CLAYEY VITRIC SILT, VITRIC SILT, PUMICEOUS SAND AND PUMICEOUS GRAVEL

Major lithologies:
The uppermost 98 cm (11%) of the core is a CLAYEY VITRIC SILT, with a 5-cm dark brown (10YR 3/3) top rich in amorphous iron-oxide aggregates. The rest of the core is dark gray and gray (5Y 4/1, 5Y 5/1). This unit grades downward into a gray (5Y 5/1) and dark gray (5Y 4/1) VITRIC SILT 3.1 m thick (35% of the core), which is succeeded by 4.7 m (53% of core) of dark gray, gray, and light olive gray (5Y 4/1, 5Y 5/1, 5Y 2/1), coarse, very poorly sorted, gravelly PUMICEOUS SAND and PUMICEOUS GRAVEL, that is, in large part, very badly disturbed by drilling.

Minor lithology: Two 1-2 cm thick layers of VITRIC SILT occur near the top of Section 6.

SMEAR SLIDE SUMMARY (%):

<table>
<thead>
<tr>
<th>TEXTURE:</th>
<th>1.2</th>
<th>1.30</th>
<th>1.50</th>
<th>1.90</th>
<th>2.21</th>
<th>2.50</th>
<th>2.109</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>5</td>
<td>10</td>
<td>5</td>
<td>3</td>
<td>10</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Silt</td>
<td>95</td>
<td>90</td>
<td>70</td>
<td>90</td>
<td>50</td>
<td>70</td>
<td>90</td>
</tr>
<tr>
<td>Clay</td>
<td>45</td>
<td>20</td>
<td>25</td>
<td>10</td>
<td>20</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

COMPOSITION:

- Accessory minerals
  - Clay: 30%
  - Diopside: 1%
  - Feldspar: 1%
  - Foraminifers: 1%
  - Glass: 65%
  - Lithic fragments: 1%
  - Micrite: 1%
  - Opaque: 1%

SMEAR SLIDE SUMMARY (%):

<table>
<thead>
<tr>
<th>TEXTURE:</th>
<th>3.30</th>
<th>3.114</th>
<th>4.60</th>
<th>6.10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Silt</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>95</td>
</tr>
</tbody>
</table>

COMPOSITION:

- Bioclast: 1%
- Feldspar: 5%
- Foraminifers: 1%
- Glass: 37%
- Lithic fragments: 1%
- Micrite: 1%
- Nannofossils: 1%
- Opaques: 1%
- Pyroxene: 1%
**LITHOLOGIC DESCRIPTION**

**VITRIC SILT, NANNOFOSSIL-RICH SILTY CLAY, AND VITRIC SAND**

Major lithologies:
- Dark gray (5Y 4/1, 4/2) VITRIC SILT beds, 25 to 120 cm thick, that comprise 40% of the core, interbedded with olive gray (5Y 4/2) NANNOFOSSIL-RICH SILTY CLAY beds, 25-80 cm thick (36% of recovery), and five layers of black (N2, 5YR 2/1) VITRIC SAND that together constitute 24% of the core. Some of the sandy and silty intervals are graded, and several are planar-laminated.

**SMEAR SLIDE SUMMARY (%):**

<table>
<thead>
<tr>
<th>TEXTURE</th>
<th>Sand</th>
<th>Silt</th>
<th>Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPOSITION:</td>
<td>Accessory minerals</td>
<td>Clay</td>
<td>Diatoms</td>
</tr>
</tbody>
</table>

**TIME-ROCK UNIT**

- **FORAMINIFERS**
- **NANOFOSSELS**
- **RADIAL ARMS**
- **DIATOMS**
- **PALEOMAGNETISM**
- **PHYS. PROPERTIES**
- **CHEMISTRY**
- **SHELLS**

**Site 790 HOLE A**

**Core 2H**

**Cored Interval 0.8 - 18.3 m DSf**

**Quaternary**

**Unit N20**

**R/G**

**Upper Pliocene-Recent**

**R/G**
<table>
<thead>
<tr>
<th>TIME-ROCK UNIT</th>
<th>BIOSTRAT. ZONE/ FOREL. CHARACTER</th>
<th>MICROSTRUCTURES</th>
<th>PHYS. PROPERTIES</th>
<th>EXOTIC</th>
<th>NATURE</th>
<th>BIBLIOGRAPHY</th>
</tr>
</thead>
<tbody>
<tr>
<td>SITE 790 HOLE A CORE 2H CORED INTERVAL 8.8-18.3 mbsf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SMEAR SLIDE SUMMARY (%):**

<table>
<thead>
<tr>
<th>TEXTURE:</th>
<th>4</th>
<th>120</th>
<th>5</th>
<th>20</th>
<th>5</th>
<th>52</th>
<th>5</th>
<th>131</th>
<th>6</th>
<th>5</th>
<th>6</th>
<th>136</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>Silt</td>
<td>70</td>
<td>3</td>
<td>45</td>
<td>50</td>
<td>75</td>
<td>70</td>
<td>55</td>
<td>15</td>
<td>20</td>
<td>50</td>
<td>15</td>
<td>35</td>
</tr>
<tr>
<td>Clay</td>
<td>5</td>
<td>50</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>10</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
</tr>
</tbody>
</table>

**COMPOSITION:**

- **Accessory minerals**: 
  - 1
- **Clay**: 
  - 46
- **Diatoms**: 
  - 15
- **Dolostones**: 
  - 15
- **Feldspar**: 
  - 15
- **Foraminifers**: 
  - 15
- **Glass**: 
  - 15
- **Lithic fragments**: 
  - 15
- **Nannofossils**: 
  - 15
- **Oxide**: 
  - 15
- **Pyroclastics**: 
  - 15
- **Quartz**: 
  - 15
- **Radiolarians**: 
  - 15
- **Silicoflagellates**: 
  - 15
- **Spicules**: 
  - 15

<table>
<thead>
<tr>
<th>SMEAR SLIDE SUMMARY (%):</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TEXTURE:</th>
<th>4</th>
<th>120</th>
<th>5</th>
<th>20</th>
<th>5</th>
<th>52</th>
<th>5</th>
<th>131</th>
<th>6</th>
<th>5</th>
<th>6</th>
<th>136</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>Silt</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Clay</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

**COMPOSITION:**

- **Accessory minerals**: 
  - 1
- **Clay**: 
  - 5
- **Dolostones**: 
  - 5
- **Feldspar**: 
  - 5
- **Foraminifers**: 
  - 5
- **Glass**: 
  - 5
- **Nannofossils**: 
  - 5

---

**SITE 790 HOLE A CORE 2H CORED INTERVAL 8.8-18.3 mbsf**

---

**SMEAR SLIDE SUMMARY (%):**

<table>
<thead>
<tr>
<th>TEXTURE:</th>
<th>4</th>
<th>120</th>
<th>5</th>
<th>20</th>
<th>5</th>
<th>52</th>
<th>5</th>
<th>131</th>
<th>6</th>
<th>5</th>
<th>6</th>
<th>136</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>Silt</td>
<td>70</td>
<td>3</td>
<td>45</td>
<td>50</td>
<td>75</td>
<td>70</td>
<td>55</td>
<td>15</td>
<td>20</td>
<td>50</td>
<td>15</td>
<td>35</td>
</tr>
<tr>
<td>Clay</td>
<td>5</td>
<td>50</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>10</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
</tr>
</tbody>
</table>

**COMPOSITION:**

- **Accessory minerals**: 
  - 1
- **Clay**: 
  - 46
- **Diatoms**: 
  - 15
- **Dolostones**: 
  - 15
- **Feldspar**: 
  - 15
- **Foraminifers**: 
  - 15
- **Glass**: 
  - 15
- **Lithic fragments**: 
  - 15
- **Nannofossils**: 
  - 15
- **Oxide**: 
  - 15
- **Pyroclastics**: 
  - 15
- **Quartz**: 
  - 15
- **Radiolarians**: 
  - 15
- **Silicoflagellates**: 
  - 15
- **Spicules**: 
  - 15
### Lithologic Description

**VITRIC SILT**

Major lithology: Gray (5Y 6/1) VITRIC SILT consisting of 90-97% glass, with a few percent of siliceous microfossils (diatoms, radiolarians, sponge spicules, and silicoflagellates). The core is almost structureless except for small graded intervals in Sections 1 and 3, and a few scattered tiny bioherms.

Minor lithology: Gray (5Y 6/1) fine VITRIC SAND layers, 2 cm thick, occur in Section 1.

**Smear Slide Summary (%)**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Sand</th>
<th>Silt</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>5</td>
<td>95</td>
</tr>
</tbody>
</table>

**Composition**

<table>
<thead>
<tr>
<th>Diatoms</th>
<th>Glass</th>
<th>Radiolarians</th>
<th>Silicoflagellates</th>
<th>Sponges</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>92</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

---

**SITE 790 HOLE A**

**CORE 3H**

**Cored Interval 18.3-27.8 mbsf**

---

**Quaternary**

- 0-5 m: MUD
- 5-10 m: MUD
- 10-15 m: MUD
- 15-20 m: MUD
- 20-25 m: MUD
- 25-30 m: MUD
- 30-35 m: MUD
- 35-40 m: MUD
- 40-45 m: MUD
- 45-50 m: MUD

---

**Graph**

- Data plotted on a graph showing the distribution of different components across the core interval.

---

**Image**

- A visual representation of the core with labeled sections.
**SITE 790 HOLE A**

**CORE 4H**

**CORED INTERVAL 27.8-37.6 mbsf**

### Lithologic Description

**VITRIC SAND**

- Pebbly and very coarse to medium-grained VITRIC SAND that is mostly gray (N6), with minor intervals that are light gray (N4) and dark gray (N4, N5). Two graded intervals were noted, and indistinct bedding occurs in Sections 3 and 4. The sediment is badly disturbed by drilling.

**Minor Lithology:** Two intervals in Sections 2 and 4 consist of PUMICEOUS GRAVEL.
**LITHOLOGIC DESCRIPTION**

**VITRIC SILT AND CLAYEY VITRIC SILT**

Major lithologies:
Gray (5Y 6/1) VITRIC SILT, in beds 11-111 cm thick, constitutes 50% of the core. The other 50% of the core consists of CLAYEY VITRIC SILT. The top of the core is a 15-cm moderate brown (SYR 3/4) CLAYEY VITRIC SILT rich in amorphous iron oxide aggregates. Two other beds of this lithology, 138 and 48 cm thick, are GRAY (5Y 6/1).

**SMEAR SLIDE SUMMARY (%):**

<table>
<thead>
<tr>
<th>Composition</th>
<th>1</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay</td>
<td>78</td>
<td>22</td>
</tr>
<tr>
<td>Diatoms</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Feldspars</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Glass</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td>Quartz</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>Radiolarians</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**TEXTURE:**

Silt 78
Clay 22
LITHOLOGIC DESCRIPTION

VITRIC SAND, VITRIC SILT, AND SILTY CLAY

Major lithologies:
- Light olive gray (5Y 6/2), very dark gray (5Y 2/1), black (N2) VITRIC SAND, in beds 5-138 cm thick, comprises 43% of the recovered core. Dark gray (5YR 4/1), black (5YR 2/1, N2), and dull red-dish gray (5YR 4/2) VITRIC SILT, several cm to 79 cm thick, constitutes 26% of the core. Several beds of these two lithologies are graded. Olive gray (5Y 6/2) NANNOFOSSIL SILTY CLAY and NANNOFOSSIL-RICH SILTY CLAY beds varying in thickness from a few cm to 183 cm comprise the remaining 31% of the core. The following stratigraphic horizons correlate with their equivalents in Hole 790A as follows:

SMEAR SLIDE SUMMARY (%):

COMPOSITION:
- Clay: 34, 19
- Diatoms: 20
- Foraminifers: 19
- Glass: 87
- Lithic fragments: Tr, Tr
- Nannofossils: 40, Tr
- Oxide: 1
- Radiolarians: 1
- Silicoflagellates: 1, Tr
- Spicules: Tr

TEXTURE:
- Sandy: 2, 5
- Silt: 64, 85
- Clay: 34, 19
VITRIC SILT AND VITRIC SAND

Major lithologies:
- Olive gray (5Y 6/1), gray (5Y 6/1), dark gray (6/1), and black VITRIC SILT beds, 11-290 cm thick, constitute 75% of the recovered core. Associated with this lithology, and comprising 15% of the core, are three olive gray to black (5Y 4/2, 3/2, -2/2) VITRIC SAND beds 86-290 cm thick. Two of these are graded, and one has planar laminations.

Minor lithology:
- There are four beds, 15-28 cm thick, of dark gray and black (5Y 3/2, 4/1) NANNOFOSIL-RICH SILTY CLAY.

SMEAR SLIDE SUMMARY (%):

<table>
<thead>
<tr>
<th>TEXTURE</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silt</td>
<td>50</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Clay</td>
<td>50</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

COMPOSITION:

<table>
<thead>
<tr>
<th>Clay</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ostracode</td>
<td>20</td>
</tr>
<tr>
<td>Fossil</td>
<td>2</td>
</tr>
<tr>
<td>Foraminifers</td>
<td>3</td>
</tr>
<tr>
<td>Glass</td>
<td>5</td>
</tr>
<tr>
<td>Foraminifers</td>
<td>1</td>
</tr>
<tr>
<td>Nannofossils</td>
<td>20</td>
</tr>
<tr>
<td>Ostracode</td>
<td>1</td>
</tr>
<tr>
<td>Radiolarians</td>
<td>1</td>
</tr>
<tr>
<td>Silicoflagellates</td>
<td>7</td>
</tr>
<tr>
<td>Spicules</td>
<td>7</td>
</tr>
</tbody>
</table>
SITE 790 HOLE B  CORE 4H  CORED INTERVAL 23.5-33.0 mbsf

**LITHOLOGIC DESCRIPTION**

**VITRIC SAND AND VITRIC Silt:**

Major lithologies:
- This core, mainly rendered soupy by drilling disturbance, is dark gray to gray (5Y 5/1, 5Y 4/1).
  - 1) VITRIC SAND (82%) and VITRIC SILT (18%).

**SMEAR SLIDE SUMMARY (%)**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Sand (95%)</th>
<th>Silt (5%)</th>
</tr>
</thead>
</table>

**COMPOSITION**

- Feldspar: 5%
- Foraminifers: Tr
- Grass: 95%
- Lithic fragments: Tr
- Opaque: 5%
- Pyroxene: 5%

INTERVAL 23.5-33.0 mbsf

SAMPLES:

- 1, 75 6, 69
- D D

**TEXTURE**

- Sand: 95%
- Silt: 5%

**SITE 790 4H**

**GRAPHIC LITHOLOGY**
**SITE 790 HOLE B**

**CORE 5H**

**CORED INTERVAL 33.0-42.5 mbsf**

<table>
<thead>
<tr>
<th>TIME-ROCK UNIT</th>
<th>STRATIGRAPHY</th>
<th>FOSSIL CHARACTER</th>
<th>PALEONTOLOGY</th>
<th>PETROLOGY</th>
<th>STRUCTURE</th>
<th>LITHOLOGIC DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUATERNARY</td>
<td>N3.5</td>
<td>UPPER PLIOCENE-RECENT</td>
<td>1.5</td>
<td></td>
<td></td>
<td>PUMICEOUS GRAVEL AND VITRIC SAND</td>
</tr>
</tbody>
</table>

Major lithologies:
- Gray to very dark gray (5Y 6/1-3/1), very coarse- to medium-grained, pebbly, pumiceous VITRIC SAND comprises the top 48% of the core. The lower 52% of the core is gray (5Y 6/1-3/1) PUMICEOUS GRAVEL, with maximum clast sizes of 30-40 mm and average clast sizes of 3-8 mm.
**SITE 790**  **HOLE B**  **CORE 6H**  **CORED INTERVAL 42.5-52.0 mbsf**

<table>
<thead>
<tr>
<th>TIME-Rock Unit</th>
<th>Substrat. Zone/ Fossil Character</th>
<th>Misc. Remarks</th>
<th>Graphic Lithology</th>
<th>Core Structures</th>
<th>Lithologic Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>QUATERNARY</strong></td>
<td>N23</td>
<td>C/M</td>
<td>UPPER PLIOCENE-RECENT</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>T/F/G</strong></td>
<td>R/G</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>G</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**VITRIC SANDY PUMICEOUS GRAVEL**

Major lithology: 94% of the core is dark gray (5Y 4/1) VITRIC SANDY PUMICEOUS GRAVEL with maximum pebble sizes ranging from 20 to 50 cm, the sizes of matrix fragments typically 0.4 to 0.8 cm.

Minor lithology: The top 30 cm, or 6% of the core, is gray (5Y 6/1) coarse VITRIC SAND.
**SITE 790**

**HOLE B**

**CORE 7H**

**CORED INTERVAL 52.0-61.6 mbsf**

**BIOSTRAT. ZONE/FOSSIL CHARACTER**

---

**LITHOLOGIC DESCRIPTION**

**VITRIC SAND AND VITRIC SILT**

**Major lithologies:**

- Gray to very dark and olive gray (5Y 6/1, 4/1, 3/1, 4/2) pebbly, granule-rich, and very fine VITRIC SAND makes up 62% of the core, in one thin and two thick beds (6, 165 and 357 cm thick).
- Dark gray (N3) VITRIC SILT beds ranging in thickness from 2 to 105 cm comprise 19% of the core. The sands and silts display some grading and lamination.

**Minor lithologies:**

- The top 92 cm (11% of the core) is light gray (5Y 7/1) VITRIC SANDY PUMICEOUS GRAVEL with maximum clast diameters of 2 cm and mean matrix grains 0.2 cm in size. The remaining 8% of the core is olive gray (5Y 4/2) NANNOFOSSIL-RICH SILTY CLAY.

---

**TEXTURE:**

<table>
<thead>
<tr>
<th>Sand</th>
<th>Silt</th>
<th>Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**COMPOSITION:**

- Clay
- Diatoms
- Feldspar
- Foraminifers
- Glass
- Lithic fragments
- Mica
- Micrite
- Nannofossils
- Opaques
- Oxide
- Pyroxene
- Radiolarians
- Spicules
- Zeolite

---

**DRILLING DISTURBANCE**

**SAMPLES**

---

**QUATERNARY**

**N23**

**A/G**

**CN15**

**UPPER PLIOCENE - RECENT**
SITE 790 HOLE B CORE 8H CORED INTERVAL 61.5-71.3 mbsf

LITHOLOGIC DESCRIPTION

VITRIC SILT AND NANNFOSSIL RICH SILTY CLAY

Major lithologies:
VITRIC SILT in varying shades of gray to black (5Y 4/1, 3/1, 6/2, 5YR 2/1, N2), in beds 20-108 cm thick, makes up 41% of the core. Most (33%) of the remaining core consists of olive gray (5Y 4/2) NANNFOSSIL RICH SILTY CLAY beds 6-58 cm thick, some containing dispersed vitric ash grains.

Minor lithologies:
A light gray (5Y 7/1) granule-pebble VITRIC PUMICEOUS GRAVEL with maximum clast sizes of 3.5 cm comprises the top 14% of the core. Black (5Y 3/2, 2/1) VITRIC SAND beds from a few millimeters to 42 cm thick constitute 11% of the recovered core. Graded bedding and laminae occur in places in the sandy and silty intervals.

SMEAR SLIDE SUMMARY (%):

<table>
<thead>
<tr>
<th>Component</th>
<th>3.103</th>
<th>4.27</th>
<th>6.62</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay</td>
<td>51</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Diatoms</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Foraminifera</td>
<td>29</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Glass</td>
<td>-</td>
<td>15</td>
<td>94</td>
</tr>
<tr>
<td>Lithic fragments</td>
<td>-</td>
<td>15</td>
<td>86</td>
</tr>
<tr>
<td>Micrite</td>
<td>35</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Nannofossils</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Oxide</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pyrite</td>
<td>-</td>
<td>10</td>
<td>90</td>
</tr>
<tr>
<td>Radiolarians</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Silicoflagellates</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Spicules</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TIME</td>
<td>SITE</td>
<td>HOLE</td>
<td>W</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>------</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**LITHOLOGIC DESCRIPTION**

**VITRIC SILT AND VITRIC SAND**

Major Lithologies:
- Light olive gray (5Y 5/2) VITRIC SILT comprises 81% of the core, most of it in the uppermost 240 cm layer. Other beds of VITRIC SILT are 14 to 90 cm thick. The lowermost bed contains fine sandy laminations. Black (5Y 3/2) VITRIC SAND beds, 10-29 cm thick, are interbedded with the silts in the lower part of the core.

**SMEAR SLIDE SUMMARY (%):**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Sand</th>
<th>Silt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>95</td>
<td>5</td>
</tr>
</tbody>
</table>

**COMPOSITION:**

<table>
<thead>
<tr>
<th>Component</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feldspar</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Glass</td>
<td>98</td>
<td>95</td>
</tr>
<tr>
<td>LRPF fragments</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Pyroxene</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Diatom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foraminifers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiolarians</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**SAMPLE**

**GRAPHIC LITHOLOGY**

**DRILLING DISTURBANCE**

**SEO STRUCTURES**

**INTERVAL 71.3-81.0 mbsf**

**SAMPLES**

**CORE SECTION**

**PALEOMAGNETICS**

**PHYSICAL PROPERTIES**

**CHEMISTRY**

**PALYNOPHYTE**

**Fossil Character**: Quaternary

**Fossil Assemblages**: Foraminifera, Nannofossils, Radiolarians, Diatoms

**Core**

**9H CORED INTERVAL**: 71.3-81.0 mbsf

---

**TEXTURE**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Sand</th>
<th>Silt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>95</td>
<td>5</td>
</tr>
</tbody>
</table>

---

**COMPOSITION**

<table>
<thead>
<tr>
<th>Component</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feldspar</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Glass</td>
<td>98</td>
<td>95</td>
</tr>
<tr>
<td>LRPF fragments</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Pyroxene</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Diatom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foraminifers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiolarians</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**SITE 790 HOLE B CORE 10H CORED INTERVAL 81.0-90.7 mbsf**

**LITHOLOGIC DESCRIPTION**

<table>
<thead>
<tr>
<th>Major Lithologies:</th>
</tr>
</thead>
<tbody>
<tr>
<td>VITRIC PUMICEOUS GRAVEL, VITRIC SAND and VITRIC SILT</td>
</tr>
</tbody>
</table>

- **Major lithologies:**
  - The top 445 cm (55%) of the core is light olive gray, olive gray, gray, and black (5Y 5/2, 5/1, 4/1, 3/2) VITRIC PUMICEOUS GRAVEL. Gray, olive gray and black (5Y 5/1, 4/1, 3/2) VITRIC SAND beds comprise 27% of the core, and dark gray (5Y 4/1) VITRIC SILT beds 19% of the core.

- **Minor lithology:** Dark olive gray (5Y 3/2) SILTY CLAY occurs in thin beds near the top of Section 5.

**SMAR SLIDE SUMMARY & THIN SECTIONS (%):**

| 2.120 | 5.670 | 6.220 | 6.135 | CC | 0 | 0 | 0 | 0 | M |

**TEXTURE:**

<table>
<thead>
<tr>
<th>Sand</th>
<th>100</th>
<th>90</th>
<th>100</th>
<th>95</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay</td>
<td>—</td>
<td>10</td>
<td>—</td>
<td>5</td>
<td>77</td>
</tr>
</tbody>
</table>

**COMPOSITION:**

- Accessory minerals
- Basalt
- Clay
- Dolomite
- Feldspar
- Fragments
- Glass
- Incessoids
- Lithic fragments
- Montane
- Nannofossils
- Pyroclastic
- Rock fragments
- Spicules

- Tr: Trace
- CC: Clayey

**TABLE:**

<table>
<thead>
<tr>
<th>Component</th>
<th>2.120</th>
<th>5.670</th>
<th>6.220</th>
<th>6.135</th>
<th>CC</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>95</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay</td>
<td>—</td>
<td>10</td>
<td>—</td>
<td>5</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**GRAPHIC LITHOLOGY:**

- **TIME-ROCK UNIT:**
- **BIOSTRAT. ZONE/PERIOD:**
- **PALEOMAGNETIC:**
- **PHYS. PROPERTIES:**
- **SECTION:**
- **METERS:**

**SAMPLING:**

- **SAMPLES:**

**GRID:**

- **SYSTEMS:**
- **SAMPLES:**

**DIAGRAM:**

- **SECTION:**
- **METERS:**
- **SAMPLES:**

**TEXT:**

- **TEXTURE:**
- **COMPOSITION:**

**TABLE:**

<table>
<thead>
<tr>
<th>Component</th>
<th>2.120</th>
<th>5.670</th>
<th>6.220</th>
<th>6.135</th>
<th>CC</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>95</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay</td>
<td>—</td>
<td>10</td>
<td>—</td>
<td>5</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**GRAPHIC LITHOLOGY:**

- **TIME-ROCK UNIT:**
- **BIOSTRAT. ZONE/PERIOD:**
- **PALEOMAGNETIC:**
- **PHYS. PROPERTIES:**
- **SECTION:**
- **METERS:**

**SAMPLING:**

- **SAMPLES:**

**DIAGRAM:**

- **SECTION:**
- **METERS:**
- **SAMPLES:**

**TEXT:**

- **TEXTURE:**
- **COMPOSITION:**

**TABLE:**

<table>
<thead>
<tr>
<th>Component</th>
<th>2.120</th>
<th>5.670</th>
<th>6.220</th>
<th>6.135</th>
<th>CC</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>95</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay</td>
<td>—</td>
<td>10</td>
<td>—</td>
<td>5</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**GRAPHIC LITHOLOGY:**

- **TIME-ROCK UNIT:**
- **BIOSTRAT. ZONE/PERIOD:**
- **PALEOMAGNETIC:**
- **PHYS. PROPERTIES:**
- **SECTION:**
- **METERS:**

**SAMPLING:**

- **SAMPLES:**

**DIAGRAM:**

- **SECTION:**
- **METERS:**
- **SAMPLES:**

**TEXT:**

- **TEXTURE:**
- **COMPOSITION:**

**TABLE:**

<table>
<thead>
<tr>
<th>Component</th>
<th>2.120</th>
<th>5.670</th>
<th>6.220</th>
<th>6.135</th>
<th>CC</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>95</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay</td>
<td>—</td>
<td>10</td>
<td>—</td>
<td>5</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**GRAPHIC LITHOLOGY:**

- **TIME-ROCK UNIT:**
- **BIOSTRAT. ZONE/PERIOD:**
- **PALEOMAGNETIC:**
- **PHYS. PROPERTIES:**
- **SECTION:**
- **METERS:**

**SAMPLING:**

- **SAMPLES:**

**DIAGRAM:**

- **SECTION:**
- **METERS:**
- **SAMPLES:**

**TEXT:**

- **TEXTURE:**
- **COMPOSITION:**

**TABLE:**

<table>
<thead>
<tr>
<th>Component</th>
<th>2.120</th>
<th>5.670</th>
<th>6.220</th>
<th>6.135</th>
<th>CC</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>95</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay</td>
<td>—</td>
<td>10</td>
<td>—</td>
<td>5</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
VITRIC SILT AND VITRIC SAND

Major lithologies:
Gray (N6), homogeneous VITRIC SILT and VITRIC SAND containing only several percent of clay make up 93% of the core.

Minor lithologies:
The two less abundant lithologies occur only in Section 1. These are light gray and gray (N7, N1) CLAY and greenish gray SILTY CLAY that respectively constitute only 5% and 2% of the core.

SMEAR SLIDE SUMMARY (%):

<table>
<thead>
<tr>
<th>Sand</th>
<th>Silt</th>
<th>Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>40</td>
<td>0</td>
</tr>
</tbody>
</table>

TEXTURE:

<table>
<thead>
<tr>
<th>Sand</th>
<th>Silt</th>
<th>Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>40</td>
<td>0</td>
</tr>
</tbody>
</table>

COMPOSITION:

<table>
<thead>
<tr>
<th>Accessory minerals</th>
<th>Clay</th>
<th>Glass</th>
<th>Quartz</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Accessory minerals: Diatoms, Nannofossils.
<table>
<thead>
<tr>
<th>TIME-AGE</th>
<th>FOSSIL CHARACTER</th>
<th>GRAPHIC</th>
<th>LITHOLOGY</th>
<th>LITHOLOGIC DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>QNAME</td>
<td>QNAME</td>
<td>QNAME</td>
<td>QNAME</td>
<td>QNAME</td>
</tr>
</tbody>
</table>

**126 790B 14X NO RECOVERY**

**SITE 790 HOLE B CORE 15X CORED INTERVAL 129.3-138.9 mbsf**

- **LITHOLOGIC DESCRIPTION**
  - Nanofossil-rich vitric silty clay and vitric sand

**Major lithologies:**
- Medium gray (N5), structureless nanofossil-rich vitric silty clay, and medium gray (N6), fine vitric sand.
VITRIC SILT, VITRIC SAND AND SILTY CLAY

Major lithologies:
- Dark gray (5Y 4/1) VITRIC SILT, interbedded with the other lithologies in the upper part of the core, and comprising the basal 10 cm of the core, is 48% of the recovery. Dark gray (5Y 4/1) and black (5Y 3/2, 2/1) VITRIC SAND is 25% of the core. Greenish black (5GY 2/1) and dark gray (5Y 4/1) SILTY CLAY, its silt content mainly glass, makes up 15% of the recovery.

Minor lithology: The uppermost unit, 80 cm thick (8% of recovery), is a light olive gray (5Y 5/2) VITRIC PUMICEOUS GRAVEL with maximum clast sizes of 1 cm. Planar laminations occur in some of the sandy and silty units, and isolated pumice clasts were noted in two places.

SMIRK SLIDE SUMMARY (%):

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>133</th>
<th>4</th>
<th>71</th>
<th>5</th>
<th>7</th>
<th>5</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silt</td>
<td>50</td>
<td>85</td>
<td>80</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay</td>
<td>25</td>
<td>1</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TEXTURE:
- Clay
- Diatoms
- Feldspar
- Foraminifers
- Glass
- Lithic fragments
- Mica
- Nannofossils
- Opaque
- Pyrite
- Radiolaria

COMPOSITION:
SITE 790 HOLE C
CORE 3H
CORED INTERVAL 104.2-113.9 mbsf

LITHOLOGY

Major lithology: Medium gray (N5) structureless very fine VITRIC SILT, reduced to soupy consistency by severe drilling disturbance.

SMEAR SLIDE SUMMARY (%):

- **TEXTURE:** Sand 5, Silt 95
- **COMPOSITION:** Feldspar 2, Glass 93, Inorganic calcite 2, Pyroxene 1, Quartz 2, Other 133

LITHOLOGIC DESCRIPTION

- Medium gray (N5) structureless very fine VITRIC SILT, reduced to soupy consistency by severe drilling disturbance.
SITE 790 HOLE C CORE 2H CORED INTERVAL 94.5-104.2 mbsf

LITHOLOGIC DESCRIPTION

VITRIC SILT

Major lithology: The entire core is badly disturbed by drilling. Its upper half soupy. It consists of gray (5Y 6/1) VITRIC SILT.

SMER SLIDE SUMMARY (%):

<table>
<thead>
<tr>
<th>Clay</th>
<th>4,70</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>70</td>
</tr>
</tbody>
</table>

TEXTURE:

Silt  2
Silt  2
Clay  3

COMPOSITION:

Clay  3
Feldspar Ti
Foraminifers Ti
Glass  27
Nannofossils Ti
**Lithologic Description**

Pumiceous Very Coarse Sand and Pumiceous Sandy Granule Gravel

Major lithology: Generally structureless transitional units between Pumiceous Very Coarse Sand, rich in granules, and Pumiceous Sandy Granule Gravel. Color is generally light olive gray (5Y 6/1), except for scoria-rich intervals that are medium gray (N5). Pumice clasts are light gray (N7). Besides pumice, all sediment contains about 10% scoria grains. Some intervals have poorly developed textural or compositional banding, with the darker laminae being richer in scoria grains.
**SITE 790 HOLE C**
**CORE 5H**
**CORED INTERVAL 123.5-133.2 mbsf**

### Lithologic Description

**VITRIC SAND, VITRIC CLAYEY Silt, and NANNOFOSIL-RICH GRANULE-BEARING VITRIC CLAYEY Silt**

Major lithologies:
- Medium gray (N4) to medium light gray (N5) granule-rich locally laminated VITRIC SAND occurs in the upper part of the core. The middle-lower part of the core is characterized by the interbedding of graded layers of grayish black (N2) medium to fine SAND passing upward into graded dark gray (N3) VITRIC CLAYEY Silt, and to beds of burrowed olive (5Y 5/3) NANNOFOSIL-RICH GRANULE-BEARING VITRIC CLAYEY Silt. Dusky green (5G 3/2) laminae composed of ash, 1 to 10 mm thick, occur locally.

### Smear Slide Summary (%):

<table>
<thead>
<tr>
<th></th>
<th>3.76</th>
<th>4.112</th>
<th>6.78</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>D</td>
<td>D</td>
<td></td>
</tr>
</tbody>
</table>

### Texture:

<table>
<thead>
<tr>
<th></th>
<th>Si</th>
<th>Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>51</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>49</td>
<td></td>
</tr>
</tbody>
</table>

### Composition:

- **Accessory minerals**: 2 2 2
- **Clay**: 37 41
- **Foraminifers**: 1 2
- **Glass**: 50 95 50
- **Inorganic calcite**: 1
- **Nannofossils**: 1
- **Pyroxene**: 2
- **Quartz**: 1 2 2
- **Radiolarians**: 3
- **Silicoflagellates**: 7
- **Spicules**: 1
**SITE 790 HOLE C**

**CORE 6H**

**CORED INTERVAL 133.2-142.7 mbsf**

**LITHOLOGIC DESCRIPTION**

**PUMICEOUS SAND, NANNOFOSIL-RICH SILTY CLAY, VITRIC SILTY CLAY AND CRYSTAL-VITRIC SAND**

Major lithologies:
- Section 1: 0 cm to Section 2: 30 cm, consists of a graded bed of dark gray (5Y 4/1) PUMICEOUS SAND. The rest of the core consists of triplets of medium to fine, dark gray (5Y 6/1) CRYSTAL-VITRIC SAND, structureless gray (5Y 6/1) VITRIC SILTY CLAY, and burrowed, grayish-green (5G 4/1) NANNOFOSIL-RICH SILTY CLAY with scattered grains of sand to pebble-sized pumice. The burrows are marked by darker color: dark greenish gray (5G 4/1) in Section 5, 20-47 cm, a bed of crystal sand contains clinopyroxene and orthopyroxene, very fresh glass.

**SMEAR SLIDE SUMMARY (%):**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Section 1</th>
<th>Section 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Silica</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Clay</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

**TEXTURE:**
- Sand
- Silica
- Clay

**COMPOSITION:**
- Accessory minerals: 7%
- Clay: 24%
- Diatoms: 6%
- Feldspar: 1%
- Glass: 70%
- Pyroxene: 2%
- Quartz: 5%
- Radiolarians: 5%
<table>
<thead>
<tr>
<th>QUaternary</th>
<th>TIME-ROCK UNIT</th>
<th>FORAMINIFERS</th>
<th>NANNOFossils</th>
<th>RADiOLARIANS</th>
<th>DIATOMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>N23</td>
<td>A/G CN15</td>
<td>N23</td>
<td>N23</td>
<td>N23</td>
<td>N23</td>
</tr>
<tr>
<td>R/G</td>
<td>UPPER PLIOCENE-RECENT</td>
<td>R/G UPPER PLIOCENE-RECENT</td>
<td>R/G UPPER PLIOCENE-RECENT</td>
<td>R/G UPPER PLIOCENE-RECENT</td>
<td>R/G UPPER PLIOCENE-RECENT</td>
</tr>
</tbody>
</table>

**PALeomAGNETICs**

- T1: 1.52
- T2: 3.0

**PHYS. PROPERTIES**

**CHEMISTRY**

**SECTION**

**LITHOLOGY**

**DRILLING DISTURB.**

**SED. STRUCTURES**

**SAMPLES**

**Core Section 142.7-145.7 mbsf**

Major lithologies:

- **VITRIC SILT AND VITRIC-CRYSTAL SAND**
  
  Light olive gray (5Y 5/2) very fine VITRIC SILT passing upward into light olive gray (5Y 5/2) VITRIC CRYSTAL SAND. The sediment is structureless, reduced to soupy condition by severe drilling disturbance.
Major lithology: Light olive gray (5Y 5/2) vitric sand. In the basal part of the core, the sand is dark gray (7N) in color. The lack of structures is the result of severe drilling disturbance.
<table>
<thead>
<tr>
<th>TIME-ROCK UNIT</th>
<th>FOSSIL CHARACTER</th>
<th>PALEOMAGNETICS</th>
<th>PALEONANOMALIES</th>
<th>CHEMISTRY</th>
<th>PHYS. PROPERTIES</th>
<th>GRAPHIC LITHOLOGY</th>
<th>LITHOLOGIC DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUATERNARY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NANNOFOSIL-RICH CLAY</td>
</tr>
<tr>
<td>F/G UPPER PLEISTOCENE-RECENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Major lithology: Medium dark gray (N4) NANNOFOSIL-RICH CLAY, very disturbed by drilling.</td>
</tr>
</tbody>
</table>

SITE 790 HOLE C
CORE 10X
CORED INTERVAL 164.9-174.6 mbsf

126 790C 9X NO RECOVERY
The core consists dominantly of light olive gray (5Y 5/2) burrowed NANNOFOSIL-RICH GRANULE-BEARING CRYSTAL VITRIC CLAYEY SILT. Granules are scattered and consist of scoria and pumice. Thin graded beds of very light gray (N8) and dark gray (N3) VITRIC SAND with erosional bases occur locally and pass upward with a sharp contact to graded vitric silt.

SMER Slide SUMMARY (%):

<table>
<thead>
<tr>
<th>Composition</th>
<th>Silt</th>
<th>Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td>70</td>
<td>30</td>
</tr>
<tr>
<td>Accessory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay minerals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fossil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiolarians</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quartz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pyrite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opaque</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TEXTURE:

<table>
<thead>
<tr>
<th>Silt</th>
<th>Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>M</td>
</tr>
</tbody>
</table>

Major lithologies:
NANNOFOSIL-RICH GRANULE-BEARING CRYSTAL VITRIC CLAYEY SILT, AND VITRIC SAND.
NANNI FOSSIL-RICH SILTY CLAY, NANNI FOSSIL-RICH CLAYEY Silt, and VITRIC Silt

Major lithologies:
- Olive (5Y 6/1) NANNI FOSSIL-RICH SILTY CLAY and NANNI FOSSIL-RICH CLAYEY Silt, their silt contents largely glass, make up 66% of the core. They are interbedded with olive and olive black (5Y 4/1, 2/1) VITRIC Silt (20% of core).
- Minor lithology: Olive black (5Y 2/1) VITRIC SAND, comprises 14% of the core, as 2-6 cm interbeds with the major lithologies, and as thicker layers in the bottom of the core.

SMEAR SLIDE SUMMARY (%):

<table>
<thead>
<tr>
<th>Texture</th>
<th>1.44</th>
<th>1.56</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Silt</td>
<td>93</td>
<td>0</td>
</tr>
<tr>
<td>Clay</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

COMPOSITION:
- Clay 81
- Fossil 5
- Foraminifers 2
- Glass 95
- Mica 2
- Nannofossils 15
- Pyrite 1

LITHOLOGIC DESCRIPTION

- NANNI FOSSIL-RICH SILTY CLAY, NANNI FOSSIL-RICH CLAYEY Silt, and VITRIC Silt make up 66% of the core. They are interbedded with olive and olive black (5Y 4/1, 2/1) VITRIC Silt (20% of core).
- Minor lithology: Olive black (5Y 2/1) VITRIC SAND, comprises 14% of the core, as 2-6 cm interbeds with the major lithologies, and as thicker layers in the bottom of the core.
SITE 790 HOLE C  
CORE 13X  
CORED INTERVAL 193.9-203.6 mbsf  

LITHOLOGIC DESCRIPTION  
NAMMFOSSIL CLAY  
Major lithology: Gray, olive, olive gray, and very dark gray (5Y 6/1, 4/3, 4/2, 3/1) NANNOFOSIL CLAY comprises 85% of the core.  
Minor lithologies:  
Gray (5Y 5/1) CLAYEY VITRIC SILT is 8% of the core. Thin interbeds of olive black (5Y 2/1) VITRIC SILT and VITRIC SAND also occur.  

SMEAR SLIDE SUMMARY (%):  
1, 5 D  

TEXTURE:  
Sand 5  
Silt 20  
Clay 75  

COMPOSITION:  
Clay 73  
Diatoms —  
Feldspar 2  
Foraminifers Tr  
Glass 20  
Micrite  
Nannofossils Tr  
Opaques  
Silicoflagellates —  
Spicules —  
1, 59 1, 130 3, 74  

THE EVIDENCE OF OLCCS
### Nanofossil Clay and Nanofossil-Rich Clay

**Major lithology:** Dark gray (5Y 4/1) Nanofossil Clay and Nanofossil-Rich Clay.

**Minor lithologies:**
- A 7-cm thick layer of gray (5Y 5/1) Vitric Silt occurs at the top of the core and a 1-cm thick layer is found in the middle of Section 1. Near the bottom of Section 2 is a 3-cm layer of dark gray (5Y 4/1) scoriaceous Gravel overlain by 4 cm of fine Sand, also scoriaceous.

#### Drilling Disturbances

- Sed. Structures
- Samples

#### Lithologic Description

<table>
<thead>
<tr>
<th>TECHE</th>
<th>CUMBERLAND</th>
<th>COMPOSITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>Clay</td>
<td>Silt</td>
</tr>
</tbody>
</table>

#### Nanofossil Clay Summary (%):

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>2.41</td>
</tr>
<tr>
<td>Silt</td>
<td>2.13</td>
</tr>
<tr>
<td>Clay</td>
<td>1.00</td>
</tr>
</tbody>
</table>

#### Accessory Minerals

- Clay
- Diatoms
- Feldspar
- Foraminifers
- Glass
- Lithic Fragments
- Micrite
- Nannofossils
- Opaques
- Radiolarians
- Silicoflagellates
- Spicules
### Lithologic Description

**VITRIC SAND AND NANNOFOSIL CLAY**

Major lithologies:
The 39 cm of recovered sediment consists of 23 cm (59%) of olive black (5Y 2/1) VITRIC SAND interbedded with 16 cm (41%) of dark gray (5Y 4/1) NANNOFOSIL CLAY.

**Smear Slide Summary (%)**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
<td>CO.3</td>
<td>D</td>
</tr>
</tbody>
</table>

**Texture:**
- Sand: 65
- Silt: 15
- Clay: 20

**Composition:**
- Accessory minerals: 3
- Clay: 42
- Feldspars: 1
- Foraminifers: 1
- Glass: 10
- Mull: 2
- Nannofossils: 40
- Radiolarians: 1
- Silicoflagellates: 2

---

**Graphic Lithology**

[Diagram showing graphic lithology]

---

**Core Interval:**

SITE 790 CORE 15X CORED INTERVAL 213.2-222.8 mbsf
**SITE 790 HOLE C**

**CORE 16X**

**CORER INTERVAL 222.8-232.4 mbsf**

**LITHOLOGIC DESCRIPTION**

**NANOFOSIL CLAY AND NANOFOSIL-RICH CLAY**

Major lithology: Dark gray (5Y 4/1), gray (5Y 5/1) and very dark gray (5Y 3/1) NANNOFOSIL CLAY and NANNOFOSIL-RICH CLAY.

Minor lithologies: Gray, dark gray and black (5Y 5/1, 4/1, 3/2) VITRIC SAND and VITRIC SILT, in layers 3-5 cm thick, occur at 5 levels in the core.

**TEXTURE:**
- Sand
- Silt
- Clay

**COMPOSITION:**
- Bioclast
- Clay
- Diatoms
- Feldspar
- Foraminifers
- Glass
- Lithic fragments
- Micrite
- Nannofossils
- Opaques
- Pyroxene
- Radiolarians
- Silicoflagellates
- Spicules

**SMEAR SLIDE SUMMARY (%):**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Sand</th>
<th>Silt</th>
<th>Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,70</td>
<td>5,65</td>
<td>5,12</td>
<td>6,19</td>
</tr>
<tr>
<td>1,81</td>
<td>1,102</td>
<td>1,125</td>
<td>2,11</td>
</tr>
<tr>
<td>2,37</td>
<td>2,130</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CHEMISTRY**

- NCaCO<sub>3</sub> = 13.5
- NCaCO<sub>3</sub> = 53.9
- NCaCO<sub>3</sub> = 18.0
- NCaCO<sub>3</sub> = 31.4
- NCaCO<sub>3</sub> = 46.9
- NCaCO<sub>3</sub> = 2.4

**PALOMAGNETICS**

- NRM / ARM
- OI / TMI
- AF / AF

**PHYS. PROPERTIES**

- Dens.
- Poros.
- Permeability

**DIATOMS**

- SUMM.
- FRAG.
- RIES.

**DIATOMS SUMMARY**

<table>
<thead>
<tr>
<th>Fraction</th>
<th>SUMM.</th>
<th>FRAG.</th>
<th>RIES.</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>60</td>
<td>7</td>
<td>60</td>
</tr>
<tr>
<td>30</td>
<td>50</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>25</td>
<td>40</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>35</td>
<td>55</td>
<td>5</td>
<td>55</td>
</tr>
<tr>
<td>40</td>
<td>60</td>
<td>6</td>
<td>60</td>
</tr>
<tr>
<td>50</td>
<td>70</td>
<td>7</td>
<td>70</td>
</tr>
</tbody>
</table>

**QUATERNARY**

**TIME-ROCK UNIT**

- N29
- CN14a
- A/G
- A/G

**R/M**

- UPPER PLIOCENE - PLEISTOCENE
**SITE 790 HOLE C CORE 17X CORED INTERVAL 232.4-242.1 mbsf**

**Biostat. Zone/Fossil Character**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nanofossil-rich vitric clay, and Nanofossil vitric clay</td>
</tr>
</tbody>
</table>

**Lithologic Description**

**Major Lithologies:**
- Gray (5Y 5/1) and olive gray (5Y 4/2) Nanofossil-rich vitric clay (5Y 4/2) occurs from Section 1, 0-130 cm and from Section 1, 145 cm to Section 6, 75 cm.

**Minor Lithologies:**
- Dark gray (5Y 4/1) Nanofossil vitric clayey silt occurs from Section 8, 75 cm to the base of the core-catcher.
- Dark gray (5Y 4/1) Vitric sandy silt occurs in Section 1, 130-165 cm.
- Three 1-2 cm beds of olive black (5Y 2/1), olive gray (5Y 4/2), and very dark gray (5Y 3/1) Vitric sandy silt occur at the base of Section 7.

**Smear Slide Summary (%):**

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
<th>1.5</th>
<th>3</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>20</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Silt</td>
<td>98</td>
<td>90</td>
<td>55</td>
<td>55</td>
</tr>
</tbody>
</table>

**Composition:**

- Accessory minerals: Tr — — — Tr
- Clay: 20 35 40 52
- Diatom: — 5 Tr —
- Foraminifera: 7 1 1 1
- Foraminifera: Tr 1 — —
- Glass: 61 26 50 15
- Lithic fragments: Tr — — —
- Micrite: 7 2 2
- Nanobeds: 2 25 6 30
- Opalites: 3 2 2
- Radiolarians: — — Tr Tr
- Silicoflagellates: — 2 1
- Spicules: — 1 Tr —
LITHOLOGIC DESCRIPTION

NANNOFOSSIL-RICH GRANULE-BEARING CLAYEY SILT, AND FORAMINIFER-NANNOFOSSIL-RICH CLAYEY SILT.

Major lithologies:
Light olive gray (5Y 5/2) NANNOFOSSIL-RICH GRANULE-BEARING CLAYEY SILT, burrowed, with scattered granules of pumice and scoria, and light olive gray (5Y 6/1) burrowed FORAMINIFER-NANNOFOSSIL-RICH CLAYEY SILT.

SMEAR SLIDE SUMMARY (%):
3.55 4.122
D D

TEXTURE:
Silt 60 70
Clay 40 30

COMPOSITION:
Accessory minerals 1 1
Clay 38 27
Feldspar 1 —
Foraminifers 2 —
Glass 54 70
Opaques 1 —
Pyroxene — 1
Quartz 1 —
Radiolarians 2 —
**Lithologic Description**

- **NANNOFOSSIL SILTY CLAY**
  - Major lithology: The core consists mainly of olive-gray (5Y 4/2) NANNOFOSSIL SILTY CLAY.
  - Minor lithologies:
    - A 61-cm layer of dark gray (N3), grayish black (N2), and olive black (5Y 2/1) PUMICEOUS SANDY GRANULE GRAVEL spans Sections 4 and 5. Ten thin layers (0.3-8 cm thick) of olive-gray (5Y 4/2) and gray (5Y 5/1) VITRIC SILT, VITRIC SANDY SILT, NANNOFOSSIL-RICH VITRIC CLAYEY SILT, and NANNOFOSSIL-RICH SANDY MUD occur at various levels in the core. These are glass (ash) layers that bioturbation has mixed in varying degrees with the overlying and underlying sediments.

**SMEAR SLIDE SUMMARY (%):**

<table>
<thead>
<tr>
<th>TEXTURE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>3</td>
<td>3</td>
<td>35</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Silt</td>
<td>72</td>
<td>57</td>
<td>12</td>
<td>60</td>
<td>10</td>
</tr>
<tr>
<td>Clay</td>
<td>2</td>
<td>72</td>
<td>3</td>
<td>25</td>
<td>20</td>
</tr>
</tbody>
</table>

**COMPOSITION:**

<table>
<thead>
<tr>
<th>Accessory minerals</th>
<th>Clay</th>
<th>Feldspar</th>
<th>Glass</th>
<th>Inorganic calcite</th>
<th>Nannofossils</th>
<th>Opal</th>
<th>Pyrite</th>
<th>Radiolarians</th>
<th>Spicules</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tr</td>
<td>1</td>
<td>15</td>
<td>2</td>
<td>79</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**SMEAR SLIDE SUMMARY (%):**

- **TEXTURE:**
  - Sand: 20
  - Silt: 65
  - Clay: 15

**COMPOSITION:**

- Accessory minerals: 1
- Clay: 15
- Feldspar: 2
- Glass: 79
- Nannofossils: 1
- Opal: 2
**SITE 790 HOLE C CORE 20X CORED INTERVAL 261.4-271.1 mbsf**

**LITHOLOGIC DESCRIPTION**

<table>
<thead>
<tr>
<th>SAMPLE</th>
<th>LITHOLOGY</th>
<th>GRAPHIC LITHOLOGY</th>
<th>INSTRUMENTED BORING UNITS</th>
<th>REDUCED STRUCTURES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NANNOFOSIL-RICH SILTY CLAY NANNOFOSIL-RICH SANDY MUD</td>
<td><img src="image" alt="Graph" /></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Major Lithologies:**

- Section 1, 0 cm to Section 2, 43 cm, and Section 3, 150 cm, to Section 4, 31 cm, consists of burrowed, grayish green (5GY 6/1) NANNOFOSIL-RICH SILTY CLAY with scattered sand- and pebble-sized clasts of gray (N6) pumice. The remainder of the core, except for the core catcher, consists of gray NANNOFOSIL-RICH SANDY MUD, with gray pumice clasts up to 0.5 cm in diameter, and including the pumice clasts, mottled in colors of grayish green (5GY 6/1, 10GY 5/2) and grayish yellow green (5GY 7/2), apparently due to in situ alteration.

**Minor Lithologies:**

- In the core catcher, SANDY SILT coarsens downward to a gritty, gray (5Y 6/1) SAND with dark scoria laminae (CC, 28-34 cm). This sand rests with apparent conformity on grayish black (N2) unconsolidated, SCORIACEOUS LAPILLI TUFF.

**SMEAR SLIDE SUMMARY (%):**

- **Texture:** Sand 2.00, Silt 3.58, Clay 3.46, Clay 3.50
- **Composition:**
  - Accessory minerals: 1
  - Detritus: 1
  - Epiphyte: 1
  - Fe oxide: 1
  - Feldspar: 1
  - Quartz: 1
  - Goethite: 1
  - Mica: 1
  - Nannofossils: 1
  - Opaque: 1
  - Quartz: 1
  - Radiolarians: 1
  - Accessory minerals: 1
  - Diatoms: 1
  - Accessory minerals: 1
  - Micrite: 1
  - Nannofossils: 1
  - Opaque: 1
  - Quartz: 1

**SITE 790 HOLE C CORE 21X CORED INTERVAL 271.1-280.6 mbsf**

**LITHOLOGIC DESCRIPTION**

<table>
<thead>
<tr>
<th>SAMPLE</th>
<th>LITHOLOGY</th>
<th>GRAPHIC LITHOLOGY</th>
<th>INSTRUMENTED BORING UNITS</th>
<th>REDUCED STRUCTURES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All recovery went to the Paleontology and Igneous Petrology Laboratories</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SMEAR SLIDE SUMMARY (%):**

- **Texture:** Sand 126, Silt 79, Clay 32
- **Composition:**
  - Accessory minerals: 1
  - Detritus: 1
  - Epiphyte: 1
  - Fe oxide: 1
  - Feldspar: 1
  - Quartz: 1
  - Goethite: 1
  - Mica: 1
  - Nannofossils: 1
  - Opaque: 1
  - Quartz: 1
  - Radiolarians: 1
  - Accessory minerals: 1
  - Diatoms: 1
  - Accessory minerals: 1
  - Micrite: 1
  - Nannofossils: 1
  - Opaque: 1
  - Quartz: 1

**SITE 790 HOLE C CORE 22X CORED INTERVAL 280.6-290.6 mbsf**

**LITHOLOGIC DESCRIPTION**

<table>
<thead>
<tr>
<th>SAMPLE</th>
<th>LITHOLOGY</th>
<th>GRAPHIC LITHOLOGY</th>
<th>INSTRUMENTED BORING UNITS</th>
<th>REDUCED STRUCTURES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All recovery went to the Paleontology and Igneous Petrology Laboratories</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SMEAR SLIDE SUMMARY (%):**

- **Texture:** Sand 126, Silt 79, Clay 32
- **Composition:**
  - Accessory minerals: 1
  - Detritus: 1
  - Epiphyte: 1
  - Fe oxide: 1
  - Feldspar: 1
  - Quartz: 1
  - Goethite: 1
  - Mica: 1
  - Nannofossils: 1
  - Opaque: 1
  - Quartz: 1
  - Radiolarians: 1
  - Accessory minerals: 1
  - Diatoms: 1
  - Accessory minerals: 1
  - Micrite: 1
  - Nannofossils: 1
  - Opaque: 1
  - Quartz: 1
### Site 790 Hole C Core 23X Cored Interval 290.2-299.9 mbsf

<table>
<thead>
<tr>
<th>Time-Seq Unit</th>
<th>Formation</th>
<th>Sub-Formation</th>
<th>Paleomagnetism</th>
<th>Paleomagnetic Polarity</th>
<th>Graphic Lithology</th>
<th>Drilling Disturbance</th>
<th>geo Structures</th>
<th>Samples</th>
<th>Lithologic Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quaternary</td>
<td>RJP / C1497</td>
<td>Paleontology and Igneous Laboratory</td>
<td>All recovery went to the Paleontology and Igneous Laboratory.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Site 790 Hole C Core 24X Cored Interval 299.9-309.5 mbsf

<table>
<thead>
<tr>
<th>Time-Seq Unit</th>
<th>Formation</th>
<th>Sub-Formation</th>
<th>Paleomagnetism</th>
<th>Paleomagnetic Polarity</th>
<th>Graphic Lithology</th>
<th>Drilling Disturbance</th>
<th>geo Structures</th>
<th>Samples</th>
<th>Lithologic Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>All Recovery went to the Paleontology and Igneous Petrology Laboratories.</td>
</tr>
</tbody>
</table>

### Site 790 Hole C Core 25X Cored Interval 309.5-319.2 mbsf

<table>
<thead>
<tr>
<th>Time-Seq Unit</th>
<th>Formation</th>
<th>Sub-Formation</th>
<th>Paleomagnetism</th>
<th>Paleomagnetic Polarity</th>
<th>Graphic Lithology</th>
<th>Drilling Disturbance</th>
<th>geo Structures</th>
<th>Samples</th>
<th>Lithologic Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>All recovery went to the Igneous Petrology Laboratory.</td>
</tr>
</tbody>
</table>

126 790C 26X NO RECOVERY

### Site 790 Hole C Core 27X Cored Interval 328.2-338.5 mbsf

<table>
<thead>
<tr>
<th>Time-Seq Unit</th>
<th>Formation</th>
<th>Sub-Formation</th>
<th>Paleomagnetism</th>
<th>Paleomagnetic Polarity</th>
<th>Graphic Lithology</th>
<th>Drilling Disturbance</th>
<th>geo Structures</th>
<th>Samples</th>
<th>Lithologic Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>All recovery went to the Paleontology and Igneous Petrology Laboratories.</td>
</tr>
</tbody>
</table>

126 790C 28X NO RECOVERY

126 790C 29X NO RECOVERY

126 790C 30X NO RECOVERY
### Site 790 Hole C Core 32X Cored Interval 367.7-377.4 mbsf

<table>
<thead>
<tr>
<th>TIME-ROCK UNIT</th>
<th>FAULT/INTERPRETATION</th>
<th>FORMATION/SEDIMENTARY</th>
<th>ZONE/Fossil Character</th>
<th>FOSSILS</th>
<th>MICROPALEO</th>
<th>CHEMISTRY</th>
<th>LITHOLOGY</th>
<th>GRAPHIC LITHOLOGY</th>
<th>DRILLING DISTURB.</th>
<th>SAMPLES</th>
<th>LITHOLOGIC DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUATERNARY</td>
<td></td>
<td>R.I. PLIOCENE - PLEISTOCENE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>All recovery went to the Paleontology and Igneous Petrology Laboratories.</td>
</tr>
</tbody>
</table>

### Site 790 Hole C Core 33X Cored Interval 377.4-387.1 mbsf

<table>
<thead>
<tr>
<th>TIME-ROCK UNIT</th>
<th>FAULT/INTERPRETATION</th>
<th>FORMATION/SEDIMENTARY</th>
<th>ZONE/Fossil Character</th>
<th>FOSSILS</th>
<th>MICROPALEO</th>
<th>CHEMISTRY</th>
<th>LITHOLOGY</th>
<th>GRAPHIC LITHOLOGY</th>
<th>DRILLING DISTURB.</th>
<th>SAMPLES</th>
<th>LITHOLOGIC DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUATERNARY</td>
<td></td>
<td>R.I. 46</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>All recovery went to the Paleontology and Igneous Petrology Laboratories.</td>
</tr>
</tbody>
</table>
UNIT 1: BASALT

Pieces 1-2

CONTACTS: None.

PHENOCRYSTS:
Olivine - 1%; 0.1-0.2 mm; euhedral, fresh.
Plagioclase - 5%; 0.1 mm; euhedral, fresh.
Cr-Spinel - <0.01%; <0.01 mm; euhedral, in olivine.

GROUNDMASS: Dark brown glass; translucent in smear slide.

VESICLES: 45%; 0.5-4 mm; round; even.

COLOR: Pale green-brown to very dark gray.

STRUCTURE: None.

ALTERATION: Glass to smectite in vesicles.

VEINS/FRACTURES: None.
UNIT 1: BASALT

Pieces 1-5

CONTACTS: None.

PHENOCRYSTS:
- Olivine - 1%; 0.1-0.2 mm; euhedral, fresh.
- Plagioclase - 5%; 0.1 mm; euhedral, fresh.
- Cr-Spinel - <0.01%; <0.01 mm; euhedral, in olivine.

GROUNDMASS: Dark brown glass, translucent in smear slide.

VESICLES: 45%; 0.5-4 mm; round; even.

COLOR: Pale green-brown to very dark gray.

STRUCTURE: None.

ALTERATION: Glass to smectite in vesicles.

VEINS/FRACTURES: None.
UNIT 1: BASALT

CONTACTS: None.

PHENOCRYSTS:
- Olivine - 1%; 0.1-0.2 mm; euhedral, fresh.
- Plagioclase - 5%; 0.1 mm; euhedral, fresh.
- Cr-Spinel - <0.01%; <0.01 mm; euhedral, in olivine.

GROUNDMASS: Dark brown glass, translucent in smear slide.

VESICLES: 45%; 0.5-4 mm; round; even.

COLOR: Pale green-brown to very dark gray.

STRUCTURE: None.

ALTERATION: Glass to smectite in vesicles.

VEINS/FRACTURES: None.
UNIT 1: BASALT

CONTACTS: None.

PHENOCRYSTS:
- Olivine - 1%; 0.1-0.2 mm; euhedral, fresh.
- Plagioclase - 5%; 0.1 mm; euhedral, fresh.
- Cr-Spinel - <0.01%; <0.01 mm; euhedral, in olivine.

GROUNDMASS: Dark brown glass, translucent in smear slide.

VESICLES: 45%; 0.5-4 mm; round; even.

COLOR: Pale green-brown to very dark gray.

STRUCTURE: None.

ALTERATION: Glass to smectite in vesicles.

VEINS/FRACTURES: None.
UNIT 1: BASALT

CONTACTS: None.

PHENOCRYSTS:
- Olivine - 1%; 0.1-0.2 mm; euhedral, fresh.
- Plagioclase - 5%; 0.1 mm; euhedral, fresh.
- Cr-Spinel - <0.01%; <0.01 mm; euhedral in olivine.

GROUNDMASS: Dark brown glass, translucent in smear slide.

VESICLES: 45%; 0.5-4 mm; round; even.

COLOR: Pale green-brown to very dark gray.

STRUCTURE: None.

ALTERATION: Glass to smectite in vesicles.

VEINS/FRACTURES: None.
UNIT 1: BASALT

CONTACTS: None.

PHENOCRYSTS:
- Olivine - 1%; 0.1-0.2 mm; euhedral, fresh.
- Plagioclase - 5%; 0.1 mm; euhedral, fresh.
- Cr-Spinel - <0.01%; <0.01 mm; euhedral, in olivine.

GROUNDMASS: Dark brown glass, translucent in smear slide.

VESICLES: 45%; 0.5-4 mm; round; even.

COLOR: Pale green-brown to very dark gray.

STRUCTURE: None.

ALTERATION: Glass to smectite in vesicles.

VEINS/FRACTURES: None.
UNIT 1: BASALT

PHENOCRYSTS:
- Olivine - 1%; 0.1-2; euhedral, fresh.
- Plagioclase - 5%; 0.1; euhedral, fresh.
- CR-Spinel - <0.01%; <0.01; euhedral, in olivine.

GROUNDMASS: Dark brown glass, translucent in smear slide.

VESICLES: 45%; 0.5-4 mm; round; even; none.

MIAROLICS: None.

COLOR: Pale green-brown to very dark gray.

ALTERATION: Glass to smectite in vesicles.
UNIT 1: BASALT

Pieces 1-4

CONTACTS: None.

PHENOCRYSTS:
- Olivine - 1%; 0.1-0.2 mm; euhedral, fresh.
- Plagioclase - 5%; 0.1 mm; euhedral, fresh.
- Cr-Spinel - <0.01%; <0.01 mm; euhedral, in olivine.

GROUNDMASS: Dark brown glass, translucent in smear slide.

VESICLES: 45%; 0.5-4 mm; round; even.

COLOR: Pale green-brown to very dark gray.

STRUCTURE: None.

ALTERATION: Glass to smectite in vesicles.

VEINS/FRACTURES: None.
UNIT 1: BASALT

Pieces 1-8

CONTACTS: None.

PHENOCRYSTS:
- Olivine - 1%; 0.1-0.2 mm; euhedral, fresh.
- Plagioclase - 5%; 0.1 mm; euhedral, fresh.
- Cr-Spinel - <0.01%; <0.01 mm; euhedral, in olivine.

GROUNDMASS: Dark brown glass, translucent in smear slide.

VESICLES: 45%; 0.5-4 mm; round; even.

COLOR: Pale green-brown to very dark gray.

STRUCTURE: None.

ALTERATION: Glass to smectite in vesicles.

VEINS/FRACTURES: None.
**SITE 790**

126-790A-3H-03 (1-3 cm)

**ROCK NAME:** Basalt  
**GRAIN SIZE:** Fine  
**TEXTURE:** Vesicular

<table>
<thead>
<tr>
<th>PRIMARY MINERALOGY</th>
<th>PERCENT PRESENT</th>
<th>SIZE ORIGINAL (mm)</th>
<th>COMPOSITION</th>
<th>MORPHOLOGY</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHENOCRYSTS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olivine</td>
<td>1</td>
<td>0.4</td>
<td>N/A</td>
<td>Euhedral</td>
<td>Fresh.</td>
</tr>
<tr>
<td>Plagioclase</td>
<td>5</td>
<td>0.2</td>
<td>N/A</td>
<td>Acicular</td>
<td>Fresh.</td>
</tr>
<tr>
<td>GROUNDMASS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Devitrifying glass</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

**VESICLES/CAVITIES**

<table>
<thead>
<tr>
<th>SIZE</th>
<th>PERCENT PRESENT</th>
<th>LOCATION (mm)</th>
<th>FILLING</th>
<th>SHAPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vesicles</td>
<td>40</td>
<td>0.5-1</td>
<td>Open</td>
<td>Round</td>
</tr>
</tbody>
</table>

**COMMENTS:** No piece # given.

126-790A-4H-02 (69-70 cm)

**ROCK NAME:** Moderately  
**GRAIN SIZE:**  
**TEXTURE:**

<table>
<thead>
<tr>
<th>PRIMARY MINERALOGY</th>
<th>PERCENT PRESENT</th>
<th>SIZE ORIGINAL (mm)</th>
<th>COMPOSITION</th>
<th>MORPHOLOGY</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHENOCRYSTS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olivine</td>
<td>1</td>
<td>0.4</td>
<td>N/A</td>
<td>Euhedral</td>
<td>Fresh.</td>
</tr>
<tr>
<td>Plagioclase</td>
<td>5</td>
<td>0.1-0.4</td>
<td>N/A</td>
<td>Acicular</td>
<td>Fresh.</td>
</tr>
<tr>
<td>GROUNDMASS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Devitrifying glass</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

**VESICLES/CAVITIES**

<table>
<thead>
<tr>
<th>SIZE</th>
<th>PERCENT PRESENT</th>
<th>LOCATION (mm)</th>
<th>FILLING</th>
<th>SHAPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vesicles</td>
<td>40</td>
<td>1.0-1.5</td>
<td>Open</td>
<td>Round</td>
</tr>
</tbody>
</table>

**COMMENTS:** No piece # given.
126-790C-21X-CC (Piece 2,)

**ROCK NAME:** Basalt  
**GRAIN SIZE:** Fine  
**TEXTURE:** Vesicular

### PRIMARY MINERALOGY

<table>
<thead>
<tr>
<th>PHENOCRYSTS</th>
<th>PERCENT</th>
<th>PERCENT ORIGINAL</th>
<th>SIZE</th>
<th>MORPHOLOGY</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olivine</td>
<td>4</td>
<td>4</td>
<td>0.5-1.0</td>
<td>Equant</td>
<td>One 0.6 mm long. includes spinel.</td>
</tr>
<tr>
<td>Plagioclase</td>
<td>20</td>
<td>20</td>
<td>0.1-0.7</td>
<td>Euhedral</td>
<td>Olivine vs clinopyroxene difficult.</td>
</tr>
<tr>
<td>Clinopyroxene</td>
<td>1</td>
<td>1</td>
<td>N/A</td>
<td>Equant</td>
<td></td>
</tr>
</tbody>
</table>

### GROUNDMASS

<table>
<thead>
<tr>
<th>Glass</th>
<th>PERCENT</th>
<th>SIZE</th>
<th>MORPHOLOGY</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Devitrifying.</td>
</tr>
</tbody>
</table>

### VESICLES/CAVITIES

<table>
<thead>
<tr>
<th>Vesicles</th>
<th>PERCENT</th>
<th>LOCATION</th>
<th>FILLING</th>
<th>SHAPE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20</td>
<td>0.2-0.3</td>
<td>Open</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### COMMENTS

- One 0.6 mm long. includes spinel.
- Olivine vs clinopyroxene difficult.
- Filler: 0.2 mm vesicles, open filling, elongate; some elongate with veinlets of crystals. Finer-grained material parallel plagioclase alignment. More vesicular than rest.

---

126-790C-23X-CC (Piece 3,)

**ROCK NAME:** Basalt scoria  
**GRAIN SIZE:** Fine  
**TEXTURE:** Vesicular

### PRIMARY MINERALOGY

<table>
<thead>
<tr>
<th>PHENOCRYSTS</th>
<th>PERCENT</th>
<th>PERCENT ORIGINAL</th>
<th>SIZE</th>
<th>MORPHOLOGY</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olivine</td>
<td>1</td>
<td>1</td>
<td>0.1-0.2</td>
<td>Acicular</td>
<td>Fresh, zoned, plucked. Some clots.</td>
</tr>
<tr>
<td>Plagioclase</td>
<td>5</td>
<td>5</td>
<td>0.1-0.3</td>
<td>Euhedral</td>
<td>Includes spinel.</td>
</tr>
</tbody>
</table>

### GROUNDMASS

<table>
<thead>
<tr>
<th>Glass</th>
<th>PERCENT</th>
<th>SIZE</th>
<th>MORPHOLOGY</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Devitrified.</td>
</tr>
</tbody>
</table>

### VESICLES/CAVITIES

<table>
<thead>
<tr>
<th>Vesicles</th>
<th>PERCENT</th>
<th>LOCATION</th>
<th>FILLING</th>
<th>SHAPE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60</td>
<td>0.2</td>
<td>Little</td>
<td>Round</td>
<td>Some yellow crystals on walls.</td>
</tr>
</tbody>
</table>

### COMMENTS

- Fresh. Some clots. 
- Fresh; associated with plagioclase alignment; more vesicular than rest.
- Elongate. Large yellow crystals within.
- Elongate; associated with plagioclase alignment; more vesicular than rest.

---

**COMMENTS:**

- Also elongate patches of finer-grained vitrophyric material enclosed within above lava. Same assemblage, but finer grained (plagioclase=0.1 mm). Probably inclusion of chill material during eruption. No top or bottom interval given.

---

539

---

**COMMENTS:**

- 2 cm diameter clast; looks more altered in hand specimen than thin section. No top or bottom intervals given.