Core U1582A-1R consists of light yellowish brown nannofossil ooze with sand-sized specks of manganese throughout. An inoceramid fragment occurs in Section CC. Drilling disturbance is moderate throughout (mousse-like).

### Visual Core Descriptions

<table>
<thead>
<tr>
<th>Depth CSF-A (m)</th>
<th>Core length (cm)</th>
<th>Section</th>
<th>Age</th>
<th>Lith. unit</th>
<th>Core image</th>
<th>Lithology</th>
<th>Shipboard samples</th>
<th>Disturbance</th>
<th>Sedimentary structures and Lithologic accessories</th>
<th>Average grain size</th>
<th>Natural gamma radiation (cps)</th>
<th>Reflectance</th>
<th>Magnetic susceptibility (IU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>1</td>
<td>late Miocene</td>
<td>la</td>
<td>[Image]</td>
<td>Clay</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>early Oligocene</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>100</td>
<td>CC</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

---

**Average Grain Size:**

- Clay
- Silt
- Fine sand
- Medium sand
- Coarse sand
- Very coarse sand
- Gravel

**Natural Gamma Radiation:**

- 0
- 2
- 4
- 6
- 8
- 10

**Reflectance:**

- L*:
  - 0
  - 2
  - 4
  - 6
  - 8
  - 10

- a*:
  - 0
  - 2
  - 4
  - 6
  - 8
  - 10

- b*:
  - 0
  - 2
  - 4
  - 6
  - 8
  - 10

**Magnetic Susceptibility (IU):**

- 0
- 2
- 4
- 6
- 8
- 10

---

**Sedimentary Structures and Lithologic Accessories:**

- [Image]
Core U1582A-2R consists of light brown clayey silt and nannofossil ooze. In Section 1 (10-20.5 cm) there is a dark brown manganese nodule and there are small nodules of manganese throughout the entire core. Drilling disturbance is moderate to severe (mousselike).
Core U1582A-3R consists of light brown clayey nannofossil ooze with medium sand-sized grains of manganese throughout. The entire core is moderately mousselike from drilling.

### Core U1582A-3R, Interval 11.6-15.71 m (CSF-A)

<table>
<thead>
<tr>
<th>Depth CSF-A (m)</th>
<th>Core length (cm)</th>
<th>Section</th>
<th>Age</th>
<th>Lith. unit</th>
<th>Core image</th>
<th>Lithology</th>
<th>Shipboard samples</th>
<th>Disturbance</th>
<th>Bioturbation intensity</th>
<th>Sedimentary structures and Lithologic accessories</th>
<th>Average grain size</th>
<th>Natural gamma radiation (cps)</th>
<th>Reflectance L* a* b*</th>
<th>Magnetic susceptibility (IU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td>1</td>
<td>Eocene</td>
<td></td>
<td></td>
<td></td>
<td>Clays XRD SED</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>20 60 80 120</td>
<td>0 2 4 6 8 10 12</td>
<td>0 300 600 900</td>
</tr>
<tr>
<td>100</td>
<td></td>
<td>2</td>
<td>Campanian?</td>
<td></td>
<td></td>
<td></td>
<td>Clays XRD SED</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>20 60 80 120</td>
<td>0 2 4 6 8 10 12</td>
<td>0 300 600 900</td>
</tr>
<tr>
<td>200</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Clays XRD SED</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>20 60 80 120</td>
<td>0 2 4 6 8 10 12</td>
<td>0 300 600 900</td>
</tr>
<tr>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Clays XRD SED</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>20 60 80 120</td>
<td>0 2 4 6 8 10 12</td>
<td>0 300 600 900</td>
</tr>
<tr>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Clays XRD SED</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>20 60 80 120</td>
<td>0 2 4 6 8 10 12</td>
<td>0 300 600 900</td>
</tr>
<tr>
<td>500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Clays XRD SED</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>20 60 80 120</td>
<td>0 2 4 6 8 10 12</td>
<td>0 300 600 900</td>
</tr>
<tr>
<td>600</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Clays XRD SED</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>20 60 80 120</td>
<td>0 2 4 6 8 10 12</td>
<td>0 300 600 900</td>
</tr>
<tr>
<td>700</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Clays XRD SED</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>20 60 80 120</td>
<td>0 2 4 6 8 10 12</td>
<td>0 300 600 900</td>
</tr>
<tr>
<td>800</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Clays XRD SED</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>20 60 80 120</td>
<td>0 2 4 6 8 10 12</td>
<td>0 300 600 900</td>
</tr>
<tr>
<td>900</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Clays XRD SED</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>20 60 80 120</td>
<td>0 2 4 6 8 10 12</td>
<td>0 300 600 900</td>
</tr>
<tr>
<td>1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Clays XRD SED</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>20 60 80 120</td>
<td>0 2 4 6 8 10 12</td>
<td>0 300 600 900</td>
</tr>
</tbody>
</table>

Visual core descriptions

- **Core Image**: Visual representation of the core with sedimentary structures and lithologic accessories.
- **Average Grain Size**: Distribution of average grain sizes ranging from clay to very coarse sand.
- **Natural Gamma Radiation**: Values indicating gamma radiation levels in counts per second (cps).
- **Reflectance L*a*b***: Measurements of lightness (L*) and chromatic coordinates (a* and b*).
- **Magnetic Susceptibility**: Measurements of magnetic susceptibility in international units (IU).
Core U1582A-4R consists of brown clayey nannofossil ooze with coarse sand-sized grains of manganese throughout. In Section 1 (4-9 cm) there are pebble and cobble-sized manganese nodules. The entire core is moderately mousseliike from drilling.
Core U1582A-5R consists of a manganese nodule (0-7 cm), light gray limestone and pale yellow limestone with clasts. In the light gray limestone there are manganese dendrites and in the pale yellow limestone with clasts, are coarse-sand sized manganese fragments. The entire core is severely fractured from drilling.
Core U1582A-6R consists of mostly basalt with 3 intervals of light yellowish brown limestone with basalt clasts in Section 1, and 1 interval of pale green limestone in Section 2.
UNIT: 1
PIECE: 2, 3
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: sparsely phyric, glomerophyric
COLOR: light brown
PHENOCRYSTS: 5% plagioclase
GROUNDMASS: fine grained
VESICLES: moderately vesicular (all vesicles filled with calcite)
UPPER CONTACT: chilled and glassy margin
LOWER CONTACT: chilled and glassy margin
ALTERATION: highly altered but volcanic glass is generally fresh
COMMENT: unit is overlain by yellow carbonate sediments which also contain basaltic fragments and glass shards in various states of alteration (2 cm long fresh glass fragment at 5 cm)

UNIT: 2
PIECE: 4, 5, 6, 7
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: sparsely phyric, glomerophyric
COLOR: light brown
PHENOCRYSTS: 5% plagioclase
GROUNDMASS: fine grained
VESICLES: moderately vesicular (all vesicles filled with calcite)
UPPER CONTACT: chilled margin on piece 4a
LOWER CONTACT: chilled and glassy margin in some of the Piece 7 fragments. Other Piece 7 fragment is yellow limestone
ALTERATION: highly altered

UNIT: 3
PIECE: 8, 9, 10, 11, 12
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: sparsely phyric, glomerophyric
COLOR: light brown
PHENOCRYSTS: 5% plagioclase
GROUNDMASS: aphanitic
VESICLES: sparsely vesicular (all vesicles filled with calcite)
UPPER CONTACT: chilled and glassy margin on Pieces 8, 9 and 10. Fragment of carbonate sediment between Units 3 and 2.
LOWER CONTACT: contact palagonite-sediment at top of Piece 12
ALTERATION: highly altered but abundant volcanic glass is generally fresh
### Table

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core number</th>
<th>Orientation</th>
<th>Description</th>
<th>Magnetic susceptibility (x10^-5 SI)</th>
<th>Alteration intensity</th>
<th>Groundmass grain size (mm)</th>
<th>Phenocrysts abundance</th>
<th>Vesicularity (%)</th>
<th>Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>42.20</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.30</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.40</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.50</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.60</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.70</td>
<td>5</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.80</td>
<td>6</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.90</td>
<td>7</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43.00</td>
<td>8</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43.10</td>
<td>9</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43.20</td>
<td>10</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43.30</td>
<td>11</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43.40</td>
<td>12</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43.50</td>
<td>13</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Magnetic Susceptibility

- **UNIT 1:** Plagioclase phyric basalt
- **TEXTURE:** moderately phyric
- **COLOR:** light gray
- **PHENOCRYST:** 10% plagioclase
- **GROUNDMASS:** fine grained
- **VESICLES:** moderately vesicular (all vesicles filled with calcite)
- **UPPER CONTACT:** chilled and glassy margin
- **LOWER CONTACT:** not recovered
- **ALTERATION:** moderately altered (glass generally fresh)
- **COMMENT:** contact of altered glassy margin with light green carbonate sediment on Piece 4

### Visual Core Descriptions

- **Site U1582**
- **Unit:** 4
  - **Piece:** 1, 2, 3
  - **Lithology:** Plagioclase phyric basalt
  - **Volcanic Description:** Pillow lava
  - **Texture:** Moderately phyric
  - **Color:** Light gray
  - **Phenocrysts:** 10% plagioclase
  - **Groundmass:** Fine grained
  - **Vesicles:** Moderately vesicular (all vesicles filled with calcite)
  - **Upper Contact:** Chilled and glassy margin at bottom of Piece 2b and in all fragments of Piece 3
  - **Lower Contact:** Not recovered
  - **Alteration:** Moderately altered (glass generally fresh)
  - **Comment:** Contact of altered glassy margin with light green carbonate sediment on Piece 4. Unclear if the igneous margin belongs to Unit 4 or 5.

- **Site U1582**
- **Unit:** 5
  - **Piece:** 5, 6
  - **Lithology:** Plagioclase phyric basalt
  - **Volcanic Description:** Pillow lava
  - **Texture:** Moderately phyric
  - **Color:** Light gray
  - **Phenocrysts:** 8% plagioclase
  - **Groundmass:** Fine grained
  - **Vesicles:** Moderately vesicular (all vesicles filled with calcite)
  - **Upper Contact:** Chilled and glassy margin on Piece 5
  - **Lower Contact:** Not recovered
  - **Alteration:** Moderately altered (glass on Piece 5 generally fresh)

- **Site U1582**
- **Unit:** 6
  - **Piece:** 7
  - **Lithology:** Plagioclase phyric basalt
  - **Volcanic Description:** Pillow lava
  - **Texture:** Moderately phyric
  - **Color:** Light gray
  - **Phenocrysts:** 8% plagioclase
  - **Groundmass:** Fine grained
  - **Vesicles:** Moderately vesicular (all vesicles filled with calcite)
  - **Upper Contact:** Chilled and glassy margin at top of Piece 7
  - **Lower Contact:** Chilled and (altered) glassy margin at Section 7R-1, 92 cm (bottom of Piece 3b)
  - **Alteration:** Highly altered
**UNITE: 6**  
**PIECE: 1, 2**  
**LITHOLOGY: plagioclase phyric basalt**  
**VOLCANIC DESCRIPTION: pillow lava**  
**TEXTURE: moderately phyric**  
**COLOR: light gray**  
**PHENOCRYSTS: 8% plagioclase**  
**GROUNDMASS: fine grained**  
**VESICLES: moderately vesicular (all vesicles filled with calcite)**  
**UPPER CONTACT: chilled and glassy margin at 6R-2 (top of Piece 7)**  
**LOWER CONTACT: chilled and (altered) glassy margin at Section 7R-1, 92 cm (bottom of Piece 3b)**  
**ALTERATION: highly altered**
UNIT: 6
PIECE: 2, 3
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: moderately phyric
COLOR: light gray
PHENOCRYSTS: 5-8 % plagioclase
GROUNDMASS: fine grained
VESICLES: moderately vesicular (all vesicles filled with calcite)
UPPER CONTACT: chilled and glassy margin at Section 6R-2 (top of Piece 7)
LOWER CONTACT: chilled and (altered) glassy margin at Section 7R-1, 92 cm (bottom of Piece 3b)
ALTERATION: highly altered
COMMENT: fall-in Mn-nodule at top of core (1-7 cm)

UNIT: 7
PIECE: 4, 5, 6
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: sparsely phyric
COLOR: light gray
PHENOCRYSTS: 3-5 % plagioclase
GROUNDMASS: fine grained
VESICLES: moderately vesicular (all vesicles filled with calcite)
UPPER CONTACT: chilled and glassy margin at 94cm
LOWER CONTACT: chilled and glassy margin between 113-128cm
ALTERATION: moderately altered (but glass is fresh)
**Hole 392-U1582A-7R Section 2, Top of Section: 46.84 m (CSF-A)**

**UNIT: 8**
- PIECE: 1, 2, 3
- LITHOLOGY: plagioclase phyric basalt
- VOLCANIC DESCRIPTION: pillow lava
- TEXTURE: sparsely phyric
- COLOR: light gray
- PHENOCRYSTs: 2-5% plagioclase
- GROUNDMASS: fine grained
- VESICLES: sparsely vesicular
- UPPER CONTACT: not recovered
- LOWER CONTACT: chilled and glassy margin between 38-53 cm
- ALTERATION: highly altered (but glass is fresh)

**UNIT: 9**
- PIECE: 4, 5, 6
- LITHOLOGY: aphyric basalt
- VOLCANIC DESCRIPTION: pillow lava
- TEXTURE: aphyric
- COLOR: light gray
- PHENOCRYSTs: fine grained
- GROUNDMASS: fine grained
- VESICLES: moderately vesicular
- UPPER CONTACT: chilled contact with small amount of sediment at 54 cm
- LOWER CONTACT: chilled and glassy contact with sediments at 84 cm
- ALTERATION: highly altered

**UNIT: 10**
- PIECE: 7, 8
- LITHOLOGY: plagioclase phyric basalt
- VOLCANIC DESCRIPTION: pillow lava
- TEXTURE: sparsely phyric
- COLOR: light gray to light brown
- PHENOCRYSTs: 1-3% plagioclase
- GROUNDMASS: fine grained
- VESICLES: moderately vesicular (filled with calcite)
- UPPER CONTACT: chilled and glassy margin at 88 cm (and contact with carbonate sediment)
- LOWER CONTACT: chilled and glassy margin at 108 cm
- ALTERATION: highly altered

**UNIT: 11**
- PIECE: 8, 9, 10, 11
- LITHOLOGY: plagioclase phyric basalt
- VOLCANIC DESCRIPTION: pillow lava
- TEXTURE: sparsely phyric
- COLOR: light gray to light brown
- PHENOCRYSTs: 3-5% plagioclase
- GROUNDMASS: fine grained
- VESICLES: moderately vesicular (filled with calcite)
- UPPER CONTACT: chilled and glassy margin at 114 cm
- LOWER CONTACT: chilled and glassy margin at 140 cm
- ALTERATION: highly altered (but with fresh glass)
UNIT: 12
PIECE: 1
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: sparsely phyric
COLOR: light brown to light gray
PHENOCRYSTS: 3-5% plagioclase
GROUNDMASS: aphanitic
VESICLES: sparsely to moderately vesicular (filled with calcite)
UPPER CONTACT: chilled and glassy margin at 2 cm
LOWER CONTACT: chilled and glassy margin at 10 cm
ALTERATION: highly altered

UNIT: 13
PIECE: 2
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: sparsely phyric
COLOR: light gray
PHENOCRYSTS: 1-3% plagioclase
GROUNDMASS: fine grained
VESICLES: moderately vesicular (filled with calcite)
UPPER CONTACT: chilled and glassy margin at 15 cm
LOWER CONTACT: not recovered (bottom of hole)
ALTERATION: moderately altered
### Hole 392-U1582B Core 11, Interval 0.0-0.0 m (CSF-A)

**DRILLED INTERVAL 0-36.3 m**

<table>
<thead>
<tr>
<th>Depth CSF-A (m)</th>
<th>Core length (cm)</th>
<th>Section</th>
<th>Age</th>
<th>Lith. unit</th>
<th>Core image</th>
<th>Lithology</th>
<th>Shipboard samples</th>
<th>Disturbance</th>
<th>Bioturbation intensity</th>
<th>Sedimentary structures and Lithologic accessories</th>
<th>Average grain size</th>
<th>Natural gamma radiation (cps)</th>
<th>Reflectance L*</th>
<th>Reflectance a*</th>
<th>Reflectance b*</th>
<th>Magnetic susceptibility (IU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Visual core descriptions

- **Site U1582**
- **Core length (cm)**: 0
- **Core image**: No description provided.
- **Lithology**: No description provided.
- **Shipboard samples**: No description provided.
- **Disturbance**: No description provided.
- **Bioturbation intensity**: No description provided.
- **Sedimentary structures and Lithologic accessories**: No description provided.
- **Average grain size**: No description provided.
- **Natural gamma radiation (cps)**: No description provided.
- **Reflectance L***: No description provided.
- **Reflectance a***: No description provided.
- **Reflectance b***: No description provided.
- **Magnetic susceptibility (IU)**: No description provided.
Core U1582B-2R consists of pale yellow limestone. Section 1 is mottled with Mn-oxide and in Section 2, calcite veins are common. Drilling disturbance ranges from moderate to severe (fractured and fragmented).

### Table: Visual core descriptions

<table>
<thead>
<tr>
<th>Depth CSF-A (m)</th>
<th>Core length (cm)</th>
<th>Section</th>
<th>Age</th>
<th>Lith. unit</th>
<th>Core image</th>
<th>Lithology</th>
<th>Shipboard samples</th>
<th>Disturbance</th>
<th>Disturbance intensity</th>
<th>Sedimentary structures and Lithologic accessories</th>
<th>Average grain size</th>
<th>Natural gamma radiation (cps)</th>
<th>Reflectance L* a* b*</th>
<th>Magnetic susceptibility (IU)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit</td>
<td>Piece</td>
<td>Lithology</td>
<td>Volcanic description</td>
<td>Texture</td>
<td>Color</td>
<td>Phenocrysts</td>
<td>Groundmass</td>
<td>Vesicles</td>
<td>Upper contact</td>
<td>Lower contact</td>
<td>Alteration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
<td>-----------</td>
<td>----------------------</td>
<td>---------</td>
<td>-------</td>
<td>-------------</td>
<td>------------</td>
<td>----------</td>
<td>---------------</td>
<td>--------------</td>
<td>------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1, 2, 3, 4, 5, 6, 7, 8</td>
<td>Plagioclase phyric basalt</td>
<td>Pillow lava</td>
<td>Moderately phyric</td>
<td>Light brown</td>
<td>5-8% plagioclase</td>
<td>Fine grained</td>
<td>Moderately vesicular</td>
<td>Chilled contact with sediments at 5 cm</td>
<td>Chilled contact with sediments at 97 cm</td>
<td>High to complete</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>8, 9, 10, 11, 12</td>
<td>Plagioclase phyric basalt</td>
<td>Pillow lava</td>
<td>Sparingly phyric</td>
<td>Light brown</td>
<td>3-5% plagioclase</td>
<td>Fine grained</td>
<td>Moderately vesicular</td>
<td>Chilled contact with sediments at 100 cm</td>
<td>Chilled and glassy margin on Section 2R-3 (64-80 cm)</td>
<td>High to complete</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Hole 392-U1582B-2R Section 3, Top of Section: 38.3 m (CSF-A)

#### Magnetite susceptibility (x10^-5 SI)

<table>
<thead>
<tr>
<th>WR POINT</th>
<th>Alteration intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Groundmass grain size (mm)

<table>
<thead>
<tr>
<th></th>
<th>40</th>
<th>30</th>
<th>20</th>
<th>10</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Phenocrysts (FSP, OL, PX) abundance (%)

<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Vesicularity (%)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>0</th>
<th>-1</th>
<th>-2</th>
<th>-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Reflectance

<table>
<thead>
<tr>
<th>L*</th>
<th>a*</th>
<th>b*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>&lt;5</td>
<td>5-20</td>
</tr>
</tbody>
</table>

#### Description

UNIT: 2  
PIECE: 1, 2, 3, 4, 5, 6, 7  
LITHOLOGY: plagioclase phyric basalt  
VOLCANIC DESCRIPTION: pillow lava  
TEXTURE: moderately phyric  
COLOR: light brown  
PHENOCRYST: 5-8% plagioclase  
GROUNDMASS: fine grained  
VESICLES: moderately vesicular  
UPPER CONTACT: chilled contact with sediments on Section 2R-2 (at 100 cm)  
LOWER CONTACT: chilled and glassy margin at 64-80 cm  
ALTERATION: high to complete
Core U1582B-3R consists of pale green limestone with common calcite veins. Drilling disturbance ranges from slight to moderate (fragmented and brecciated).
**UNIT: 3**
**PIECE: 1, 2**
**LITHOLOGY:** plagioclase phyric basalt
**VOLCANIC DESCRIPTION:** pillow lava
**TEXTURE:** moderately phyric
**COLOR:** changing from light brown to light gray at 4 cm
**PHENOCRYSTS:** 10% plagioclase
**GROUNDMASS:** fine grained to aphanitic
**VESICLES:** moderately vesicular
**UPPER CONTACT:** not recovered
**LOWER CONTACT:** chilled margin and igneous contact with greenish carbonate sediment at 15-16 cm
**ALTERATION:** boundary between oxidative alteration (reddish) and gray alteration at 4 cm, reflecting the change from high to moderate alteration

---

**UNIT: 4**
**PIECE: 2, 3, 4**
**LITHOLOGY:** plagioclase phyric basalt
**VOLCANIC DESCRIPTION:** pillow lava
**TEXTURE:** moderately phyric
**COLOR:** light gray
**PHENOCRYSTS:** 8-10% plagioclase
**GROUNDMASS:** aphanitic
**VESICLES:** moderately vesicular
**UPPER CONTACT:** chilled, glassy contact with green carbonate sediment at 18-21 cm
**LOWER CONTACT:** chilled, glassy margin and contact at 40 cm
**ALTERATION:** moderate

---

**UNIT: 5**
**PIECE: 4, 5, 6**
**LITHOLOGY:** plagioclase phyric basalt
**VOLCANIC DESCRIPTION:** pillow lava
**TEXTURE:** moderately phyric
**COLOR:** light gray
**PHENOCRYSTS:** 10% plagioclase
**GROUNDMASS:** aphanitic
**VESICLES:** moderately vesicular
**UPPER CONTACT:** chilled, glassy contact with green carbonate sediment along 42-63 cm
**LOWER CONTACT:** glassy margin and contact at 69 cm (Piece 6a)
**ALTERATION:** moderate to high

---

**UNIT: 6**
**PIECE: 7, 8, 9, 10, 11**
**LITHOLOGY:** plagioclase phyric basalt
**VOLCANIC DESCRIPTION:** pillow lava
**TEXTURE:** moderately phyric
**COLOR:** light gray
**PHENOCRYSTS:** 10% plagioclase
**GROUNDMASS:** aphanitic
**VESICLES:** moderately vesicular (60% filled with calcite, 40% filled with green tubular zeolite)
**UPPER CONTACT:** chilled, glassy (altered) margin at 90-101 cm
**LOWER CONTACT:** not recovered
**ALTERATION:** moderate to high

---

**UNIT: 7**
**PIECE: 11**
**LITHOLOGY:** plagioclase phyric basalt
**VOLCANIC DESCRIPTION:** pillow lava
**TEXTURE:** moderately phyric
**COLOR:** light gray
**PHENOCRYSTS:** 10% plagioclase
**GROUNDMASS:** aphanitic
**VESICLES:** moderately vesicular (60% filled with calcite, 40% filled with green tubular zeolite)
**UPPER CONTACT:** glassy margin at 125 cm
**LOWER CONTACT:** not recovered
**ALTERATION:** moderate to high

---

**Visual core descriptions**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Hole length (cm)</th>
<th>Scanned image</th>
<th>Shipboard samples</th>
<th>Orientation</th>
<th>Piece number</th>
<th>Core length (cm)</th>
<th>Depth (m)</th>
<th>Reflectance L* a* b*</th>
<th>Magnetic susceptibility (x10^-5 SI)</th>
<th>Alteration</th>
<th>Groundmass grain size (mm)</th>
<th>Phenocrysts FSP, OL, PX abundance (%</th>
<th>Vesicularity (%)</th>
<th>Structure</th>
<th>Vein quartz (%)</th>
<th>Alteration intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>41.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>110</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>130</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
UNIT 12
PIECE: 1, 2
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: sparsely phyric
COLOR: pinkish-brown
PHENOCRYSTS: 5% plagioclase
GROUNDMASS: fine grained (aphanitic at chilled margin)
VESICLES: highly vesicular, many different fillings (calcite, zeolite, clay)
UPPER CONTACT: brecciated boundary with vein material at bottom of Section 3R-2A (Piece 11)
LOWER CONTACT: glassy margin at 24-25 cm (Piece 2)
ALTERATION: high to complete

UNIT 13
PIECE: 2, 3, 4
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: sparsely phyric
COLOR: pinkish-brown
PHENOCRYSTS: 3% plagioclase
GROUNDMASS: fine grained to aphanitic
VESICLES: highly vesicular, many different fillings (calcite, zeolite, clay)
UPPER CONTACT: not recovered
LOWER CONTACT: chilled and glassy margin at 85-90 cm (Piece 4)
ALTERATION: very high
Core U1582B-4R consists of pale olive limestone with calcite veins. Drilling disturbance is moderate (fractured and fragmented).
<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Piece number</th>
<th>Core orientation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>46.30</td>
<td>0</td>
<td>14</td>
<td></td>
<td>UNIT: 14</td>
</tr>
<tr>
<td>46.40</td>
<td>10</td>
<td>1</td>
<td></td>
<td>LITHOLOGY: plagioclase phyric basalt</td>
</tr>
<tr>
<td>46.50</td>
<td>20</td>
<td>2</td>
<td></td>
<td>TEXTURE: sparsely phyric</td>
</tr>
<tr>
<td>46.60</td>
<td>30</td>
<td></td>
<td></td>
<td>VOLCANIC DESCRIPTION: pillow lava</td>
</tr>
<tr>
<td>46.70</td>
<td>40</td>
<td></td>
<td></td>
<td>COLOR: beige-gray</td>
</tr>
<tr>
<td>46.80</td>
<td>50</td>
<td></td>
<td></td>
<td>PHENOCRYSTS: 3% plagioclase</td>
</tr>
<tr>
<td>46.90</td>
<td>60</td>
<td></td>
<td></td>
<td>GROUNDMASS: fine grained</td>
</tr>
<tr>
<td>47.00</td>
<td>70</td>
<td>3</td>
<td></td>
<td>VESICLES: highly vesicular, many different fillings (calcite, zeolite, clay)</td>
</tr>
<tr>
<td>47.10</td>
<td>80</td>
<td></td>
<td></td>
<td>UPPER CONTACT: not recovered but small chilled margin at top of Piece 1</td>
</tr>
<tr>
<td>47.20</td>
<td>90</td>
<td></td>
<td></td>
<td>LOWER CONTACT: altered glassy margin at top of Piece 2</td>
</tr>
<tr>
<td>47.30</td>
<td>100</td>
<td></td>
<td></td>
<td>ALTERATION: very high</td>
</tr>
<tr>
<td>47.40</td>
<td>110</td>
<td>4</td>
<td></td>
<td>UNIT: 15</td>
</tr>
<tr>
<td>47.50</td>
<td>120</td>
<td>5</td>
<td></td>
<td>LITHOLOGY: nearly aphyric basalt</td>
</tr>
<tr>
<td>47.60</td>
<td>130</td>
<td></td>
<td></td>
<td>VOLCANIC DESCRIPTION: pillow lava</td>
</tr>
<tr>
<td>47.70</td>
<td>140</td>
<td>6</td>
<td></td>
<td>TEXTURE: aphyric</td>
</tr>
<tr>
<td>47.80</td>
<td>150</td>
<td>7</td>
<td></td>
<td>COLOR: gray with oxidized reddish-brown top and bottom portions</td>
</tr>
<tr>
<td>47.90</td>
<td>160</td>
<td>8</td>
<td></td>
<td>PHENOCRYSTS: &lt;1% plagioclase</td>
</tr>
<tr>
<td>48.00</td>
<td>170</td>
<td></td>
<td></td>
<td>GROUNDMASS: fine grained</td>
</tr>
<tr>
<td>48.10</td>
<td>180</td>
<td></td>
<td></td>
<td>VESICLES: highly vesicular, filled with calcite, zeolite, clay</td>
</tr>
<tr>
<td>48.20</td>
<td>190</td>
<td></td>
<td></td>
<td>UPPER CONTACT: chilled and glassy margin at top of Piece 3d (at 112 cm)</td>
</tr>
<tr>
<td>48.30</td>
<td>200</td>
<td></td>
<td></td>
<td>LOWER CONTACT: chilled and glassy margin at bottom of Piece 3d (at 117 cm)</td>
</tr>
<tr>
<td>48.40</td>
<td>210</td>
<td></td>
<td></td>
<td>ALTERATION: highly to completely (near the margins) altered except for a small interval between 75-90 cm which appears better preserved</td>
</tr>
</tbody>
</table>

**Site U1582**

**Visual core descriptions**
UNIT: 19
PIECE: 1
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: sparsely phyric
COLOR: reddish-brown
PHENOCRYSTS: 3% plagioclase
GROUNDMASS: fine grained
VESICLES: moderately vesicular (calcite, clay and zeolite filings)
UPPER CONTACT: chilled, glassy margin at top of Piece 1 (0-2 cm)
LOWER CONTACT: chilled, glassy margin at bottom of Piece 1 (at 28-29 cm)
ALTERATION: highly altered

UNIT: 20
PIECE: 2
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: sparsely phyric
COLOR: reddish-brown
PHENOCRYSTS: 3-5% plagioclase
GROUNDMASS: fine grained
VESICLES: moderately vesicular (calcite, clay and zeolite filings)
UPPER CONTACT: chilled, glassy margin at 54 cm
LOWER CONTACT: chilled, glassy margin at 56 cm
ALTERATION: highly altered

UNIT: 21
PIECE: 3, 4, 5, 6
LITHOLOGY: hyaloclastite
VOLCANIC DESCRIPTION: inter-pillow breccia
TEXTURE: brecciated
COLOR: dark brown, yellow, red
PHENOCRYSTS:
GROUNDMASS:
VESICLES:
UPPER CONTACT: not recovered
LOWER CONTACT: in contact with chilled margin of underlying Unit 22 (at 88 cm)
ALTERATION: glass in hyaloclastite is completely altered but one lithic (basaltic) clast contains fresh glass rim

UNIT: 22
PIECE: 7, 8, 9
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: sparsely phyric
COLOR: reddish-brown
PHENOCRYSTS: 3-5% plagioclase
GROUNDMASS: fine grained
VESICLES: moderately vesicular (calcite, clay and zeolite filings)
UPPER CONTACT: chilled, glassy margin at 90 cm
LOWER CONTACT: chilled margin at Section BR-1, 8 cm
ALTERATION: highly altered
UNIT: 22
PIECE: 1
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: sparsely phyric
COLOR: reddish-brown
PHENOCRYSTS: 3-5% plagioclase
GROUNDMASS: fine grained
VESICLES: moderately vesicular (calcite, clay and zeolite filings)
UPPER CONTACT: chilled, glassy margin at Section 4R-2, 90 cm
LOWER CONTACT: chilled, glassy margin at 8 cm
ALTERATION: highly altered

UNIT: 23
PIECE: 2, 3, 4, 5
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: moderately phyric
COLOR: reddish-brown
PHENOCRYSTS: 8-10% plagioclase
GROUNDMASS: fine grained
VESICLES: moderately vesicular (calcite, clay and zeolite filings)
UPPER CONTACT: not recovered
LOWER CONTACT: chilled, glassy margin at 95 cm and thin layer of sediment at 63 cm
ALTERATION: highly altered

UNIT: 24
PIECE: 6, 7, 8, 9, 10
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: moderately phyric
COLOR: reddish-brown
PHENOCRYSTS: 8-10% plagioclase
GROUNDMASS: fine grained
VESICLES: moderately vesicular (calcite, clay and zeolite filings)
UPPER CONTACT: chilled, glassy contact at 68 cm with sediment
LOWER CONTACT: not recovered
ALTERATION: highly altered

UNIT: 25
PIECE: 11, 12
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: moderately phyric
COLOR: reddish-brown
PHENOCRYSTS: 8-10% plagioclase
GROUNDMASS: fine grained
VESICLES: highly vesicular (calcite, clay and zeolite filings)
UPPER CONTACT: hyaloclastite at 116 cm
LOWER CONTACT: not recovered
ALTERATION: highly altered
UNIT: 25
PIECE: 1, 2
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: moderately phyric
COLOR: dark gray with some reddish-brown at top
PHENOCRYSTS: 8-10% plagioclase
GROUNDMASS: fine grained
VESICLES: moderately vesicular (calcite, clay and zeolite filings)
UPPER CONTACT: hyaloclastite at Section 5R-1, 116 cm
LOWER CONTACT: not recovered
ALTERATION: highly altered

UNIT: 26
PIECE: 3, 4, 5, 6, 7, 8, 9, 10, 11
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: moderately phyric
COLOR: dark gray with some reddish-brown at top
PHENOCRYSTS: 5-8% plagioclase
GROUNDMASS: fine grained
VESICLES: moderately vesicular (calcite, clay and zeolite filings)
UPPER CONTACT: chilled, glassy margin at 43 cm
LOWER CONTACT: not recovered
ALTERATION: highly altered

UNIT: 27
PIECE: 12, 13
LITHOLOGY: plagioclase phyric basalt
VOLCANIC DESCRIPTION: pillow lava
TEXTURE: moderately phyric
COLOR: dark gray with some reddish-brown at top
PHENOCRYSTS: 5-8% plagioclase
GROUNDMASS: fine grained
VESICLES: moderately vesicular (calcite, clay and zeolite filings)
UPPER CONTACT: chilled, glassy margin at 102 cm
LOWER CONTACT: not recovered
ALTERATION: highly altered