# StrataData

**Biostratigraphic computing**
**Biostratigraphy**
**Geochronology**

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# StrataBugs

## Guide to Import File Formats

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# Contents

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## SUMMARY

This document describes the main data types which can imported into StrataBugs. These are largely confined to fossil distributional data, but some contain comments and other ancillary information.  Table 1 displays a summary of the information contained in the 10 most frequently encountered file types. Mandatory information (i.e. that which will always be present in the file) is shown in green, whereas optional information (i.e. that which the data provider may or may not include in the export file) is shown in blue.  Some optional information is presented merely as text and cannot be imported into StrataBugs.

| Section | 1 | 2 | 3 | 4 | 5 & 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| Data type | DEX | StrataBugs old | Checklist | RRI RG | CSV (inc Ragware) | Tilia | STRATS | Bugware | PD |
| File type (s) | .DEX | .TXT,.DAT | .CHK + fileset | .DAT,.RG | .CSV,.ASC, .TXT | .TIL,.ASC | .TRN fileset | .DE[F/N/P] | .TXT |
| Source program | X | X | | | | X | X | X | |
| Well name | X | X | X | X | | X | X | X | |
| Well code | X | X | | X | | | | | |
| Depth units | X | X | | X | | | X | | |
| Dual sample depths | X | X | X | | X | | | X | X |
| Sample type | X | X | | X | X | | X | | X |
| Sample label | X | | | | | | | | X |
| Sample ID | X | | | | | | | | |
| Abundance scheme | X | X | X | | | | X | X | X |
| Taxon ID | X | X | | | | | | | |
| Discipline | X | X | | X | | | X | | |
| Datum depth | X | | | | | | | | |
| Datum type | X | | | | | | | | |
| Multiple wells | X | | | | | | | | |
| Multiple disciplines | X | X | | X | | | X | | |
| Well header data | X | X | | X | | | | | |
| Location | X | X | | | | | | | |
| Sample range | X | X | X | | X | | | X | X |
| Analyst | X | | | | | | | | |
| Spud date | X | X | | | | | | | |
| Completion date | X | X | | | | | | | |
| Sample Created date | X | X | | | | | | | |
| Sample Modified date | X | | | | | | | | |
| Quantitative data | X | X | X | X | X | X | X | X | |
| Semiquantitative data | X | X | X | X | X | | X | X | X |
| Qualifiers (?/Rw/Cv) | X | X | | | | | ? only | | X |
| TD | X | | | X | | | | | |
| IGD | X | | | X limited | X | | | | |
| IGD Schemes | X | | | | X | | | | |
| Cores | X | | | | | | | | |
| Casing | X | | | | | | | | |
| Sample lithology | X | | | | | | | | |
| Sample age | X | | | | | | | | |

## 1 – StrataBugs DEX files (.DEX)

## Taxa and IGD (DEX)

DEX data files can be imported using the Organiser Application (also Index in v1.8 and earlier).  DEX is currently the preferred format for the transfer of data between StrataBugs users. This format enables information entered in one system to be transferred to another in its entirety. Taxon occurrences, well header details, sample depths, types, labels, details, ages, analysts, abundance schemes, depth units and taxon categories are all managed by this format. Quantitative, semi-quantitative and mixed abundances are recognised. IGD (Interpreted Geological Data) from multiple disciplines and multiple wells and can be transferred (but not IGD from multiple versions). IGD schemes used in each well may be optionally transferred.

Each section of data is preceded by a section header in square brackets.

The **Prolog** section defines basic information about the origin of the file.
**Abundance format** section describes the abundance scheme used in the dataset, if required.
The **Header** section provides details of each sample are listed in turn.

The following example displays taxon occurrence data for a well (shown here in two columns to save space).

```
[PROLOG]
File Format = DEX Paleo Data Exchange Format
Software = StrataBugs JSBUGS
Data prepared by = StrataData Ltd
Location = Ottershaw, UK
Date Locale = C
Date = 22-Apr-2004

[ABUNDANCE FORMAT]
Scheme ID = 1
Scheme name = Default Abundance Scheme
Number of categories = 6
  Category number = 1
    Name : Present
    Entry : P
    Low Bound : 1
    Output Value : 1
  Category number = 2
    Name : Rare
    Entry : R
    Low Bound : 2
    Output Value : 2
  Category number = 3
    Name : Common
    Entry : C
    Low Bound : 5
    Output Value : 5
  Category number = 4
    Name : Abundant
    Entry : A
    Low Bound : 15
    Output Value : 15
  Category number = 5
    Name : Dominant
    Entry : D
    Low Bound : 50
    Output Value : 50
  Category number = 6
    Name : Outside count
    Entry : +
    Low Bound : 0
    Output Value : 0


[HEADER]
Well Name = Example1
Well Code = EXAMPLE1
Country = NOWHERE
Type = Borehole
Units = metres
Spud Date = 01-Jan-1995
Completion Date = 01-Jan-1996
Terminal depth = 1800.00m
Depth Datum = RTE
Abundance scheme ID = 1
  Discipline : M

[SAMPLE 216m CU]
Base Depth = 216.00m
```

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```
Type = CU
Created = 31-Jan-1999
Modified = 22-Mar-2004
Sample id = 24379609

Discipline = M
  Modified : 22-Apr-2004
  Modifier : JA
  Analyst : JA
  Source : SDATA
  Notes : This a sample
Species = Abrocythereis spp.
  Code : OS
  Qualifier : Reworked
  Species id : 16267
  Abundance : P
  Species count : 1
Species = Allomorphina paleocenica
  Code : FOBC
  Species id : 16274
  Species count : 3
Species = Ammonia compressiuscula
  Code : FOBC
  Species id : 16283
  Species count : 70
Species = Ammonia ketienziensis
  Code : FOBC
  Species id : 16286
  Species count : 6
```

Etc…

```
[SPECIES LIST]
Species = Abrocythereis spp.
  ID : 16267
  Category : OS
  Genus : Abrocythereis
  Species : spp.

Species = Acarinina mckannai sl.
  ID : 19617
  Category : FOP
  Genus : Acarinina
  Species : mckannai
  Post-Species qualifier : sl.
```

Etc…

```
[END OF FILE]
```
In addition to taxon occurrence data, IGD can be exchanged in this format either together with taxon occurrence data or in separate files. Below are examples of some of the IGD types. Each IGD item is identified by a section header enclosed in square brackets.
IGD schemes optionally selected for export:

```
[Palaeoenvironment Scheme]
Scheme name = Water depth
  Scheme ID : 1
  Number of columns : 9
Column name = Non Marine
  Colour : 255,128,0
Column name = Transitional
  Colour : 255,255,0
```
Etc…..

```
[Chronostratigraphy Scheme]
Scheme name = Harland et.al. 1989 (MZ+TT)
Scheme ID : 3
Number of units : 86
Unit = Cenozoic
  Abbreviation : CZ
  Type = Era
  Youngest : 0.00
  YoungestQualifier  : Uncertain
  Oldest : 65.00
  OldestQualifier   : Uncertain
  Dictionary ID : 112
  Colour : 222,105,19
```
Etc….

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```
[Lithostratigraphy Scheme]
Scheme name = StrataBugs Lithostratigraphy
Scheme ID : 10
Number of units : 11
Unit = Bed A
  Abbreviation : A
  Type = Bed
  Youngest : 0.00
  YoungestQualifier  : Uncertain
  Oldest : 0.00
  OldestQualifier  : Uncertain
  Dictionary ID : 2637
Etc…
```

```
[Microfaunal Biozone Scheme]
Scheme name = StrataBugs scheme
Scheme ID : 24
Number of units : 11
Unit = Zone 1
  Abbreviation : Z1
  Type = Zone
  Youngest : 0.00
  YoungestQualifier  : Uncertain
  Oldest : 1.00
  OldestQualifier  : Uncertain
  Dictionary ID : 330
Etc…
```

```
[ABUNDANCE FORMAT]
Scheme ID = 1
Scheme name = Default Abundance Scheme
Number of categories = 6
  Category Number = 1
    Name : Present
    Entry : P
    Low Bound : 1
    Output Value : 1
  Category Number = 2
Etc.
```

Well header information:

```
[HEADER]
Well Name = Example1
Well Code = EXAMPLE1
Country = NOWHERE
Type = Borehole
Units = metres
Spud Date = 01-Jan-1995
Completion Date = 01-Jan-1996
Terminal depth = 1800.00m
Depth Datum = RTE
Abundance scheme ID = 1
  Discipline : M
```

Core data:

```
[CORE 730.00m – 750.00m]
Core number = 1
Recovered = yes
Top depth = 730.00m
Base depth = 750.00m
Top depth correction =    10.00m
Base depth correction =    10.00m
Etc…
```

IGD intervals in well (chronostratigraphy):

```
[INTERVAL 1075.00m – 1420.00m]
Type = Chronostratigraphy
Period/Epoch = Cenozoic
  Scheme ID : 3
  Top sample : 1075.00m CU
  Base sample : 1420.00m CU
  Separator : –
  Top sample ID : 24379394
  Base sample ID : 24379446
  Upper dictionary ID : 112
```

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```
  Upper unit : Cenozoic
  Upper boundary : Confident
  Lower boundary : Confident
  Upper questionable : No
  Lower questionable : No
Modified = 17-Mar-2004
Modifier = JA
Etc…
```

IGD intervals in well (lithostratigraphy):

```
[INTERVAL 1099.00m - 2250.00m]
Type = Lithostratigraphy
Group = StrataBugs
  Scheme ID : 10
  Top sample : 1099.00m LOG
  Base sample : 2250.00m CU
  Separator : -
  Top sample ID : 24379432
  Base sample ID : 24379450
  Upper dictionary ID : 228
  Upper unit : StrataBugs
  Upper boundary : Confident
  Lower boundary : Confident
  Upper questionable : No
  Lower questionable : No
Modified = 17-Mar-2004
Modifier = JA
Etc…
```

IGD intervals in well (sequences):

```
[INTERVAL 1030.00m - 1130.00m]
Type = Sequence
Sequence = M0
  Scheme ID : 32
  Top sample : 1030.00m LOG
  Base sample : 1130.00m LOG
  Separator : -
  Top sample ID : 24379429
  Base sample ID : 24379452
  Upper unit : M0
  Upper boundary : Unconformable
  Lower boundary : ?Unconformable
  Upper questionable : No
  Lower questionable : No
  Highstand Tract : HST
  Maximum Flooding Surface : 1099.00m LOG
  Maximum Flooding Surface ID : 24379432
  Transgressive Surface ID : 24379454
  Transgressive Tract : TST
  Transgressive Surface : 1117.00m LOG
  Lowstand Tract : LST
Modified = 31-Mar-2004
Modifier = JA
Etc..
```

IGD intervals in well (palaeoenvironments):

```
[INTERVAL 1000.00m - 1130.00m]
Palaeoenvironment = (Non Marine, Non Marine) - (Non Marine, Non Marine)
Environment scheme ID : 1
Top sample : 1000.00m CU
Base sample : 1130.00m CU
Top sample ID : 24379428
Base sample ID : 24379404
Upper proximal unit : Non Marine
Upper distal unit : Non Marine
Lower proximal unit : Non Marine
Lower distal unit : Non Marine
Modified = 18-Mar-2004
Modifier = JA
Etc..
```

IGD intervals in well(lithologies):

```
[INTERVAL 500.00m - 520.00m]
Interval Lithology = coal/lignite
  Top depth : 500.00m
```

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```
   Base depth : 520.00m
   Dictionary ID : 1020
Etc…

[INTERVAL 700.00m – 700.00m]
Lithology Accessory = bivalve
  Top depth : 700.00m
  Base depth : 700.00m
  Dictionary ID : 3003
  Plot position : 51.5
Etc…

[INTERVAL 810.00m – 810.00m]
Lithology Stringer = argillaceous limestone
  Top depth : 810.00m
  Base depth : 810.00m
  Dictionary ID : 4001
  Alignment : Left
  Width : 100
Etc…
IGD intervals in well(biozones):

[INTERVAL 1000.00m – 1500.00m]
Type = Biozone
Biozone data = Microfossil biozones
Scheme = StrataBugs scheme
  Scheme ID : 24
  Top sample : 1000.00m CU
  Base sample : 1500.00m CU
  Separator : –
  Top sample ID : 24379428
  Base sample ID : 24379460
  Upper dictionary ID : 336
  Upper unit : StrataBugs scheme
  Upper boundary : Confident
  Lower boundary : Confident
  Upper questionable : No
  Lower questionable : No
Modified = 18-Mar-2004
Modifier = JA
Etc…


Casing:

[CASING    600.00m]
Depth =    600.00m
Diameter = 18 5/8in
Etc…

List of taxa:

[SPECIES LIST]
Species = Abrocythereis spp.
   ID : 16267
   Category : OS
   Genus : Abrocythereis
   Species : spp.

Species = Actinocythereis triangulata
   ID : 16271
   Category : OS
   Genus : Actinocythereis
   Species : triangulata
Etc…


[END OF FILE]
```

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## IGD schemes (DEX)

Use these files to import an entire IGD scheme (with colours where appropriate). Several Chronostratigraphy schemes in DEX format are currently available for download from the StrataData website.  To do this in Organiser, open Tools | IGD schemes | [select IGD type], then select Add, then Read DEX, navigate to the correct file and press Open.  Press OK, enter a name for the new scheme and press OK again to save it to the database.

```
[PROLOG]
File Format = DEX Paleo Data Exchange Format
Software = StrataBugs JSBUGS
Data prepared by = StrataData Ltd
Location = Ottershaw, UK
Date Locale = C
Date = 05-Jan-2004

[Chronostratigraphy Scheme]
Scheme name = Harland et al 1989_wallchart
Scheme ID : 83
Number of units : 200

Unit = Phanerozoic
  Abbreviation : PH
  Type = Eon
  Youngest : 0.0
  Oldest : 570.0
  Dictionary ID : 2064
  Colour : 157,168,194
Unit = Cenozoic
  Abbreviation : CZ
  Type = Era
  Youngest : 0.0
  Oldest : 65.0
  Dictionary ID : 2065
  Colour : 222,105,19
Unit = Quaternary
  Abbreviation : Q
  Type = Period
  Youngest : 0.0
  Oldest : 1.64
  Dictionary ID : 2066
  Colour : 219,221,150
Unit = Holocene
  Abbreviation : HOL
  Type = Epoch
  Youngest : 0.0
  Oldest : 0.01
  Dictionary ID : 2067
  Colour : 255,255,255
Unit = Pleistocene
  Abbreviation : PLE
  Type = Epoch
  Youngest : 0.01
  Oldest : 1.64
  Dictionary ID : 2068
  Colour : 219,221,150
Unit = Neogene
  Abbreviation : NG
  Type = Period
  Youngest : 1.64
  Oldest : 23.3
  Dictionary ID : 2069
  Colour : 239,224,98
```

## Taxa Sets and Groups (DEX)

DEX files can be used to transfer Groups and Sets of taxa from one StrataBugs user to another.  Used in conjunction with the DEX taxa occurrence files and DEX Chart template files.   To import taxa from a DEX file Open Taxon Database | File | Import from DEX file, select the file and press Open and add the taxa as a new group. They can also be imported in Organiser | Taxon Dictionary| Edit | Read, and saved as new taxa or as a group in the taxonomic database.

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```
[PROLOG]
File Format = DEX Paleo Data Exchange Format
Software = StrataBugs JSBUGS
Data prepared by = StrataData Ltd
Location = Ottershaw, UK
Date Locale = C
Date = 01-Mar-2005

[GROUP SET Nile marker FO]
Name = Nile marker FO
Group = Nile marker FOB
  ID : 164
Group = Nile marker FOP
  ID : 163

[SPECIES GROUP Nile marker FOB]
  Name : Nile marker FOB
  Group ID : 164

Species = Uvigerina peregrina Cushman, 1923
   ID : 4371
   Category : FOBC
   Genus : Uvigerina
   Species : peregrina
   Author : Cushman
   Year : 1923

Species = Globobulimina affinis (D`Orbigny) Ingle et al.on, 1980
   ID : 5464
   Category : FOBC
   Genus : Globobulimina
   Species : affinis
   Author : (D`Orbigny) Ingle et al.on
   Year : 1980

Species = Bolivina spathulata
   ID : 138847
   Category : FOBC
   Genus : Bolivina
   Species : spathulata

Species = Fursenkoina bradyi
   ID : 141274
   Category : FOBC
   Genus : Fursenkoina
   Species : bradyi

[SPECIES GROUP Nile marker FOP]
  Name : Nile marker FOP
  Group ID : 163

Species = Globigerinoides ruber
   ID : 1638
   Category : FOP
   Genus : Globigerinoides
   Species : ruber

Species = Globigerina bulloides
   ID : 4564
   Category : FOP
   Genus : Globigerina
   Species : bulloides

Species = Neogloboquadrina pachyderma (d)
   ID : 141171
   Category : FOP
   Genus : Neogloboquadrina
   Species : pachyderma (d)


[END OF FILE]
```

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## Chart template (DEX)

The DEX format can also be used to import a Chart template from another StrataBugs user.  Use this in conjunction with Sets/Groups import, Taxa and IGD import to reproduce another user's chart exactly using imported data.  To import a chart template in Charts open Chart | Template, press Import and select the file and press Open.

```
[PROLOG]
File Format = DEX Paleo Data Exchange Format
Software = StrataBugs
Data prepared by = StrataData Ltd
Location = Ottershaw, UK
Date Locale = C
Date = 23-Nov-2004

[CHART TEMPLATE]
Template name = Nile Delta foram Distribution Chart2

Panel number = 0
  Attributes : 1|90|0|40|16|173|0|20|250|M|0|Depth|C|0|0|308|0
Panel number = 1
  Attributes : 13|90|0|213|518|30|0|0|-1|F|0|Chart Key|0|30|0|0|0|1|0|0|0|1|1|1|0
Panel number = 2
  Attributes : 9|90|16|40|16|173|0|20|250|M|0||16|0|0|1|0|0|1|308|0|0|0|0|0|0|1|1
Panel number = 3
  ......................etc

[END OF FILE]
```

## Composite Standards (DEX)

The DEX format can also be used to transfer complete composite standards from one StrataBugs database to another. The files are read and written from within Organiser in the Tools | Composite Standards dialog. The resulting file will appear like this:

```
[PROLOG]
File Format = DEX Paleo Data Exchange Format
Software = StrataBugs JSBUGS
Date Locale = C
Date = 16-Aug-2005

[SPECIES LIST]
Species = Gyroidinoides nitidus
   ID : 4444
   Category : FOBC
   Genus : Gyroidinoides
   Species : nitidus

Species = Marginotruncana marginata
   ID : 5076
   Category : FOP
   Genus : Marginotruncana
   Species : marginata
-------etc.
[COMPOSITE STANDARD]
Name = Demo Composite Standard
Top = 60.0
Base = 675.0
Event = Gyroidinoides nitidus
   ID : 1
   Species id : 4444
   Paired : true
   Use as top or base : true
   Created : 27-Feb-2001
   Creator : SYS
   Top : 60.0
   Base : 0.0

Event = Marginotruncana marginata
   ID : 2
   Species id : 5076
```

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```
   Paired : true
   Use as top or base : true
   Created : 27-Feb-2001
   Creator : SYS
   Top : 75.0
   Base : 0.0
--------etc.
```

```
[END OF FILE]
```

## Event Dictionary (DEX)

This is available from Organiser in Tools | Event Dictionary | Read… The format is similar to the above, with a species list, but with the following section instead of a composite standard section:

```
[EVENT LIST]
Event = Acarinina bulbrooki
   ID : 1268
   Paired : true
   Use as top or base : true
   Created : 22-Apr-2005
   Creator : BR
```

### Palaeoenvironment Schemes(DEX)

The DEX format can be used to read and write Palaeoenvironment schemes via Organiser, in the Tools | Palaeoenvironment Schemes | Add/Edit scheme dialog.

### Lines of Correlation (DEX)

The DEX format is used to transfer LOCs between StrataBugs databases. The looks like this:

```
[PROLOG]
File Format = DEX Paleo Data Exchange Format
Software = StrataBugs JSBUGS
Data prepared by = StrataData Ltd.
Location = Ashford
Date Locale = C
Date = 22-Mar-2004
```

```
[PROJECT]
Name = StrataBugs Project 1
```

```
[LOC]
Well = StrataBugs-1
Composite standard = Standard 1
Depth 1 = 825.0
Depth 2 = 811.0
CSU 1 = 94.6
CSU 2 = 90.5
Line width = 0.3
Colour = 255,0,0
```

```
[LOC]
Well = StrataBugs-1
Composite standard = Standard 1
Depth 1 = 835.0
Depth 2 = 825.0
CSU 1 = 94.6
CSU 2 = 94.6
Line width = 0.3
Colour = 255,0,0
---------etc.
```

The file is read from the Event LOC dialog in Organiser by pressing the "Read" button.

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## 2 – StrataBugs file (.TXT, .DAT) (old format)

StrataBugs data files can be imported using the Organiser Application.  This format contains information about sample depths, types, abundance schemes, depth units and taxon categories in one or more disciplines for single wells. Quantitative, semi-quantitative and mixed abundances are recognised, but not samples weights, split factors or occurrence split factor counts. This format does not support sample labels or samples with multiple analysts.  The functionality of this format was superceded by DEX format files from V1.6

Most of the fields in the file are delimited by the TAB character and can therefore only be edited with great care.

The header contains information about the data source and well data (well name, location, spud and completion dates, field, block, quadrant, depth datum, elevation,, latitude and longitude and depth units).

```
** StrataBugs dump from: StrataData Ltd Ottershaw, UK
*WELL
Example1 EXAMPLE1            NOWHERE                                 0         0
         01-Jan-1995         01-Jan-1996  0         N         0 0   0         0       E       0         0
         0       1800        0         0         0         1 W   M
```

This is followed by an indication of the Discipline (M=micropalaeontology, P=palynology, N=nannofossils, A=Macrofossils).  The semi-quantitative Abundance Scheme is listed next followed by the number of Taxa.  Each Taxon occupies 2 rows, the first displays the unique database identifier, followed by the full taxon name.  The next row displays the taxon category and the various components of the taxon name.  All items are "tab" separated.

```
*FSSABND M
ABNSCHME
   P                 Present1
   R                    Rare2
   C                  Common5
   A                Abundant15
   D                Dominant50
   +          Outside count0
TAXA 10
16267   Abrocythereis spp.
OS          Abrocythereis                      spp.
19617   Acarinina mckannai sl.
FOP         Acarinina                          mckannai          sl.
16274   Allomorphina paleocenica
FOBC        Allomorphina                       paleocenica
16281   Ammodiscus dubius
FOBA        Ammodiscus                         dubius
19618   Ammonia cf. annectens
FOBC        Ammonia                  cf.       annectens
19619   Ammonia "beccarii"
FOBC        Ammonia              "       beccarii              "
16283   Ammonia compressiuscula
FOBC        Ammonia                            compressiuscula
16284   Ammonia confertitasta
FOBC        Ammonia                            confertitasta
19620   Ammonia inflata inflata
FOBC        Ammonia                            inflata           inflata
16286   Ammonia ketienziensis
FOBC        Ammonia                            ketienziensis
```

The final section contains information about each sample is displayed in rows:

**Row commencing with S** = sample data displaying sample depth, sample type (valid values CU, CO, SC, OC) and LOG.

**Row commencing with D** = sample details   displays the details of the sample anlysis for the discipline, including the analyst, source, picker, date and comments.

**Row commencing with T** = Taxon data (one per taxon) displays ID no.,  qualifiers (optional - valid values are ?, R or both), semi-quantitative abundance and/or numeric counts, caved (optional)

Row commencing with A = Taxon occurrence ancillary data, preservation, colour and comments.

```
SAMPLES
```

```
S    216.000         CU        0        0     216.000
D NJA             SDATA     This a sample     22-Apr-2004
T 16267  R        P         1
T 16274                     3
T 16283                     70
T 16286                     6
S    233.000         CU        0        0     233.000
D NJA             SDATA               22-Apr-2004
T 16283                     42
T 19618   ?       P         1
T 19619                     1
S    266.000         CU        0        0     269.000
D NJA             SDATA               22-Apr-2004
T 19617                     44
S    270.200         SC        0        0     270.200
D NJA             SDATA               22-Apr-2004
T 16274                     67
T 16281                     1
T 19617                     30
S    283.250         CO        0        0     283.250
D NJA             SDATA               22-Apr-2004
T 16267                     4
T 16274                     32
T 16283                     123
T 16286                     53
T 19617                     20
T 19618                     3
T 19619                     20
S    304.000         CU        0        0     304.000
D NJA             SDATA               22-Apr-2004
T 16267           R         0
T 16283           A         0
T 16284           R         0
T 16286           R         0
T 19617           C         0
T 19618           R         0
S    316.000         CU        0        0     316.000
D NJA             SDATA               22-Apr-2004
T 16274           R         0
T 19617           P         0
S    326.000         CU        0        0     326.000
D NJA             SDATA               22-Apr-2004
T 16283           A         0
T 16284           C         0
T 16286           R         0
T 19618           C         0
T 19619           D         0
T 19620  R        P         0
S    356.000         CU        0        0     356.000
D NJA             SDATA               22-Apr-2004
T 16283           A         0
T 16284           C         0
T 16286           C         0
T 19617   ?       P         0
T 19618           A         0
T 19619           D         0
T 19620           C         0
S    366.000         CU        0        0     366.000
D NJA             SDATA               22-Apr-2004
T 16267           P         0      C
T 16283           D         0
T 16284           A         0
T 16286           C         0
T 19618           R         0
```

_____

## 3 - CHECKLIST II (.CHK + .D00, .D01, etc. or .CHK + .DAT)

Checklist data files can be imported using the Organiser Application. There appear to be two versions of output file from Checklist. For the early version, the Checklist dataset is contained in a number of files of which only two types are mandatory:

**[filename].CHK** – This is the master file and contains the abundance format, number of species and samples, species names and sample labels

**[filename].D00, D01, etc.** – These are abundance files. Each file contains the taxon abundance for each group of ten samples (1 – 9, 10 – 19, etc., and (optionally) comments for each of the samples

Other files which may form part of the file set but which are not essential to import taxon occurrence data into StrataBugs are:

**[filename].HDR** – header file with additional well information
**[filename].ABF** – abundance format for semiquantitative abundance schemes [does StrataBugs read this?]
**[filename].SPC** – a list of codes for each taxon
**[filename].LST** – records the last sample worked on
**[filename].CMT** – contains Comment field titles
**[filename].DEP** – depth values for each sample

### Example CHECKLIST II file (earlier [filename].CHK format)
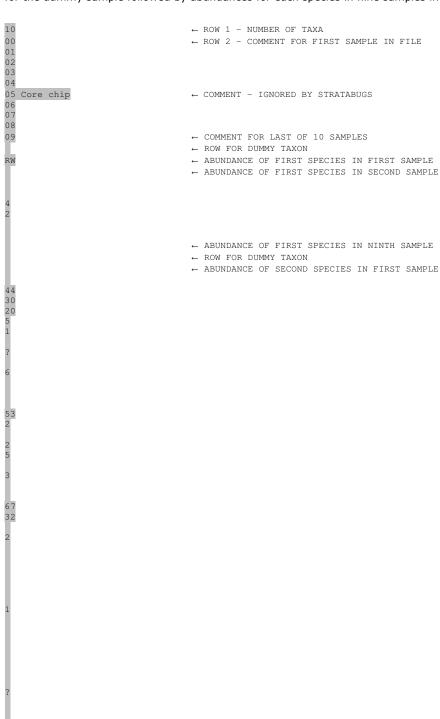
```
EXAM_CHK                               ← FILENAME (no of characters??)
EXAMPLE CHECKLIST FILE; MICROFOSSILS   ← WELLNAME; DISCIPLINE (optional)
NUMBER OF SPECIMENS                    ← STYLE ("FREE FORM", "RELATIVE ABUNDANCE", "PRESENT ABSENT","POINT COUNT")
 10                                    ← NUMBER OF TAXA
 10                                    ← NUMBER OF SAMPLES
\END                                   ← END OF SECTION MARKER
 0                                     ← LEFT BINARY TREE POINTER – IGNORED BY STRATABUGS
 0                                     ← RIGHT BINARY TREE POINTER – IGNORED BY STRATABUGS
Abrocythereis spp.                     ← FIRST TAXON NAME
 2                                     ETC..
 0
Acarinina mckannai sl.
 3
 1
Ammonia ketienziensis
 4
 2
Allomorphina paleocenica
 5
 3
Ammodiscus dubus
 6
 4
Ammonia cf. annectens
 7
 5
Ammonia "beccarii"
 8
 6
Ammonia compressiuscula
 9
 7
Ammonia confertitasta
 10
 8
Ammonia inflata inflata
 0
 9
\END                                   ← END OF SECTION MARKER
00216.00-00216.00                      ← SAMPLE LABEL (free format, usually one or two depths)
00233.00-00233.00
00266.00-00269.00
00270.20-00270.20
00283.25-00283.25
00304.00-00304.00
00316.00-00316.00
00326.00-00326.00
00356.00-00356.00
00366.00-00366.00
```

_____

**Example CHECKLIST II file (earlier [filename].D00 format)**

NB Rows 2 – 11 represent a list of 10 samples to which comments can be appended.  Thereafter there is always a row for the dummy sample followed by abundances for each species in nine samples in turn.

```
10                              ← ROW 1 – NUMBER OF TAXA
00                              ← ROW 2 – COMMENT FOR FIRST SAMPLE IN FILE
01
02
03
04
05 Core chip                    ← COMMENT – IGNORED BY STRATABUGS
06
07
08
09                              ← COMMENT FOR LAST OF 10 SAMPLES
                                ← ROW FOR DUMMY TAXON
RW                              ← ABUNDANCE OF FIRST SPECIES IN FIRST SAMPLE
                                ← ABUNDANCE OF FIRST SPECIES IN SECOND SAMPLE


4
2


                                ← ABUNDANCE OF FIRST SPECIES IN NINTH SAMPLE
                                ← ROW FOR DUMMY TAXON
                                ← ABUNDANCE OF SECOND SPECIES IN FIRST SAMPLE

44
30
20
5
1

?

6


53
2

2
5

3


67
32

2




1




?


3
2

5
15
```

_____

```
+

20

50
50

70
42

123
15

15
15

2

5
5

RW
5
```
                                        ← ABUNDANCE OF NINTH SPECIES IN NINTH SAMPLE


A later version of Checklist II generates the following files:

**[filename].CHK** - the master file similar to the earlier format but is more explicit about the data it contains
**[filename].DAT –** this replaces the earlier [filename].D00, D01, etc. files and contains abundance data for all species in all samples.

Other files which may form part of the dataset but which are not required to import taxon occurrence data into StrataBugs are:

**[filename].HDR** – header file with additional well information
**[filename].LST** –  last sample worked on
**[filename].SPC** – codes for each taxon
**[filename].CMT** – sample comment format
**[filename].SNF** – sample name format
**[filename].SAC** – comments for each sample
**[filename].ABF –** abundance format
**[filename].DEP –** depth values for each sample
**[filename].SCM –** comment on each species in each sample

**Example CHECKLIST file (later [filename].CHK format)**

```
REM *** CHECKLIST II Data Set. Master Data File.
  Data Set Name  = EXAMPLE CHECKLIST IMPORT
  Report Title   = EXAMPLE CHECKLIST IMPORT
  Abund Format   = NUMBER OF SPECIMENS      OR "FREE FORM", "RELATIVE ABUNDANCE", "PRESENT ABSENT", "POINT COUNT"
  Abund ColWidth =  5
  Sp CommentLen  =  0
  SP Matrix Size =  10
  SA Matrix Size =  10
  Species In Use =  10
  Samples In Use =  10
\END                            ← END OF SECTION MARKER
  0                             ← IGNORED BY STRATABUGS
  0                             ← IGNORED BY STRATABUGS
```

```
Abrocythereis spp.            ← FIRST TAXON NAME
 2                            ← LEFT BINARY TREE POINTER – IGNORED BY STRATABUGS
 0                            ← RIGHT BINARY TREE POINTER – IGNORED BY STRATABUGS
Acarinina mckannai sl.
 3
 1
Ammonia ketienziensis
 4
 2
Allomorphina paleocenica
 5
 3
Ammodiscus dubus
 6
 4
Ammonia cf. annectens
 7
 5
Ammonia "beccarii"
 8
 6
Ammonia compressiuscula
 9
 7
Ammonia confertitasta
 10
 8
Ammonia inflata inflata
 0
 9
\END                          ← END OF SECTION MARKER
00216.00-00216.00             ← SAMPLE LABEL
00233.00-00233.00
00266.00-00269.00
00270.20-00270.20
00283.25-00283.25
00304.00-00304.00
00316.00-00316.00
00326.00-00326.00
00356.00-00356.00
00366.00-00366.00
```

### Example CHECKLIST file (later [filename].DAT format)

For each sample in turn there is an array as follows. The sample depth and label (optional) occupy the first 25 columns (optional). From column 27 numerical or semiquantitative abundances of each taxon are listed in fields up to AbundColWidth characters wide and separated from the next by a space. Absent taxa are marked by a full stop or period (i.e."."). The semiquantitative schemes in Checklist II are user defined and can be matched against or added to StrataBugs schemes during the Mtach | Abundance stage. In numerical abundance datasets ? and X are also allowable characters in addition to numerals but their significance should be checked in each case. X can be taken to mean "Present" or "Present outside the count".

```
216.0   CUT              RW     .    6    3    .    .    .    70    .    .
233.0   CUT              .      .    .    .    .    ?    +    42    .    .
266.0-269.0 CUT          .      44   .    .    .    .    .    .     .    .
270.20  SWC              .      30   .    67   1    .    .    .     .    .
283.25  COR              4      20   53   32   .    3    20   123   .    .
304.0   CUT              2      5    2    .    .    2    .    15    2    .
316.0   CUT              .      1    .    2    .    .    .    .     .    .
326.0   CUT              .      .    2    .    .    5    50   15    5    RW
356.0   CUT              .      ?    5    .    .    15   50   15    5    5
366.0   CUT              CV     .    5    .    .    2    .    50    15   .
```

_____

## 4 - Robertson Research (RG) format file (.DAT)

RG data files can be imported using the Organiser Application.  The format permits a single file to contain multiple datatypes. Sample types will need translating during import.  More than one discipline may be present in the file.  This import program can also deal with a variant of the RG format output of taxon occurrence data from the SIS program. Any record which begins with a "*" will be ignored.

The well header data are usually given as a set of field values at the beginning of the file, i.e.

WELLNAME=
WELLNO=internal unique well number
UNITS=M or F
TD=depth value
DATUM=depth value
DATUMTYPE= (one of KB,RTE,SL,SB)
AUTHOR=
CREATE=

The following data are arranged in a sequence of "datatypes". Valid "datatypes" which can be imported by StrataBugs are:

| RG Datatype | StrataBugs equivalent |
|---|---|
| $Datatype = Header | = well header information  (not read by StrataBugs, often absent) |
| $Datatype = Mpal | = microfossil occurrences |
| $Datatype = Paly | = palynomorph occurrences |
| $Datatype = Nann | = nannofossil occurrences |
| $Datatype = Mcom | = microfossil comments |
| $Datatype = Pcom | = palynomorph occurrences |
| $Datatype = Ncom | = nannofossil comments |
| $Datatype = Mzon | = microfossil biozones |
| $Datatype = Pzon | = palynomorph biozones |
| $Datatype = Nzon | = nannofossil biozones |
| $Datatype = Ages | = chronostratigraphy |
| $Datatype = Flit | = lithostratigraphy |
| $Datatype = Lcom | = lithological comments (read into Macrofossil comments) |

Each datatype is qualified by a series of records separated by a field separator character (FS=), which is usually a "~" symbol. Where a data item is missing there will therefore be two consecutive separator symbols.

The taxon occurrence data records are arranged as follows:

### Wno~Category~d1~Code~Count~Taxon~Taxontype~Agediag~fmin~fmax~bugid

Record definitions are as follows:

| | |
|---|---|
| **Wno** | = The Unique integer well reference identifier.  Ignored by StrataBugs. |
| **Category** | = A character defining sample type. Valid values are D (cuttings), C (core), S (sidewall core). Translated during import. |
| **d1** | = The depth value in the current units associated with the base of the sample interval |
| **Code** | = An integer representing the semi-quantitative taxon abundance. Valid values are 1 (Present), 2 (Rare), 3 (Occasional), 4 (Common), 5 (Abundant), 0 (Barren), -1(Caved), -2 (reworked) and -3 (outside the count).  This field will be blank if numerical abundances recorded. |
| **Count** | = Numerical (quantitative) taxon abundance. In addition the following integers can be used 0 (Barren), -1(Caved), -2 (reworked) and -3 (outside the count). |
| **Taxon** | = Name of taxon. This is an undivided text string and may need translating during import. |
| **Taxontype** | = A single character representing the taxon category. These are ignored by StrataBugs. |
| **Agediag** | = A single letter (Y or N) indicating if a taxon is age diagnostic.  Indicated as a Marker taxon by StrataBugs. |
| **fmin** | = Function unknown. Ignored by StrataBugs. |
| **fmax** | = Function unknown. Ignored by StrataBugs. |
| **bugid** | = Unique numerical indentifier. Ignored by StrataBugs (since this field is mis-used in SIS format RG files) |

A typical example of a Robertson RG format file is:

```
***************************************************************
AUTHOR=JOHN ATHERSUCH                          ← WELL HEADER. IGNORED BY STRATABUGS
CREATE=940214.1206
REVISION=RGL0053403356
DIVISION=BIOA
FS=~
***************************************************************
*
WELLNAME=EXAMPLE RG IMPORT                     ← WELL NAME
WELLNO=9999                                    ← WELL NUMBER.IGNORED BY STRATABUGS
UNITS=F                                        ← DEPTH UNITS
DATUM=120.00                                   ← DATUM
DATUMTYPE=KB                                   ← DATUM TYPE
TD=14440.                                      ← TD
*
```

_____

```
$DATATYPE=MPAL                                    ← DISCIPLINE. VALID VALUES ARE MPAL, PALY and NANN
*
9999~D~216.00~~-2~Abrocythereis sp.~S~N~1~5~4001~    ← FIRST MPAL TAXON DATA (SEE RECORD DEFINITIONS)
9999~D~216.00~~3~Allomorphina paleocenica~G~N~1~5~1293~
9999~D~216.00~~70~Ammonia compressiuscula~B~N~1~5~4000~
9999~D~216.00~~6~Ammonia ketienziensis~B~N~1~5~2430~
9999~D~233.00~~1~Ammonia cf annectens~B~N~1~5~1072~
9999~D~233.00~~-3~Ammonia "beccarii"~B~N~6~20~1769~
9999~D~233.00~~42~Ammonia compressiuscula~B~N~1~5~4000~
9999~D~269.00~~44~Acarinina mckannai sl.~P~N~1~5~971~
9999~S~270.20~~30~Acarinina mckannai sl.~P~N~1~5~971~
9999~S~270.20~~67~Allomorphina paleocenica~G~N~1~5~1293~
9999~S~270.20~~1~Ammodiscus dubus~G~N~1~5~1395~
9999~C~283.25~~4~Abrocythereis sp.~S~N~1~5~4001~
9999~C~283.25~~20~Acarinina mckannai sl.~P~N~1~5~971~
9999~C~283.25~~32~Allomorphina paleocenica~G~N~1~5~1293~
9999~C~283.25~~3~Ammonia cf annectens~B~N~1~5~1072~
9999~C~283.25~~20~Ammonia "beccarii"~B~N~6~20~1769~
9999~C~283.25~~123~Ammonia compressiuscula~B~N~1~5~4000~
9999~C~283.25~~53~Ammonia ketienziensis~B~N~1~5~2430~
9999~D~304.00~~2~Abrocythereis sp.~S~N~1~5~4001~
9999~D~304.00~~5~Acarinina mckannai sl.~P~N~1~5~971~
9999~D~304.00~~2~Ammonia cf annectens~B~N~1~5~1072~
9999~D~304.00~~15~Ammonia compressiuscula~B~N~1~5~4000~
9999~D~304.00~~2~AMMONIA CONFERTITASTA~B~N~21~50~1769~
9999~D~304.00~~2~Ammonia ketienziensis~B~N~1~5~2430~
9999~D~316.00~~1~Acarinina mckannai sl.~P~N~1~5~971~
9999~D~316.00~~2~Allomorphina paleocenica~G~N~1~5~1293~
9999~D~326.00~~5~Ammonia cf annectens~B~N~1~5~1072~
9999~D~326.00~~50~Ammonia "beccarii"~B~N~6~20~1769~
9999~D~326.00~~15~Ammonia compressiuscula~B~N~1~5~4000~
9999~D~326.00~~5~AMMONIA CONFERTITASTA~B~N~21~50~1769~
9999~D~326.00~~-2~Ammonia inflata inflata~B~N~1~5~303~
9999~D~326.00~~2~Ammonia ketienziensis~B~N~1~5~2430~
9999~D~356.00~~1~Acarinina mckannai sl.~P~N~1~5~971~
9999~D~356.00~~15~Ammonia cf annectens~B~N~1~5~1072~
9999~D~356.00~~50~Ammonia "beccarii"~B~N~6~20~1769~
9999~D~356.00~~15~Ammonia compressiuscula~B~N~1~5~4000~
9999~D~356.00~~5~AMMONIA CONFERTITASTA~B~N~21~50~1769~
9999~D~356.00~~5~Ammonia inflata inflata~P~N~1~5~303~
9999~D~356.00~~5~Ammonia ketienziensis~B~N~1~5~2430~
9999~D~366.00~~-1~Abrocythereis sp.~S~N~1~5~4001~
9999~D~366.00~~2~Ammonia cf annectens~B~N~1~5~1072~
9999~D~366.00~~50~Ammonia compressiuscula~B~N~1~5~4000~
9999~D~366.00~~15~AMMONIA CONFERTITASTA~B~N~21~50~1769~
9999~D~366.00~~5~Ammonia ketienziensis~B~N~1~5~2430~
*
$DATATYPE=PALY                                    ← DISCIPLINE. VALID VALUES ARE MPAL, PALY and NANN (or NPAL)
*
9999~D~14440.00~~-1~Corollina meyeriana~M~N~~~463~    ← FIRST PALY TAXON DATA (SEE RECORD DEFINITIONS)
....ETC
*
$DATATYPE=AGES
*
9999~1~13190.00~13190.00~N~+~~~~~
9999~1~13190.00~13255.00~N~L~UPPER CRETACEOUS~~~~
9999~2~13190.00~13255.00~N~L~TURONIAN~~~~
9999~2~13255.00~13280.00~U~~LOWER VALANGINIAN - LOWER BARREMIAN~~~~
9999~2~13280.00~13300.00~N~~LOWER VALANGINIAN~~~~

......ETC

***** END OF FILE *****
```

-----------------------------------------------------------------------------------------------------------------

A SIS file uses an alphanumeric code instead of numerals for the **bugid** record. Both the **Code** record and **Count** record may display identical numeric values indicating a particular rank in an undefined semiquantitative abundance. The StrataBugs RG Import program will deal with these issues.  A typical SIS file fragment:

```
3361~D~940.00~1~1~BULIMINA aff.EXILIS~B~N~~~~F%BUEXI~
3361~D~940.00~5~5~CIBICIDES SCALDISIENSIS~B~N~~~~F-CISCA~
3361~D~940.00~2~2~ELPHIDIUM spp.~B~N~~~~F*ELEXC~
```

---------------------------------------------------------------------------------------------------------

IGD data types will appear like this in RG format:

Boundary types are translated as follows:
        N & ? = StrataBugs Probable
        U & ? = Questionable Unconformity
        F & ? = Fault
        N = Confident
        U = Unconformity
        F = Fault
        All other values = Possible

Chronostratigraphy:

```
*
$DATATYPE=AGES
*
9999~1~13190.00~13190.00~N~+~~~~~
9999~1~13190.00~13255.00~N~L~UPPER CRETACEOUS~~~~
9999~2~13190.00~13255.00~N~L~TURONIAN~~~~
9999~2~13255.00~13280.00~U~~LOWER VALANGINIAN - LOWER BARREMIAN~~~~
9999~2~13280.00~13300.00~N~~LOWER VALANGINIAN~~~~
9999~2~13300.00~13342.00~N~L~'UPPERMOST' RYAZANIAN~~~~
9999~1~13255.00~13390.00~U~~LOWER CRETACEOUS~~~~
```

Lithology comments:

```
*
$DATATYPE=LCOM
*
9999~20~13190.00~0.00~0~0~0.00~0~0~CHALKY LIMESTONE: very light grey, hard,
blocky, porcellaneous.~
9999~20~13255.00~0.00~0~0~1.00~0~0~CHALKY LIMESTONE: pale red, hard, blocky,
porcellaneous.~
9999~0~13256.00~0.00~0~0~1.00~0~0~CALCAREOUS MUDSTONE: greyish red, moderately
hard, slightly waxy.~
```

Microfossil biozones:

```
*
$DATATYPE=MZON
*
9999~1~13190.00~13190.00~N~~~~~~
9999~1~13190.00~13255.00~N~L~MUK25 - MUK21~~~~
9999~1~13255.00~13260.00~?N~S~~~~~
9999~1~13260.00~13320.00~N~~MLK16? - MLK11~~~~
9999~1~13320.00~13350.00~N~~MLK17~~~~
9999~1~13350.00~13440.00~N~~UNASSIGNED~~~~
```

Microfossil comments:

```
*
$DATATYPE=MCOM
*
9999~51~13190.00~0.00~0~0~0.00~0~0~RARE MICROFOSSILS (WHITE & PINK CHALK
PRESERVATION).~
9999~-50~13190.00~0.00~0~0~0.00~0~0~CENOSPHAERA SPP. (SMALL)~
9999~0~13220.00~0.00~0~0~0.00~0~0~$F3HEDBERGELLA DELRIOENSIS, $F0
RECORDED PREVIOUSLY AT 12710' INDICATES AN AGE NO YOUNGER THAN
TURONIAN.~
```

_____

## 5 – Ragware file (.ASC)

The CSV/Ragware/Tilia import program in Tools can be used to import Ragware ASCII files. This example has top and base depths for each sample but no sample type or analyst. The original Categories are shown in the row beneath the palynomorph names but are ignored by StrataBugs. Occurrence records are quantitative. No depth units are provided in the file. You must assign the correct depth units, sample types and discipline during import. The example below is displayed as it would appear in a text editor.

```
Sample Data,,,,,,,,,,,,
top,base,ABROCYTHEREIS SP.,ACARININA MCKANNAI SL,ALLOMORPHINA PALEOCENICA,AMMODISCUS DUBUS,AMMONIA CF
ANNECTENS,AMMONIA "BECCARII",AMMONIA COMPRESSIUSCULA,AMMONIA CONFERTITASTA,AMMONIA INFLATA
INFLATA,AMMONIA KETIENZIENSIS,
,,A,B,D,D,C,C,C,C,C,C,
213,216,1Rw,,3,,,,70,,,6,
230,233,,,,,?1,X,42,,,,
266,269,,44,,,,,,,,,
270.2,270.2,,30,67,1,,,,,,,
283.25,283.25,4,20,32,,3,20,123,,,53,
301,304,R,C,,,R,,A,R,,R,
313,316,,P,R,,,,,,,,
323,326,,,,,C,D,A,C,Rw,R,
353,356,,?,,,A,D,A,C,C,C,
363,366,Cv,,,,R,,D,A,,C,
```

The same data displayed in a spreadsheet style looks like this:

| Sample Data | | top | base | ABROCYTHEREIS SP. | ACARININA MCKANNAI SL | ALLOMORPHINA PALEOCENICA | AMMODISCUS DUBUS | AMMONIAN CF ANNECTENS | AMMONIA "BECCARII" | AMMONIA COMPRESSIUSCULA | AMMONIA CONFERTITASTA | AMMONIA INFLATA INFLATA | AMMONIA KETIENZIENSIS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | A | B | D | D | C | C | C | C | C | C |
| | | 213 | 216 | 1Rw | | 3 | | | | 70 | | | 6 |
| | | 230 | 233 | | | | | ?1 | X | 42 | | | |
| | | 266 | 269 | | 44 | | | | | | | | |
| | | 270.2 | 270.2 | | 30 | 67 | 1 | | | | | | |
| | | 283.25 | 283.25 | 4 | 20 | 32 | | 3 | 20 | 123 | | | 53 |
| | | 301 | 304 | R | C | | | R | | A | R | | R |
| | | 313 | 316 | | P | R | | | | | | | |
| | | 323 | 326 | | | | | C | D | A | C | Rw | R |
| | | 353 | 356 | | ? | | | A | D | A | C | C | C |
| | | 363 | 366 | Cv | | | | R | | D | A | | C |

**Note:** Cells which must be populated are shown in yellow.

The example above shows both numeric and semiquantitative data in a single file. In reality this is unlikely to be the case. Qualifiers (?, Caved, Reworked) will not be present. X may mark "outside the count" occurrences.

_____

## 6 - CSV taxa file (.CSV)

This section describes the steps for the old CSV import tool. From Oct 2005 there is also an import option in the Organiser application which is more flexible.

The CSV/Ragware/Tilia import program in Tools can be used to import CSV files saved from spreadsheets such as Excel. The format is very flexible and it is easy to edit a file in Excel so that it conforms to a style which can be read by StrataBugs. It is necessary to select a number of options on the main StrataBugs CSV Import dialog to identify which column in the file contains which data type. The minimum requirement is a set of depths in column 1 and a set of taxa in row 2, with abundances of each taxon at each depth shown as a matrix.

The well name, sample analyst, discipline and depth units are not imported even if they appear in the CSV file. These must be known and identified during the import. It is not possible to import multiple analysts in a single session.

This example has two depths for each sample (top and base of a cuttings depth range) and sample types. Occurrence records of these microfossils are semiquantitative and should be matched against an identical abundance scheme in StrataBugs during import.

```
Sample Data,,,,,,,,,,,,,,
top,base,type,label,Notes/Comments,Abrocythereis sp.,Acarinina mckannai s.l.,Allomorphina
paleocenica,Ammodiscus dubus,Ammonia cf. annectens,Ammonia "beccarii",Ammonia compressiuscula,AMMONIA
CONFERTITASTA,Ammonia inflata inflata,Ammonia ketienziensis,
,,,,,OS,FOP,FOBC,FOBA,FOBC,FOBC,FOBC,FOBC,FOBC,
,216,CU,,This a sample,1Rw,,3,,,,70,,,6,
233,233,CU,,,,,,,?1,1,42,,,,
266,269,CU,,,,44,,,,,,,,,
,270.2,SC,SWC no.3,,,30,67,1,,,,,,
,283.25,CO,Core chip,,4,20,32,,3,20,123,,,53,
,304,CU,,,R,C,,,R,,A,R,,R,
,316,CU,,,P,R,,,,,,,,,
,326,CU,,,,,,,C,D,A,C,Rw,R,
,356,CU,,,?,,,A,D,A,C,C,C,
,366,CU,,Cv,,,,R,,D,A,,C,
```

If you are editing a CSV file before importing it to StrataBugs you will find it easier to do this while it is displayed in a spreadsheet style like this:

| Sample Data | | | | | | | | | | | | | | |
| top | base | type | label | Notes/Comments | Abrocythereis sp. | Acarinina mckannai s.l. | Allomorphina paleocenica | Ammodiscus dubus | Ammonia cf. annectens | Ammonia "beccarii" | Ammonia compressiuscula | AMMONIA CONFERTITASTA | Ammonia inflata inflata | Ammonia ketienziensis |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | OS | FOP | FOBC | FOBA | FOBC | FOBC | FOBC | FOBC | FOBC | FOBC |
| | 216 | CU | | Highest sample | 1Rw | | 3 | | | | 70 | | | 6 |
| 233 | 233 | CU | | | | | | | ?1 | X | 42 | | | |
| 266 | 269 | CU | | | | 44 | | | | | | | | |
| | 270.2 | SC | SWC no.3 | | | 30 | 67 | 1 | | | | | | |
| | 283.25 | CO | Core chip | | 4 | 20 | 32 | | 3 | 20 | 123 | | | 53 |
| | 304 | CU | | | R | C | | | R | | A | R | | R |
| | 316 | CU | | | P | R | | | | | | | | |
| | 326 | CU | | | | | | | C | D | A | C | Rw | R |
| | 356 | CU | | | ? | | | A | D | A | C | C | C |
| | 366 | CU | | | Cv | | | | R | | D | A | | C |

**Note:** Cells which must be populated are shown in yellow. Rows must be arranged as shown even if unpopulated

_____

CSV data for import to StrataBugs should be arranged in a spreadsheet as follows:

**ROWS**
**Note: Row 1** - The text is freestyle and not mandatory, and not read by StrataBugs, but the row itself is mandatory
**Row 2** – Column headers: text is freestyle but should relate to column contents. Taxon names must not contain ",";
sp. can be converted to spp. and uppercase names can be capitalised during the import process.
**Row 3** – Category type: text not mandatory, row mandatory, ignored on import.
**Row 4** onwards – text as appropriate to column


**COLUMNS** (limit of 256)
**Note: The order of columns in the import file must be set in CSV import dialog**

**Columns 1 and 2** – Sample depths (top and base) – at least one of these columns must be present.  Typically, if there is only a single depth value this will be the base depth. Numbers up to 2 decimal places will be read, but rounded as appropriate to sample type when displayed in StrataBugs (nn for CU; nn.n for SC; nn.nn for CO)
**Column 3** – Sample type – column not mandatory, non standard sample types can be translated on import. Single default sample type must be selected if column absent, or for any sample type entries which are blank.
**Column 4** – Sample label – column not mandatory, freestyle text (maximum 15 characters) will appear as label in Sample panel if option selected.
**Column 5** – Notes - column not mandatory.  Freestyle notes can be copied to the Comments panel of the selected discipline.
**Column 6** onwards – taxa occurrences.  Numeric or relative (semi=quantitative or ranked) abundances.  Relative abundances will be matched to existing abundance schemes on import.  Other characters (Rw, Cv, ?, etc.) can be matched appropriately on import).  Zero occurrence fields can remain blank. Symbols (in this example "+") can be translated to "outside the count" occurrences during import.  Limit of 256 columns in Excel may require multiple files. The taxon names in this example have several formatting and spelling errors which should be corrected during the import procedure i.e.:

*Abrocythereis* sp. should be converted to spp.
*Acarinina mckannai* sl. must be edited so that s.l. is placed in a qualifier field
*Allomorphina paleocenica* is correct
*Ammodiscus dubus* is a spelling error of *Ammodiscus dubius*and must be edited during import
*Ammonia* cf *annectens* will be automatically edited so that the cf appears in a qualifier field
*Ammonia* "*beccarii*" must be edited so that " are placed in qualifier fields
*Ammonia compressiuscula* is correct
*AMMONIA CONFERTITASTA* should be capitalised to *Ammonia confertitasta*
*Ammonia inflata inflata* must be edited so that the subspecies name is placed in the correct field
*Ammonia ketienziensis* is correct

_____

## 7 - Tilia file

Tilia files can be read by the Organiser application (from Sept 2005). For systems without this update use the CSV/Tilia import tool from Tools. There is an option in the StrataBugs CSV/Tilia Import tool to set the import parameters for Tilia files so there is no need to select these parameters manually as for CSV files. The format only allows for numeric abundances , depth units and analysts are not recorded. Tilia files must contain numerical count data and not calculated percentages. There are several export file formats available from Tilia.  We have illustrated below an example from each version (1x and 2x) which can be read by the Organiser or the StrataBugs CSV/Tilia Import.

### Tilia file (version 1 - ASCII format)

There are four sections in the file:

### Section 1

**Row 1** – Tilia version number
**Row 2** – The first two numbers indicate the number of taxa and the number of samples, respectively.

### Section 2

**Column 1** – taxon index record, ignored by StrataBugs.
**Column 2** – "-1" purpose unknown, ignored by StrataBugs.
**Column 3** - Group reference (often not included), ignored by StrataBugs.
**Column 4** - Taxon name (as a text string). StrataBugs will attempt to read the taxon name correctly starting at the 11th character. Non standard names will require editing during import.

### Section 3

List of samples and sample types (optional). This is a free format label from which the import program will attempt to read the depth and type. If sample types are not specified a single default type must be selected during import.  You must also assign the correct depth units to the well during import.

### Section 4

Each row represents the abundance of taxa in the above list order.  Each value is followed by a space, a zero and another space.

### Tilia file (version 1 – Tilia ASCII format)

**Note:** The example below is displayed as it would appear in a text editor in proportional-spaced font (Courier).

```
Tilia version 1
10 10 1 1 0 0 0 0            ← NO. of TAXA, No. of SAMPLES, REST IGNORED BY STRATABUGS
A1    -1 A ABROCYTHEREIS SP.    ← LIST OF TAXA STARTING IN COLUMN 11, REST OF LINE IGNORED
A2    -1 B ACARININA MCKANNAI SL
A3    -1 D ALLOMORPHINA PALEOCENICA
A4    -1 D AMMODISCUS DUBUS
A5    -1 C AMMONIA CF ANNECTENS
A6    -1 C AMMONIA "BECCARII"
A7    -1 C AMMONIA COMPRESSIUSCULA
A8    -1 C AMMONIA CONFERTITASTA
A9    -1 C AMMONIA INFLATA INFLATA
B1    -1 C AMMONIA KETIENZIENSIS
216 dc
233 dc
269 dc
270.2 swc
283.25 core
301 dc
313 dc
323 dc
353 dc
363 dc
1 0 0 0 0 0 0 0 4 0 2 0 0 0 0 0 0 0 1 0           ← ABUNDANCES OF FIRST TAXON IN LIST
0 0 0 0 44 0 30 0 20 0 5 0 1 0 0 0 1 0 0 0
3 0 0 0 0 0 67 0 32 0 0 0 2 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0 3 0 2 0 0 0 5 0 15 0 2 0
0 0 1 0 0 0 0 0 20 0 0 0 0 50 0 50 0 0 0
70 0 42 0 0 0 0 0 123 0 15 0 0 0 15 0 15 0 50 0
0 0 0 0 0 0 0 0 0 0 2 0 0 0 5 0 5 0 15 0
0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 5 0 0 0
6 0 0 0 0 0 0 0 53 0 2 0 0 0 2 0 5 0 5 0
↑ ↑  EACH ABUNDANCE ID DISPLAYED FOLOWED BY "space zero space"
```

_____

Note that the taxon abundance data can span more than one line, and successive taxado not necessarily begin on a new line**.**

_____

**Tilia file (version 2 – General format)**

There are three sections in the file:

**Section 1**
**Row 1** – Well name preceded by # and a space.
**Row 2** – The two numbers indicate the number of taxa and the number of samples, respectively.

**Section 2**
**Column 1** – indented by 6 spaces - taxon index record, an 8 character abreviation of the taxon name,  ignored by StrataBugs.
**Column 2** - Group reference (often not included), ignored by StrataBugs.
**Column 3** - Taxon name (as a text string). StrataBugs will attempt to read the taxon name correctly starting at the 18th character. Non standard names will require editing during import.

**Section 3**
Consists of pairs of rows for each taxon.  The first row displays the sample depth and type (optional). This is a free format label. If sample types are not specified a single default type must be selected during import.  You must also assign the correct depth units to the well during import. The second row records the abundance of taxa for each sample in turn.

**Note:** This example below is displayed as it would appear in a text editor in proportional-spaced font (Courier).

```
# Example Tilia 2                         ← WELL NAME – ignored by StrataBugs
10 10                                     ← NO. of TAXA, No. of SAMPLES
      Abrocyth A ABROCYTHEREIS SP.        ← LIST OF TAXA STARTING IN COLUMN 18
      Acarmcka B ACARININA MCKANNAI SL
      Allopale D ALLOMORPHINA PALEOCENICA
      Ammodubu D AMMODISCUS DUBUS
      Ammocfan C AMMONIA CF ANNECTENS
      Ammo"be" C AMMONIA "BECCARII"
      Ammocomp C AMMONIA COMPRESSIUSCULA
      Ammoconf C AMMONIA CONFERTITASTA
      Ammoinin C AMMONIA INFLATA INFLATA
      Ammoketi C AMMONIA KETIENZIENSIS
216 dc                                    ← SAMPLE DEPTH AND (optionally) TYPE OF FIRST SAMPLE
1 0 0 0 3 0 0 0 0 0 0 70 0 0 0 0 0 6 0    ← ABUNDANCES OF ALL TAXA IN SAMPLE
233 dc
0 0 0 0 0 0 0 0 1 0 1 0 42 0 0 0 0 0 0 0
269 dc
0 0 44 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
270.2 swc
0 0 30 0 67 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
283.25 core
4 0 20 0 32 0 0 0 3 0 20 0 123 0 0 0 0 0 53 0
304 dc
2 0 5 0 0 0 0 0 2 0 0 0 15 0 2 0 0 0 2 0
316 dc
0 0 1 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
326 dc
0 0 0 0 0 0 0 0 5 0 50 0 15 0 5 0 1 0 2 0
356 dc
0 0 1 0 0 0 0 0 15 0 50 0 15 0 5 0 5 0 5 0
366 dc
1 0 0 0 0 0 0 0 2 0 0 0 50 0 15 0 0 0 5 0
-------------------------------------------------------------------------
```

_____

## 8 – STRATS (.TRN fileset)

Strats data files can be imported using the Organiser Application. Strats data is imported from a group of files all having a common number in the file name and the file extension .TRN. The CATnnnn file lists the others in the group. Multiple disciplines can be imported. IGD data may be present but are not imported by StrataBugs. Well name, depth units, sample types and abundance schemes are all contained in the dataset. Three files are required to import taxon occurrence data to StrataBugs.

### STRATS Catalog file (CATnnnn.TRN)

```
From           : EXAMPLE STRATS
Date           : 05/01/93
Comment        :
Comment        :
M top depth    : ALL
M bottom depth : ALL
P top depth    : ALL
P bottom depth : ALL
Well descript. : WELD0001.TRN
Well comment   : WELC0001.TRN
M sample desc. : MSDS0001.TRN
M sample dbase : MSDB0001.TRN
M Species file : MSPE0001.TRN
M Sp. Transl.  :                                                           --
/--/--
P sample desc. : PSDS0001.TRN
P sample dbase : PSDB0001.TRN
P Species file : PSPE0001.TRN
P Sp. Transl.  :                                                           --
/--/--
IGD file       : CIGD0001.TRN
```

### STRATS Species file (MSPEnnnn.TRN)

```
ABROCYTHEREIS           SP.                    44 M
ACARININA               MCKANNAI SL            57 M
ALLOMORPHINA            PALEOCENICA           320 M
AMMODISCUS              DUBUS                3174 M
AMMONIA         CF      ANNECTENS             105 M
AMMONIA                 "BECCARII"              1 M
AMMONIA                 COMPRESSIUSCULA       681 M
AMMONIA                 CONFERTITASTA           8 M
AMMONIA                 INFLATA INFLATA        21 M
AMMONIA                 KETIENZIENSIS         315 M
```

### STRATS Sample database (MSDBnnnn.TRN)

```
Column 1 = Depth and depth untis
Column 2 = Sample type (options are CUT, SWC, COR)
Column 3 = Taxon database ID no.
Column 4 = Semiquantitative abundance
Column 5 = Numerical abundance
Column 6 = Aff. Counts. Recorded as "Questionable" counts by StrataBugs
Column 7 = Questionable counts. Added to aff. Counts if both are non zero.
Column 8 = R or C to indicate Reworked or Caved.
```

```
216. 0m CUT    44       1      1      0
216. 0m CUT   320       3      0      0
216. 0m CUT   681 SA   70      0      0
216. 0m CUT   315       6      0      0
233. 0m CUT   681      42      0      0
233. 0m CUT   105       1      0      0
233. 0m CUT     1       1      0      0
269. 0m CUT    57      44      0      0
270.20m SWC   320      67      0      0 R
270.20m SWC    57      30      0      0
270.20m SWC  3174       1      0      0
283.25m COR    44       4      0      0
283.25m COR   320      32      0      0
283.25m COR   681     123      0      0
283.25m COR   315      53      0      0
283.25m COR   105       3      0      0
283.25m COR     1      20      0      0
283.25m COR    57      20      0      0
```

```
304. 0m CUT    44     2     0     0
304. 0m CUT   681    15     0     0
304. 0m CUT   315     2     0     0
304. 0m CUT   105     2     0     0
304. 0m CUT    57     5     0     0
304. 0m CUT     8     2     0     0
316. 0m CUT   320     2     0     0 C
316. 0m CUT    57     1     0     0
326. 0m CUT   681    15     0     0
326. 0m CUT   315     2     0     0
326. 0m CUT   105     5     0     0
326. 0m CUT     1    50     0     0
326. 0m CUT     8     5     0     0
326. 0m CUT    21     1     1     0
356. 0m CUT   681    15     0     0
356. 0m CUT   315     5     0     0
356. 0m CUT   105    15     0     0
356. 0m CUT     1    50     0     0
356. 0m CUT    57     1     0     0
356. 0m CUT     8     5     0     0
356. 0m CUT    21     5     0     0
366. 0m CUT     1    44     0     0
366. 0m CUT   681    50     0     0
366. 0m CUT   315     5     0     0
366. 0m CUT   105     2     0     0
366. 0m CUT  3174     1     0     1
366. 0m CUT    21     5     0     0
```

_____

## 9 – BUGWARE (.DEF, .DEN, .DEP)

Bugware data files can be imported using the Organiser Application. Bugware data come in a single file for each discipline (typically .DEF, .DEN or .DEP for foraminifera, nannofossils and palynology, respectively). The initial header block contains information about the well and the data set and is self-explanatory. Following this are blocks of text separated by "..." displaying the abundance of each taxon, sample by sample. The sample depths are preceded by "@" and the taxon names by "=". There is also a TOTAL FOSSILS row preceded by a "#" which is not read by StrataBugs. Each taxon name is followed by numeric abundance enclosed in "[]" starting at the 45th column and having a maximum of 5 digits. Between the taxon name and the abundance there may also be a semiquantitative term starting at the 33rd column. These terms are read by StrataBugs and you will have a chance to assign them to a semiquantitative scheme in your database.

Reworked taxa are marked by the semi-quantitative term REWORKED. Optional species codes appear after the bracketed taxon abundance.

```
Marker taxa are denoted by a "+" or "/" in column 1. These are read and assigned as Markers in StrataBugs.
Palaeoenvironmental and water depth information is denoted by a ")" in column 1, and optinoally read into
StrataBugs. Comment lines beginning with "*", ";", "&" or "(" are appended to the sample notes. Comment lines
beginning with "!" are added to the biostratigraphic comments or the sample notes depending on the StrataBugs
option selected.
```

```
BUGWARE VER:      2001.1.3
API:              9876543210
AREA:             Nowhere
BLOCK:            123
OCS (Lease):      54321
WELL NUMBER:      1
OPERATOR:         Exipoil
PALEONTOLOGIST:   John Athersuch
SOURCE:           Bugware, Inc
FIRST SAMPLE:     216
LAST SAMPLE:      366
DATE:             March, 2004

 @@@@@ Start Sample Data

@216.00-216.00
! First sample studied
=Abrocythereis sp.                 [1    ]
=Allomorphina paleocenica          [3    ]
=Ammonia compressiuscula           [70   ]
=Ammonia ketienziensis             [6    ]
#TOTAL FOSSILS:                    [80   ]
...
@233.00-233.00
=Ammonia cf annectens              [1    ]
=Ammonia "beccarii"                [1    ]
=Ammonia compressiuscula           [42   ]
#TOTAL FOSSILS:                    [44   ]
...
@266.00-269.00
=Acarinina mckannai sl.            [44   ]
#TOTAL FOSSILS:                    [44   ]
...
@270.20-270.20
=Acarinina mckannai sl.            [30   ]
=Allomorphina paleocenica          [67   ]
=Ammodiscus dubus                  [1    ]
#TOTAL FOSSILS:                    [98   ]
...
@283.25-283.25
=Abrocythereis sp.                 [4    ]
=Acarinina mckannai sl.            [20   ]
=Allomorphina paleocenica          [32   ]
=Ammonia cf annectens              [3    ]
=Ammonia "beccarii"                [20   ]
=Ammonia compressiuscula           [123  ]
=Ammonia ketienziensis             [53   ]
#TOTAL FOSSILS:                    [254  ]
...
@304.00-304.00
=Abrocythereis sp.                 [2    ]
=Acarinina mckannai sl.            [5    ]
=Ammonia cf annectens              [2    ]
=Ammonia compressiuscula           [15   ]
=AMMONIA CONFERTITASTA             [2    ]
```

_____

```
=Ammonia ketienziensis                      [2      ]
#TOTAL FOSSILS:                             [28     ]
...
@316.00-316.00
=Acarinina mckannai sl.                      [1      ]
=Allomorphina paleocenica                    [2      ]
#TOTAL FOSSILS:                             [3      ]
...
@326.00-326.00
=Ammonia cf annectens                        [5      ]
=Ammonia "beccarii"                          [50     ]
=Ammonia compressiuscula                     [15     ]
=AMMONIA CONFERTITASTA                       [5      ]
=Ammonia inflata inflata                     [1      ]
=Ammonia ketienziensis                       [2      ]
#TOTAL FOSSILS:                             [78     ]
...
@356.00-356.00
=Acarinina mckannai sl.                      [1      ]
=Ammonia cf annectens                        [15     ]
=Ammonia "beccarii"                          [50     ]
=Ammonia compressiuscula                     [15     ]
=AMMONIA CONFERTITASTA                       [5      ]
=Ammonia inflata inflata                     [5      ]
=Ammonia ketienziensis                       [5      ]
#TOTAL FOSSILS:                             [96     ]
...
@366.00-366.00
=Abrocythereis sp.                           [1      ]
=Ammonia cf annectens                        [2      ]
=Ammonia compressiuscula                     [50     ]
=AMMONIA CONFERTITASTA                       [15     ]
=Ammonia ketienziensis                       [5      ]
#TOTAL FOSSILS:                             [73     ]
...
```

Second example:

```
@16530
! A.O.B. PM 5
)6.0 - MID SLOPE (PROB.CMW)
+Globigerinoides mitra            Imp. 1st Occur. ( 1   )
/Uvigerina rustica  L.V.          First Occur.    ( 1   )
nSTICKER
=Planktic spp.                          [ 72  ]  02G-Gs
=Dentog.altispira altispira S           [ 10  ]  02Gq 1L
=Globigerinoides extremus               [ 1   ]  02Gs 3E
=Globigerinoides immaturus              [ 5   ]  02Gs 26
=Globigerinoides mitra                  [ 1   ]  02Gs 4
```

_____

## 10 - PD format

PD data files can be imported using the Organiser Application.  These files are produced by the PD program once distributed by Intergeos. They are simple files with a structure which contains 2 record types: a sample record followed by a taxon occurrence record.

```
216.00 – 216.01
```

```
Abrocythereis sp.          Present        Reworked
Allomorphina paleocenica         Rare         In Situ
Ammonia compressiuscula          Abundant          In Situ
Ammonia ketienziensis      Few           In situ
```

```
233.0 – 233.01
```

```
Ammonia annectens          Present        Confer
Ammonia "beccarii"         Present     In Situ
Ammonia compressiuscula          V Common          In Situ
```

```
266.0 – 269.0
```

```
Acarinina mckannai s.l.            V Common          In Situ
```

```
270.20 – 270.21 SWCore
```

```
Acarinina mckannai s.l.            V Common          In Situ
Allomorphina paleocenica         Abundant     In Situ
```

```
283.25 – 283.26 Core
```

```
Abrocythereis sp.          Rare         In Situ
Acarinina mckannai s.l.            V Common          In Situ
Allomorphina paleocenica         V Common     In Situ
Ammonia annectens          Rare           Confer
Ammonia "beccarii"         V Common          In Situ
Ammonia compressiuscula          Abundant          In Situ
Ammonia ketienziensis      V Common          In Situ
```

```
……………………………etc.
```

The import program  constructs a well name and code from the file name minus the file extension.

The import program assumes that the data type is always Palynology.

It does not matter how many blank rows separate the sample from the occurrence records, the program will always try to read a line as a sample depth. It will fail if a taxon name starts with a number.

There will be an error if the occurrence data are not preceded by a sample record.

There is no unit information in the file and the depths are always assumed to be in meters. Since there must be depth range for samples in PD, the lower depth is commonly set to a small increment of the upper depth. If the sample type is not a cutting, this depth range is ignored and the first depth of the range is taken as the sample depth.

The second depth may be followed by a sample label and/or a sample type. The string is matched against known sample types (Core or SWCore) and any other string is assigned to the sample label. A blank sample type is assumed to be a cutting.

The occurrence record is TAB delimited. The first field contains a taxon name as a single string. There is no category information. The second field is the abundance. In the example the abundance is always semi-quantitative, but if there are numbers in this field, it will read these.

The semi-quantitative abundance scheme is fixed and the reader will try to find a matching scheme in the database which contains the following classes:

_____

Present 1
V Rare 2
Rare 3
Few 5
Common 10
V Common 20
Abundant 50

The third field contains In Situ, Reworked, Confer or Affinis. The last two terms are converted to a '?' occurrence by the import program.

After reading the file, Match Taxa, Match Abundances and Match Wells should be completed before saving the data.

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## 11 - Lithology data

You may import interpreted lithology, sample % lithology data and schemes from other StrataBugs users or from ASCII files exported from other programs such as AppleCore and OpenWorks.

**Interpreted Lithology**
AppleCore format: this is the format output specifically by AppleCore. It comprises a place holder column containing the string LTH, two columns showing, respectively, the upper and lower depths of each lithology interval, and a fourth column containing a lithology code. The columns can be tab space or comma separated. The codes must be matched to StrataBugs codes. An example from AppleCore is:

```
WELLNAME (optional)
LTH,369.57,370.94,1001
LTH,370.94,371.4,1008
LTH,371.4,372.77,1001
LTH,372.77,375.21,1008
LTH,375.21,376.89,1001
LTH,376.89,377.34,1008
```

General format: this format comprises two columns, the first containing an upper depth and the second containing a lithology code. The columns can be tab, space or comma separated. An example from OpenWorks follows.

This format is described as "CSV 'Depth | Lithology code' ":

```
WELLNAME (optional)
900,1001
1049,1008
1529,1001
1563,1008
1577,1001
1993,1008
2000,1001
```

The lithology interval is defined as <u>from</u> the first depth <u>to</u> the second depth. The last depth has a "spot" lithology which not shown on a chart.

The following shows: "TABBED 'Depth | Lithology Description ' with header":

The following example is "TABBED 'Top depth | Base depth | Lithology Description' with header":

```
TOP     BASE    LITHOLOGY
599.5   660.5   LIMESTONE
660.5   665.5   ANHYDRITE
665.5   767.5   LIMESTONE
767.5   772.5   ANHYDRITE
772.5   800.5   LIMESTONE
800.5   805.5   ANHYDRITE
```

The following example shows "CSV 'Top depth | Base depth | Lithology description'":

```
Top,Base,Lith
100,110,sandstone
110,120,shale
120,130,limestone
```

The following example shows "Openworks TABBED lithology":

```
STRATABUGS-1                    167    -152    SANDY SHALE       34
STRATABUGS-1                    288    -263    SANDY SHALE       34
STRATABUGS-1                    515    -500    SANDY SHALE       34
STRATABUGS-1                    525    -510    CALCAREOUS MED SAND    61
STRATABUGS-1                    537    -522    SANDY SHALE       34
STRATABUGS-1                    544    -529    CALCAREOUS MED SAND    61
STRATABUGS-1                    632    -617    SANDY SHALE       34
```

_____

**Sample % lithology**
To import % lithology on a sample by sample basis a file of the following format is required.

| DEPTH | SAND | SDST | SLST | SHAL | CLST | LMST | MARL | HALT | TUFF | NODE | NOSA |
|-------|---------|------|------|------|------|------|------|------|------|------|------|
| 17907 | -999.25 | 20 | 20 | 30 | 0 | 0 | 20 | 0 | 10 | 0 | 0 |
| 17908 | -999.25 | 20 | 20 | 30 | 0 | 0 | 20 | 0 | 10 | 0 | 0 |
| 17909 | -999.25 | 20 | 20 | 30 | 0 | 0 | 20 | 0 | 10 | 0 | 0 |
| 17910 | -999.25 | 20 | 20 | 30 | 0 | 0 | 20 | 0 | 10 | 0 | 0 |
| 17911 | -999.25 | 20 | 20 | 30 | 0 | 0 | 20 | 0 | 10 | 0 | 0 |
| 17912 | -999.25 | 20 | 20 | 30 | 0 | 0 | 20 | 0 | 10 | 0 | 0 |
| 17913 | -999.25 | 20 | 20 | 30 | 0 | 0 | 20 | 0 | 10 | 0 | 0 |
| 17914 | -999.25 | 20 | 20 | 30 | 0 | 0 | 20 | 0 | 10 | 0 | 0 |
| 17915 | -999.25 | 20 | 20 | 30 | 0 | 0 | 20 | 0 | 10 | 0 | 0 |
| 17916 | -999.25 | 20 | 20 | 30 | 0 | 0 | 20 | 0 | 10 | 0 | 0 |
| 17917 | -999.25 | 20 | 20 | 30 | 0 | 0 | 20 | 0 | 10 | 0 | 0 |
| 17918 | -999.25 | 20 | 20 | 30 | 0 | 0 | 20 | 0 | 10 | 0 | 0 |
| 17919 | -999.25 | 20 | 20 | 30 | 0 | 0 | 20 | 0 | 10 | 0 | 0 |
| 17920 | -999.25 | 10 | 25 | 25 | 0 | 0 | 25 | 0 | 15 | 0 | 0 |
| 17921 | -999.25 | 10 | 25 | 25 | 0 | 0 | 25 | 0 | 15 | 0 | 0 |
| 17922 | -999.25 | 10 | 25 | 25 | 0 | 0 | 25 | 0 | 15 | 0 | 0 |
| 17923 | -999.25 | 10 | 25 | 25 | 0 | 0 | 25 | 0 | 15 | 0 | 0 |
| 17924 | -999.25 | 10 | 25 | 25 | 0 | 0 | 25 | 0 | 15 | 0 | 0 |

For each depth the % of each lithology type is shown  -999 indicates no value. Of course the lithology types must be matched against the standard StrataBugs lithology types.

**Lithology Schemes**
The imported data must be matched against the standard StrataBugs lithology types. You can create schemes which provide the mapping between the codes in the imported data, and the StrataBugs codes.  You can create one yourself or import one from  another StrataBugs user.  The example shown below of is part of an AppleCore lithology scheme.

| SbugsCode | SbugsDescription | ExternalCode | ExternalDescription |
|-----------|------------------------------|--------------|------------------------------|
| 1064 | sandstone | 1286 | sand/sandstone |
| 1011 | silty sandstone | 1287 | silty sand |
| 1010 | argillaceous sandstone | 1288 | shaly sand |
| 1005 | siltstone | 1289 | silt/siltstone |
| 1007 | sandy siltstone | 1290 | sandy silt |
| 1000 | clay | 1291 | clayey silt |
| 1021 | mudstone (Dunham) | 1292 | shale/mudstone |
| 1003 | silty mudstone | 1293 | silty shale |
| 1004 | sandy mudstone | 1294 | sandy shale |
| 1000 | clay | 1295 | clay/claystone |
| 1020 | coal/lignite | 1296 | organic shale |
| 1020 | coal/lignite | 1297 | coal |
| 1017 | conglomerate (sand matrix) | 1298 | conglomerate matrix supported |

The four columns of data show the Host and donor lithology codes and descriptions.

**Lithology Index files**
These files enable the lithology match schemes to be copied from one system to another, for use within the Organiser Tools | Lithology Matching dialog.

There are two types of file, the following example is written by StrataBugs:

```
SbugsCode,SbugsDescription,ExternalCode,ExternalDescription
1064,"sandstone",1286,"sand/sandstone"
1011,"silty sandstone",1287,"silty sand"
```

_____

```
1010,"argillaceous sandstone",1288,"shaly sand"
1005,"siltstone",1289,"silt/siltstone"
1007,"sandy siltstone",1290,"sandy silt"
1000,"clay",1291,"clayey silt"
1021,"mudstone (Dunham)",1292,"shale/mudstone"
1003,"silty mudstone",1293,"silty shale"
1004,"sandy mudstone",1294,"sandy shale"
1000,"clay",1295,"clay/claystone"
1020,"coal/lignite",1296,"organic shale"
```

The above file will provide both the external lithology descriptions and the equivalent StrataBugs lithology codes, allowing the lithology match scheme to be saved immediately.

The second type of file is an OpenWorks lithology description file. In this case, once this is read into the Lithology Matching dialog, the equivalent StrataBugs lithologies must be selected for each required lithotype:

```
LANDMARK NAME STRING   ID

CONGLOMERATE    82
BRECCIA 83
GLACIAL TILL    110
COARSE SAND     63
BEDDED SAND     73
CROSS BEDDED SAND      74
SANDSTONE MC    141
MEDIUM SAND     52
FINE SAND       43
LITHIC COARSE SAND     40
LITHIC FINE SAND       41
LITHIC MEDIUM SAND     53

SILTY COARSE SAND      69
SILTY MEDIUM SAND      59
SILTY FINE SAND        48
---------etc.
```

_____

## 12 - Depth scales

TVD (true vertical depth) values can be imported from ASCII files in the Wells application (**Wells | Edit | Depth tab**).
An example of this file type is:

```
WELL-1
depth,TVD_SS
,
0.00,-12.50
5.00,-7.50
10.00,-2.50
15.00,2.50
20.00,7.50
25.00,12.50
30.00,17.50
35.00,22.50
40.00,27.50
45.00,32.50
50.00,37.50
55.00,42.50
60.00,47.50
65.00,52.50
```

TWT (two way time) values can be can be imported from ASCII files in the Wells application (**Wells | Edit | Two-way time tab**).  An example of this file type is:

```
WELL-1
DEPTH,TWT
,
12.00,0.00
13.00,0.47
14.00,1.65
15.00,2.84
16.00,4.04
17.00,5.23
18.00,6.43
19.00,7.62
20.00,8.82
21.00,10.01
22.00,11.21
23.00,12.40
24.00,13.60
25.00,14.80
```

_____

## 13 – Wireline logs

Single or multi-trace wireline logs can be read and displayed in Charts.  StrataBugs will read any text file with Depth and one or more value columns.

Most log files are LAS files and contain a header which StrataBugs cannot read, like the example below which was generated from OpenWorks. StrataBugs will ignore the header information and start to read from the line beginning with ~A. (Modified 4 July 2005 to read ~CURVE INFORMATION block)

```
#-------------------------------------------------------------------------------
#
#    Created by  : [OpenWorks] Log Export Utility (LEXP)
#    Created on  : 2000-07-31 09:05:59
#    Project     : NEW PROJECT
#    User        : JA
#    Interpreter : MTR
#
#-------------------------------------------------------------------------------
~VERSION INFORMATION
VERS. 2.0 : CWLS Log ASCII Standard - version 2.0
WRAP.  NO : One line per depth step
~WELL INFORMATION
#MNEMONIC    .UNIT                               VALUE :DESCRIPTION
#-------------------------------------------------------------------------------
STRT         .FT                            8808.0000 :START DEPTH
STOP         .FT                           11935.0000 :STOP DEPTH
STEP         .FT                               1.0000 :STEP
NULL         .                              -999.2500 :NULL VALUE
COMP         .                             STRATADATA :COMPANY
WELL         .                                 WELL-1 :WELL
FLD          .                                UNKNOWN :FIELD
LOC          .                                UNKNOWN :LOCATION
CNTY         .                                UNKNOWN :COUNTY
STAT         .                                UNKNOWN :STATE
CTRY         .                                NOWHERE :COUNTRY
SRVC         .                                UNKNOWN :SERVICE COMPANY
DATE         .                                UNKNOWN :LOG DATE
UWI          .                           978250208000 :UNIQUE WELL ID
XCOORD       .                           652317.000000 :SURFACE X
YCOORD       .                          3295593.000000 :SURFACE Y
LAT          .                              29.780874 :LATITUDE
LON          .                              28.575651 :LONGITUDE
ELEV         .FT                             296.0000 :SURFACE ELEV
ELEV_TYPE    .                                     KB :ELEV TYPE
~CURVE INFORMATION
#MNEMONIC.UNIT          API CODE        : CURVE DESCRIPTION
#-------------------------------------------------------------------------------
DEPTH    .FT                            : Measured Depth
CML_WD   .UNKNOWN      UNKNOWN          : CML_WD, run Composite, version 0 (auto-composite)
DT_WD    .UNKNOWN      UNKNOWN          : DT_WD, run Composite, version 1
GR_WD    .UNKNOWN      UNKNOWN          : GR_WD, run Composite, version 1
RD_WD    .UNKNOWN      UNKNOWN          : RD_WD, run Composite, version 0 (auto-composite)
~A     DEPTH        CML_WD         DT_WD         GR_WD         RD_WD
    8808.0000      2.0000       70.9000       25.4000        1.3600
    8809.0000      2.0000      111.0000       27.8000        0.9200
    8810.0000      2.0000      134.6000       26.8000        0.7200
    8811.0000      2.0000      123.2000       27.9000        0.6600
    8812.0000      2.0000      125.4000       26.7000        0.6800
    8813.0000      2.0000      123.3000       27.0000        0.7100
    8814.0000      2.0000      123.7000       30.4000        0.7700
………etc.
```

However, this sometimes means that the columns of data in the file are without titles and there is no way of StrataBugs knowing which column represents which log type.  To overcome this problem it is best to make a copy of the log file and remove the extraneous information and add the column titles as in the example below. This can easily be accomplished using Excel or a similar program. Ensure that the first column on the left contains the log depths and is titled "DEPTH". Other columns can contain values for one or more logs and should be individually titled. These columns must be equally space-, comma- or tab-delimited. Make sure that the column titles are separated in the same way as the data!

_____

```
DEPTH           DTC          DTS          GR          RHOB
908.1516        403.0647     1034.5386    67.3494     2264.8743
908.3040        405.9052     1050.8081    65.2116     2261.4744
908.4564        399.6443     1015.3128    61.8116     2285.8083
908.6088        400.9803     1022.7755    58.3991     2310.1790
908.7612        399.3882     1013.8893    57.1521     2302.6355
908.9136        397.2019     1001.8223    60.0971     2265.9514
909.0660        395.1945      990.8793    64.7566     2249.9238
```

When you have completed this clean up process save the file as an ASCII text file.

It is possible to use the Wireline log display feature to display any depth value data such as chemostratigraphic data in the example below.

| Depth | SiO2 | Zr | Al2O3 | Zr/Al2O3 | TiO2 | Al2O3 | TiO2/Al2O3 | Zr/Al2O3 | Fe2O3 | MgO |
|---|---|---|---|---|---|---|---|---|---|---|
| **14093** | 80.52 | 113 | 6.36 | 17.77 | 0.09 | 6.36 | 0.01 | 449.44 | 5.18 | 1.14 |
| **14203** | 91.62 | 85 | 4.50 | 18.89 | 0.20 | 4.50 | 0.04 | 101.25 | 1.87 | 0.01 |
| **14207** | 91.21 | 70 | 3.79 | 18.47 | 0.19 | 3.79 | 0.05 | 75.60 | 2.50 | 0.01 |
| **14211** | 89.40 | 33 | 1.63 | 20.25 | 0.07 | 1.63 | 0.04 | 37.96 | 2.66 | 0.03 |
| **14223** | 90.21 | 225 | 1.51 | 149.01 | 0.16 | 1.51 | 0.11 | 14.25 | 2.74 | 0.02 |
| **14232** | 93.76 | 56 | 0.95 | 58.95 | 0.09 | 0.95 | 0.09 | 10.03 | 1.18 | 0.02 |
| **14235** | 88.67 | 112 | 0.84 | 133.33 | 0.12 | 0.84 | 0.14 | 5.88 | 2.75 | 0.03 |
| **14242** | 93.99 | 149 | 2.48 | 60.08 | 0.24 | 2.48 | 0.10 | 25.63 | 2.40 | 0.03 |
| **14251** | 97.45 | 28 | 0.40 | 70.00 | 0.05 | 0.40 | 0.13 | 3.20 | 0.87 | 0.02 |
| **14254** | 95.86 | 441 | 1.28 | 344.53 | 0.28 | 1.28 | 0.22 | 5.85 | 1.22 | 0.13 |
| **14257** | 84.08 | 59 | 1.99 | 29.65 | 0.13 | 1.99 | 0.07 | 30.46 | 1.99 | 1.30 |

To simplify the procedure of locating well logs put them in a folder and set this as the default.

Rename log files If you name the log file using the well code for the filename and the extension "txt" or "asc", StrataBugs will automatically recognise the file and open it. Of course this will only work if all your values are in a single multi trace file. You can combine data from a number of files to make a single multi-trace file if you wish.

If you have completed the above process you should be able to open the file and select the log trace to plot in the Charts application.

_____

## 14 - Events

To import events which are not based on taxon names you need only to import a CSV file containing two columns Depth and Event name.

| | |
|---|---|
| 1932.7 | T2000 |
| 1971.05 | T1520 |
| 2051.22 | T1500 |
| 2125.74 | T1400 |
| 2333.7 | T1300 |
| 2357.78 | T1250 |
| 2378.94 | PBS |
| 2417.31 | T1240-1241 |
| 2459.11 | T1230 |
| 2488.48 | T1220 |
| 2496.5 | T1213 |
| 2506.2 | T1212 |
| 2521.5 | T1200-1211 |
| 2600.9 | T1130 |
| 2623.4 | T1122 |
| 2669.2 | T1120 |
| 2733.5 | T1000-1110 |

For events based on taxon names you must first match the taxa against the taxonomic database before the events can be entered into the events dictionary.
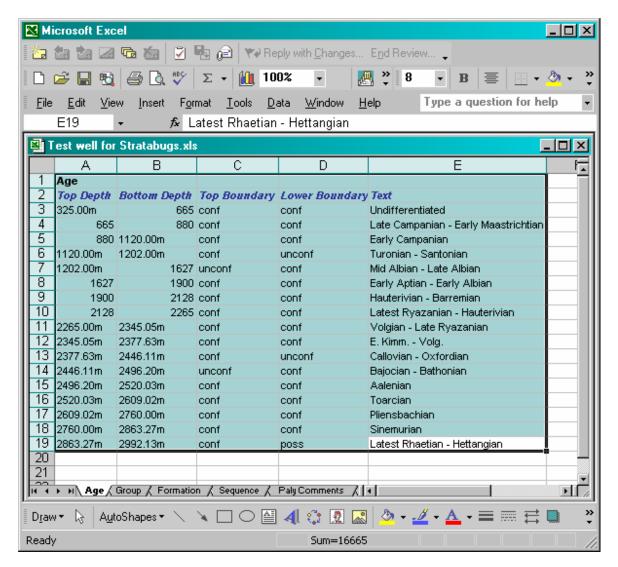
_____

## 15 – CP flat file

Special format file from ConocoPhillips.

```
well    formation    sampleno     adate   depth  litho  hsdh    acount ostracoda
PL14-3-1    999    999    09/28/97    0505~535    999    327    0    Ostracoda
PL14-3-1    999    999    09/28/97    0535~565    999    327    0    Ostracoda
PL14-3-1    999    999    09/28/97    0565~590    999    327    2    Ostracoda
PL14-3-1    999    999    09/28/97    0590~620    999    327    3    Ostracoda
PL14-3-1    999    999    09/28/97    0620~650    999    327    0    Ostracoda
PL14-3-1    999    999    09/28/97    0650~680    999    327    0    Ostracoda
PL14-3-1    999    999    09/28/97    0680~710    999    443    1    Ilyocypris sp
PL14-3-1    999    999    09/28/97    0680~710    999    458    1    Ilyocypris salebrasa
PL14-3-1    999    999    09/28/97    0710~740    999    327    1    Ostracoda
PL14-3-1    999    999    09/28/97    0740~770    999    329    1    Cypris subglobosa
PL14-3-1    999    999    09/28/97    0770~800    999    443    1    Ilyocypris sp
PL14-3-1    999    999    09/28/97    0800~830    999    327    0    Ostracoda
PL14-3-1    999    999    09/28/97    0830~860    999    480    1    Candoniella sp
PL14-3-1    999    999    09/28/97    0860~890    999    481    1    Candoniella suzini
PL14-3-1    999    999    09/28/97    0860~890    999    482    1    Candoniella albicans
PL14-3-1    999    999    09/28/97    0890~920    999    482    1    Candoniella albicans
```

_____

## 16 - XLS workbook (IGD)

Special import format created by Ichron for preparing data to import into ODM. It can now by imported into StrataBugs as a Workbook.



**The procedure for importing data in this format is as follows:**

Ensure that ALL depth values are followed by "m" or not. Mixing styles will result in rejection of data items.

Ensure data in worksheets is correct type. Edit where necessary. (e.g. are there any formations in the Ages worksheet?)

**Display data in Organiser workspace**

You may get a warning that some of the IGD data cannot be imported and a list of the rejected units is displayed. Either proceed without importing them or edit the XLS file (see above) and try again. Intervals with "absent" as boundary types will be rejected and appear in the list which can be printed.

Datatypes (Sequences, Lithostrat, Chronostrat and Comments) will be displayed in the workspace. Check for any Red cells. These indicate internal conflicts within the data set which must be resolved before the data can be saved either as a DEX file or in your database. Exclude or edit data to resolve conflicts

_____

When all data types display GREEN you may choose to save the data as a DEX file or continue to Match the IGD data against schemes in your database.  You are advised to do the latter.

To save directly as a DEX file select File | Save | as DEX file.  OK the next dialog. Provide a suitable name for the file and press OK.

To match IGD against your database, and thus link IGS units to schemes, select Match | IGD.  You may need to set up IGD schemes first.

Select each IGD type in turn from the drop down list and match the data.  (Look at the HELP for more details)

You can now save the data either to your database (in which case you should first match the well (Look at the HELP for more details) or as a DEX file.

To save the data in your database select File | Save | in database.  The data type cells in the workspace will turn white.

To save the data in a DEX file select File | Save | as DEX file.  OK the next dialog. Provide a suitable name for the file and press OK.


**Note:** By default all samples defining IGD boundaries are imported as LOG samples.  Samples to which comments are attached are imported as Cuttings.  You can edit these in Organiser.

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## 17 - MMS (Minerals Management Service)

Data freely available to download from www.gomr.mms.gov/homepg/pubinfo/freeasci/paleo/freepaleo.html. Covers wells in the Gulf of Mexico. Either the entire database or periodical updates can be downloaded.

Two files are available for each dataset. First read the header file into the Organiser workspace, then read the data file without clearing the well list. New wells and versions will be created for data based on a combination of the data source name and palaeontology report number.

NB There is currently no way of conveniently deleting old data from StrataBugs should you wish to update the data with a more recent copy.

The data array in both files is too wide to be shown so the examples below are shown line wrapped.

**MMS Header file**

```
H608184001200 1 2AT  336 G18569   001Y0623200506072000OPERATOR                        PALEO-DATA,
INC.              BURLINGTON RESOURCES INC                    873020154Y 87302015419500
79 6221         1133857        10035130  27.6452439 -88.5651017218091=Globigerina gortanii,
19260=very rare Globorotalia aequa, 19380=Globorotalites conicus, 19890=Catapsydrax dissimilis with a
reoccurrence at 19950, probably displaced or caved fauna, with lithology not characteristic of Early
Miocene, an examination of the faunal abundance curve over the interval 18870 to 20154 is very
atypical for the downdip mid-Eocene to Upper Cretaceous age section, see report for further comments,
foram  species abundance and diversity chart available, see report for details
H608184001200 2 2AT  336 G18569   001Y0623200506082000OPERATOR                        PALEO-DATA,
INC.              BURLINGTON RESOURCES INC                    873020154 87302015419500
79 6221         1133857        10035130  27.6452439 -88.56510172Calcareous nannofossil report,see
report for further comments, nannospecies abundance and diversity chart available, see report for
details
H177034068500 1 1EC   82 G08640   A001Y0602200507061995COMPLETION REPORT (WELL SUMMARY)    OPERATOR
HOUSTON EXPLORATION COMPANY                       0    0    010453 8521   99   56
1467284.952     241345.616 29.31965653 -93.00493186
H177094105300 1 1EI  227 00809    010Y0604200508091995COMPLETION REPORT (WELL SUMMARY)    OPERATOR
BP AMERICA PRODUCTION COMPANY                     0    0    01178611150 100  113
1903517.04      -32327.6 28.57742774 -91.63385421In=sand
H177094105400 1 1EI  240 G04453   A008Y0624200507271995COMPLETION REPORT (WELL SUMMARY)    OPERATOR
MOBIL OIL EXPLORATION & PRODUC                    0    0    01800217123 131  139
1904606.04      -37704.6 28.56265069 -91.63041883
H177104140300 1 1EI  276 G00989   C011Y0615200507191995COMPLETION REPORT (WELL SUMMARY)    OPERATOR
UNION OIL COMPANY OF CALIFORNIA                   0    0    0 7648 7558  100  170
1962685.52      -79209.34 28.44881713 -91.44941114In=sand
H608074081503 1 1GB  215 G14224   001Y0619200506131995COMPLETION REPORT (WELL SUMMARY)    OPERATOR
AMERADA HESS CORPORATION                          0    0    02082618331   83 1611
1961407         10075319 27.76110441 -92.00715562
H177184001402 1 1GI   95 G02164   A007Y0605200501111996COMPLETION REPORT (WELL SUMMARY)    OPERATOR
MOBIL OIL EXPLORATION & PRODUC                    0    0    0 7681 7101  105  200
2388801.73      -52833.25 28.51574663 -90.12302769
H427024024700 1 1MU  858 G12421   A003Y0612200511091995COMPLETION REPORT (WELL SUMMARY)    OPERATOR
HOUSTON EXPLORATION COMPANY                       0    0    01581814918 102   88
2450174.32      609890.75 27.33780351 -97.11327399
H177124053700 1 1SS  300 G07760   A006Y0618200507061995COMPLETION REPORT (WELL SUMMARY)    OPERATOR
KERR-MCGEE CORPORATION                            0    0    0 8370 6533  100  266
2071915       -161141.32 28.22340857   -91.110117In=sand
H177064075601 1 1VR  273 G14412   A002Y0604200502192001COMPLETION REPORT (WELL SUMMARY)    OPERATOR
KING RANCH OIL AND GAS INC                        0    0    0 5763 4972  134  173
1718165.412      -69784.431 28.47181828 -92.21027131
H177064075801 1 1VR  279 G11881   A005Y0617200505261995COMPLETION REPORT (WELL SUMMARY)    OPERATOR
W & T OFFSHORE INC                                0    0    01244010925   77  181
1621770.076      -77396.479 28.44851436 -92.50994711
H177192000801 1 1WD   90 G01089   B011Y0605200506151995COMPLETION REPORT (WELL SUMMARY)    OPERATOR
BP AMERICA PRODUCTION COMPANY                     0    0    010134 8343  110  180
2535373.93        102550.1 28.93790922 -89.65975316Paleo determined by correlation
```

**MMS Palaeo Data file**

```
P608184001200 1 2 873008730DEFATfirst sample examined
DEFAT4
```

_____

```
P608184001200 1 2 894008940DEFATUpper Pleistocene (Ionian) Globorotalia flexuosa
DEFAT5
P608184001200 1 21155011550POSATMiddle Pleistocene (Ionian) Globorotalia truncatulinoides (coiling change
right/left)                    DEFAT5
P608184001200 1 21308013080DEFATLower Pleistocene (Calabrian) Sphaeroidinella dehiscens (acme "A")
DEFAT5
P608184001200 1 21311013110DEFAT - - - - -
DEFIN5
P608184001200 1 21338013380POSATUpper Miocene (Messinian) Globorotalia menardii (coiling change right/left)
DEFIN5
P608184001200 1 21365013650DEFAT - - - - -
DEFAT5
P608184001200 1 21389013890DEFATUpper Miocene (Tortonian) Globorotalia lenguaensis
DEFAT5
P608184001200 1 21434014339DEFATsample gap top
POSAT5
P608184001200 1 21452014519DEFATsample gap bottom
DEFAT5
P608184001200 1 21461014609POSATUpper Miocene (Tortonian) Cibicides carstensi
DEFAT5
P608184001200 1 21677016699POSINMiddle Miocene (Serravallian) Globorotalia peripheroronda
DEFAT5
P608184001200 1 21731017153DEFATMiddle Miocene (Langhian) Globigerinoides sicanus
DEFAT6
P608184001200 1 21803017750POSATUpper Oligocene (Chattian) Globorotalia opima nana
DEFAT6
P608184001200 1 21806017775POSATUpper Oligocene (Chattian) Globorotalia opima opima
DEFAT6
P608184001200 1 21809017800DEFATUpper Oligocene (Chattian) Globorotalia opima opima
DEFAT6
P608184001200 1 21809117800DEFATlocal marker planktic foram increase
DEFAT6
P608184001200 1 21827017947DEFAT - - - - -
DEFAT5
P608184001200 1 21845018096DEFATLower Oligocene (Rupelian) Globigerina ampliapertura
DEFAT5
P608184001200 1 21863018248DEFATUpper Eocene (Priabonian) Globorotalia cerroazulensis cocoaensis
DEFAT5
P608184001200 1 21866018273DEFATUpper Eocene (Priabonian) Globigerinatheka semiinvoluta
DEFAT5
P608184001200 1 21872018324DEFATMiddle Eocene (Bartonian) Truncorotaloides rohri
DEFAT5
P608184001200 1 21887018453DEFATMiddle Eocene (Bartonian) Globorotalia bullbrooki
DEFAT5
P608184001200 1 21890018479DEFAT - - - - -
DEFAT4
```

_____

## 18 - Core shift

Special application to read Excel spreadsheets containing core depths and shifts. Data should be saved in XLS workbook format. File is opened by pressing the Read button on the Cored Intervals dialog in Organiser.

| #WELL | CORE # | CDEPTH | CDEPTH_1 | LDEPTH | CDEN_1 | CKHL_1 | CKHLOB_1 | CKVL_1 | CPOR_1 | CPOROB_1 | CSOR_1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | feet | METRES | METRES | G/C3 | MD | MD | MD | V/V | V/V | V/V |
| 9_8A-7 | 1 | 12319.85019 | 3755.14 | 3755.14 | | 0.03 | 0.003638 | - | 0.020 | 0.016630 | 0.277 |
| 9_8A-7 | 1 | 12320.85083 | 3755.44 | 3755.44 | | 0.11 | 0.021510 | 0.08 | 0.069 | 0.064307 | 0.462 |
| 9_8A-7 | 1 | 12321.85148 | 3755.75 | 3755.75 | | - | - | - | 0.061 | 0.056523 | 0.328 |
| 9_8A-7 | 1 | 12322.85212 | 3756.05 | 3756.05 | | 0.21 | 0.050820 | 0.21 | 0.088 | 0.082794 | 0.449 |
| 9_8A-7 | 1 | 12323.84948 | 3756.36 | 3756.36 | | 0.18 | 0.041463 | - | 0.070 | 0.065280 | 0.352 |
| 9_8A-7 | 1 | 12324.85013 | 3756.66 | 3756.66 | | 0.15 | 0.032555 | 0.16 | 0.072 | 0.067226 | 0.358 |
| 9_8A-7 | 1 | 12325.85077 | 3756.97 | 3756.97 | | 0.16 | 0.035471 | - | 0.067 | 0.062361 | 0.378 |
| 9_8A-7 | 1 | 12327.84878 | 3757.57 | 3757.57 | | 0.14 | 0.029698 | 0.14 | 0.063 | 0.058469 | 0.347 |
| 9_8A-7 | 1 | 12328.84942 | 3757.88 | 3757.88 | | 0.09 | 0.016418 | 0.12 | 0.062 | 0.057496 | 0.381 |
| 9_8A-7 | 1 | 12329.85007 | 3758.18 | 3758.18 | | 0.24 | 0.060570 | - | 0.087 | 0.081821 | 0.385 |
| 9_8A-7 | 1 | 12330.85071 | 3758.49 | 3758.49 | | 0.19 | 0.044535 | 0.07 | 0.067 | 0.062361 | 0.310 |
| 9_8A-7 | 1 | 12331.85136 | 3758.79 | 3758.79 | | 0.22 | 0.054029 | - | 0.085 | 0.079875 | 0.386 |
| 9_8A-7 | 1 | 12332.84872 | 3759.10 | 3759.10 | | 0.24 | 0.060570 | 0.17 | 0.085 | 0.079875 | 0.364 |

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## 19 - XML

A prototype biostratigraphic data exchange format.  Currently at a development stage and not generally applicable.


## 20 - XLS abundance with sample splits.

For certain Corelab files.  This currently requires a special build in order to run so is not generally available.


## 21 – SPDC

Standard spreadsheet files with local SIPM codes for micropalaeontology and palynology used by SPDC, Nigeria.


## 22 - BUGS

Old BP proprietary data format.


## 23 - IGD Schemes as CSV file

IGD Schemes with data similar to DEX format but in columnar format, can be read and written using the Organiser | Tools | IGD Schemes  | Add/Edit dialog.

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## 24 - Composite sections

## 24a – GraphCor files

Imports composite section files created in GraphCor an example of which is shown below.

```
*                               Date= 5/12/2005    Time= 9:33
*   Taxa in Composite Section (SRS=AUSDINOS.SEC)
Actinotheca aphroditae                 90.4000         ***
Actinotheca aphroditae [consistent]    65.0000      65.0000
Apteodinium granulatum                139.5000      94.6000
Apteodinium granulatum [C-A]          136.1600     134.5000
Ascodinium cinctum                    125.9900     117.3300
Ascodinium cinctum [C-A]              123.9900     120.0000
Ascodinium parvum                     104.4300      94.6000
Avellodinium sp. A                    136.1600     126.0000
Avellodinium sp. A [C-A]              134.4900     132.8300
Balcattia cheleusa                    145.2100     144.8900
Balcattia sp. A                       140.0500     134.5000
Balcattia sp. A [consistent]          136.1600         ***
Balteocysta perforata                  90.4000         ***
Balteocysta perforata [consistent]     65.0000      65.0000
Batiacasphaera crassicingulata        146.0600     146.0600
Batiacasphaera crassicingulata [C-A   146.9800     146.5300
Batioladinium reticulatum             139.1500     137.7200
Belodinium dysculum                   150.6900     119.9900
Belodinium nereidis                   149.4600     139.1600
Belodinium nereidis [C-A]             145.8800     145.1300
Belodinium nereidis [consistent]      142.0400     142.0400
Biorbifera aggressiva                 144.3100     144.3100
Bonbonadinium granulatum              145.7800     145.4700
Broomea simplex                       143.7200     143.7200
Caddasphaera halosa                   176.0000     136.1700
Caddasphaera halosa [C-A]             168.5000     166.5300
Canningia reticulata                  142.0300     129.0000
Canningia reticulata [consistent]     139.1500         ***
Canninginopsis denticulata            107.2200      96.0000
Canninginopsis intermedia             112.1900     110.5400
Canninginopsis sp. cf. C. tabulata    141.0000     140.0600
Carnarvonodinium morganii             145.6100     145.6100
Carnarvonodinium morganii [consiste   145.7800         ***
……………..etc..
```

## 24b - (FAD/LAD/TAXON NAME)

```
FAD,LAD,Taxon
176.0,136.17,Caddasphaera halosa
168.5,166.53,Caddasphaera halosa [C-A]
142.03,129.0,Canningia reticulata
```

## 25 – Diaxol

Microfossil and palynology from NITG's Diaxol system.

```
Project 46D220
 -
  Name=Beugen
  Code=46D220
  Co-ordinates=190.920 410.400
  TotalDepth=140.00
  Drill Method=Bailer/Cored
Levels
     37.00,Normal
     38.00,Normal
     43.00,Normal
     44.00,Normal
     45.25,Normal
     45.27,Normal
     45.70,Normal
     45.72,Normal
     49.00,Normal
     50.00,Normal
     52.00,Normal
     53.00,Normal
     55.30,Normal
```

```
….etc
External files
Disciplines
 Discipline: General
  Slice sets
  Event sets
  Sample sets
 Discipline: Diatoms
  Slice sets
  Event sets
  Sample sets
 Discipline: Grinden
  Slice sets
  Event sets
  Sample sets
 Discipline: MicroCen
  Slice sets
   Slices: Zones
    37,55.34,FB/FC1A
    58,60.09,FC1A
    60.65,62,steriel
    65.78,73,FC2A1
    75.19,75.6,FC2A2
    78,93,FC2A3
    95.2,95.24,steriel
    99,111,FC2B1
    115.1,115.14,steriel
    120,133,FC2B2
    135.5,135.54,steriel
  Event sets
  Sample sets
   SampleSet: MONSTERSERIE_1
    Taxon List
     (126),Ammonia beccarii
      Taxon Group=Calcareous
     (887),Amphicoryna scalaris
      Taxon Group=Calcareous
     (472),Agglutinanten indet
      Taxon Group=Arenaceous
     (893),Astrononion perfossum
      Taxon Group=Calcareous
     (157),Buccella frigida
```

```
     Taxon Group=Calcareous
     (156),Bolivina spp
     Taxon Group=Calcareous
     (160),Bulimina elongata
     Taxon Group=Calcareous
     (159),Bulimina aculeata
     Taxon Group=Calcareous
     (166),Cancris auriculus
     Taxon Group=Calcareous
     (167),Cancris spp
     Taxon Group=Calcareous
     (170),Cassidulina carinata
…….etc
Sample List
     Sample 37 38
      Sample attributes
       Sample Type=Cutting
       Sample Number=66046
       Benthics/100g=1160
       Fraction=125-250
       Weight=100
       Analyst=Koolen. M.
      Occurrences
       Ammonia beccarii,Adult,In situ,2
       Amphicoryna scalaris,Adult,In situ,1
       Bolboforma costairregularis var.,Adult,In situ,1
       Buccella frigida,Adult,In situ,26
       Bulimina aculeata,Adult,In situ,4
       Cassidulina laevigata,Adult,In situ,1
       Cibicides lobatulus,Adult,In situ,3
       Cibicides spp,Adult,In situ,20
       Cribrononion haagense,Adult,In situ,21
       Elphidium excavatum,Adult,In situ,4
       Elphidium spp,Adult,In situ,1
       Fissurina orbignyana,Adult,In situ,1
       Florilus boueanus,Adult,In situ,1
       Globulina gibba,Adult,In situ,2
       Globulina gibba paucicrassicosta,Adult,In situ,3
       Globulina gibba punctata,Adult,In situ,2
       Lagena clavata,Adult,In situ,1
       Monspeliensina pseudotepida,Adult,In situ,2
       Neoconorbina milletti,Adult,In situ,1
       Nonion crassesuturatum,Adult,In situ,6
       Oolina melo,Adult,In situ,1
       Oolina squamosa,Adult,In situ,2
       Rotaliina indet,Adult,In situ,23
      Miscellaneous
     Sample 43 44
      Sample attributes
       Sample Type=Cutting
       Sample Number=66047
       Benthics/100g=468
       Fraction=125-250
       Weight=100
       Analyst=Koolen. M.
      Occurrences
       Agglutinanten indet,Adult,In situ,1
       Ammonia beccarii,Adult,In situ,7
       Amphicoryna scalaris,Adult,In situ,3
….etc.
```

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## 26 – Diatom CSV

Format used for diatom data by TNO-NITG. Spreadsheets saved as CSV files which have sample depths in the second row. The third column indicates whether the count is for complete or broken specimens. The taxon genus and species name may be the full name, or, if here is encoded, the codes must be matched against their taxa in the dictionary using Match | Taxa in the normal way.

| LOCATIE | | | BH-1 | BH-1 | BH-1 | BH-1 | BH-1 | BH-1 | BH-1 | BH-1 |
|---|---|---|---|---|---|---|---|---|---|---|
| DIEPTE | | | 1370 | 1390 | 1410 | 1430 | 1450 | 1470 | 1490 | 1510 |
| ACHN | AFFIN | HEEL | 2 | | 1 | | | | | |
| ACHN | AFFIN | FRAGMENT | | | | | | | | |
| ACHN | DELTL | HEEL | 3 | | 2 | | | | | |
| ACHN | DELTL | FRAGMENT | | | 1 | | 1 | | | |
| ACTC | NORMA | HEEL | 3 | 2 | 1 | 1 | | | | 9 |
| ACTC | NORMA | FRAGMENT | 2 | 4 | | | | | | |
| ACTT | UNDUL | HEEL | 1 | | 1 | | | | | 1 |
| ACTT | UNDUL | FRAGMENT | | | | | 1 | | | |
| AMPH | OVALI | HEEL | 2 | 1 | 2 | 3 | | | | |
| AMPH | OVALI | FRAGMENT | | | | | | | | |
| AMPH | OVALIL | HEEL | 2 | | | | | | | |
| AMPH | OVALIL | FRAGMENT | | | | | | | | |
| AMPH | OVALIP | HEEL | 6 | | 3 | | 3 | | 1 | |
| AMPH | OVALIP | FRAGMENT | | | | | | | | |
| CALO | SCHUM | HEEL | 1 | | | | | | | |
| CALO | SCHUM | FRAGMENT | | | | | | | | |
| COCC | DIMIN | HEEL | 1 | 1 | 1 | 2 | 4 | | | |
| COCC | DIMIN | FRAGMENT | | | | | | | | |
| COCC | DISCL | HEEL | 1 | 1 | | 3 | 5 | | | 1 |

_____

## 27 - CSV IGD  - various formats

Files read from within Organiser, IGD data display dialog, "Read" button. There are three formats here:

### Well/Depth/Interval  e.g.

```
Well, depth, interval
StrataBugs-1, 100.00, Albian
StrataBugs-1, 200.00, Aptian
```

In the above instance, each IGD interval would become a "spot" interval with top and base depth at the same given depth.

### CSV depth/Interval e.g.

```
Sample,Sequences
1146',Seq130_C_Sand
1272',Seq130_B_Sand
1335',Seq130_A_Sand
1434',SB_130
1463',Seq120_G_Sand
```

In the above instance, each IGD interval would become a "spot" interval with top and base depth at the same given depth.

### Well/pick/age/depth files (from OpenWorks) e.g.

```
WELL_UWI,PICK_SURF_NAME,PICK_DEPTH,AGE,DATA_SOURCE
StrataBugs-1,TOlMFS335,1758.157,25.05,ROSE
StrataBugs-1,TOlMFS320,1813.5389,28.45,ROSE
StrataBugs-1,TOlMFS290,1914.814,32.5,ROSE
StrataBugs-1,TEoMFS235,1971.9725,44.5,STAT
```

In this instance the intervals are created as "spot" intervals as above. The age at each sample depth is assigned to the sample age. This is visible using the Age table in Samples or by pressing the Ages button from the Sample Display dialog in Organiser.

### CSV Depth/Comment files e.g.

```
Depth,Comment
100,Top sample
200,Influx
```

The above file can be read into Biostratigraphic Comments in Organiser from the Read Button of the Biostratigraphic Comments display dialog.