THIN SECTION LABEL ID: 375-U1526A-4R-1-W 5/7-TSB-TS39

Requestor Group: sedimentology

Summary Description
volcaniclastic sandstone

SEDIMENT DETAILS

Lithology: sandstone with volcaniclastics

Detailed description
sandstone composed of micritic limestone, basalt, and shell fragments. Calcite cementation. Imbricated alignment of shell fragments is visible.

Grain abundance
T=Trace; R=Rare; P=Present; C=Common; A=Abundant; D=Dominant; M=Major

<table>
<thead>
<tr>
<th>Grain</th>
<th>Abundance</th>
<th>Grain</th>
<th>Abundance</th>
<th>Grain</th>
<th>Abundance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feldspars</td>
<td>T</td>
<td>Radiolarians</td>
<td></td>
<td>Pyrite (framboids)</td>
<td></td>
</tr>
<tr>
<td>Clay minerals</td>
<td></td>
<td>Mollusk</td>
<td>C</td>
<td>Pyrite (euohedra)</td>
<td></td>
</tr>
<tr>
<td>Siltstone/Sandstone</td>
<td>T</td>
<td>Carbonate mud</td>
<td></td>
<td>Dolomite, authigenic</td>
<td></td>
</tr>
<tr>
<td>Clear glass</td>
<td></td>
<td>Heavy minerals</td>
<td>P</td>
<td>Zeolite - phillipsite, clinoptilolite</td>
<td>P</td>
</tr>
<tr>
<td>Altered volcanic</td>
<td>A</td>
<td>Glaucnite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(palagonite)</td>
<td></td>
<td>Other volcanic</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

46655921  46655941
THIN SECTION LABEL ID: 375-U1526A-4R-1-W 42/44-TSB-TS40
Requestor Group: sedimentology
TS no.: 40
Observer: 

Summary Description
volcaniclastic conglomerate with shell

SEDIMENT DETAILS

Lithology: volcaniclastic conglomerate with shells

Grain sorting: moderate [2014]
Cement form: microcrystalline

Sand [%]: 75
Silt [%]: 15
Clay [%]: 10

Detailed description
sandy part of volcaniclastic conglomerate with shells. granule- to very fine sand-sized volcaniclastic sandstone including basalt and limestone lithic fragments and shells. Calcite cementation.

Grain abundance
T=Trace; R=Rare; P=Present; C=Common; A=Abundant; D=Dominant; M=Major

<table>
<thead>
<tr>
<th>Grain</th>
<th>Abundance</th>
<th>Grain</th>
<th>Abundance</th>
<th>Grain</th>
<th>Abundance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feldspars</td>
<td>T</td>
<td>Radiolarians</td>
<td></td>
<td>Pyrite (framboids)</td>
<td></td>
</tr>
<tr>
<td>Clay minerals</td>
<td></td>
<td>Mollusk</td>
<td>C</td>
<td>Pyrite (euhedra)</td>
<td></td>
</tr>
<tr>
<td>Chert</td>
<td></td>
<td>Other bioclast</td>
<td>T</td>
<td>Pyrite (grain coatings)</td>
<td></td>
</tr>
<tr>
<td>Clear glass</td>
<td></td>
<td>Heavy minerals</td>
<td>T</td>
<td>Zeolite - phillipsite, clinoptilolite</td>
<td></td>
</tr>
<tr>
<td>Altered volcanic</td>
<td>A</td>
<td>Glauconite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(palagonite)</td>
<td></td>
<td>Opaques</td>
<td>T</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other volcanic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**THIN SECTION LABEL ID:** 375-U1526A-5R-1-W 41/42-TSB-TS41  
**Requestor Group:** sedimentology  
**Summary Description**  
vesicular basalt

<table>
<thead>
<tr>
<th>Plane-polarized</th>
<th>Cross-polarized</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Plane-polarized Image" /></td>
<td><img src="image2" alt="Cross-polarized Image" /></td>
</tr>
</tbody>
</table>

| 46656001 | 46656021 |

**SEDIMENT DETAILS**

**Lithology:** basalt  
**Detailed description**  
Plagioclase-clinopyroxene-opaque minerals basalt showing seriate texture and partly trachytic alignment. Vesicules are filled with calcite.
THIN SECTION LABEL ID: 375-U1526A-5R-2-W 91/93-TSB-TS42
TS no.: 42
Observer:
Requestor Group: sedimentology

Summary Description
volcaniclastic conglomerate with clast and matrix

SEDIMENT DETAILS

Lithology: volcaniclastic conglomerate with shells

Sand [%]: 75  Silt [%]: 15  Clay [%]: 10

Detailed description
sandy matrix of volcaniclastic conglomerate with shell fragments. Clasts are composed mostly of sub-rounded to rounded altered basalt showing hypocrystalline (porphyritic basalt) or holohyaline crystalinity (vesicular basalt). Sedimentary lithics are also present, which are well rounded micritic limestone. Pore space is cemented by calcite.

Grain abundance
T=Trace; R=Rare; P=Present; C=Common; A=Abundant; D=Dominant; M=Major

<table>
<thead>
<tr>
<th>Grain</th>
<th>Abundance</th>
<th>Grain</th>
<th>Abundance</th>
<th>Grain</th>
<th>Abundance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feldspars</td>
<td>T</td>
<td>Radiolarians</td>
<td></td>
<td>Pyrite (framboids)</td>
<td></td>
</tr>
<tr>
<td>Clay minerals</td>
<td></td>
<td>Mollusk</td>
<td>C</td>
<td>Pyrite (euhedra)</td>
<td></td>
</tr>
<tr>
<td>Chert</td>
<td></td>
<td>Other bioclast</td>
<td>T</td>
<td>Pyrite (grain coatings)</td>
<td></td>
</tr>
<tr>
<td>Siltstone/Sandstone</td>
<td>T</td>
<td>Carbonate mud</td>
<td></td>
<td>Dolomite, authigenic</td>
<td></td>
</tr>
<tr>
<td>Clear glass</td>
<td></td>
<td>Heavy minerals</td>
<td>T</td>
<td>Zeolite - phillipsite, clinoptilolite</td>
<td></td>
</tr>
<tr>
<td>Altered volcanic (palagonite)</td>
<td>D</td>
<td>Glauconite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other volcanic</td>
<td></td>
<td>Opaques</td>
<td>R</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Summary Description**
Volcaniclastic conglomerate with carbonate bioclasts

<table>
<thead>
<tr>
<th>Plane-polarized</th>
<th>Cross-polarized</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="46656081" alt="Image" /></td>
<td><img src="46656101" alt="Image" /></td>
</tr>
</tbody>
</table>

**SEDIMENT DETAILS**

**Lithology:** volcaniclastic conglomerate with shells

**Grain sorting:** poor [2014]  
**Cement form:** microcrystalline

**Detailed description**
Volcaniclastic conglomerate. Altered basalts to iron oxide and mica. Volcaniclastic clast are sub-rounded to rounded. Basalt clast are composed of feldspar, olivine and pyroxene. Carbonate clasts and bioclasts, coated with calcite cement. Clasts include: mollusc, echinoid spines
**THIN SECTION LABEL ID:** 375-U1526A-6R-1-W 134/137-TSB-TS49

**Requestor Group:** sedimentology

**Summary Description**
volcaniclastic sandstone

**SEDIMENT DETAILS**

**Lithology:** vesicular basalt

**Detailed description**
Amygdaloidal olivine-augite basalt. Olivine phenocrysts are altered (possibly replaced with serpentine) and rimmed with iddingsite. Amygdules are filled by calcite. Seriate texture.
**THIN SECTION LABEL ID:** 375-U1526A-6R-2-W 13/16-TSB-TS50  
**Requestor Group:** sedimentology  
**TS no.:** 50  
**Observer:**

**Summary Description**

basalt

<table>
<thead>
<tr>
<th>Plane-polarized</th>
<th>Cross-polarized</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Image" /></td>
<td><img src="image2" alt="Image" /></td>
</tr>
</tbody>
</table>

46739721          46739791

**SEDIMENT DETAILS**

**Lithology:** basalt

**Detailed description**

Amygdaloidal olivine-augite basalt. Percentage of amygdules is relatively high (20-40%). Olivine phenocrysts are totally altered. Amygdules are filled with calcite or chlorite. Fe oxides are abundance.
THIN SECTION LABEL ID: 375-U1526A-6R-3-W 35/38-TSB-TS51

Requestor Group: sedimentology
Observer:

Summary Description
volcaniclastic sandstone

SEDIMENT DETAILS

Lithology: volcaniclastic sandstone

Grain sorting: moderate [2014]  Cement form:
Sand [%]: 75  Silt [%]: 25  Clay [%]: 0

Detailed description
Sandstone composed of angular to well rounded, fine- to coarse-grained sand grains of altered basalt and shell fragments. Sandstone is grain-supported without fine silt to clay matrix. Pore space is filled by calcite.

Grain abundance
T=Trace; R=Rare; P=Present; C=Common; A=Abundant; D=Dominant; M=Major

<table>
<thead>
<tr>
<th>Grain</th>
<th>Abundance</th>
<th>Grain</th>
<th>Abundance</th>
<th>Grain</th>
<th>Abundance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feldspars</td>
<td>P</td>
<td>Radiolarians</td>
<td></td>
<td>Pyrite (framboids)</td>
<td></td>
</tr>
<tr>
<td>Clay minerals</td>
<td></td>
<td>Mollusk</td>
<td>P</td>
<td>Pyrite (euhedra)</td>
<td></td>
</tr>
<tr>
<td>Chert</td>
<td></td>
<td>Other bioclast</td>
<td>R</td>
<td>Pyrite (grain coatings)</td>
<td></td>
</tr>
<tr>
<td>Mudstone</td>
<td></td>
<td>Peloid</td>
<td></td>
<td>Calcite</td>
<td>C</td>
</tr>
<tr>
<td>Siltstone/Sandstone</td>
<td>T</td>
<td>Carbonate mud</td>
<td></td>
<td>Dolomite, authigenic</td>
<td></td>
</tr>
<tr>
<td>Clear glass</td>
<td></td>
<td>Heavy minerals</td>
<td>P</td>
<td>Zeolite - phillipsite, clinoptilolite</td>
<td></td>
</tr>
<tr>
<td>Colored glass</td>
<td>T</td>
<td>Micas (biotite, musc., chl.)</td>
<td></td>
<td>Fe/Mn Oxide</td>
<td></td>
</tr>
<tr>
<td>Altered volcanic (palagonite)</td>
<td>C</td>
<td>Glauconite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other volcanic</td>
<td></td>
<td>Opaques</td>
<td>P</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**THIN SECTION LABEL ID:** 375-U1526A-6R-3-W 84/85-TSB-TS44  
**Requestor Group:** PAL  
**Observer:** WOOD/OLIV  

**Summary Description**  
Volcaniclastic conglomerate with carbonate mud containing bioclasts

---

**SEDIMENT DETAILS**

**Lithology:** volcaniclastic conglomerate with shells  
**Grain sorting:** poor [2014]  
**Cement form:**

**Detailed description**  
Volcaniclastic conglomerate. Altered basalts to iron oxide and mica. Volcaniclastic clast are sub-rounded to rounded. Basalt clast are composed of feldspar, olivine and pyroxene. Amigdales infill by calcite. Carbonate mud containing macroinvertebrate bioclasts and broken benthic and possible planktonic foraminifers. Clasts include: mollusc, coralline algae. Carbonate mud-volcaniclast contact stained by haematite.
**THIN SECTION LABEL ID:** 375-U1526A-6R-CC-W 14/17-TSB-TS45  
**Requestor Group:** PAL  
**Observer:** WOOD/OLIV  
**Summary Description**  
Volcaniclastic conglomerate with carbonate bioclasts

<table>
<thead>
<tr>
<th>Plane-polarized</th>
<th>Cross-polarized</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Image" /></td>
<td><img src="image2" alt="Image" /></td>
</tr>
</tbody>
</table>

| 46698061 | 46698151 |

**SEDIMENT DETAILS**

**Lithology:** volcaniclastic conglomerate with shells  
**Grain sorting:** poor [2014]  
**Cement form:**

**Detailed description**

Volcaniclastic conglomerate. Altered basalts to iron oxide and mica. Volcaniclastic clast are sub-angular to rounded. Basalt clast are composed of feldspar, olivine and pyroxene. Amigdales infill by calcite. Carbonate bioclasts within volcaniclastic conglomerate, with calcite cementation between grains. Clasts include: variety of disarticulated mollusc, coralline algae, echinoid spines.
THIN SECTION LABEL ID: 375-U1526A-8R-3-W 81/84-TSB-TS52
Requestor Group: sedimentology

Summary Description
basalt

SEDIMENT DETAILS

Lithology: basalt

Detailed description
clinopyroxene-bearing porphyritic basalt. Most of phenocrysts are euhedral plagioclase (up to 3 mm). Trachytic texture is visible. No amygdules.
**THIN SECTION LABEL ID:** 375-U1526A-8R-3-W 115/117-TSB-TS53  
**Requestor Group:** sedimentology  
**Observer:**  

**Summary Description**  
vesicular basalt

<table>
<thead>
<tr>
<th>Plane-polarized</th>
<th>Cross-polarized</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Image](375-U1526A-8R-3-W 115-117-TSB-TS53)</td>
<td>![Image](375-U1526A-8R-3-W 115-117-TSB-TS53)</td>
</tr>
</tbody>
</table>

**SEDIMENT DETAILS**

**Lithology:** vesicular basalt  

**Detailed description**  
Vesicular basalt. Vesicles are lined and partly filled with palagonite. Size of vesicles is up to 4 mm.
**THIN SECTION LABEL ID:** 375-U1526A-9R-1-W 38/41-TSB-TS54  
**Requestor Group:** sedimentology  
**Observer:**

**Summary Description**
basalt

### Plane-polarized
![Image](image1)

### Cross-polarized
![Image](image2)

**SEDIMENT DETAILS**

**Lithology:** basalt

**Grain sorting:** poor [2014]  
**Cement form:** microcrystalline

**Detailed description**
Brecciated glomeroporphyritic basalt. Plagioclase phenocrysts are clustered in aggregates. Matrix between clasts are filled by altered glasses, possibly palagonite, smectite, or chlorite.
## Thin Section Label ID: 375-U1526A-9R-2-W 33/35-TSB-TS55

### Requestor Group: sedimentology

### Summary Description

volcaniclastic conglomerate

### Thin Sections

<table>
<thead>
<tr>
<th>Plane-polarized</th>
<th>Cross-polarized</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="46787471" alt="Plane-polarized Image" /></td>
<td><img src="46787491" alt="Cross-polarized Image" /></td>
</tr>
</tbody>
</table>

### Sediment Details

**Lithology:** volcaniclastic conglomerate

**Detailed description**
Brecciated and rounded fine-grained trachytic basalt clasts cemented with altered glass (palagonite) and calcite.
**THIN SECTION LABEL ID:** 375-U1526A-10R-CC-W 5/8-TSB-TS56  
**Requestor Group:** sedimentology  
**TS no.:** 56  
**Observer:**  
**Summary Description**  
vesicular basalt

<table>
<thead>
<tr>
<th>Plane-polarized</th>
<th>Cross-polarized</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Plane-polarized Image]</td>
<td>![Cross-polarized Image]</td>
</tr>
</tbody>
</table>

46787511  
46787531

### SEDIMENT DETAILS

**Lithology:** vesicular basalt  
**Detailed description**  
Vesicular basalt. Vesicles are partly filled by palagonite and calcite. Average size of vesicles are 0.3 mm.
THIN SECTION LABEL ID: 375-U1526A-13R-1-W 49/50-TSB-TS57
Requestor Group: sedimentology
Observer:

Summary Description
volcaniclastic conglomerate

SEDIMENT DETAILS

Lithology: volcaniclastic conglomerate

Detailed description
Volcaniclastic conglomerate composed of pyroxene-bearing vesicular basalt, glomeroporphyritic basalt, and trachytic basalt. Matrix is calcite with palagonite rim. Some amygdules are also filled with calcite and lined with palagonite.

Grain abundance
T=Trace; R=Rare; P=Present; C=Common; A=Abundant; D=Dominant; M=Major

<table>
<thead>
<tr>
<th>Grain</th>
<th>Abundance</th>
<th>Grain</th>
<th>Abundance</th>
<th>Grain</th>
<th>Abundance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feldspars</td>
<td>T</td>
<td>Radiolarians</td>
<td></td>
<td>Pyrite (framboids)</td>
<td></td>
</tr>
<tr>
<td>Altered volcanic</td>
<td>R</td>
<td>Glaucnite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(palagonite)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other volcanic</td>
<td>A</td>
<td>Opaques</td>
<td>T</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Summary Description**
vesicular basalt

**SEDIMENT DETAILS**

**Lithology:** vesicular basalt

**Detailed description**
Vesicular basalt. Vesicles are lined with fibrous palagonite.
THIN SECTION LABEL ID: 375-U1526A-14R-2-W 91/93-TSB-TS59
Requestor Group: sedimentology
Summary Description
basalt

SEDIMENT DETAILS

Lithology: basalt

Detailed description
Pyroxene-bearing altered basalt showing seriate texture. Pyroxene phenocrysts are partly altered and replaced with fibrous secondary minerals.
**THIN SECTION LABEL ID:** 375-U1526A-7R-1-W 20/23-TSB-TS46

**Requestor Group:** structure

**Observer:** Morgan

**Summary Description**
volcaniclastic clast in matrix of fine calcite rich clastic sediment; circumgranular calcite vein along clast edge; grain size variation, coarser along clast edge; several coarser clastic dikes cut matrix; very thin calcite veins cut matrix.

<table>
<thead>
<tr>
<th>Plane-polarized</th>
<th>Cross-polarized</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Image" /></td>
<td><img src="image2" alt="Image" /></td>
</tr>
</tbody>
</table>

**MICROSTRUCTURES**

<table>
<thead>
<tr>
<th>Microstructure:</th>
<th>Rock name:</th>
<th>volcaniclastic conglomerate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microstructure comment:</td>
<td>circumgranular and fracture veins</td>
<td></td>
</tr>
</tbody>
</table>

**Detailed description**
volcaniclastic clast in matrix of fine calcite rich clastic sediment; circumgranular calcite vein along clast edge; grain size variation, coarser along clast edge; several coarser clastic dikes cut matrix; very thin calcite veins cut matrix.
THIN SECTION LABEL ID: 375-U1526A-7R-1-W 80/83-TSB-TS47
Requestor Group: structure
Observer: Morgan

Summary Description
circumgranular calcite vein around large volcanic clast; green mineral fills vesicles in volcanic clast; multiple generations of calcites in pore space, including sparry overgrowths on bioclasts; nice twinned feldspars

Microstructure: Rock name: volcaniclastic conglomerate
Microstructure comment: circumgranular and fracture veins

Detailed description
circumgranular calcite vein around large volcanic clast; green mineral fills vesicles in volcanic clast; multiple generations of calcites in pore space, including sparry overgrowths on bioclasts; nice twinned feldspars
THIN SECTION LABEL ID: 375-U1526A-9R-1-W 35/38-TSB-TS48
Requestor Group: structure
TS no.: 48
Observer: Morgan
Summary Description
Volcanic clast with substantial alteration; platy phyllosilicate or palagonite; sampled for green vein filling, but not evident in thin section; twinned calcite with apparent calcite replacement

Microstructure comment: No veins observed, just zones of alteration
Detailed description: Volcanic clast with substantial alteration; platy phyllosilicate or palagonite; sampled for green vein filling, but not evident in thin section; twinned calcite with apparent calcite replacement