORE ID	SED RATE	SED ACCUM	ORG C ACCUM	OPAL ACCUM	OPAL %	DRY BULK DENSITY	SOURCE
660410	25.667 O	4.998	8.67			0.1947	0.09
ahfl10614@	9.615 C	3.561	18.83			0.3703	5
ahfl10626	16.667 C	6.286	41.62	19.53	3.11	0.3771	0.09
ahfl11343	15.528 O	4.589				0.2955	0.09
bnfc43	1.056 O	0.596	1.09	7.27	12.20	0.5646	5
bnfc43pgz	0.944 O	0.533		6.51	12.20	0.5646	7.09
dsdp503	1.570 M	0.679	0.31			0.4326	0.0002
dwb2	1.667 O	1.313		0.26	0.20	0.7879	0.09
g76-510@	2.805 C	0.674	0.40			0.2402	
g76-514@	3.037 C	0.657	0.26			0.2164	
g76-55@	2.381 C	0.515	0.39			0.2164	
lapdlg@	1.778 O	0.352				0.1978	5
rc10-158	0.150 M	0.030	0.01	0.06	2.00	0.1967	0.9
rc10-159	0.290 M	0.057	0.02	0.23	3.95	0.1965	0.9
rc10-160	0.720 M	0.142	0.10	0.37	2.62	0.1969	0.9
rc10-161	0.444 O	0.175	0.33	0.59	3.38	0.3945	0.09
rc10-161	0.444 O	0.175		0.59	3.38	0.3945	7.09
rc10-163@	0.490 M	0.096				0.1968	0.9
rc10-167	2.200 M	0.430	0.48			0.1955	0.9
rc10-167	2.444 B	0.478	0.53	1.87	3.91	0.1955	0.09
rc10-167	2.444 B	0.481		1.59	3.30	0.1967	7.09
rc10-168@	0.960 M	0.189				0.1968	0.9
rc10-169@	1.180 M	0.231				0.1955	0.9
rc10-170@	0.370 M	0.073				0.1968	0.9
rc10-171	0.800 M	0.156	0.04	0.80	5.10	0.1956	0.9
rc10-172@	0.300 M	0.059				0.1968	0.9
rc10-175@	1.230 M	0.421				0.3427	0.9
rc10-178@	1.722 B	0.373				0.2164	7.09
rc10-179	0.970 M	0.194	0.31	1.16	5.97	0.2000	0.9
rc10-181	1.110 M	0.216	0.13	1.56	7.22	0.1950	0.9
rc10-182	1.180 M	0.230	0.07	1.36	5.90	0.1947	0.9
rc10-201@	1.600 M	0.316				0.1978	0.9
rc10-202@	1.670 M	0.330				0.1978	0.9
rc10-203	0.570 M	0.111	0.04	0.51	4.59	0.1941	0.9
rc10-205@	1.660 M	0.328				0.1978	0.9
rc10-206	1.120 M	0.221	0.11	0.59	2.68	0.1973	0.9
rc10-216	0.583 B	0.115	0.01	0.54	4.73	0.1973	0.09
rc10-65@	3.722 O	2.489				0.6688	0.09
rc11-166@	1.590 M	0.311				0.1955	0.9
rc11-169@	1.410 M	0.276				0.1955	0.9
rc11-170@	1.111 B	0.217				0.1955	7.09
rc11-171	0.630 M	0.123	0.07	0.88	7.13	0.1950	0.9
rc11-172@	2.222 B	0.439				0.1978	7.09
rc11-179@	2.250 B	0.445				0.1978	7.09
rc11-193	0.260 M	0.051	0.02	0.05	1.04	0.1950	0.9
rc11-194@	0.250 M	0.049				0.1955	0.9
rc11-195	0.300 M	0.059	0.02	0.03	0.49	0.1956	0.9
rc11-196@	0.300 M	0.059				0.1955	0.9
rc11-198	0.210 M	0.041	0.02	0.07	1.77	0.1950	0.9
rc11-209	1.833 C	1.140	1.60	26.40	23.16	0.6216	0.09

rc11-210@	2.278	O	1.436				0.6303	2
rc12-176	0.528	B	0.103	0.06	0.40	3.90	0.1952	0.09
rc12-179@	3.361	B	0.665				0.1978	0.09
rc12-30@	4.095	A	0.829				0.2024	0.008
rc12-32@	3.571	A	0.723				0.2024	0.008
rc12-361	1.139	B	0.000					0.09
rc12-401	14.444	B	3.683				0.2550	5.09
rc12-412@	2.083	B	0.412				0.1978	2.09
rc12-413	1.778	B	0.346	0.22	1.18	3.42	0.1948	0
rc12-416	1.389	B	0.271				0.1955	7
rc12-419@	3.333	B	0.659				0.1978	2.09
rc12-433@	0.556	O	0.109				0.1968	2.09
rc13-17@	1.694	B	0.335				0.1978	0.09
rc13-63@	3.083	L	2.062				0.6688	0.09
rc14-105@	6.111	B	1.192				0.1950	7.09
rc14-106@	4.444	B	0.869				0.1955	0.09
rc14-99@	5.444	O	1.062				0.1950	2
tr63-31@	32.500	C	10.266				0.3159	
v15-30@	2.661	A	1.221				0.4590	0.009
v17-42	4.694	O	2.365	11.89	28.86	12.20	0.5037	2.09
v17-43	4.083	B	1.570	3.83	37.04	23.59	0.3845	2.09
v18-318	0.861	B	0.571		7.25	12.70	0.6635	2
v18-318	0.833	B	0.553	0.48			0.6636	2.09
v18-337	12.250	C	2.500	9.32	6.74	2.69	0.2040	2.09
v18-338@	99.533	C	20.143				0.2024	
v18-349	0.429	A	0.213				0.4970	0.008
v19-25	4.472	L	2.092	8.47			0.4678	0.09
v20-100	0.350	M	0.069	0.13	0.06	0.91	0.1972	0.9
v20-101	0.260	M	0.148	0.20	0.16	1.08	0.5694	0.9
v20-102	0.250	M	0.049	0.02	0.08	1.61	0.1972	0.9
v20-103	1.306	O	0.790	1.18	2.32	2.94	0.6049	0.09
v20-104	0.880	M	0.174	0.07	0.22	1.29	0.1979	0.9
v20-105	0.278	B	0.055	0.03	0.32	5.83	0.1989	0.09
v20-107	0.667	B	0.130	0.00	0.73	5.63	0.1954	0.09
v20-108	1.150	M	0.228	0.07	0.28	1.25	0.1980	0.9
v20-109	0.390	M	0.076	0.05	0.60	7.84	0.1950	0.9
v20-119	0.920	M	0.442	0.54	5.78	13.07	0.4808	7
v20-119	1.167	O	0.229	0.06	4.78	20.89	0.1963	7.09
v20-120	3.000	B	0.588		7.22	12.27	0.1960	0.09
v20-120	3.000	B	0.588				0.1960	7.09
v20-121@	3.278	B	0.641				0.1955	2.09
v20-122@	4.444	B	0.869				0.1955	2
v20-123	4.389	B	0.858	0.45	6.63	7.73	0.1954	0.09
v20-124	6.722	B	1.320	2.53	38.19	28.94	0.1963	0.09
v20-126	6.167	B	1.205	0.77	29.15	24.19	0.1954	0.09
v20-129	7.722	B	1.506	1.07	7.38	4.90	0.1951	0.09
v20-65	0.130	M	0.026	0.01			0.1969	0.9
v20-66	0.090	M	0.018	0.01			0.1976	0.9
v20-68	0.190	M	0.037	0.01	0.05	1.22	0.1954	0.9
v20-74	0.190	M	0.038	0.07	0.06	1.59	0.1991	0.9
v20-75	6.000	M	1.174	3.16	4.39	3.74	0.1957	0.9
v20-76@	5.990	M	1.171				0.1955	0.9
v20-78@	1.340	M	0.262				0.1955	0.9
v20-79	1.090	M	0.215	0.11	0.29	1.36	0.1968	0.9

v20-81	0.360 M	0.071	0.02	0.12	1.75	0.1973	0.9
v20-82	0.160 M	0.031	0.02	0.14	4.50	0.1964	0.9
v20-83@	0.150 M	0.033				0.2211	0.9
v20-84@	0.530 M	0.104				0.1968	0.9
v20-85	0.250 B	0.055	0.07	0.08	1.36	0.2215	0.09
v20-86	1.430 M	0.281	0.12	0.56	1.98	0.1967	0.9
v20-87	0.270 M	0.054	0.10	0.10	1.91	0.1983	0.9
v20-88	0.160 M	0.031	0.02	0.09	2.92	0.1968	0.9
v20-89@	9.600 M	1.899				0.1978	0.9
v20-90	3.800 M	0.754	0.29	0.71	0.94	0.1983	0.9
v20-91@	0.210 M	0.041				0.1968	0.9
v20-92	0.220 M	0.043	0.02	0.12	2.68	0.1965	0.9
v20-93@	0.220 M	0.043				0.1968	
v20-94@	0.220 M	0.043				0.1968	
v20-95	0.320 M	0.063	0.03			0.1970	0.9
v20-96	0.180 M	0.036	0.02	0.12	3.29	0.1974	0.9
v20-97	0.320 M	0.063	0.03	0.06	0.89	0.1970	0.9
v20-98	0.320 M	0.063	0.03	0.06	0.93	0.1970	0.9
v21-139	1.600 M	0.313	0.12	3.93	12.52	0.1959	0.9
v21-140	0.370 M	0.072	0.02	0.49	6.81	0.1945	0.9
v21-141@	0.430 M	0.085				0.1968	0.9
v21-142@	0.520 M	0.102				0.1968	0.9
v21-144@	1.060 M	0.209				0.1968	0.9
v21-145	0.690 M	0.136	0.26	0.30	2.21	0.1970	0.9
v21-146	3.806 O	0.874	0.93	2.88	3.29	0.2296	0.9
v21-146	1.380 M	0.350	0.78			0.2538	0.09
v21-147	1.740 M	0.341	0.66	0.15	0.43	0.1959	0.9
v21-148	1.111 B	0.219	0.09	1.71	7.78	0.1973	0
v21-149@	1.740 M	0.340				0.1955	0.9
v21-150	1.280 M	0.252	0.14	3.20	12.67	0.1972	0.9
v21-151	0.556 B	0.109	0.21	0.74	6.82	0.1954	0.09
v21-171	0.889 B	0.173	0.34	3.18	18.36	0.1946	0.09
v21-171	0.033 M	0.007	.00	0.01	2.11	0.1954	2.9
v21-172	1.944 B	0.381	0.08	0.59	1.54	0.1957	0.9
v21-172	0.820 M	0.160	0.03			0.1957	2.09
v21-173	0.972 B	0.190	0.12	0.45	2.37	0.1952	0.09
v21-174	1.389 B	0.271		0.43	1.59	0.1950	2.09
v21-174	1.389 B	0.271	0.53			0.1950	0.09
v21-175	0.667 B	0.130	0.08	0.10	0.81	0.1950	0.09
v21-175	0.690 M	0.136	0.05	0.50	3.69	0.1968	2.9
v21-176@	0.220 M	0.043				0.1968	0.9
v21-178	0.150 M	0.030	0.01	0.08	2.68	0.1980	0.9
v21-179@	0.050 M	0.010				0.1978	0.9
v21-180	0.300 M	0.059	0.03	0.09	1.61	0.1954	0.9
v21-181@	0.160 M	0.031				0.1968	0.9
v21-182@	0.250 M	0.049	0.01			0.1955	0.9
v21-183@	0.100 M	0.020				0.1968	0.9
v21-184@	0.160 M	0.031				0.1968	0.9
v21-189	0.170 M	0.033	0.05	0.33	9.89	0.1945	0.9
v21-212@	3.361 B	1.440				0.4284	2.09
v21-214	5.861 B	2.187		34.28	15.67	0.3731	2.09
v21-29@	9.194 O	3.667				0.3989	2.09
v21-59@	0.917 O	0.180				0.1968	0.09
v21-63	0.150 M	0.030	0.01			0.1983	0.9

v21-64@	0.170 M	0.034				0.1978	0.9
v21-65	0.240 M	0.048	0.02			0.1985	0.9
v21-67	0.170 M	0.034	0.01			0.1972	0.9
v21-69	0.110 M	0.021	0.01	0.08	3.51	0.1950	0.9
v21-70	0.090 M	0.018	0.01	0.05	2.60	0.1964	0.9
v21-71	0.130 M	0.026	0.05	0.07	2.86	0.1963	0.9
v21-73	0.760 M	0.150		0.15	1.03	0.1974	0.9
v21-74	0.200 M	0.039	0.08	0.08	1.98	0.1967	0.9
v21-75	0.650 M	0.128	0.06	0.25	2.00	0.1963	0.9
v21-76	1.300 M	0.256		0.20	0.79	0.1972	0.9
v21-87@	1.220 M	0.238				0.1955	0.9
v21-89@	0.170 M	0.037				0.2164	0.9
v24-109@	2.778 O	1.858	1.54			0.6688	0
v24-97@	0.150 M	0.030				0.1968	0.9
v24-98	0.090 M	0.018	0.01			0.1947	0.9
v28-201@	1.139 B	0.274				0.2402	0.09
v28-203@	2.222 O	0.534				0.2402	0.09
v28-238@	2.000 O	1.369	1.71			0.6847	0
v28-239	1.500 O	1.013	0.81	6.18	6.10	0.6751	7
v28-243@	1.111 B	0.510				0.4590	2
v28-249@	1.111 B	0.510				0.4590	2.09
v28-255	0.833 O	0.361	0.17	1.55	4.29	0.4335	2
v28-294	0.833 O	0.378	0.39	1.97	5.22	0.4531	7
v28-304@	4.028 O	1.607				0.3989	0.09
v32-126@	2.250 B	0.540				0.2402	0.09
v32-139@	0.306 B	0.060				0.1968	0.09
wah8ff2	1.778 O	1.313				0.7383	0.09
y660410	12.333 C	2.441	4.71	14.98	6.14	0.1980	0.09
y66095	20.440 O	4.071	7.49			0.1991	0.09
y69102	6.556 O	1.285	2.47	4.78	3.72	0.1960	0.09
y69106p	1.861 O	0.369	0.69			0.1981	0.09
y6971p	9.722 C	4.043	10.15	140.13	34.66	0.4158	4.09
y6973p	7.361 O	4.606	0.00	4.17	0.91	0.6257	4
y7324mg4	28.276 C	5.482	6.25	26.93	4.91	0.1939	5

SOUTH PACIFIC OCEAN

CORE ID	SED RATE	SED ACCUM	ORG C ACCUM	OPAL ACCUM	OPAL %	DRY BULK DENSITY	SOURCE
e10-18@	0.362 M	0.078				0.2164	0.03
e10-2@	0.116 M	0.025				0.2164	0.03
e10-30@	1.449 M	0.314				0.2164	0.03
e10-3@	0.841 M	0.182				0.2164	0.03
e11-11@	0.580 M	0.125				0.2164	0.03
e11-12@	2.232 M	0.483				0.2164	0.03
e11-13@	2.043 M	0.442		7.98	18.05	0.2164	11
e11-1@	2.278 B	0.909				0.3989	0.09
e11-22@	1.478 M	0.320				0.2164	0.03
e11-24@	1.522 M	0.329				0.2164	0.03
e11-2@	7.833 B	2.684				0.3427	0.09
e11-3@	1.638 M	0.561		18.50	32.97	0.3427	11.03
e11-3@	3.389 B	1.161		38.29	32.97	0.3427	11.09
e11-4@	1.101 M	0.506				0.4590	0.03
e11-5@	0.652 M	0.141				0.2164	0.03
e11-6@	0.768 M	0.166				0.2164	0.03
e11-7@	1.290 M	0.279		5.62	20.14	0.2164	11.03
e11-8@	2.101 M	0.455				0.2164	0.03
e11-9@	1.391 M	0.301		6.63	22.04	0.2164	11.03
e12-11@	0.043 M	0.009				0.2164	0.03
e12-14@	0.522 M	0.113				0.2164	0.03
e12-15@	1.000 M	0.216				0.2164	0.03
e12-17@	1.812 M	0.392				0.2164	0.03
e12-19@	1.043 M	0.226				0.2164	0.03
e12-20@	1.101 M	0.238				0.2164	0.03
e12-26@	1.739 M	0.376				0.2164	0.03
e13-14@	0.377 M	0.082				0.2164	0.03
e13-16@	0.681 M	0.147				0.2164	0.03
e13-17@	0.667 M	0.144				0.2164	0.03
e13-18@	0.812 M	0.176				0.2164	0.03
e13-20@	0.232 M	0.050				0.2164	0.03
e13-21@	0.232 M	0.050				0.2164	0.03
e13-2@	0.493 M	0.107				0.2164	0.03
e13-3@	0.348 M	0.075				0.2164	0.03
e13-5@	0.362 M	0.084				0.2306	0.03
e13-6@	0.217 M	0.047		0.80	17.10	0.2164	11.03
e13-7@	0.174 M	0.038				0.2164	0.03
e13-8@	0.130 M	0.028				0.2164	0.03
e13-9@	0.420 M	0.091				0.2164	0.03
e14-14@	0.826 M	0.239				0.2899	0.03
e14-2@	0.261 M	0.076				0.2899	0.03
e14-3@	0.203 M	0.059				0.2899	0.03
e14-4@	0.942 M	0.273				0.2899	0.03
e14-6@	0.754 M	0.199				0.2647	0.03
e14-7@	0.609 M	0.161				0.2647	0.03
e14-8@	0.768 M	0.203				0.2647	0.03
e15-11@	0.159 M	0.034				0.2164	0.03
e15-16@	0.188 M	0.041				0.2164	0.03
e15-1@	0.319 M	0.069				0.2164	0.03
e15-28@	0.696 M	0.167				0.2402	0.03

e15-7@	0.638 M	0.138			0.2164	0.03
e15-8@	0.377 M	0.082			0.2164	0.03
e16-4@	0.638 M	0.153			0.2402	0.03
e16-6@	0.043 M	0.012			0.2647	0.03
e17-10@	0.594 M	0.129			0.2164	0.03
e17-11@	1.130 M	0.245			0.2164	0.03
e17-12@	0.551 M	0.119			0.2164	0.03
e17-14@	0.768 M	0.166			0.2164	0.03
e17-15@	0.580 M	0.125			0.2164	0.03
e17-16@	0.072 M	0.016			0.2164	0.03
e17-18@	1.754 M	0.379			0.2164	0.03
e17-19@	0.739 M	0.160			0.2164	0.03
e17-23@	1.957 M	0.423			0.2164	0.03
e17-27@	0.159 M	0.044			0.2747	0.03
e17-28@	0.203 M	0.054			0.2647	0.03
e17-29@	0.261 M	0.056			0.2164	0.03
e17-8@	1.130 M	0.245			0.2164	0.03
e18-4@	0.536 M	0.116			0.2164	0.03
e19-5@	0.087 M	0.019			0.2164	0.03
e19-6@	0.768 M	0.166			0.2164	0.03
e19-7@	0.203 M	0.044	1.53	34.87	0.2164	11.03
e20-18@	1.722 O	1.152	0.92	0.80	0.6688	11.09
e20-2@	0.768 M	0.184			0.2402	0.03
e20-3@	0.797 M	0.191			0.2402	0.03
e21-15@	2.278 B	1.351	19.99	14.79	0.5933	11.09
e21-17@	0.159 M	0.034			0.2164	0.03
e21-20@	1.652 M	0.357			0.2164	0.03
e21-21@	0.420 M	0.091	3.60	39.57	0.2164	11.03
e21-22@	1.391 M	0.301	6.22	20.66	0.2164	11.03
e25-10@	2.278 B	1.523	15.01	9.85	0.6688	11.09
e27-3@	0.710 M	0.171			0.2402	0.04
e27-4@	0.970 M	0.210			0.2164	0.04
e33-16@	0.690 M	0.149			0.2164	0.04
e33-3@	1.150 M	0.249			0.2164	0.04
e4-10@	0.884 M	0.191			0.2164	0.03
e45-62@	2.139 O	0.853			0.3989	0.09
e45-74@	2.250 O	1.505			0.6688	0.09
e45-77@	1.750 O	1.170			0.6688	0.09
e45-79@	2.139 O	1.431			0.6688	0.09
e5-10@	0.290 M	0.063			0.2164	0.03
e5-11@	0.478 M	0.103			0.2164	0.03
e5-15@	0.667 M	0.144			0.2164	0.03
e5-16@	1.072 M	0.232			0.2164	0.03
e5-17@	1.507 M	0.326			0.2164	0.03
e5-25@	1.217 M	0.263			0.2164	0.03
e5-8@	0.899 M	0.216			0.2402	0.03
e50-15@	1.194 O	0.258			0.2164	0.09
e6-11@	0.130 M	0.031			0.2402	0.03
e6-12@	0.710 M	0.164			0.2306	0.03
e6-14@	0.478 M	0.103			0.2164	0.03
e6-29@	0.986 M	0.213			0.2164	0.03
e6-30@	0.406 M	0.097			0.2402	0.03
e6-5@	0.101 M	0.024			0.2402	0.03
e6-6@	0.348 M	0.075			0.2164	0.03

e7-12@	1.072 M	0.232				0.2164	0.03
e7-17@	0.826 M	0.190				0.2306	0.03
e7-18@	0.493 M	0.130				0.2647	0.03
e7-1@	0.623 M	0.165				0.2647	0.03
e7-4@	0.128 M	0.047				0.3703	0.03
e7-6@	0.812 M	0.195				0.2402	0.03
e7-7@	0.899 M	0.216				0.2402	0.03
e8-5@	0.319 M	0.069				0.2164	0.03
e9-4@	0.841 M	0.194				0.2306	0.03
e9-5@	0.739 M	0.170				0.2306	0.03
gc16	0.150 C	0.061				0.4090	0.07
gc2	0.039 C	0.030				0.7520	0.07
gc5	0.040 C	0.026				0.6600	0.07
gc6	0.040 C	0.025				0.6260	0.07
gc8	0.232 C	0.174				0.7490	0.07
opr476223	2.500 B	1.483		7.88	5.31	0.5933	9
rc10-114	1.000 O	0.756	0.13	4.14	5.48	0.7560	2
rc10-139	1.750 B	0.412		10.00	24.26	0.2356	7
rc10-140@	1.944 B	0.467		3.94	8.44	0.2402	7
rc10-97@	2.361 L	1.579				0.6688	0.09
rc11-213@	0.833 B	0.626		4.63	7.40	0.7511	7.09
rc11-220@	0.611 O	0.454		0.52	1.15	0.7425	2.09
rc11-230	2.500 O	1.538	1.63	7.06	4.59	0.6153	11.09
rc12-103	2.306 B	1.577	0.80	3.10	1.96	0.6841	7.09
rc12-103	2.306 B	0.475		19.67	41.43	0.2059	7
rc12-107	2.306 B	1.543	1.23	6.82	4.42	0.6691	7
rc12-107	2.306 B	0.558		16.65	29.83	0.2421	3.09
rc12-109	1.194 B	0.738	0.72	1.86	2.51	0.6177	7
rc12-121	1.750 B	0.424		13.46	31.72	0.2425	7
rc12-225@	1.667 B	0.989		5.38	5.44	0.5933	11.09
rc13-113@	0.278 B	0.186		3.62	19.48	0.6688	7.09
rc13-140@	3.622 A	1.144				0.3159	0.009
rc13-38@	1.944 B	0.467		13.18	28.22	0.2402	7
rc13-81@	0.556 O	0.394		0.51	1.28	0.7090	7
rc15-52@	0.694 O	0.219		0.87	3.98	0.3159	11
rc15-61@	3.806 O	1.747				0.4590	0.09
rc8-71	2.778 O	0.591		10.11	17.12	0.2126	3.09
rc8-78	2.500 B	0.956	1.18	4.51	4.71	0.3824	7
rc8-93@	0.843 C	0.500		0.93	1.86	0.5933	9
rc8-94	0.917 O	0.667	0.41			0.7280	0.09
rc9-110	1.611 B	0.365		0.96	2.62	0.2267	7
rc9-110	1.667 B	0.799	0.64	1.25	1.57	0.4793	3.09
rc9-124@	1.750 O	1.170		0.43	0.36	0.6688	9.09
rc9-126	1.194 C	0.696	0.92	3.42	4.91	0.5827	7
rc9-129	1.806 B	1.243	1.25	2.27	1.83	0.6887	3.09
rc9-129	1.667 O	1.148		2.06	1.80	0.6887	9
rc9-77	1.143 C	0.221				0.1932	
vl5-32@	2.643 A	0.835				0.3159	0.009
vl5-33@	4.496 A	2.008		8.14	4.06	0.4467	11
vl5-42@	2.674 A	1.194				0.4467	0.009
vl5-53@	2.028 O	0.931		1.30	1.40	0.4590	11.09
vl6-122	1.750 B	0.733		1.69	2.30	0.4190	7.09
vl7-44	4.194 B	1.877	2.93	34.22	18.23	0.4476	2.09
vl8-222	2.139 B	0.497		0.75	1.51	0.2324	3.09

v18-260@	1.768 C	1.328				0.7511	
v18-262@	0.857 C	0.644				0.7511	
v18-312	1.389 B	0.837		21.03	25.12	0.6027	7.09
v18-312	1.389 B	0.837	1.12	21.05	25.16	0.6024	2.09
v18-68@	2.612 C	0.691				0.2647	
v19-27	6.139 O	1.936	3.95	12.79	6.61	0.3153	0.09
v19-28	10.028 O	3.344	8.33	108.39	32.42	0.3335	2
v19-29	10.028 O	3.344				0.3335	2.09
v19-30	9.472 O	2.746	7.58	51.84	18.88	0.2899	0.09
v19-30@	7.250 C	3.238		39.74	12.27	0.4467	11.08
v19-41	1.694 O	1.194	1.64	4.05	3.39	0.7046	2.09
v19-53	2.111 B	0.847	1.38	3.31	3.90	0.4014	2.09
v19-55	1.111 O	0.576	0.81	3.53	6.13	0.5186	2.09
v19-64	0.750 B	0.557		0.22	0.39	0.7425	2.09
v19-65@	0.861 B	0.639				0.7425	2.09
v19-96	0.833 B	0.474	0.60	2.20	4.65	0.5689	0.09
v21-30	13.917 O	8.269	1.20	34.51	4.17	0.5942	2.09
v21-33	2.528 O	1.240		40.89	32.96	0.4907	2.09
v24-166	2.500 B	1.771	1.24	0.86	0.49	0.7086	9
v28-203@	2.222 O	1.318				0.5933	0.09
v28-229	2.306 B	0.536		8.09	15.10	0.2324	3.09
v28-230	1.139 B	0.766	0.36	4.55	5.94	0.6722	2.09
v28-235	2.250 O	0.963	4.14	11.64	12.08	0.4281	7.09
v28-238	2.111 O	1.292	1.62	9.59	7.42	0.6119	7.09
y71612p	1.361 O	0.281	2.36	2.16	7.67	0.2063	11.09
y71745p@	0.528 O	0.313				0.5933	0.09
z21081	2.500 O	1.637	1.33	1.46	0.89	0.6547	7.09

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