





like a  
zenolite  
= cement

# Sediment Smear Slide / Thin Section Description Sheet

Date: 2 Jan 2014

Expedition: 348 Observer: KY

Site: 0002 Hole: P Core: SWW Sect.: 16 Interval:

Sediment Name: clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         | 123            |                 | 19   | 81   |

Select one and check.

Select one and check.

if they have cement  
I maybe proba  
by  
this  
%

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 13                                     | Quartz                        |
| 2                                      | Feldspars                     |
| 48                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| <b>Sedimentary Lithics</b>             |                               |
|  | Chert                         |
| 13                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
| 2                                      | Colored glass                 |
|  | Pumice                        |
|  | <b>Volcanic lithics</b>       |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 2                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 3                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 6                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 8                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Amp. Muscovite

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: EMW Sect.: 18 Interval:

Sediment Name: clay?

*if this calcite is cement*

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 1               | 20   | 79   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 1                                      | Quartz                        |
| 1                                      | Feldspars                     |
| 73 ← 78                                | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| <b>Sedimentary Lithics</b>             |                               |
|  | Chert                         |
| 3                                      | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 20                                     | Clear glass → ?               |
|  | Colored glass                 |
|  | Pumice                        |
|  | <b>Volcanic lithics</b>       |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
|                              | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
|                              | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
| 3                            | Pyrite (grain coating)                  |
| 1                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |
|                              |   |
|                              |   |
|                              |   |
|                              |   |
|                              |   |
|                              |   |
|                              |   |
|                              |   |
| other                        | 96                                      |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

This depends only higher.

XRD & XRF also same trend.

Cementation not?

Calcite rich area

**Sediment Smear Slide / Thin Section Description Sheet**

Date: 2 Jan 2014

Expedition: 348 Observer: KY

Site: C0002 Hole: 9 Core: SMW Sect.: 20 Interval:

Sediment Name: clay.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 7               | 83   |      |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 6                                      | Quartz                        |
| 1                                      | Feldspars                     |
| 46                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 6                                      | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
| 2                                      | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microplitic                   |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 3                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 3                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 25                           | Calcite                                 |
| 25                           | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Dup.

\* This form is not designed for shallow water (neritic) carbonate sediments

→ I can't see calcite.  
 → nanno fossil is many.

without drill contamination  
 volcanic altered?

**Sediment Smear Slide / Thin Section Description Sheet**

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 25 Interval:

Sediment Name: Silty clay

*if this depth is contaminated*

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         | (1) 3%         | 3               | 25   | 72   |

Select one and check.

Select one and check.

IF T 60

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 1                                      | Quartz                        |
| 3                                      | Feldspars                     |
| 5                                      | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
| 10                                     | Chert                         |
| 15                                     | Mudstone                      |
| 23                                     | Siltstone/sandstone           |
|  | Limestone                     |
| 14                                     | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| Vitric fragments                       |                               |
| 1                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
| 15                                     | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 20                               | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
|                              | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 1                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 2 Jan 2014

Expedition: 348 Observer: KY

Site: Coccos Hole: P Core: SMW Sect.: 28 Interval:

Sediment Name: silty clay

| Smear Slide                         | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material                      | Percent Texture |      |      |
|-------------------------------------|--------------|-----------------|-------------|-------------------|----------------|---------|-------------------------------------|-----------------|------|------|
|                                     |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                                     | Sand            | Silt | Clay |
| <input checked="" type="checkbox"/> |              |                 |             |                   |                |         | <input checked="" type="checkbox"/> |                 | 23   | 77   |

Select one and check. Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 16                                     | Quartz                        |
| 2                                      | Feldspars                     |
| 42                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 10                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 2                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microplitic                   |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 2                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 4                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 7                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 13                           | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible Fill percentage (Total must be 100).

Remarks: chl

\* This form is not designed for shallow water (neritic) carbonate sediments

清角 100  
五 → 美

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 30 Interval:

Sediment Name: silty clay or clay (23%)

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 3               | 29   | 72   |

Select one and check. Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 3                                      | Quartz                        |
| 15                                     | Feldspars                     |
| 47                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
| 3                                      | Chert                         |
| 5                                      | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 15                                     | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 1                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 5                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
| 1                            | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments



Sorry,  
 It's difficult for me to see calcite?  
 and I saw few calcite? So... small...

# Sediment Smear Slide / Thin Section Description Sheet

Date: 2 Jan 2014

Expedition: 348 Observer: KY

Site: C0002 Hole: P Core: SNW Sect.: 32 Interval:

Sediment Name: silty clay this sample if have contamination

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         | 10             | 30              | 60   |      |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 9                                      | Quartz                        |
| 1                                      | Feldspars                     |
| 33                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 18                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
| 2                                      | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
| 2                                      | Microlitic                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                           | Composition   |
|-----------------------------------|---|
| <b>Pelagic Grains</b>             |   |
|                                   | Calcareous  |
|                                   | Nannofossils  |
|                                   | Foraminifers  |
|                                   | Siliceous   |
|                                   | Diatom  |
|                                   | Radiolarian   |
|                                   | Silicoflagellate  |
|                                   | Sponge Spicule  |
| <b>Other bioclasts</b>            |   |
|                                   | Mollusk   |
|                                   | Algae   |
|                                   | Echinoderm  |
|                                   | Benthic foraminifer   |
|                                   | Other bioclast (specify)                                    |
| <b>Other carbonate allochems.</b> |   |
|                                   | Peloid  |
|                                   | Intraclast  |
|                                   | Ooid  |
|                                   | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                   | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 5                            | Dense minerals <sup>1</sup>             |
| 5                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 3                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 13                           | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 9                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Bt, chl, Hyperstene

\* This form is not designed for shallow water (neritic) carbonate sediments

we can see volcanic glass.

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: 8MW Sect.: 34 Interval:

Sediment Name: Sandy silt - clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 20              | 50   | 30   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 10                                     | Quartz                        |
| 10                                     | Feldspars                     |
| 10                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 40                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 11                                     | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
| 6                                      | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 3                            | Dense minerals <sup>1</sup>             |
| 5                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
| 1                            | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: zircon

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 2 Jan 2014

Expedition: 348 Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: B6 Interval:

Sediment Name: Sandy silt.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 31              | 40   | 29   |

Select one and check.

Select one and check.

| Percent                                | Composition                   | Percent                          | Composition   | Percent                      | Composition                             |
|--|-------------------------------|----------------------------------|---|------------------------------|---|
| <b>Major Siliciclastic Grain Types</b> |                               | <b>Pelagic Grains</b>            |   | <b>Minor Grain Types</b>     |   |
| 11                                     | Quartz                        |                                  | Calcareous  | 2                            | Dense minerals <sup>1</sup>             |
| 1                                      | Feldspars                     |                                  | Nannofossils  | 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
| 18                                     | Clay minerals                 |                                  | Foraminifers  |                              | Glaucinite                              |
|  |                               |                                  | Siliceous   |                              | Phosphate (bones, teeth, etc)           |
| <b>Lithic Grains</b>                   |                               |                                  | Diatom  |                              | Opaque Grain                            |
|  | Sedimentary Lithics           |                                  | Radiolarian   |                              | Marine organic matter                   |
|  | Chert                         |                                  | Silicoflagellate  | 2                            | Terrestrial organic matter              |
| 33                                     | Mudstone                      |                                  | Sponge Spicule  |                              | Other (specify):                        |
|  | Siltstone/sandstone           | <b>Other bioclasts</b>           |   |                              |   |
|  | Limestone                     |                                  | Mollusk   | <b>Authigenic components</b> |   |
|  | Metamorphic lithic            |                                  | Algae   | 5                            | Pyrite (framboids)                      |
|  | Plutonic lithic               |                                  | Echinoderm  |                              | Pyrite (euhedral)                       |
|  |                               |                                  | Benthic foraminifer   |                              | Pyrite (grain coating)                  |
| <b>Volcaniclastic Grains</b>           |                               |                                  | Other bioclast (specify)                                    | 21                           | Calcite                                 |
|  | Vitric fragments              | <b>Other carbonate allochems</b> |   |                              | Dolomite                                |
|  | Clear glass                   |                                  | Peloid  |                              | Zeolites                                |
|  | Colored glass                 |                                  | Intraclast  |                              | Fe/Mn oxide                             |
|  | Pumice                        |                                  | Ooid  |                              | Other (specify):                        |
|  | Volcanic lithics              |                                  | Silt or sand-size carbonate allochem fragment (unspecified) |                              |   |
|  | Felsitic                      |                                  | Carbonate mud (apart from nannos)                           |                              |   |
|  | Microlitic                    |                                  |   |                              |   |
|  | Lathwork                      |                                  |   |                              |   |
|  | Altered volcanic (palagonite) |                                  |   |                              |   |
|  |                               |                                  |   |                              |   |
|  |                               |                                  |   |                              |   |
|  |                               |                                  |   |                              |   |
|  |                               |                                  |   |                              |   |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

good Biotite!

**Sediment Smear Slide / Thin Section Description Sheet**

Date: 12/20

Expedition: 348 Observer: Rina

Site: C0002 Hole: P Core: ~~43~~ 43 Sect.: SMW-W Interval:

Sediment Name: claystone

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                | ✓       |                |                 | 3    | 97   |

Select one and check. Select one and check.

| Percent                                | Composition                  | Percent                          | Composition   | Percent                      | Composition                             |
|--|------------------------------|----------------------------------|---|------------------------------|---|
| <b>Major Siliciclastic Grain Types</b> |                              | <b>Pelagic Grains</b>            |   | <b>Minor Grain Types</b>     |   |
| 3                                      | Quartz                       |                                  | Calcareous  | 1                            | Dense minerals <sup>1</sup>             |
| 1                                      | Feldspars                    | 1                                | Nannofossils  | 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
| 79                                     | Clay minerals                |                                  | Foraminifers  |                              | Glauconite                              |
| <b>Lithic Grains</b>                   |                              |                                  | Siliceous   |                              | Phosphate (bones, teeth, etc)           |
|  | Sedimentary Lithics          |                                  | Diatom  |                              | Opaque Grain                            |
|  | Chert                        |                                  | Radiolarian   |                              | Marine organic matter                   |
| 5                                      | Mudstone                     |                                  | Silicoflagellate  | 3                            | Terrestrial organic matter              |
|  | Siltstone/sandstone          |                                  | Sponge Spicule  |                              | Other (specify):                        |
|  | Limestone                    | <b>Other bioclasts</b>           |   |                              |   |
|  | Metamorphic lithic           |                                  | Mollusk   | <b>Authigenic components</b> |   |
|  | Plutonic lithic              |                                  | Algae   | 3                            | Pyrite (framboids)                      |
|  |                              |                                  | Echinoderm  |                              | Pyrite (euhedral)                       |
| <b>Volcaniclastic Grains</b>           |                              |                                  | Benthic foraminifer   |                              | Pyrite (grain coating)                  |
|  | Vitric fragments             |                                  | Other bioclast (specify)                                    |                              | Calcite                                 |
| 3                                      | Clear glass                  | <b>Other carbonate allochems</b> |   |                              | Dolomite                                |
|  | Colored glass                |                                  | Peloid  |                              | Zeolites                                |
|  | Pumice                       |                                  | Intraclast  |                              | Fe/Mn oxide                             |
|  | Volcanic lithics             |                                  | Ooid  |                              | Other (specify):                        |
|  | Felsitic                     |                                  | Silt or sand-size carbonate allochem fragment (unspecified) |                              |   |
|  | Microlite                    |                                  | Carbonate mud (apart from nannos)                           |                              |   |
|  | Lathwork                     |                                  |   |                              |   |
|  | Altered volcanic(palagonite) |                                  |   |                              |   |
|  |                              |                                  |   |                              |   |
|  |                              |                                  |   |                              |   |
|  |                              |                                  |   |                              |   |

<sup>1</sup> List under remarks if possible Fill percentage (Total must be 100).

Remarks:

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\* This form is not designed for shallow water (neritic) carbonate sediments

major 86 → clay minerals?

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/20

Expedition: 348 Observer: Pina

Site: C0002 Hole: P Core: 43 Sect.: SMW-W Interval:

Sediment Name: clay stone

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                | ✓       |                | 3               | 97   |      |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 3                                      | Quartz                       |
| 1                                      | Feldspars                    |
| 86                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
|  | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
| 3                                      | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
| Volcanic lithics                       |                              |
|  | Felsitic                     |
|  | Microlite                    |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 1                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/20

Expedition: 348 Observer: Rina

Site: C0002 Hole: P Core: 47 Sect.: SMW-W Interval:

Sediment Name: clay stone

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|             |              |                 |             |                   |                |         |                |                 | 10   | 90   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 5                                      | Quartz                       |
| 1                                      | Feldspars                    |
| 81                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
|  | Sedimentary Lithics          |
|  | Chert                        |
| 1                                      | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
| 1                                      | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
|  | Microlite                    |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
| 5                                | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: C

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/20

Expedition: 348 Observer: Rina

Site: C0002 Hole: P Core: 49 Sect.: SMW-W Interval: (5m)

Sediment Name: Clay stone

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                | ✓       |                | 1               | 10   | 89   |

Select one and check.

Select one and check.

| Percent                                | Composition                  | Percent                          | Composition   | Percent                      | Composition                             |
|--|------------------------------|----------------------------------|---|------------------------------|---|
| <b>Major Siliciclastic Grain Types</b> |                              | <b>Pelagic Grains</b>            |   | <b>Minor Grain Types</b>     |   |
| 5                                      | Quartz                       |                                  | Calcareous  | 1                            | Dense minerals <sup>1</sup>             |
|  | Feldspars                    |                                  | Nannofossils  | 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
| 63                                     | Clay minerals                |                                  | Foraminifers  |                              | Glauconite                              |
|  |                              |                                  | Siliceous   |                              | Phosphate (bones, teeth, etc)           |
| <b>Lithic Grains</b>                   |                              |                                  | Diatom  |                              | Opaque Grain                            |
|  | Sedimentary Lithics          |                                  | Radiolarian   | 1                            | Marine organic matter                   |
|  | Chert                        |                                  | Silicoflagellate  | 1                            | Terrestrial organic matter              |
| 5                                      | Mudstone                     |                                  | Sponge Spicule  |                              | Other (specify):                        |
|  | Siltstone/sandstone          |                                  |   |                              |   |
|  | Limestone                    | <b>Other bioclasts</b>           |   |                              |   |
|  | Metamorphic lithic           |                                  | Mollusk   | <b>Authigenic components</b> |   |
|  | Plutonic lithic              |                                  | Algae   | 1                            | Pyrite (framboids)                      |
|  |                              |                                  | Echinoderm  |                              | Pyrite (euhedral)                       |
|  |                              |                                  | Benthic foraminifer   |                              | Pyrite (grain coating)                  |
|  |                              |                                  | Other bioclast (specify)                                    |                              | Calcite                                 |
| <b>Volcaniclastic Grains</b>           |                              |                                  |   |                              | Dolomite                                |
|  | Vitric fragments             | <b>Other carbonate allochems</b> |   |                              | Zeolites                                |
| 1                                      | Clear glass                  |                                  | Peloid  |                              | Fe/Mn oxide                             |
|  | Colored glass                |                                  | Intraclast  |                              | Other (specify):                        |
|  | Pumice                       |                                  | Ooid  |                              |   |
|  | Volcanic lithics             | 20                               | Silt or sand-size carbonate allochem fragment (unspecified) |                              |   |
|  | Felsitic                     |                                  |   |                              |   |
|  | Microlite                    |                                  | Carbonate mud (apart from nannos)                           |                              |   |
|  | Lathwork                     |                                  |   |                              |   |
|  | Altered volcanic(palagonite) |                                  |   |                              |   |
|  |                              |                                  |   |                              |   |
|  |                              |                                  |   |                              |   |
|  |                              |                                  |   |                              |   |
|  |                              |                                  |   |                              |   |
|  |                              |                                  |   |                              |   |
|  |                              |                                  |   |                              |   |
|  |                              |                                  |   |                              |   |
|  |                              |                                  |   |                              |   |
|  |                              |                                  |   |                              |   |
|  |                              |                                  |   |                              |   |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: \_\_\_\_\_

\* This form is not designed for shallow water (neritic) carbonate sediments

① Overview-1 12/30 0x10  
C x 10

color! angular grain  
茶色 or 灰? □

3.9 ←→ 63  
② ? mineral 2 x 400x C.

**Sediment Smear Slide / Thin Section Description Sheet**

Date: 12/30

Expedition: 348 Observer: Rina

Site: 2 Hole: P Core: SMW Sect.: 53 Interval: 10m range

Sediment Name: clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                               |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|-------------------------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic                | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   | angular, maggy volcanic glass |         |                | 1               | 5    | 94   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
|  | Quartz                        |
| 1                                      | Feldspars                     |
| 77                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 5                                      | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
| 5                                      | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| Vitric fragments                       |                               |
|  | Clear glass                   |
| 3                                      | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
| 1                                      | Microlitic                    |
| 1                                      | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 1                            | Calcite                                 |
| 3                            | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: biotite, musc,

\* This form is not designed for shallow water (neritic) carbonate sediments



12/30 7. - overview x 10x0  
 x C  
 8 - volcanic glass x 40x0  
 quartz = metamorphic x 40x C

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/30

Expedition: 398 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 56 Interval: 10m

Sediment Name: clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                | ✓       |                | 1               | 10   | 89   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 3                                      | Quartz                        |
| 5                                      | Feldspars                     |
| 73                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 10                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
| 5                                      | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| Vitric fragments                       |                               |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
|  | Microlitic                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
|                              | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
| 1                            | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
|                              | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/30

Expedition: 348

Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 58

Interval: 10

Sediment Name: clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                | ✓       |                | 1               | 3    | 96   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 3                                      | Quartz                        |
| 3                                      | Feldspars                     |
| 85                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 3                                      | Mudstone <i>Calcareous</i>    |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlitic                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
|                              | Dense minerals <sup>1</sup>             |
|                              | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
| 1                            | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

9 over view x 10 0

MUSCO  
bire

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/30

Expedition: 348

Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 61

Interval: 110 m

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|                   |                | ✓       |                | 3               | 30   | 67   |

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 10                                     | Quartz                        |
| 3                                      | Feldspars                     |
| 13                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 5                                      | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| Vitric fragments                       |                               |
| 5                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
|  | Microclite                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
|                              | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 1                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Musc, chl

\* This form is not designed for shallow water (neritic) carbonate sediments

10 clere x10 (O)  
x10 (C)

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/30

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 63 Interval: 10m

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                | ✓       |                | 15              | 20   | 65   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 20                                     | Quartz                       |
| 5                                      | Feldspars                    |
| 52                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
|  | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
| Vitric fragments                       |                              |
| 10                                     | Clear glass                  |
| 3                                      | Colored glass                |
|  | Pumice                       |
| Volcanic lithics                       |                              |
|  | Felsitic                     |
|  | Microclite                   |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Sillicoflagellate   |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: chert

\* This form is not designed for shallow water (neritic) carbonate sediments

siliceous fossils ~~shape~~

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/31

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 71 Interval: 10 m

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                | ✓       |                | 1               | 35   | 64   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 1                                      | Quartz                        |
| 1                                      | Feldspars                     |
| 20                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| <b>Sedimentary Lithics</b>             |                               |
|  | Chert                         |
|  | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
| 10                                     | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| <b>Vitric fragments</b>                |                               |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
| <b>Volcanic lithics</b>                |                               |
|  | Felsitic                      |
|  | Microlitic                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 10                               | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| 5                                | X Fossil  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
| 20                               | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 1                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 15                           | Calcite                                 |
|                              | Dolomite                                |
| 5                            | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: zeolite (pyritic? or arinop...ite?)

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348

Observer: RF

Site: 2

Hole: P

Core: SMW

Sect.: 92

Interval:

Sediment Name: clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         |
|-------------------|----------------|---------|
| Siliciclastic     | Volcaniclastic | Pelagic |
|                   |                |         |

Select one and check.

| Other material | Percent Texture |      |      |
|----------------|-----------------|------|------|
|                | Sand            | Silt | Clay |
|                | 3               | 20   | 77   |

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 3                                      | Quartz                       |
| 3                                      | Feldspars                    |
| 50                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 30                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
| 1                                      | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
|  | Microlitic                   |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nanos)                            |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 5                            | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 3                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 1                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 2-Jan-2014

Expedition: 248 Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: 73 Interval:

Sediment Name: clayey silt.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |           |           |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|-----------|-----------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt      | Clay      |
| <u>V</u>    |              |                 |             |                   |                |         |                | <u>12</u>       | <u>48</u> | <u>40</u> |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| <u>14</u>                              | Quartz                        |
| <u>2</u>                               | Feldspars                     |
| <u>29</u>                              | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| <u>36</u>                              | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| Vitric fragments                       |                               |
|  | Clear glass                   |
| <u>1</u>                               | Colored glass                 |
| <u>1</u>                               | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
| <u>9</u>                               | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| <u>2</u>                     | Dense minerals <sup>1</sup>             |
| <u>2</u>                     | Micas (biotite, musc, chl) <sup>1</sup> |
| <u>1</u>                     | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| <u>2</u>                     | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| <u>7</u>                     | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| <u>2</u>                     | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: chl

\* This form is not designed for shallow water (neritic) carbonate sediments

overview 1. x 20

# Sediment Smear Slide / Thin Section Description Sheet

Date: 31 Dec 2013

Expedition: 248

Observer: KY

Site: C0002 Hole: P Core: 214 Sect.: SMW

Interval:

Sediment Name: Silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 3               | 51   | 46   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 13                                     | Quartz                        |
| 2                                      | Feldspars                     |
| 40                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 14                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 4                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 2                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
| 1                                | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                               |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 4                            | Dense minerals <sup>1</sup>               |
| 4                            | Micas (biotite, musc, chl) <sup>1</sup> ✓ |
|                              | Glauconite                                |
|                              | Phosphate (bones, teeth, etc)             |
|                              | Opaque Grain                              |
|                              | Marine organic matter                     |
| 6                            | Terrestrial organic matter ✓              |
|                              | Other (specify):                          |
| <b>Authigenic components</b> |   |
| 6                            | Pyrite (framboids)                        |
|                              | Pyrite (euhedral)                         |
|                              | Pyrite (grain coating)                    |
| 4                            | Calcite ✓                                 |
|                              | Dolomite                                  |
|                              | Zeolites                                  |
|                              | Fe/Mn oxide                               |
|                              | Other (specify):                          |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: chl.

\* This form is not designed for shallow water (neritic) carbonate sediments



# Sediment Smear Slide / Thin Section Description Sheet

Date: 2 Jan 2014

Expedition: 348

Observer: KY

Site: 00002 Hole: 9 Core: SMW Sect.: 176

Interval:

Sediment Name: Silty clay.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|                   |                |         |                | 9               | 32   | 59   |

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 8                                      | Quartz                        |
| 1                                      | Feldspars                     |
| 20                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 24                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
| 2                                      | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
| 1                                      | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 5                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 8                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 6                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: cf. chl

\* This form is not designed for shallow water (neritic) carbonate sediments

should do check,

Goethite or OM  
other dense mineral

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: Rina

Site: C0002 Hole: P Core: SMW Sect.: 77 Interval:

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|                   |                |         |                |                 | 40   | 60   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 3                                      | Quartz                        |
| 18                                     | Feldspars                     |
| 26                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 5                                      | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| Vitric fragments                       |                               |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
|  | Microlitic                    |
|  | Lathwork                      |
| 5                                      | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 20                           | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 5                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

2. Overview x10.

# Sediment Smear Slide / Thin Section Description Sheet

Date: 31 Dec 2013

Expedition: 348.

Observer: KY

Site: C0002 Hole: P Core: 81 Sect.: SMW

Interval:

Sediment Name: clayey silt.

90.3

3

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|                   |                |         |                | 4               | 60   | 36   |

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 7.                                     | Quartz                        |
| 2                                      | Feldspars                     |
| 36                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 23                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlitic                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 3                            | Dense minerals <sup>1</sup>             |
| 7-                           | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 9                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 9                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 4                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Bt. Chl. Amphibole

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 2-Jan, 2014

Expedition: 348

Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: 82

Interval:

Sediment Name: clayey silt.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|                   |                |         |                | 3               | 49   | 48   |

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 10                                     | Quartz                        |
| 4                                      | Feldspars                     |
| 29                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| <b>Sedimentary Lithics</b>             |                               |
|  | Chert                         |
| 33                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 2                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | <b>Volcanic lithics</b>       |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 4                            | Dense minerals <sup>1</sup>             |
| 2                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 4                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 7                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Ang. Rt.

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 31 Dec 2013

Expedition: 348

Observer: KY

Site: C000+ Hole: P Core: S1W Sect.: 83

Interval:

Sediment Name: Silty claystone

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |           |           |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|-----------|-----------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt      | Clay      |
| <u>✓</u>    |              |                 |             |                   |                |         |                | <u>4</u>        | <u>32</u> | <u>64</u> |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| <u>13</u>                              | Quartz                        |
| <u>3</u>                               | Feldspars                     |
| <u>26</u>                              | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| <u>23</u>                              | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
| <u>3</u>                               | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| <u>2</u>                         | Nannofossils  |
|                                  | Foraminifers  |
| Siliceous                        |   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| <u>9</u>                     | Dense minerals <sup>1</sup>             |
| <u>6</u>                     | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| <u>3</u>                     | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| <u>9</u>                     | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| <u>3</u>                     | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

**Sediment Smear Slide / Thin Section Description Sheet**

Date: 2. Jan. 2014

Expedition: 348. Observer: KY

Site: 10002 Hole: P Core: SMDV Sect.: 85 Interval:

Sediment Name: clayey silt.

| Smear Slide                         | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------------------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|                                     |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| <input checked="" type="checkbox"/> |              |                 |             |                   |                |         |                |                 | 53   | 46   |

Select one and check.

Select one and check.

| Percent                                | Composition                   | Percent               | Composition   | Percent                  | Composition                             |
|--|-------------------------------|-----------------------|---|--------------------------|---|
| <b>Major Siliciclastic Grain Types</b> |                               | <b>Pelagic Grains</b> |   | <b>Minor Grain Types</b> |   |
| 12                                     | Quartz                        |                       | Calcareous  | 4                        | Dense minerals <sup>1</sup>             |
| 4                                      | Feldspars                     | 2                     | Nannofossils  | 4                        | Micas (biotite, musc, chl) <sup>1</sup> |
| 36                                     | Clay minerals                 |                       | Foraminifers  | 15                       | Glauconite                              |
|  |                               |                       | Siliceous   |                          | Phosphate (bones, teeth, etc)           |
|  |                               |                       | Diatom  |                          | Opaque Grain                            |
|  | <b>Lithic Grains</b>          |                       | Radiolarian   |                          | Marine organic matter                   |
|  | Sedimentary Lithics           |                       | Silicoflagellate  | 4                        | Terrestrial organic matter              |
|  | Chert                         |                       | Sponge Spicule  |                          | Other (specify):                        |
| 16                                     | Mudstone                      |                       |   |                          |   |
|  | Siltstone/sandstone           |                       | <b>Other bioclasts</b>                                      |                          |   |
|  | Limestone                     |                       | Mollusk   |                          | <b>Authigenic components</b>            |
|  | Metamorphic lithic            |                       | Algae   | 8                        | Pyrite (framboids)                      |
|  | Plutonic lithic               |                       | Echinoderm  |                          | Pyrite (euhedral)                       |
|  |                               |                       | Benthic foraminifer   |                          | Pyrite (grain coating)                  |
|  |                               |                       | Other bioclast (specify)                                    | 5                        | Calcite                                 |
|  | <b>Volcaniclastic Grains</b>  |                       |   |                          | Dolomite                                |
|  | Vitric fragments              |                       | <b>Other carbonate allochems</b>                            |                          | Zeolites                                |
| 4                                      | Clear glass                   |                       | Peloid  |                          | Fe/Mn oxide                             |
|  | Colored glass                 |                       | Intraclast  |                          | Other (specify):                        |
|  | Pumice                        |                       | Ooid  |                          |   |
|  | Volcanic lithics              |                       | Silt or sand-size carbonate allochem fragment (unspecified) |                          |   |
|  | Felsitic                      |                       |   |                          |   |
|  | Microclitic                   |                       | Carbonate mud (apart from nannos)                           |                          |   |
|  | Lathwork                      |                       |   |                          |   |
|  | Altered volcanic (palagonite) |                       |   |                          |   |
|  |                               |                       |   |                          |   |
|  |                               |                       |   |                          |   |
|  |                               |                       |   |                          |   |
|  |                               |                       |   |                          |   |
|  |                               |                       |   |                          |   |
|  |                               |                       |   |                          |   |
|  |                               |                       |   |                          |   |
|  |                               |                       |   |                          |   |
|  |                               |                       |   |                          |   |
|  |                               |                       |   |                          |   |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Amphibole.

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 31 Dec 2013

Expedition: 348 Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: 86 Interval:

Sediment Name: silty claystone.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 6               | 39   | 55   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 14                                     | Quartz                       |
| 1                                      | Feldspars                    |
| 20                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 28                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
|  | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
| 5                                      | Microlite                    |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 4                            | Dense minerals <sup>1</sup>             |
| 4                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 4                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 10                           | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Muscovite.

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 2 Jan 2014

Expedition: 348

Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: 107 Interval:

Sediment Name: Stilty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 5               | 40   | 55   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 13                                     | Quartz                        |
| 5                                      | Feldspars                     |
| 28                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 21                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 2                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 5                            | Dense minerals <sup>1</sup>             |
| 5                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 5                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 6                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 8                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: chl.

\* This form is not designed for shallow water (neritic) carbonate sediments



# Sediment Smear Slide / Thin Section Description Sheet

Date: 31 Dec 2013

Expedition: 348

Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: 109

Interval: \_\_\_\_\_

Sediment Name: clayey silt

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|                   |                |         |                | 5               | 58   | 37   |

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 10                                     | Quartz                        |
| 2                                      | Feldspars                     |
| 21                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
| 23                                     | Chert                         |
|  | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
| 4                                      | Microclite                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 5                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 6                            | Dense minerals <sup>1</sup>             |
| 4                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 6                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 6                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 13                           | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: chl.

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 2-Jan-2014

Expedition: 348 Observer: KY

Site: 00002 Hole: P Core: SMW Sect.: 11 Interval:

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 6               | 31   | 63   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 5                                      | Quartz                       |
| 1                                      | Feldspars                    |
| 34                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 21                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
| 2                                      | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
| 11                                     | Microclite                   |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 2                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 5                            | Dense minerals <sup>1</sup>             |
| 6                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 7                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 11                           | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: BT

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 31 Dec 2013

Expedition: 348

Observer: KY

Site: C0002

Hole: P

Core: SMW

Sect.: 113

Interval:

Sediment Name: STICKY CLAY

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|                   |                |         |                |                 | 35   | 65   |

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 9                                      | Quartz                        |
| 1                                      | Feldspars                     |
| 24                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 30                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 2                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
| 2                                      | Microlitic                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 2                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 11                           | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 11                           | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 6                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Amph, Muscovite

\* This form is not designed for shallow water (neritic) carbonate sediments



# Sediment Smear Slide / Thin Section Description Sheet

Date: 31 Dec 2013

Expedition: 348 Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: 117 Interval:

Sediment Name: clayey silt.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 15              | 50   | 35   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 14                                     | Quartz                        |
| 2                                      | Feldspars                     |
| 20                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 40                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 4                            | Dense minerals <sup>1</sup>             |
| 4                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 4                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 8                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 4                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Bt - Muscovite, chlorite

\* This form is not designed for shallow water (neritic) carbonate sediments

note of \* shapes

**Sediment Smear Slide / Thin Section Description Sheet**

Date: 2. Jan, 2014

Expedition: 348 Observer: KY

Site: 00002 Hole: P Core: SMW Sect.: 121 Interval:

Sediment Name: Silty clay.

| Smear Slide                         | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------------------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|                                     |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| <input checked="" type="checkbox"/> |              |                 |             |                   |                |         |                | 16              | 28   | 56   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 7                                      | Quartz                        |
| 2                                      | Feldspars                     |
| 28                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 23                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 6                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 7                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 4                            | Dense minerals <sup>1</sup>             |
| 4                            | Micas (biotite, musc, chl) <sup>1</sup> |
| 1                            | Glaucconite                             |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 4                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 7                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 7                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Bt. Amp

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 31 Dec 2013

Expedition: 348

Observer: KY

Site: 00002

Hole: P

Core: SMW

Sect.: 123

Interval:

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |           |           |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|-----------|-----------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt      | Clay      |
| <u>✓</u>    |              |                 |             |                   |                |         |                | <u>3</u>        | <u>28</u> | <u>69</u> |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| <u>7</u>                               | Quartz                        |
| <u>1</u>                               | Feldspars                     |
| <u>31</u>                              | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| <u>18</u>                              | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlitic                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| <u>1</u>                         | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| <u>11</u>                    | Dense minerals <sup>1</sup>             |
| <u>3</u>                     | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| <u>6</u>                     | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| <u>7</u>                     | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| <u>7</u>                     | Calcite                                 |
| <u>2</u>                     | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: chl, Amphibole

\* This form is not designed for shallow water (neritic) carbonate sediments

Pyrite abundant.

**Sediment Smear Slide / Thin Section Description Sheet**

Date: 2 Jan. 2014

Expedition: 248

Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: 125 Interval:

Sediment Name: Silty clay.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 4               | 39   | 57   |

Select one and check.

Select one and check.

| Percent                                | Composition                   | Percent                          | Composition   | Percent                      | Composition                             |
|--|-------------------------------|----------------------------------|---|------------------------------|---|
| <b>Major Siliciclastic Grain Types</b> |                               | <b>Pelagic Grains</b>            |   | <b>Minor Grain Types</b>     |   |
| 9                                      | Quartz                        |                                  | Calcareous  | 3                            | Dense minerals <sup>1</sup>             |
| 1                                      | Feldspars                     |                                  | Nannofossils  | 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
| 25                                     | Clay minerals                 |                                  | Foraminifers  |                              | Glauconite                              |
|  |                               |                                  | Siliceous   |                              | Phosphate (bones, teeth, etc)           |
| <b>Lithic Grains</b>                   |                               |                                  | Diatom  |                              | Opaque Grain                            |
|  | Sedimentary Lithics           |                                  | Radiolarian   |                              | Marine organic matter                   |
|  | Chert                         |                                  | Silicoflagellate  | 3                            | Terrestrial organic matter              |
| 22                                     | Mudstone                      |                                  | Sponge Spicule  |                              | Other (specify):                        |
|  | Siltstone/sandstone           | <b>Other bioclasts</b>           |   |                              |   |
|  | Limestone                     |                                  | Mollusk   | <b>Authigenic components</b> |   |
|  | Metamorphic lithic            |                                  | Algae   | 31                           | Pyrite (framboids)                      |
|  | Plutonic lithic               |                                  | Echinoderm  |                              | Pyrite (euhedral)                       |
|  |                               |                                  | Benthic foraminifer   |                              | Pyrite (grain coating)                  |
| <b>Volcaniclastic Grains</b>           |                               |                                  | Other bioclast (specify)                                    | 3                            | Calcite                                 |
|  | Vitric fragments              | <b>Other carbonate allochems</b> |   |                              | Dolomite                                |
|  | Clear glass                   |                                  | Peloid  |                              | Zeolites                                |
|  | Colored glass                 |                                  | Intraclast  |                              | Fe/Mn oxide                             |
|  | Pumice                        |                                  | Ooid  |                              | Other (specify):                        |
|  | Volcanic lithics              |                                  | Silt or sand-size carbonate allochem fragment (unspecified) |                              |   |
|  | Felsitic                      |                                  | Carbonate mud (apart from nannos)                           |                              |   |
|  | Microcline                    |                                  |   |                              |   |
|  | Lathwork                      |                                  |   |                              |   |
|  | Altered volcanic (palagonite) |                                  |   |                              |   |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments



# Sediment Smear Slide / Thin Section Description Sheet

Date: 31 Dec 2013

Expedition: 348 Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: 127 Interval:

Sediment Name: stilty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 15              | 35   | 50   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 10                                     | Quartz                        |
| 2                                      | Feldspars                     |
| 38                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 32                                     | Mudstone                      |
| 6                                      | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| Vitric fragments                       |                               |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
| 1                                | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 2                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 2                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: chl.

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

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Date: 4/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 129 Interval:

Sediment Name: sand silt clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|                   |                |         |                | 20              | 30   | 50   |

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 3                                      | Quartz                        |
| 3                                      | Feldspars                     |
| 41                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 30                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
| 10                                     | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 5                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
| 1                            | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 31 Dec 2013

Expedition: 348 Observer: KF

Site: C0002 Hole: P Core: SMA7 Sect.: 131 Interval:

Sediment Name: Silty claystone.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 3               | 39   | 58   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 16                                     | Quartz                        |
| 1                                      | Feldspars                     |
| 32                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 23                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
| 1                                      | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 4                            | Dense minerals <sup>1</sup>             |
| 2                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glaucinite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 13                           | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 6                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
| 3                            | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 133 Interval:

Sediment Name: sand-silt-clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 20              | 25   | 55   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 3                                      | Quartz                       |
| 90                                     | Feldspars                    |
| 44                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 20                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
|  | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
|  | Microclitic                  |
|  | Lathwork                     |
| 90                                     | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 5                            | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
| 1                            | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: biotite?

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 31 Dec 2013

Expedition: 348 Observer: KY

Site: C0002 Hole: A Core: SMW Sect.: 136 Interval:

Sediment Name: silty claystone

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                |                 | 27   | 83   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 3                                      | Quartz                        |
| 1                                      | Feldspars                     |
| 43                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 25                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
| 2                                      | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 2                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
| 2                                | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nanos)                            |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 2                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glaucconite                             |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 6                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 2                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: chl

\* This form is not designed for shallow water (neritic) carbonate sediments

Fe ox?

**Sediment Smear Slide / Thin Section Description Sheet**

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 138 Interval:

Sediment Name: clayey silt

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 15              | 45   | 40   |

Select one and check.

Select one and check.

| Percent                                | Composition                   | Percent                          | Composition   | Percent                  | Composition                             |
|--|-------------------------------|----------------------------------|---|--------------------------|---|
| <b>Major Siliciclastic Grain Types</b> |                               | <b>Pelagic Grains</b>            |   | <b>Minor Grain Types</b> |   |
| 10                                     | Quartz                        |                                  | Calcareous  | 3                        | Dense minerals <sup>1</sup>             |
| 10                                     | Feldspars                     |                                  | Nannofossils  | 3                        | Micas (biotite, musc, chl) <sup>1</sup> |
| 28                                     | Clay minerals                 |                                  | Foraminifers  |                          | Glauconite                              |
|  |                               |                                  | Siliceous   |                          | Phosphate (bones, teeth, etc)           |
| <b>Lithic Grains</b>                   |                               |                                  | Diatom  |                          | Opaque Grain                            |
|  | Sedimentary Lithics           |                                  | Radiolarian   | 1                        | Marine organic matter                   |
|  | Chert                         |                                  | Silicoflagellate  | 1                        | Terrestrial organic matter              |
| 20                                     | Mudstone                      | 1                                | Sponge Spicule  |                          | Other (specify):                        |
|  | Siltstone/sandstone           |                                  |   |                          |   |
|  | Limestone                     | <b>Other bioclasts</b>           |   |                          | <b>Authigenic components</b>            |
|  | Metamorphic lithic            |                                  | Mollusk   | 3                        | Pyrite (framboids)                      |
|  | Plutonic lithic               |                                  | Algae   |                          | Pyrite (euhedral)                       |
|  |                               |                                  | Echinoderm  | 7                        | Pyrite (grain coating)                  |
|  |                               |                                  | Benthic foraminifer   | 1                        | Calcite                                 |
|  |                               |                                  | Other bioclast (specify)                                    |                          | Dolomite                                |
| <b>Volcaniclastic Grains</b>           |                               |                                  |   |                          | Zeolites                                |
|  | Vitric fragments              | <b>Other carbonate allochems</b> |   | 5                        | Fe/Mn oxide                             |
| 10                                     | Clear glass                   |                                  | Peloid  |                          | Other (specify):                        |
|  | Colored glass                 |                                  | Intraclast  |                          |   |
|  | Pumice                        |                                  | Ooid  |                          |   |
|  | Volcanic lithics              |                                  | Silt or sand-size carbonate allochem fragment (unspecified) |                          |   |
|  | Felsitic                      |                                  |   |                          |   |
|  | Microlite                     |                                  | Carbonate mud (apart from nannos)                           |                          |   |
|  | Lathwork                      |                                  |   |                          |   |
| 3                                      | Altered volcanic (palagonite) |                                  |   |                          |   |
|  |                               |                                  |   |                          |   |
|  |                               |                                  |   |                          |   |
|  |                               |                                  |   |                          |   |
|  |                               |                                  |   |                          |   |
|  |                               |                                  |   |                          |   |
|  |                               |                                  |   |                          |   |
|  |                               |                                  |   |                          |   |
|  |                               |                                  |   |                          |   |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: bio. Feox, musc

\* This form is not designed for shallow water (neritic) carbonate sediments

SAND STONE

**Sediment Smear Slide / Thin Section Description Sheet**

Date: 31 Dec 2013

Expedition: 248 Observer: KR

Site: C0002 Hole: P Core: SMW Sect.: 141 Interval:

Sediment Name: Sandstone

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|                   |                |         |                | 23              | 61   | 16   |

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 42                                     | Quartz                        |
| 3                                      | Feldspars                     |
| 11                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 12                                     | Mudstone                      |
| 18                                     | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlitic                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 5                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 2                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Amphibole, Muscovite

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 143 Interval:

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 3               | 20   | 77   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 5                                      | Quartz                       |
| 10                                     | Feldspars                    |
| 60                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 10                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
| 9                                      | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
|  | Microlite                    |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 1                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
| 1                            | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments



# Sediment Smear Slide / Thin Section Description Sheet

Date: 31 Dec 2013

Expedition: 348 Observer: KY

Site: C0002 Hole: A Core: SMW Sect.: 145 Interval:

Sediment Name: Silty clay.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 4               | 23   | 73   |

Select one and check. Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 15                                     | Quartz                       |
| 1                                      | Feldspars                    |
| 35                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 25                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
|  | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
|  | Microlite                    |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 5                            | Dense minerals <sup>1</sup>             |
| 2                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 11                           | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 7                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 3                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments



# Sediment Smear Slide / Thin Section Description Sheet

Date: 31 Dec 2013

Expedition: 348 Observer: \_\_\_\_\_

Site: C0002 Hole: P Core: SMW Sect.: 157 Interval: \_\_\_\_\_

Sediment Name: clayey silt

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 9               | 65   | 26   |

Select one and check. Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 38                                     | Quartz                       |
| 4                                      | Feldspars                    |
| 25                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 6                                      | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
|  | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
|  | Microlite                    |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 2                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 6                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 13                           | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
| 2                            | Pyrite (grain coating)                  |
| 2                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible Fill percentage (Total must be 100).

Remarks: chl. Amphibole

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: JMW Sect.: 155 Interval:

Sediment Name: clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                |                 | 25   | 75   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 10                                     | Quartz                        |
| 5                                      | Feldspars                     |
| 71                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 1                                      | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 3                                      | Clear glass                   |
| 3                                      | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microclitic                   |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
|                              | Pyrite (framboids)                      |
| 3                            | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 1                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: hyper syn?

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 31 Dec 2013

Expedition: 34B Observer: KP

Site: 0002 Hole: P Core: SMW Sect.: 157 Interval:

Sediment Name: Clayey silt.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 3               | 56   | 41   |

Select one and check. Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 44                                     | Quartz                        |
| 2                                      | Feldspars                     |
| 24                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
|  | Mudstone                      |
| 9                                      | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 3                            | Dense minerals <sup>1</sup>             |
| 2                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 3-                           | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 11                           | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 2                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible Fill percentage (Total must be 100).

Remarks: Muscovite, Amphibole, Olivine

\* This form is not designed for shallow water (neritic) carbonate sediments

finer

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 159 Interval:

Sediment Name: Silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|                   |                |         |                | 9               | 40   | 59   |

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 10                                     | Quartz                        |
| 10                                     | Feldspars                     |
| 6.3                                    | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
| 3                                      | Chert                         |
| 1                                      | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 3                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
| 1                                      | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 1                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 3                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
| 1                            | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 1                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

① overview x10

lots of calcite.

# Sediment Smear Slide / Thin Section Description Sheet

Date: 31 Dec. 2013

Expedition: 348

Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: 161

Interval:

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|                   |                |         |                | 6               | 36   | 58   |

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 4                                      | Quartz                       |
| 2                                      | Feldspars                    |
| 25                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
|  | Sedimentary Lithics          |
|  | Chert                        |
|  | Mudstone                     |
| 15                                     | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
| 2                                      | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
| 2                                      | Microclite                   |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 4                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 2                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 4                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 11                           | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 20                           | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 163 Interval:

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 3               | 20   | 77   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 10                                     | Quartz                        |
| 15                                     | Feldspars                     |
| 10                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 12                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| Vitric fragments                       |                               |
| 3                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
|  | Microlitic                    |
|  | Lathwork                      |
| 5                                      | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 90                               | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nanos)                            |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 15                           | Dense minerals <sup>1</sup>             |
| 5                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glaucinite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 17                           | Pyrite (framboids)                      |
| 3                            | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 5                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: chl

\* This form is not designed for shallow water (neritic) carbonate sediments



Something happens

alot of color mineral ...!!

pyrite rich!  
greenish square shape  
mineral scatter.

Date: 12/31

# Sediment Smear Slide / Thin Section Description Sheet

Expedition: 348 Observer: RF

Site: C0002 Hole: P Core: SMW Sect.: 165 Interval: 10M

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   | ?              | ✓       |                | 1               | 45   | 54   |

Select one and check.

Select one and check.

| Percent                                | Composition                   | Percent                          | Composition   | Percent                      | Composition                             |
|--|-------------------------------|----------------------------------|---|------------------------------|---|
| <b>Major Siliciclastic Grain Types</b> |                               | <b>Pelagic Grains</b>            |   | <b>Minor Grain Types</b>     |   |
| 1                                      | Quartz                        |                                  | Calcareous  | 5                            | Dense minerals <sup>1</sup>             |
|  | Feldspars                     | 3                                | Nannofossils  |                              | Micas (biotite, musc, chl) <sup>1</sup> |
| 40                                     | Clay minerals                 |                                  | Foraminifers  |                              | Glauconite                              |
| <b>Lithic Grains</b>                   |                               |                                  | Siliceous   |                              | Phosphate (bones, teeth, etc)           |
|  | Sedimentary Lithics           |                                  | Diatom  |                              | Opaque Grain                            |
| 3                                      | Chert                         |                                  | Radiolarian   | 5                            | Marine organic matter                   |
|  | Mudstone                      |                                  | Sillicoflagellate   |                              | Terrestrial organic matter              |
|  | Siltstone/sandstone           |                                  | Sponge Spicule  |                              | Other (specify):                        |
|  | Limestone                     | <b>Other bioclasts</b>           |   | <b>Authigenic components</b> |   |
| 5                                      | Metamorphic lithic (quartz)   |                                  | Mollusk   | 20                           | Pyrite (framboids)                      |
|  | Plutonic lithic               |                                  | Algae   | 10                           | Pyrite (euhedral)                       |
| <b>Volcaniclastic Grains</b>           |                               |                                  | Echinoderm  | 5                            | Pyrite (grain coating)                  |
|  | Vitric fragments              |                                  | Benthic foraminifer   | 3                            | Calcite                                 |
|  | Clear glass                   | <b>Other carbonate allochems</b> |   |                              | Dolomite                                |
|  | Colored glass                 |                                  | Peloid  |                              | Zeolites                                |
|  | Pumice                        |                                  | Intraclast  |                              | Fe/Mn oxide                             |
|  | Volcanic lithics              |                                  | Ooid  |                              | Other (specify):                        |
|  | Felsitic                      |                                  | Silt or sand-size carbonate allochem fragment (unspecified) |                              |   |
|  | Microlitic                    |                                  | Carbonate mud (apart from nannos)                           |                              |   |
|  | Lathwork                      |                                  |   |                              |   |
|  | Altered volcanic (palagonite) |                                  |   |                              |   |


<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: epidote?, ? mineral  ?

\* This form is not designed for shallow water (neritic) carbonate sediments

3 - X40 x C green color gem<sup>1</sup> mineral  
x40 x D

1/2-l-litic! Mus  
pyrite   
1 x40 x O  
2 x40 x C ?

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 168 Interval:

Sediment Name: sand-silt-clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 30              | 50   | 20   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 15                                     | Quartz                       |
| 10                                     | Feldspars                    |
| 17                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 15                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
| Vitric fragments                       |                              |
| 15                                     | Clear glass                  |
|  | Colored glass                |
| 3                                      | Pumice                       |
| Volcanic lithics                       |                              |
|  | Felsitic                     |
|  | Microlite                    |
|  | Lathwork                     |
| 3                                      | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 1                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 5                            | Dense minerals <sup>1</sup>             |
| 10                           | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
| 1                            | Pyrite (euhedral)                       |
| 1                            | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/31

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 190 Interval: 10 m

Sediment Name: clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                | ✓       |                | 20              | 80   |      |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 10                                     | Quartz                        |
| 5                                      | Feldspars                     |
| 68                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 1                                      | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
| 5                                      | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| Vitric fragments                       |                               |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
|  | Microlitic                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 4                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 1                            | Pyrite (framboids)                      |
| 3                            | Pyrite (euhedral)                       |
| 1                            | Pyrite (grain coating)                  |
| 1                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Zircon

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 172 Interval:

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 1               | 20   | 79   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 5                                      | Quartz                        |
| 3                                      | Feldspars                     |
| 79                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
|  | Sedimentary Lithics           |
|  | Chert                         |
| 4                                      | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 1                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 3                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/31

Expedition: 348

Observer: RF

Site: 2 Hole: P Core: 5m Sect.: 194 Interval: 10m

Sediment Name: clay

*good example!* (Carbonate mud, mud stone, clay, silt stone)

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|                   |                | ✓       |                | 1               | 5    | 94   |

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 1                                      | Quartz                        |
| 1                                      | Feldspars                     |
| 65                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary lithics                    |                               |
|  | Chert                         |
| 3                                      | Mudstone                      |
| 1                                      | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microinite                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 20                               | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
| 5                                | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
|                              | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

5 - mud stone 0 x 40  
siltstone  
6 - mud stone 0 x 40  
siltstone

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: 8MW Sect.: 196 Interval:

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|                   |                |         |                | 10              | 30   | 60   |

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 5                                      | Quartz                       |
| 3                                      | Feldspars                    |
| 6                                      | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 5                                      | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
| Vitric fragments                       |                              |
|  | Clear glass                  |
|  | Colored glass                |
| 3                                      | Pumice                       |
| Volcanic lithics                       |                              |
|  | Felsitic                     |
|  | Microlite                    |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 3                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 3                            | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
| 1                            | Glaucinite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 1                            | Calcite                                 |
|                              | Dolomite or                             |
|                              | Zeolites                                |
| 5                            | Fe/Mn oxide                             |
|                              | Other (specify):                        |
|                              | or other dence                          |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: chl

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

*clay rich mudstone, siltstone*

Date: 12/31

Expedition: 348

Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 179 Interval: 10 m

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             | ✓                 |                |         |                | 1               | 30   | 69   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 3                                      | Quartz                        |
| 2                                      | Feldspars                     |
| 55                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 15                                     | Mudstone                      |
| 10                                     | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| Vitric fragments                       |                               |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 5                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
|                              | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
| 3                            | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments





# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 183 Interval:

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         | 25             | 10              | 35   | 65   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 15                                     | Quartz                        |
| 5                                      | Feldspars                     |
| 61                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 5                                      | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| Vitric fragments                       |                               |
|  | Clear glass                   |
| 2                                      | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
|  | Microlitic                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 1                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

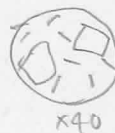
| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 3                            | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: U3757 (hypersthene)

\* This form is not designed for shallow water (neritic) carbonate sediments



針状の構造列。  
finer needle structure

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/31

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMCW Sect.: 185 Interval: 10m

Sediment Name: sily clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   | ✓ &            | ✓       |                | 10              | 30   | 60   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 10                                     | Quartz                        |
| 5                                      | Feldspars                     |
| 35                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 15                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 20                                     | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
|  | Microlitic                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 1                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 8                            | Dense minerals <sup>1</sup>             |
| 5                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

11 3 mineral - x40 (C)  
12 11 - x40 (C)

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 1897 Interval:

Sediment Name: sand-silt-clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 20              | 35   | 45   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 10                                     | Quartz                       |
| 5                                      | Feldspars                    |
| 39                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 20                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
| 10                                     | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
|  | Microlitic                   |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 3                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 3                            | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 2                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
| 2                            | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: bio the

\* This form is not designed for shallow water (neritic) carbonate sediments

15

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/31

Expedition: 348 Observer: Rina

Site: 2 Hole: P Core: SMW Sect.: 189 Interval: 10m

Sediment Name: clayey silt.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   | ✓              | ✓       |                | 7               | 55   | 38   |

Select one and check.

Select one and check.

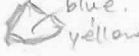
| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 2                                      | Quartz                       |
| 3                                      | Feldspars                    |
| 30                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 35                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
| Vitric fragments                       |                              |
| 10                                     | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
| Volcanic lithics                       |                              |
|  | Felsitic                     |
| 3                                      | Microlite                    |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |



| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 5                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 3                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
| 3                            | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: zircon  blue. yellow., MUSC.

\* This form is not designed for shallow water (neritic) carbonate sediments

13 → 1932 21475 ...  x 40  
 ? mineral "  x 40

 pyrite.

Good dense mica & fine calc / 20/60° sandy!

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: Rina

Site: 2 Hole: P Core: SMW Sect.: 191 Interval:

Sediment Name: Sandy silt.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 40              | 50   | 10   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 25                                     | Quartz                       |
| 10                                     | Feldspars                    |
| 20                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 30                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
|  | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
|  | Microlite                    |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 7                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 3                            | Dense minerals <sup>1</sup>             |
| 5                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
| 1                            | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: noth blend, chl, bio, musc.

\* This form is not designed for shallow water (neritic) carbonate sediments



general (no name)

**Sediment Smear Slide / Thin Section Description Sheet**

Date: 12/31

Expedition: 348 Observer: PF

Site: 2 Hole: P Core: SMW Sect.: 196 Interval: 10m

Sediment Name: clayey silt

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             | ✓                 | ✓              |         |                | 10              | 60   | 30   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 10                                     | Quartz                        |
| 5                                      | Feldspars                     |
| 20                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| <b>Sedimentary Lithics</b>             |                               |
|  | Chert                         |
| 7                                      | Mudstone                      |
| 10                                     | Siltstone/sandstone           |
|  | Limestone                     |
| 20                                     | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| <b>Vitric fragments</b>                |                               |
| 15                                     | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
| <b>Volcanic lithics</b>                |                               |
|  | Felsitic                      |
| 3                                      | Microlitic                    |
| 1                                      | Lathwork                      |
| 1                                      | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
|                              | Dense minerals <sup>1</sup>             |
|                              | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 3                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Musc? - zircon

\* This form is not designed for shallow water (neritic) carbonate sediments

epidote?  
7377

15 lathwork? x40 @  
16 " x40 @

or Retile  
17 Microlitic @ x40  
18 " @ x

big biotite!

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 198 Interval:

Sediment Name: sandy silt

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 30              | 60   | 10   |

Select one and check. Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 20                                     | Quartz                        |
| 10                                     | Feldspars                     |
| 20                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 35                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

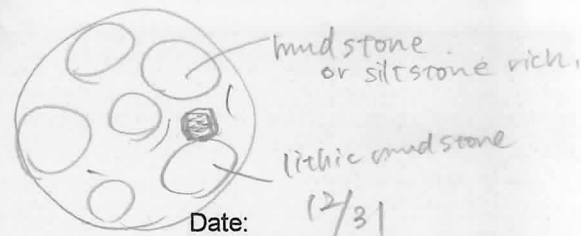
| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 1                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 3                            | Dense minerals <sup>1</sup>             |
| 8                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 3                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
| 2                            | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible Fill percentage (Total must be 100).

Remarks: \_\_\_\_\_

\* This form is not designed for shallow water (neritic) carbonate sediments



# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/31

Expedition: 348 Observer: Rina

Site: 2 Hole: P Core: SMW Sect.: 200 Interval: 10m

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             | ✓                 |                | ✓       |                | 90              | 30   | 60   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 10                                     | Quartz                       |
| 5                                      | Feldspars                    |
| 38                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 25                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
| 3                                      | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
|  | Microlite                    |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 3                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
|                              | Dense minerals <sup>1</sup>             |
| 7                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
| 3                            | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: \_\_\_\_\_

\* This form is not designed for shallow water (neritic) carbonate sediments



# Sediment Smear Slide / Thin Section Description Sheet

big bioerw

Date: 1/2

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 202 Interval:

Sediment Name: sand-silt-clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 25              | 30   | 45   |

Select one and check.

Select one and check.

| Percent                                | Composition                   | Percent                          | Composition   | Percent                      | Composition                             |
|--|-------------------------------|----------------------------------|---|------------------------------|---|
| <b>Major Siliciclastic Grain Types</b> |                               | <b>Pelagic Grains</b>            |   | <b>Minor Grain Types</b>     |   |
| 5                                      | Quartz                        |                                  | Calcareous  | 3                            | Dense minerals <sup>1</sup>             |
| 3/10                                   | Feldspars <i>altered Feld</i> | 1                                | Nannofossils  | 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
| 35                                     | Clay minerals                 |                                  | Foraminifers  | 1                            | Glauconite                              |
| <b>Lithic Grains</b>                   |                               |                                  | Siliceous   |                              | Phosphate (bones, teeth, etc)           |
|  | Sedimentary Lithics           |                                  | Diatom  |                              | Opaque Grain                            |
|  | Chert                         |                                  | Radiolarian   | 1                            | Marine organic matter                   |
| 26                                     | Mudstone                      |                                  | Silicoflagellate  |                              | Terrestrial organic matter              |
|  | Siltstone/sandstone           |                                  | Sponge Spicule  |                              | Other (specify):                        |
|  | Limestone                     | <b>Other bioclasts</b>           |   |                              |   |
|  | Metamorphic lithic            |                                  | Mollusk   | <b>Authigenic components</b> |   |
|  | Plutonic lithic               |                                  | Algae   | 3                            | Pyrite (framboids)                      |
|  |                               |                                  | Echinoderm  |                              | Pyrite (euhedral)                       |
|  |                               |                                  | Benthic foraminifer   |                              | Pyrite (grain coating)                  |
|  |                               |                                  | Other bioclast (specify)                                    |                              | Calcite                                 |
|  |                               |                                  |   | 1                            | Dolomite                                |
|  | <b>Volcaniclastic Grains</b>  | <b>Other carbonate allochems</b> |   |                              | Zeolites                                |
|  | Vitric fragments              |                                  | Peloid  |                              | Fe/Mn oxide                             |
| 10                                     | Clear glass                   |                                  | Intraclast  |                              | Other (specify):                        |
|  | Colored glass                 |                                  | Ooid  |                              |   |
|  | Pumice                        |                                  | Silt or sand-size carbonate allochem fragment (unspecified) |                              |   |
|  | Volcanic lithics              |                                  | Carbonate mud (apart from nannos)                           |                              |   |
|  | Felsitic                      |                                  |   |                              |   |
|  | Microlite                     |                                  |   |                              |   |
|  | Lathwork                      |                                  |   |                              |   |
|  | Altered volcanic(palagonite)  |                                  |   |                              |   |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: olivine, zircon, biotite, chl.

\* This form is not designed for shallow water (neritic) carbonate sediments





# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/31

Expedition: 348

Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 210 Interval:

Sediment Name:

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             | ✓                 |                | ✓       |                | 1               | 19   | 80   |

Select one and check.

Select one and check.

| Percent                                | Composition                           |
|--|---------------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                                       |
|  | Quartz                                |
| 1                                      | Feldspars                             |
| 54                                     | Clay minerals                         |
| <b>Lithic Grains</b>                   |                                       |
| Sedimentary Lithics                    |                                       |
|  | Chert                                 |
| 15                                     | Mudstone <i>concretion calcareous</i> |
| 10                                     | Siltstone/sandstone                   |
|  | Limestone                             |
|  | Metamorphic lithic                    |
|  | Plutonic lithic                       |
| <b>Volcaniclastic Grains</b>           |                                       |
|  | Vitric fragments                      |
| 3                                      | Clear glass                           |
|  | Colored glass                         |
| 17                                     | Pumice                                |
|  | Volcanic lithics                      |
|  | Felsitic                              |
|  | Microlitic                            |
|  | Lathwork                              |
|  | Altered volcanic (palagonite)         |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
|                              | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
| 3                            | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: biotite

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1/2

Expedition: 348 Observer: Rina

Site: 2 Hole: P Core: SMW Sect.: 213 Interval:

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 3               | 30   | 67   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 3                                      | Quartz                       |
| 1                                      | Feldspars                    |
| 59                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 10                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
| 20                                     | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
|  | Microlite                    |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 8                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 1                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments



# Sediment Smear Slide / Thin Section Description Sheet

Date: 3-Jan-2014

Expedition: 348 Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: L17 Interval:

Sediment Name: Silty clay.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                |                 | 43   | 57   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 12                                     | Quartz                        |
| 2                                      | Feldspars                     |
| 72                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 24                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microclitic                   |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 4                            | Dense minerals <sup>1</sup>             |
| 4                            | Micas (biotite, musc, chl) <sup>1</sup> |
| 2                            | Glaucanite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 4                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 8                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 8                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: \_\_\_\_\_

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/31

Expedition: 348 Observer: RF

Site: C0002 Hole: P Core: SMW Sect.: 219 Interval:

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓                 |                |         |                | 3               | 20   | 77   |

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 10                                     | Quartz                       |
| 5                                      | Feldspars                    |
| 50                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 5                                      | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
| 10                                     | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
| 5                                      | Clear glass                  |
|  | Colored glass                |
| 3                                      | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
| 3                                      | Microlite                    |
|  | Lathwork                     |
| 1                                      | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 3                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 9                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 2                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible Fill percentage (Total must be 100).  
 Remarks: gypsum?

\* This form is not designed for shallow water (neritic) carbonate sediments

19 - blue mineral ( — ) x 40⊙  
 20 v x 40⊙

☐ → 褪黄 消光角  
 → clear color.



# Sediment Smear Slide / Thin Section Description Sheet

Date: 21 Jan 2014

Expedition: 348 Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: 221 Interval:

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 18              | 31   | 51   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 13                                     | Quartz                        |
| 3                                      | Feldspars                     |
| 28                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 29                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 4                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 2                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 3                            | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
| 1                            | Glaucconite                             |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 4                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 6                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 4                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: authigenic chl

\* This form is not designed for shallow water (neritic) carbonate sediments

finer!  
clay rich.

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/31

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 224 Interval: 10m

Sediment Name: clay stone

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             | ✓                 |                |         |                |                 | 10   | 90   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 1                                      | Quartz                       |
| 5                                      | Feldspars                    |
| 59                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| <b>Sedimentary Lithics</b>             |                              |
|  | Chert                        |
| 20                                     | Mudstone                     |
| 10                                     | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
|  | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
| 1                                      | Microlitic                   |
|  | Lathwork                     |
| 1                                      | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
|                              | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 1                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 1                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: bioclast

\* This form is not designed for shallow water (neritic) carbonate sediments







calcite rich!!

**Sediment Smear Slide / Thin Section Description Sheet**

Date: 12/30

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 233 Interval: 10m

Sediment Name: sand - site - clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                | ✓       |                | 20              | 40   | 40   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 5                                      | Quartz                       |
| 5                                      | Feldspars <i>twin!</i>       |
| 20                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 5                                      | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
| 3                                      | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
| 1                                      | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
| 3                                      | Microlite                    |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 5                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
| 10                               | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
|                              | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 35                           | Calcite <i>(finer fragment)</i>         |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Gypsum or pumice

\* This form is not designed for shallow water (neritic) carbonate sediments

we should take a picture. but...

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/30

*clay rich  
slightly calcite fragments*

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 235 Interval: 10m

Sediment Name: clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                | ✓       |                | 1               | 15   | 84   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 3                                      | Quartz                        |
| 3                                      | Feldspars                     |
| 81                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
|  | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| Vitric fragments                       |                               |
| 1                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
|  | Microplitic                   |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 3                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
|                              | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
| 1                            | Opaque Grain                            |
| 3                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 1                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 3                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Quartz or ... only quartz ...

\* This form is not designed for shallow water (neritic) carbonate sediments

*we can't see  
thin mudstone.*

**Sediment Smear Slide / Thin Section Description Sheet**

Date: 12/31

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: 237 Sect.: Interval: 10 m

Sediment Name: silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                | ✓       |                | 1               | 20   | 79   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 3                                      | Quartz                       |
| 5                                      | Feldspars                    |
| 64                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
|  | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
| 3                                      | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
| Vitric fragments                       |                              |
| 5                                      | Clear glass                  |
| 1                                      | Colored glass                |
|  | Pumice                       |
| Volcanic lithics                       |                              |
|  | Felsitic                     |
| 3                                      | Microlite                    |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 3                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 3                            | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 5                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
|                              | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
| 1                            | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments





finer

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/31

Expedition: 348 Observer: RF

Site: 2 Hole: P Core: SMW Sect.: 242 Interval: 10 m

Sediment Name: clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 5               | 10   | 85   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 5                                      | Quartz                       |
| 5                                      | Feldspars                    |
| 67                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 3                                      | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
| 5                                      | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
| 3                                      | Microlite                    |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 1                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nanos)                            |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 3                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 1                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Zircon, Musc, biotite,

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 3 Jun 2014

Expedition: 348 Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: 244 Interval:

Sediment Name: ST/ty clay.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 7               | 30   | 53   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 8                                      | Quartz                        |
| 2                                      | Feldspars                     |
| 36                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 22                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
| 11                                     | Microinite                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 2                            | Micas (biotite, musc, chl) <sup>1</sup> |
| 1                            | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 6                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 8                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 2                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: \_\_\_\_\_

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 12/31

Expedition: 348 Observer: RF

Site: C0002 Hole: P Core: SMW Sect.: 247 Interval: 10 m

Sediment Name: clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             | ✓                 |                |         |                | 1               | 90   | 89   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 5                                      | Quartz                        |
| 25                                     | Feldspars                     |
| 39                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 3                                      | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 10                                     | Clear glass                   |
|  | Colored glass                 |
| 3                                      | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
| 3                                      | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
|                              | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 3                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
| 2                            | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 1                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: \_\_\_\_\_

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 3 Jan 2014

Expedition: 348

Observer: KY

Site: C0002

Hole: P

Core: SMW

Sect.: 249

Interval:

Sediment Name: SILTY CLAY

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|                   |                |         |                | 8               | 39   | 53   |

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 6                                      | Quartz                       |
| 1                                      | Feldspars                    |
| 34                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| <b>Sedimentary Lithics</b>             |                              |
|  | Chert                        |
| 33                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
| 3                                      | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
| <b>Volcanic lithics</b>                |                              |
|  | Felsitic                     |
|  | Microlitic                   |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
| 1                            | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 7                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 9                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 2                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

① Zircon open x40  
 ② " closed "  
 ③ OM 0 x20  
 ④ " C x20

⑤ olivine x10  
 ⑥ ? x40  
 ⑦ ? C x40  
 ⑧ Zircon? 0 x40  
 ⑨ " C x40

Lots of Pans Min

**Sediment Smear Slide / Thin Section Description Sheet**

Date: 1 Jan 2014

Expedition: 348 Observer: KY

Site: 0002 Hole: P Core: SMW Sect.: 51 Interval:

Sediment Name: Silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 8               | 40   | 52   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 20                                     | Quartz                       |
| 2                                      | Feldspars                    |
| 20                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
| 1                                      | Chert                        |
| 8                                      | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
| 2                                      | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
| 7                                      | Microlitic                   |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 1                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 11                           | Dense minerals <sup>1</sup>             |
| 2                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 11                           | Terrestrial organic matter ✓            |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 8                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 3                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Zircon, Amp, Muscovite

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 3 Jan. 2014

Expedition: 348 Observer: KY

Site: COOP Hole: P Core: -SMW Sect.: 254 Interval:

Sediment Name: Silty clay.

| Smear Slide                         | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------------------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|                                     |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| <input checked="" type="checkbox"/> |              |                 |             |                   |                |         |                | 8               | 34   | 58   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 11                                     | Quartz                        |
| 1                                      | Feldspars                     |
| 37                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 28                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microplitic                   |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 3                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 13                           | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 3                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: \_\_\_\_\_

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1. Jan. 2014

Expedition: 348

Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: 256

Interval: \_\_\_\_\_

Sediment Name: silty clay.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount |
|-------------|--------------|-----------------|-------------|
| ✓           |              |                 |             |

Select one and check.

| Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------|----------------|---------|----------------|-----------------|------|------|
| Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
|                   |                |         |                | 3               | 26   | 71   |

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 13                                     | Quartz                        |
| 7                                      | Feldspars                     |
| 40                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 20                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| Vitric fragments                       |                               |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
|  | Microlitic                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 4                            | Dense minerals <sup>1</sup>             |
| 4                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 4                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 13                           | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 4                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage. (Total must be 100).

Remarks: \_\_\_\_\_

\* This form is not designed for shallow water (neritic) carbonate sediments



# Sediment Smear Slide / Thin Section Description Sheet

Date: 3 Jan 2014

Expedition: 348 Observer: KY

Site: 0002 Hole: A Core: SMW Sect.: 49 Interval:

Sediment Name: silt+clay

| Smear Slide                         | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------------------------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|                                     |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| <input checked="" type="checkbox"/> |              |                 |             |                   |                |         |                | 3               | 43   | 54   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 6                                      | Quartz                        |
| 1                                      | Feldspars                     |
| 36                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary lithics                    |                               |
|  | Chert                         |
| 29                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 3                                      | Clear glass                   |
| 1                                      | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microplitic                   |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 1                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 3                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
| 1                            | Glaucinite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
| 6                            | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 6                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 6                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 3 Jan 2014

Expedition: 348

Observer: KY

Site: C0002 Hole: P Core: SM10 Sect.: 261 Interval:

Sediment Name: Silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 6               | 44   | 50   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 16                                     | Quartz                       |
| 6                                      | Feldspars                    |
| 26                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary lithics                    |                              |
|  | Chert                        |
| 26                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
| Vitric fragments                       |                              |
| 1                                      | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
| Volcanic lithics                       |                              |
|  | Felsitic                     |
|  | Microclitic                  |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 3                            | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
| 1                            | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 6                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 9                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 8                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments



# Sediment Smear Slide / Thin Section Description Sheet

Date: 1. Jan 2014

Expedition: 348 Observer: KY

Site: 0002 Hole: P Core: SMW Sect.: 265 Interval:

Sediment Name: clayey silt.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |           |           |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|-----------|-----------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt      | Clay      |
| <u>✓</u>    |              |                 |             |                   |                |         |                | <u>15</u>       | <u>64</u> | <u>21</u> |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| <u>9</u>                               | Quartz                        |
| <u>3</u>                               | Feldspars                     |
| <u>12</u>                              | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| <u>42</u>                              | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
| <u>5</u>                               | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
|  | Microlitic                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| <u>3</u>                     | Dense minerals <sup>1</sup>             |
| <u>6</u>                     | Micas (biotite, musc, chl) <sup>1</sup> |
| <u>3</u>                     | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| <u>12</u>                    | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| <u>5</u>                     | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| <u>3</u>                     | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: At. Chl. Muscovite

\* This form is not designed for shallow water (neritic) carbonate sediments





# Sediment Smear Slide / Thin Section Description Sheet

Date: 3 Jan 2013

Expedition: 348 Observer: KY

Site: 0002 Hole: P Core: SMW Sect.: 271 Interval:

Sediment Name: clayey silt.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 16              | 52   | 32   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 7                                      | Quartz                       |
| 3                                      | Feldspars                    |
| 18                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary lithics                    |                              |
|  | Chert                        |
| 39                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
|  | Clear glass                  |
| 2                                      | Colored glass                |
|  | Pumice                       |
|  | Volcanic lithics             |
|  | Felsitic                     |
|  | Microclite                   |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 4                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 3                            | Dense minerals <sup>1</sup>             |
| 8                            | Micas (biotite, musc, chl) <sup>1</sup> |
| 2                            | Glaucinite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 6                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 6                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 4                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

lots of Calcite & Nannos

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1. Jan. 2014

Expedition: 348 Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: 273 Interval:

Sediment Name: Silty clay

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 7.              | 30.  | 63.  |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 10                                     | Quartz                        |
| 2                                      | Feldspars                     |
| 32                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 20                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
|  | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlitic                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 8                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 2                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 4                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 20                           | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments



# Sediment Smear Slide / Thin Section Description Sheet

Date: 1. Jan. 2014

Expedition: 348

Observer: KY

Site: C0002 Hole: A Core: SMW Sect.: 209

Interval:

Sediment Name: Silty clay.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 28              | 72   |      |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 9                                      | Quartz                        |
| 3                                      | Feldspars                     |
| 35                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| <b>Sedimentary Lithics</b>             |                               |
|  | Chert                         |
| 15                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| <b>Vitric fragments</b>                |                               |
| 2                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
| <b>Volcanic lithics</b>                |                               |
|  | Felsitic                      |
| 2                                      | Microlitic                    |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 5                            | Dense minerals <sup>1</sup>             |
| 6                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 6                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 6                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 11                           | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Amphibole

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 3 Jan 2014

Expedition: 348 Observer: KY

Site: 10002 Hole: P Core: SMW Sect.: 281 Interval:

Sediment Name: silty clay.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 10              | 39   | 51   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 18                                     | Quartz                        |
| 3                                      | Feldspars                     |
| 39                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 25                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
| Vitric fragments                       |                               |
| 1                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
| Volcanic lithics                       |                               |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 5                            | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 4                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 4                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 2                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: \_\_\_\_\_

\* This form is not designed for shallow water (neritic) carbonate sediments



# Sediment Smear Slide / Thin Section Description Sheet

Date: 8. Jan. 2014

Expedition: 348 Observer: KY

Site: 10002 Hole: P Core: S111W Sect.: 285 Interval:

Sediment Name: Silty clay.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 3               | 40   | 57   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 20                                     | Quartz                       |
| 3                                      | Feldspars                    |
| 35                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| <b>Sedimentary Lithics</b>             |                              |
|  | Chert                        |
| 26                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
|  | Clear glass                  |
| 1                                      | Colored glass                |
|  | Pumice                       |
|  | <b>Volcanic lithics</b>      |
|  | Felsitic                     |
|  | Microlitic                   |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
| 1                                | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nanos)                            |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 4                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 5                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 3                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments



# Sediment Smear Slide / Thin Section Description Sheet

Date: 3 Jan. 2013

Expedition: 348 Observer: KY

Site: 1000 Hole: P Core: SMW Sect.: 291 Interval:

Sediment Name: Silty clay.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 5               | 45   | 50   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 14                                     | Quartz                       |
| 2                                      | Feldspars                    |
| 29                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| <b>Sedimentary Lithics</b>             |                              |
|  | Chert                        |
| 26                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
|  | Vitric fragments             |
|  | Clear glass                  |
|  | Colored glass                |
|  | Pumice                       |
|  | <b>Volcanic lithics</b>      |
|  | Felsitic                     |
|  | Microlitic                   |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 2                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 6                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 8                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 11                           | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1. Jan. 2014

Expedition: 348

Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: 293

Interval:

Sediment Name: Clayey silt.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 23              | 41   | 36   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 30                                     | Quartz                        |
| 2                                      | Feldspars                     |
| 22                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
|  | Chert                         |
| 17                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 5                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
|  | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 2                            | Dense minerals <sup>1</sup>             |
| 3                            | Micas (biotite, musc, chl) <sup>1</sup> |
| 1                            | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
|                              | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 6                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 9                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Amphibole

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 3-Jan-2014

Expedition: 340 Observer: KY

Site: 0002 Hole: P Core: SMW Sect.: 296 Interval:

Sediment Name: Silty clay.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 3               | 43   | 54   |

Select one and check.

Select one and check.

| Percent                                | Composition                  | Percent                          | Composition   | Percent                  | Composition                             |
|--|------------------------------|----------------------------------|---|--------------------------|---|
| <b>Major Siliciclastic Grain Types</b> |                              | <b>Pelagic Grains</b>            |   | <b>Minor Grain Types</b> |   |
| 12                                     | Quartz                       |                                  | Calcareous  | 3                        | Dense minerals <sup>1</sup>             |
| 1                                      | Feldspars                    |                                  | Nannofossils  | 3                        | Micas (biotite, musc, chl) <sup>1</sup> |
| 33                                     | Clay minerals                |                                  | Foraminifers  | 1                        | Glauconite                              |
|  |                              |                                  | Siliceous   |                          | Phosphate (bones, teeth, etc)           |
| <b>Lithic Grains</b>                   |                              |                                  | Diatom  |                          | Opaque Grain                            |
|  | Sedimentary Lithics          |                                  | Radiolarian   |                          | Marine organic matter                   |
|  | Chert                        |                                  | Silicoflagellate  | 6                        | Terrestrial organic matter              |
| 29                                     | Mudstone                     |                                  | Sponge Spicule  |                          | Other (specify):                        |
|  | Siltstone/sandstone          | <b>Other bioclasts</b>           |   |                          |   |
|  | Limestone                    |                                  | Mollusk   |                          | <b>Authigenic components</b>            |
|  | Metamorphic lithic           |                                  | Algae   | 7                        | Pyrite (framboids)                      |
|  | Plutonic lithic              |                                  | Echinoderm  |                          | Pyrite (euhedral)                       |
|  |                              |                                  | Benthic foraminifer   |                          | Pyrite (grain coating)                  |
| <b>Volcaniclastic Grains</b>           |                              |                                  | Other bioclast (specify)                                    | 4                        | Calcite                                 |
|  | Vitric fragments             | <b>Other carbonate allochems</b> |   |                          | Dolomite                                |
|  | Clear glass                  |                                  | Peloid  |                          | Zeolites                                |
| 1                                      | Colored glass                |                                  | Intraclast  |                          | Fe/Mn oxide                             |
|  | Pumice                       |                                  | Ooid  |                          | Other (specify):                        |
|  | Volcanic lithics             |                                  | Silt or sand-size carbonate allochem fragment (unspecified) |                          |   |
|  | Felsitic                     |                                  | Carbonate mud (apart from nanos)                            |                          |   |
|  | Microlite                    |                                  |   |                          |   |
|  | Lathwork                     |                                  |   |                          |   |
|  | Altered volcanic(palagonite) |                                  |   |                          |   |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks:

\* This form is not designed for shallow water (neritic) carbonate sediments



Chert III.  
 Altered [?]

# Sediment Smear Slide / Thin Section Description Sheet

Date: 1. Jan. 2014

Expedition: 348

Observer: KY

Site: C0002 Hole: P Core: SMW Sect.: 298 Interval:

Sediment Name: Silt. Sand.

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 35              | 38   | 27   |

Select one and check.

Select one and check.

| Percent                                | Composition                   |
|--|-------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                               |
| 10                                     | Quartz                        |
| 4                                      | Feldspars                     |
| 16                                     | Clay minerals                 |
| <b>Lithic Grains</b>                   |                               |
| Sedimentary Lithics                    |                               |
| 3                                      | Chert                         |
| 37                                     | Mudstone                      |
|  | Siltstone/sandstone           |
|  | Limestone                     |
|  | Metamorphic lithic            |
|  | Plutonic lithic               |
| <b>Volcaniclastic Grains</b>           |                               |
|  | Vitric fragments              |
| 3                                      | Clear glass                   |
|  | Colored glass                 |
|  | Pumice                        |
|  | Volcanic lithics              |
|  | Felsitic                      |
| 3                                      | Microlite                     |
|  | Lathwork                      |
|  | Altered volcanic (palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 3                            | Dense minerals <sup>1</sup>             |
| 4                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 5                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 6                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
|                              | Calcite                                 |
| 6                            | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Amp

\* This form is not designed for shallow water (neritic) carbonate sediments

# Sediment Smear Slide / Thin Section Description Sheet

Date: 2 Jan 2014

Expedition: M48

Observer: KY

Site: 10002 Hole: P Core: SMW Sect.: 300

Interval: \_\_\_\_\_

Sediment Name: clayey silt

| Smear Slide | Thin Section | Coarse Fraction | Grain Mount | Granular Sediment |                |         | Other material | Percent Texture |      |      |
|-------------|--------------|-----------------|-------------|-------------------|----------------|---------|----------------|-----------------|------|------|
|             |              |                 |             | Siliciclastic     | Volcaniclastic | Pelagic |                | Sand            | Silt | Clay |
| ✓           |              |                 |             |                   |                |         |                | 12              | 51   | 37   |

Select one and check.

Select one and check.

| Percent                                | Composition                  |
|--|------------------------------|
| <b>Major Siliciclastic Grain Types</b> |                              |
| 20                                     | Quartz                       |
| 5                                      | Feldspars                    |
| 25                                     | Clay minerals                |
| <b>Lithic Grains</b>                   |                              |
| Sedimentary Lithics                    |                              |
|  | Chert                        |
| 31                                     | Mudstone                     |
|  | Siltstone/sandstone          |
|  | Limestone                    |
|  | Metamorphic lithic           |
|  | Plutonic lithic              |
| <b>Volcaniclastic Grains</b>           |                              |
| Vitric fragments                       |                              |
|  | Clear glass                  |
| 1                                      | Colored glass                |
|  | Pumice                       |
| Volcanic lithics                       |                              |
|  | Felsitic                     |
|  | Microlite                    |
|  | Lathwork                     |
|  | Altered volcanic(palagonite) |

| Percent                          | Composition   |
|----------------------------------|---|
| <b>Pelagic Grains</b>            |   |
|                                  | Calcareous  |
|                                  | Nannofossils  |
|                                  | Foraminifers  |
|                                  | Siliceous   |
|                                  | Diatom  |
|                                  | Radiolarian   |
|                                  | Silicoflagellate  |
|                                  | Sponge Spicule  |
| <b>Other bioclasts</b>           |   |
|                                  | Mollusk   |
|                                  | Algae   |
|                                  | Echinoderm  |
|                                  | Benthic foraminifer   |
|                                  | Other bioclast (specify)                                    |
| <b>Other carbonate allochems</b> |   |
|                                  | Peloid  |
|                                  | Intraclast  |
|                                  | Ooid  |
|                                  | Silt or sand-size carbonate allochem fragment (unspecified) |
|                                  | Carbonate mud (apart from nannos)                           |

| Percent                      | Composition                             |
|------------------------------|---|
| <b>Minor Grain Types</b>     |   |
| 1                            | Dense minerals <sup>1</sup>             |
| 1                            | Micas (biotite, musc, chl) <sup>1</sup> |
|                              | Glauconite                              |
|                              | Phosphate (bones, teeth, etc)           |
|                              | Opaque Grain                            |
|                              | Marine organic matter                   |
| 3                            | Terrestrial organic matter              |
|                              | Other (specify):                        |
| <b>Authigenic components</b> |   |
| 3                            | Pyrite (framboids)                      |
|                              | Pyrite (euhedral)                       |
|                              | Pyrite (grain coating)                  |
| 3                            | Calcite                                 |
|                              | Dolomite                                |
|                              | Zeolites                                |
|                              | Fe/Mn oxide                             |
|                              | Other (specify):                        |

<sup>1</sup> List under remarks if possible

Fill percentage (Total must be 100).

Remarks: Terrestrial

\* This form is not designed for shallow water (neritic) carbonate sediments