Information on Core Description Forms, for ALL sites, represents field notes taken aboard ship. Some of this information has been refined in accord with post-cruise findings, but production schedules prohibit definitive correlation of these forms with subsequent findings. Thus, the reader should be alerted to the occasional ambiguity or discrepancy in this unedited material.

| SIT         | TE 953 H         | OL      | E           | A CORE  | 1       | H      |                          | CORED 0.0 - 7.6 mbsf  |
|-------------|------------------|---------|-------------|---|---------|--------|--------------------------|---|
| Meter       | Graphic<br>Lith. | Section | Age         | Structure   | Disturb | Sample | Color                    | Description   |
| to the one  | FFFFF            | 1       |             | Ξ   | 0       |        | 10YR<br>5/2<br>to<br>N5  | CALCAREOUS SAND, CLAYEY<br>NANNOFOSSIL OOZE WITH<br>FORAMINIFER, and SILTY SAND<br>WITH LITHIC AND CRYSTALS   |
|             |                  | 2       | Pleistocene | 3<br>1 f F<br>1 f F<br>3 1 f F<br>3 1 F<br>1 F<br>1 F |         | S      | 2.5Y<br>N5/0<br>to<br>N5 | Major Lithologies:<br>This core consists mainly of<br>interbedded CALCAREOUS SAND,<br>CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFER, and SILTY<br>SAND WITH LITHICS AND<br>CRYSTALS. Units typically have<br>sharp bases.<br>Minor Lithologies:<br>Minor interbeds of white<br>CALCAREOUS SAND, LITHIC<br>CRYSTAL SAND, LITHIC<br>FORAMINIFERAL SAND and<br>PACKSTONE occur in Section 1,<br>102–103 cm, Section 2, 47–49 and<br>126 cm, Section 4, 24–26, 46–49, and |
| Print Print |                  | 4       |             | 3<br>= † F  |         | ss     | 2.5Y                     | 77–83 cm, Section 5, 8–17 cm, and<br>Section CC, 0–15 cm.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Many of the major volcanic lithologies  |
| 6           |                  | 5       |             | 33 <b>†</b> F<br>33                                   |         | o's    | to<br>N4                 | have color changes in the upper parts.  |
| Δ           |                  | cc      |             | 33<br>1 F<br>1 F                                      |         | тs     |                          |   |



| SIT                              | E 953 H          | IOL          | E           | A CORE                   | 21      | -                     |                                    | CORED 7.6 - 17.1 mbsf  |
|----------------------------------|------------------|--------------|-------------|--------------------------|---------|-----------------------|------------------------------------|--|
| Meter                            | Graphic<br>Lith. | Section      | Age         | Structure                | Disturb | Sample                | Color                              | Description  |
| tree Freedom                     |                  | 1            |             | <pre></pre>              |         |                       | N5                                 | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS, CRYSTAL<br>LITHIC SAND, and CALCAREOUS<br>SAND<br>Major Lithologies:<br>This core consists mainly of<br>interbedied white CLAYEY   |
| Production Production Production |                  | 2            |             |                          |         | S                     | 2.5Y<br>N4/0<br>to<br>2.5Y<br>N5/0 | MANNOFOSSIL OOZE WITH<br>FORAMINIFERS and CALCAREOUS<br>SAND, and gray CRYSTAL LITHIC<br>SAND, units typically have sharp<br>bases, and are normally graded.<br>Minor Lithologies:<br>Minor interbeds of white<br>NANNOFOSSIL OOZE AND<br>CRYSTAL SAND occur in Section 2,<br>102–119 cm, Section 4, 28–38 and<br>73–89 cm, Section 5, 122–124 cm,<br>and Section 6, 97–108 and 117–119<br>cm. |
|                                  |                  | 4            | Pleistocene | 33                       |         | s<br>s <sub>o</sub> ı | 2.5Y<br>N5/0<br>to<br>2.5Y<br>N6/0 | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally<br>composited of broken and whole shell   |
| Thur Prints                      |                  | 5            |             | 1 F<br>1 F<br>1 F<br>1 F |         | S                     | 2.5Y<br>N6/0                       | fragments and whole foraminifer tests.   |
|                                  |                  | 6<br>7<br>CC |             | 1 F ==<br>33<br>}        |         |                       | 2.5Y<br>N5/0                       |  |



| SI    | TE 953 H         | IOL         | E           | A CORE    | 3       | H             |   | CORED 17.1 - 26.6 mbsf  |
|-------|------------------|-------------|-------------|-----------|---------|---------------|---|---|
| Meter | Graphic<br>Lith. | Section     | Age         | Structure | Disturb | Sample        | Color                                       | Description   |
| 2     |                  | 2           |             | 3         |         | S<br>S<br>T S | N6/1<br>to<br>N5/2                          | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS, LITHIC<br>SAND, and CALCAREOUS SAND<br>Major Lithologies:<br>This core consists mainly of<br>interbedded white CALCAREOUS<br>SAND and CLAYEY NANNOFOSSIL<br>OOZE WITH FORAMINIFERS AND<br>LITHIC SAND. Units typically have<br>sharp bases and are normally graded.<br>Minor Lithologies:<br>Minor Lithologies:<br>Minor interbeds of white<br>CALCAREOUS SAND and LITHIC<br>SAND occur in Section 1, 13–23 and |
| 4 5 6 |                  | 3           | Pleistocene | 33        |         | 10            | N5/1<br>to<br>5Y<br>4/1                     | 90–98 cm, Section 2, 25–27,<br>126–129, and 149–150 cm, Section 3,<br>95–102 cm, Section 4, 29–35 cm, and<br>Section 6, 25–33 cm.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Lithic sands<br>are yenerally composed of broken<br>and whole shell fragments and whole<br>foraminifer tests.                               |
| 8     |                  | 5<br>6<br>7 |             | 1 F       |         | S             | 5Y<br>5/1<br>2.5Y<br>N2.5/0<br>2.5Y<br>N2/0 |   |



| SIT   | E 953 H          | OL      | E           | A CORE                                 | 41      | 1      |                   | CORED 26.6 - 36.1 mbsf  |
|-------|------------------|---------|-------------|--|---------|--------|-------------------|---|
| Meter | Graphic<br>Lith. | Section | Age         | Structure                              | Disturb | Sample | Color             | Description   |
| 7     |                  | 1       |             | -A 333                                 |         | SS     | N5<br>to          | CALCAREOUS SAND and CLAYEY<br>NANNOFOSSIL OOZE<br>Major Lithologies:<br>This core consists mainly of<br>interbedded white CALCAREOUS<br>SAND and CLAYEY NANNOFOSSIL<br>OOZE. Units typically have sharp<br>bases and are normally graded.   |
| 3     |                  | 3       |             | ∭<br>- <u>A</u> ↑FΞ<br>※               |         | S      | N4/0              | Minor interbeds of white<br>CALCAREOUS SAND WITH<br>VOLCANIC LITHICS, gray LITHIC<br>CRYSTAL SAND; black-gray VITRIC<br>ASH occur in Section 1, 67–74 cm,<br>Section 2, 81–85 and 110–112 cm,<br>Section 3, 90–94 cm, Section 5,<br>16–20 and 77–87 cm.<br>General Description:   |
| 5     |                  | 4       | Pleistocene | tc<br>33                               |         |        | 5Y<br>5/1         | This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally<br>composed of broken and whole shell<br>fragments and whole foraminifer tests<br>and a minor amount of volcaniclastic |
| ν     |                  | 5       |             | ************************************** |         | 0      | N4<br>to<br>2 5YB | material.   |
| 8     |                  | 6       |             | 3<br>33<br>1 F                         |         |        | N4/0              |   |
| - to  |                  | 7<br>CC |             |  |         | s      |                   |   |



| SIT        | TE 953 H         | IOL     | E           | A CORE  | 5       | Н              |                          | CORED 36.1 - 45.6 mbsf   |
|------------|------------------|---------|-------------|---|---------|----------------|--------------------------|--|
| Meter      | Graphic<br>Lith. | Section | Age         | Structure   | Disturb | Sample         | Color                    | Description  |
| 1          |                  | 1       |             | 333           A         335           355         1 F           333         1 F           333         1 F |         | S<br>S S       | N5/1<br>to<br>5Y<br>3/1  | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS,<br>CALCAREOUS SAND, and<br>CRYSTAL LITHIC SAND<br>Major Lithologies:<br>This core consists mainly of<br>interbedded white CALCAREOUS<br>SAND and gray CLAYEY<br>NANNOFOSSIL OOZE WITH<br>EORAMINIFERS, and black   |
| tree floor |                  | 2       |             | 333   |         |                | 2.5Y<br>N4/0             | CRYSTAL LITHIC SAND. Units<br>typically have sharp bases and are<br>inverse to normally graded.  |
| 4          |                  | 3       | Pleistocene | + F<br>333<br>+ C<br>333<br>33  |         | <sup>1</sup> o | N5<br>to<br>2.5Y<br>N5/0 | Minor Lithologies:<br>Minor interbeds of white<br>CALCAREOUS SAND, black and<br>gray CRYSTAL LITHIC SAND, and<br>pale green VITRIC ASH occur in<br>Section 1, 56–58, 70–79, and<br>136–148 cm, Section 3, 100–104 and<br>132–134 cm, Section 4, 100–103 and<br>122–135 cm, and Section 5, 45–47<br>cm. |
| True true  |                  | 4       |             | <u>† F</u>  |         | S              | 5Y                       | General Description:<br>This core consists of distinct<br>interbeds of the major and minor<br>lithologies. Bioturbation is common in   |
|            |                  | 5       |             | <u>† F</u>  |         |                | 2.5Y<br>N5/0<br>to<br>N5 | the upper parts of most lithologies.<br>Crystal and lithic sands are<br>volcaniclastic. Calcareous sands are<br>generally composed of broken and<br>whole shell fragments and whole<br>foraminifer tests and a minor amount<br>of volcaniclastic material. Colors                                      |
| 8          |                  | 6       |             | 3   |         | s S<br>TM      | 10YR<br>4/1              | range between white, black, light gray, and dark gray.   |



| SIT                                       | E 953 H          | 101     | E        | A CORE                   | 6       | н      |                         | CORED 45.6 - 55.1 mbsf   |
|---|------------------|---------|----------|--------------------------|---------|--------|-------------------------|--|
| Meter                                     | Graphic<br>Lith. | Section | Age      | Structure                | Disturb | Sample | Color                   | Description  |
| 2012020                                   |                  | 1       |          |                          |         |        | 2.5Y<br>N2/0            | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS,<br>CALCAREOUS SAND, and  |
| the Day                                   |                  |         |          | *                        |         |        | 2.5Y<br>N2/0            | Major Lithologies:<br>This core consists mainly of   |
| 2   |                  | 2       |          | 33                       |         |        | N5                      | Interbedded white to light gray<br>CALCAREOUS SAND and CLAYEY<br>NANNOFOSSIL OOZE WITH<br>FORAMINIFERS, and black  |
| 3   | -<br>Fi          |         |          | <u>*</u> =               |         | s<br>s | 7.5YR<br>N2/0           | CRYSTAL LITHIC SAND. Units<br>typically have sharp bases and are<br>normally graded.   |
| Production                                | FFFFF            | 3       |          | ↑ F<br>↑ F<br>↑ F<br>↑ F |         |        | 5Y                      | Minor Lithologies:<br>Minor interbeds of white to light gray<br>CALCAREOUS SAND and black<br>LITHIC CRYSTAL SAND, occur in<br>Section 2, 96–106 cm, and Section 5, |
| 5   | REFE             |         | istocene | ↑ F ♦<br>↑ F ♥<br>↑ F ♥  |         |        | 4/1                     | 5–6 cm.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.   |
|   |                  | 4       | Ple      | ↑ F                      |         |        | 10YR<br>5/1             | Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally                |
| 1   |                  | 5       |          | 33                       |         | 0      | to<br>2.5Y<br>N4/0      | ragments and whole foraminfer tests,<br>and a minor amount of volcaniclastic<br>material.  |
| 2   | P                |         | E        | •                        |         | s      | 2.5Y<br>N4/0            |  |
| 8   |                  | 6       |          | +<br>† F                 |         | s      |                         |  |
| 8<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 |                  | 7       |          | »<br>33                  |         |        | 10YR<br>4/1<br>to<br>N4 |  |
| - 1                                       |                  | 00      |          |                          |         | IVI    |                         |  |



| SIT        | E 953 H          | IOL     | .E       | A CORE         | 71      | H        |                                  | CORED 55.1 - 64.6 mbsf   |
|------------|------------------|---------|----------|----------------|---------|----------|----------------------------------|--|
| Meter      | Graphic<br>Lith. | Section | Age      | Structure      | Disturb | Sample   | Color                            | Description  |
| Trend tren |                  | 1       |          | 33<br>3<br>3   |         |          | 2.5Y<br>N4/0                     | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS, CRYSTAL<br>LITHIC SAND, and CALCAREOUS<br>SAND   |
| 2          |                  | 2       |          | 3              | wwwww   |          | N4                               | Major Lithologies:<br>This core consists mainly of<br>interbedded white to light gray<br>CALCAREOUS SAND and CLAYEY<br>NANNOFOSSIL OOZE WITH<br>FORAMINIFERS, and dark gray to<br>black CRYSTAL LITHIC SAND. Units<br>typically have sharp bases and are<br>parmally craded  |
|            |                  | 3       | ene      |                |         | s<br>I o | 2.5Y<br>N5/0<br>to               | Minor Lithologies:<br>Minor interbeds of white to light gray<br>CALCAREOUS SAND, brown VITRIC<br>ASH, and black LITHIC CRYSTAL<br>SAND, occur in Section 2, 110–122<br>cm, Section 3, 8–10, 35–37, 70–73,<br>100–101, and 148–150 cm, Section<br>4, 78–82 cm, Section 5, 70–72 and<br>80–81 cm, Section 6, 58–62 80–88 |
| P          |                  | 4       | Pleistoc |                |         | SS       | N4                               | and 109–110 cm.<br>General Description:<br>This core consists of distinct<br>interbeds of the major and minor<br>lithologies. Bioturbation is common in<br>the upper parts of most lithologies.<br>Crystal and lithic sands are  |
| Z          |                  | 5       |          | à ≋<br>        |         |          | 5Y<br>3/1                        | volcaniclastic. Calcareous sands are<br>generally composed of broken and<br>whole shell fragments and whole<br>foraminifer tests, and a minor amount<br>of volcaniclastic material.  |
| 8          |                  | 6       |          | 333<br>333 1 F |         |          | 5Y<br>5/1<br>to<br>7.5YR<br>N2/0 |  |
| 9          |                  | 7       |          | 333            |         |          | 2.5Y<br>N3/0                     |  |
| and and    | 建築               | cc      |          | ø              |         | М        | 2.5Y<br>N5/0                     |  |



567

| SIT           | E 953 H          | IOL     | E        | A CORE             | 8       | н              |                          | CORED 64.6 - 74.1 mbsf  |
|---------------|------------------|---------|----------|--------------------|---------|----------------|--------------------------|---|
| Meter         | Graphic<br>Lith. | Section | Age      | Structure          | Disturb | Sample         | Color                    | Description   |
| Townshines I  |                  | 1       |          |                    |         |                | 2.5Y<br>5/1              | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS and<br>CALCAREOUS SAND   |
| of the second |                  |         |          |                    | VVVV    | т <sub>s</sub> | 5Y<br>3/1                | This core consists mainly of<br>interbedded white to light gray<br>CALCAREOUS SAND and CLAYEY   |
| 2             |                  | 2       |          |                    | VVVV    |                |                          | NANNOFOSSIL OOZE WITH<br>FORAMINIFERS. Units typically have<br>sharp bases and are normally and<br>inversely graded.  |
| 3             |                  |         |          |                    | VVVV    |                | 5Y<br>4/1                | Minor Lithologies:<br>Minor interbeds of white to light gray<br>CALCAREOUS SAND and black   |
| Printin.      |                  | 3       |          | 33<br>↑ F<br>5 ↑ F | N       |                | N4                       | CRYSTAL LITHIC SAND, occur in<br>Section 1, 32–37 and 80–85 cm,<br>Section 3, 87–91 cm, Section 6,<br>77–79 cm, Section 7, 34–41 cm, and<br>Section CC, 11–12 cm. |
| 5             | <b>藤芸</b>        |         | istocene | *c                 |         |                | 2.5Y                     | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.   |
| the last      |                  | 4       | Ple      | <u> </u>           |         |                | N4/0<br>2.5Y<br>N5/0     | Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally               |
| 6             |                  |         |          | <u></u>            |         | 8              | 2.5Y<br>N4/0<br>to<br>5Y | composed of broken and whole shell<br>fragments and whole foraminifer tests,<br>and a minor amount of volcaniclastic<br>material. Possible drilling breccia       |
| 2             |                  | 5       |          | 33                 |         | 10             | 3/1                      | between 1.0-3.3 m.  |
| 8             |                  | 6       |          | }<br>↑ F≡          |         | 0              | 2.5Y<br>N4/0<br>to<br>N5 |   |
| 9             |                  | 7       |          | 33                 |         | s <sub>M</sub> |                          |   |



| SIT                       | E 953 H          | IOL     | E           | A CORE            | 9       | H        |                    | CORED 74.1 - 83.6 mbsf   |
|---------------------------|------------------|---------|-------------|-------------------|---------|----------|--------------------|--|
| Meter                     | Graphic<br>Lith. | Section | Age         | Structure         | Disturb | Sample   | Color              | Description  |
| direction from the second |                  | 1       |             | **                |         |          | 5Y<br>4/1          | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS,<br>CALCAREOUS SAND, and CRYSTAL<br>LITHIC SILTY SAND<br>Major Lithologies:<br>This core consists mainly of<br>interbedded white to light gray          |
| 2                         |                  | 2       |             | ***               |         |          | to<br>2.5Y<br>N4/0 | CALCAREOUS SAND and CLAYEY<br>NANNOFOSSIL OOZE WITH<br>FORAMINIFERS, and dark gray to<br>black CRYSTAL LITHIC SILTY SAND.<br>Units typically have sharp bases and<br>are normally graded.            |
| the state                 |                  | 2       |             | 33                |         |          | 5V                 | Minor Lithologies:<br>Minor interbeds of white to light gray<br>CALCAREOUS SILTY SAND and  |
| 4                         |                  | 5       |             | <u> </u>          |         |          | 4/1<br>to<br>N5    | Diadx LITHIC CHTSTAL SILTT SAND,<br>occur in Section 1, 108–110 and<br>124–136 cm, Section 2, 74–75 and<br>102–104 cm, Section 3, 21–27 cm,  |
| P P                       |                  | 4       | Pleistocene | }}<br>}} ↑ F      |         |          | 10YR<br>4/1<br>to  | Section 4, 55–56 and 59–60 cm,<br>Section 5, 118–119 and 132–134 cm,<br>Section 6, 28–29, 32–34, 70–78, and<br>90-92 cm, and Section 7, 40–44 cm.<br>General Description:                            |
| 6                         | FREE             |         |             | ↑ F<br>↑ F<br>↑ F |         |          | 2.5Y<br>N5/0       | This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic. |
| Lin Part                  |                  | 5       |             | **                |         | s<br>I o | N4<br>to<br>2.5Y   | Calcareous sands are generally<br>composed of broken and whole shell<br>fragments and whole foraminifer tests,<br>and a minor amount of volcaniclastic<br>material.                                  |
| 8                         |                  | 6       |             | *                 |         |          | 193/0              |  |
| 9                         |                  | 7       |             | 55 † F<br>† F     |         |          | 5Y<br>4/1          |  |
| ter la                    |                  | cc      |             | ***               |         | м        | 2.5Y<br>N3/0       |  |



| SIT          | E 953 H          | IOL          | E          | A CORE                                  | 10  | )H  |                         | CORED 83.6 - 93.1 mbsf  |
|--------------|------------------|--------------|------------|---|---|---|-------------------------|---|
| Meter        | Graphic<br>Lith. | Section      | Age        | Structure                               | Disturb   | Sample  | Color                   | Description   |
| 1 2 1 1      |                  | 1            |            | ***<br>                                 |   |   | 2.5Y<br>5/1<br>to<br>N5 | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS,<br>CALCAREOUS SILTY SAND and<br>CRYSTAL LITHIC SILTY SAND<br>Major Lithologies:<br>This core consists mainly of<br>interbedded white to light gray<br>CALCAREOUS SILTY SAND and<br>CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS, and dark<br>gray to black CRYSTAL LITHIC<br>SILTY SAND. Units typically have |
| 3            |                  | 3            |            | 33                                      |   |   | 5Y<br>4/1<br>to<br>N5   | sharp bases and are normally graded.<br>Minor Lithologies:<br>Minor interbeds of white to light gray<br>CALCAREOUS SILTY SAND and<br>black LITHIC CRYSTAL SILTY<br>SAND, occur in Section 1, 27–29,<br>11 100 - 25 Co 102 , 101 - 000 - 000   |
| Part Departs |                  | _            | e          |   |   |   | 5Y<br>4/1               | 41–42, 57–59, 127–131, and 134–136<br>cm, Section 2, 54–58 and 58–60 cm,<br>Section 3, 20–22 and 40–52 cm,  |
| 6 1          |                  | 4            | Pleistocen | <u>»</u><br>33                          | 10Y<br>4/1<br>10Y<br>4/1<br>10Y<br>4/1<br>10Y<br>4/1<br>10Y<br>2.5Y<br>N5/0<br>6 General Descrip<br>This core consis<br>of the major and<br>Bioturbation is c<br>parts of most lift<br>lithic silty sands<br>Calcareous silty | section 4, 30–40, 44–50, and<br>141–142 cm, Section 5, 12–14,<br>70–76, and 83–92 cm, Section 6,<br>24–26, 42–44, and 60–77 cm, and<br>Section 7, 76–79 cm.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic silty sands are volcaniclastic.<br>Calcareous silty sands are generally |                         |   |
| 8<br>9<br>10 |                  | 6<br>7<br>CC |            | 33<br>33<br>1 F 33 ==<br>33<br>33<br>33 |   | o <sup>1</sup><br>s   | 2.5Y<br>N4/0            | composed of broken and whole shell<br>fragments and whole foraminifer tests,<br>and a minor amount of volcaniclastic<br>material.   |



| SIT                              | E 953 H          | IOL     | E           | A CORE           | 1       | 1H     |                         | CORED 93.1 - 102.6 mbsf  |
|----------------------------------|------------------|---------|-------------|------------------|---------|--------|-------------------------|--|
| Meter                            | Graphic<br>Lith. | Section | Age         | Structure        | Disturb | Sample | Color                   | Description  |
| tradition from the second second |                  | 1       |             |                  |         |        | 2.5Y<br>5/1<br>To<br>N4 | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS, LITHIC<br>SAND, and CALCAREOUS SAND<br>Major Lithologies:<br>This core consists mainly of<br>interbedded CLAYEY NANNOFOSSIL<br>OOZE WITH FORAMINIFERS,<br>LITHIC SAND, and CALCAREOUS<br>SAND. Units typically have sharp<br>bases and are normally graded.<br>Minor Lithologies:<br>Minor interbeds of CALCAREOUS<br>SAND and LITHIC SAND approximate |
| 1111                             |                  |         |             | 33               |         |        | N2                      | Section 1, 28–32 and 32–51 cm,<br>Section 2, 100–105, 118–132, and   |
| The second second second second  |                  | 4       | Pleistocene | =                |         | S      | N5                      | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally   |
| L                                |                  | 5       |             | -A <sup>33</sup> |         | S O    | To<br>2.5Y<br>N4/0      | foraminifer tests and minor amounts<br>of volcaniclastic material.   |
| The second second                |                  | 6       |             | 33               |         |        |                         |  |
| L                                |                  | cc      |             | **               |         |        |                         |  |



| SIT                   | E 953 H          | OL      | E           | A CORE        | 12      | 2H     |                                  | CORED 102.6 - 112.1 mbsf  |
|-----------------------|------------------|---------|-------------|---------------|---------|--------|----------------------------------|---|
| Meter                 | Graphic<br>Lith. | Section | Age         | Structure     | Disturb | Sample | Color                            | Description   |
| have                  |                  | 1       |             |               | WM      |        | 2.5Y<br>N3/0                     | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS,<br>CALCAREOUS SAND, and<br>CRYSTAL LITHIC SAND  |
| Lindra National State |                  | 2       |             | =             | www.www |        | 2.5Y<br>N5/0<br>to<br>10Y<br>3/1 | Major Lithologies:<br>This core consists mainly of<br>interbedded white to light gray<br>CALCAREOUS SAND and CLAYEY<br>NANNOFOSSIL OOZE WITH<br>FORAMINIFERS, and dark gray to<br>black CRYSTAL LITHIC SAND. Units<br>typically have sharp bases and are<br>normally graded.  |
| P                     |                  | 3       | Pleistocene |               |         |        | 2.5Y<br>N4/0<br>to<br>5Y         | Minor Lithologies:<br>Minor interbeds of white to light gray<br>CALCAREOUS SAND and black<br>LITHIC SAND, occur in Section 1,<br>24–26 and 39–41 cm, Section 2,<br>140–141 and 147–150 cm, Section 3,<br>21–28 and 114–118 cm, Section 4,<br>30–32 cm, Section 6, 30–32, 56–57,<br>71–73, and 88–95 cm.<br>General Description:<br>This core consists of distinct interbeds |
| 6                     |                  | 5       |             | ***           |         |        | 3/1                              | of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally<br>composed of broken and whole shell<br>fragments and whole foraminifer tests,<br>and a minor amount of volcaniclastic<br>material.   |
| 8                     |                  | 6       |             | 33<br>A<br>33 |         | o      | 2.5Y<br>N4/0                     |   |
| and the second        |                  | 7       | 0           | 33            |         | м      |                                  |   |



| SIT                     | E 953 H          | IOL     | E         | A CORE    | 13      | 3H              |                                 | CORED 112.1 - 121.6 mbsf   |
|-------------------------|------------------|---------|-----------|-----------|---------|-----------------|---------------------------------|--|
| Meter                   | Graphic<br>Lith. | Section | Age       | Structure | Disturb | Sample          | Color                           | Description  |
| Trees                   |                  |         |           |           | 0       |                 | 2.5Y<br>4/1                     | CLAYEY NANNOFOSSIL OOZE WITH<br>FORAMINIFERS, CALCAREOUS<br>SAND, and CRYSTAL LITHIC SAND  |
| L                       | Ê                | 1       |           |           | 00      |                 | 5Y<br>3/1                       | Major Lithologies:   |
|                         |                  | 2       |           |           |         |                 | 2.5Y<br>N4/0                    | This core consists mainly of<br>interbedded white to light gray<br>CALCAREOUS SAND and CLAYEY<br>NANNOFOSSIL OOZE WITH<br>FORAMINIFERS, and dark gray to<br>black CRYSTAL LITHIC SAND. Units<br>typically have sharp bases and are<br>normally graded. |
| 3                       |                  | -       |           |           |         | 1               | 5Y                              | Minor Lithologies:<br>Minor interbeds of white to light gray   |
| Tere                    |                  |         |           |           |         |                 | 2.5Y                            | CALCAREOUS SILTY SAND and<br>black LITHIC CRYSTAL SAND, occur  |
| 4                       |                  | 3       | ne        |           |         |                 | N4/0<br>to<br>N4                | in Section 1, 124–130 cm, Section 2,<br>114–122 cm, Section 3, 58–62 and<br>90–98 cm, Section 4, 66–76, 105–106,<br>and 130–132 cm, Section 5, 34–36   |
| Contraction Contraction |                  | 4       | Pleistoce | 333       |         |                 | 5Y<br>4/1<br>to<br>2.5Y<br>N5/0 | and 66–69 cm, Section 6, 8–13,<br>38–42, 82–83, 105–108, 116–117, and<br>138–142 cm, and Section 7, 8–10 cm.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.                                |
| <u> </u>                |                  | 5       |           |           |         | 0               | N4                              | parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally<br>composed of broken and whole shell<br>fragments and whole foraminifer tests,<br>and a minor amount of volcaniclastic<br>material.      |
| 1 B                     |                  | 6       |           | ***       |         |                 | to<br>2.5Y<br>N5/0              |  |
| 9                       |                  | 7       |           | *         |         | тм <sup>S</sup> |                                 |  |



| SIT   | E 953 H          | 101     | E           | A CORE                                 | 1       | 4H     |                                  | CORED 121.6 - 131.1 mbsf  |
|-------|------------------|---------|-------------|--|---------|--------|----------------------------------|---|
| Meter | Graphic<br>Lith. | Section | Age         | Structure                              | Disturb | Sample | Color                            | Description   |
| 2     |                  | 1       |             | »<br>»<br>»                            |         | s      | 2.5Y<br>5/2<br>to<br>5Y<br>2.5/1 | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS and<br>CALCAREOUS SAND<br>Major Lithologies:<br>This core consists mainly of<br>interbedded white to light gray<br>CALCAREOUS SAND and CLAYEY<br>NANNOFOSSIL OOZE WITH<br>FORAMINIFERS. Units typically have<br>sharp bases and are normally graded.<br>Minor Lithologies:<br>Minor interbeds of white to light gray<br>CALCAREOUS SAND and block  |
| 1     |                  | 3       | Pleistocene | →<br>→<br>→<br>→<br>→                  |         |        | 2.5Y<br>N5/0<br>to<br>5Y<br>3/1  | LTHIC CRYSTAL SAND, occur in<br>Section 1, 0–3, 38–42, 72–74, 80–84,<br>108–114, 123–128, and 137–138 cm,<br>Section 2, 33–44, 44–46, 86–91,<br>107–114, 124–126, 135–148, and<br>148–150 cm, Section 3, 0–6, 35–46,<br>75–81, 91–105, 115–117, and<br>117–132 cm, Section 4, 28–30,<br>45–52, 76–86, 86–91, 91–94,<br>131–183, 138–145, and 145–150 cm,<br>Section 5, 0–17, 31–34, 50–56,<br>56–60, 80–84, 90–96, and 96–115   |
| 8     |                  | 5       |             | >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>> |         | s<br>s | 2.5Y<br>N4/0<br>to<br>5Y<br>2/1  | cm, Section 6, 28–38, 38–44, 69–70,<br>101–105, and 118–126 cm, Section 7,<br>65–80 cm, and Section CC, 0–10 cm.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally<br>composed of broken and whole shell<br>fragments and whole foraminifer tests,<br>and a minor amount of volcaniclastic<br>material. |
| 9.5.5 |                  |         | ľ           | 33                                     |         |        | 5Y<br>2/1                        |   |
| 12    |                  |         |             | 33                                     |         | s      | 2.5Y<br>N3/0                     |   |



| SIT               | E 953 H          | 101         | E           | A CORE    | 1       | 5H     | CORED 131.1 - 140.6 mbsf          |   |  |  |
|-------------------|------------------|-------------|-------------|-----------|---------|--------|-----------------------------------|---|--|--|
| Meter             | Graphic<br>Lith. | Section     | Age         | Structure | Disturb | Sample | Color                             | Description   |  |  |
| P. L. P. L. L. L. |                  | 1<br>2<br>3 |             |           |         | S      | 2.5Y<br>5/1<br>to<br>2.5Y<br>N2/0 | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS<br>Major Lithology:<br>This core consists mainly of<br>interbedded CLAYEY NANNOFOSSIL<br>OOZE WITH FORAMINIFERS. Units<br>typically have sharp bases and are<br>normally graded.<br>Minor Lithologies:<br>Minor interbeds of white to light gray<br>CALCAREOUS SILTY SAND and<br>black CRYSTAL LITHIC SAND, occur<br>in Section 1, 6–13, 16–18, 44–47,<br>77–79, 111–116, 129–130,<br>and136–142 cm, Section 2, 10–23,<br>44–49, 64–69, 79–90, 102–111, and<br>139–141 cm, Section 3, 15–17,<br>25–28, 58–60, 90–93, 109–113, and<br>144–146 cm, Section 4, 10–12, |  |  |
| 5                 |                  | 4           | Pleistocene | >>><br>   |         |        | 2.51<br>5/1<br>to<br>N4           | 44–46, 85–88, and 119–135 cm,<br>Section 5, 0–3, 18–19, 48–54, 54–55,<br>and 101–106, Section 6, 11–20,<br>50–63, and 98–103 cm, Section 7,<br>0–5 and 57–75 cm, and Section CC,<br>0–5, 5–8, and 8–10 cm.<br>General Description:<br>This core consists of distinct interbeds  |  |  |
| λ                 |                  | 5           |             | ₩         |         | 0      | 2.5Y<br>2.5/1<br>to<br>5Y<br>3/1  | of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally<br>composed of broken and whole shell<br>fragments and whole foraminifer tests,<br>and a minor amount of volcaniclastic<br>material.   |  |  |
| 9                 |                  | 7<br>CC     |             | 33<br>    | WM      | м      |                                   |   |  |  |



| SIT                     | E 953 H          | IOL          | E          | A CORE   | 16      | 6H     |  | CORED 140.6 - 150.1 mbsf  |
|-------------------------|------------------|--------------|------------|--|---------|--------|--|---|
| Meter                   | Graphic<br>Lith. | Section      | Age        | Structure  | Disturb | Sample | Color  | Description   |
| direction of the second |                  | 1            |            |  |         |        | 2.5Y<br>5/1<br>to<br>10YR<br>2/1                     | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS,<br>CALCAREOUS SAND, and<br>CRYSTAL LITHIC SAND<br>Major Lithologies:<br>This core consists mainly of<br>interbedded white to light gray   |
| 8                       |                  | 2            |            | ≫ ≫ <b>+ F E E E E E E E E E E</b>                                 |         |        | 2.5Y<br>2.5/1<br>to<br>5Y<br>3/1                     | CALCAREOUS SAND and CLAYEY<br>NANNOFOSSIL OOZE WITH<br>FORAMINIFERS, and dark gray to<br>black CRYSTAL LITHIC SAND. Units<br>typically have sharp bases and are<br>normally graded.<br>Minor Lithologies:<br>Minor interbeds of white to light gray<br>CALCAREOUS SILTY SAND and<br>black LITHIC CRYSTAL SILTY          |
| P                       |                  | 4            | e Pliocene | 3 3  |         |        | N5<br>to<br>2.5Y<br>N5/0<br>N4<br>to<br>2.5Y<br>N4/0 | SAND, occur in Section 1, 14–15,<br>70–84, 106–107, and 137–150 cm,<br>Section 2, 0–8, 26–44, 52–69, 76–78,<br>91–103, 117–123, and 141–150 cm,<br>Section 3, 0–12, 23–39, 55–56,<br>81–82, and 93–98 cm, Section 4,<br>16–17, 28–29, 52–54, and 92–102<br>cm, Section 5, 60–62 and 104–119                             |
| 6                       |                  | 5            | late       | 3 33<br>3 33<br>3 3<br>3 3<br>3 3<br>3 3<br>3 3<br>3 3<br>3 3<br>3 |         |        | 2.5Y<br>N4/0<br>to<br>2.5Y<br>N5/0                   | cm, Section 6, 62–64 and 86–87 cm,<br>Section 7, 38–40 cm, and Section CC,<br>23–24 cm.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic. |
| 8                       |                  |              |            | = ↑ F<br>= ↑ F   |         | 0'     | 10Y<br>3/1   | Calcareous sands are generally<br>composed of broken and whole shell<br>fragments and whole foraminifer tests,  |
| E                       |                  | 6<br>7<br>CC |            | 33   |         | м      | 5Y<br>3/1<br>to<br>2.5Y<br>N5/0                      | and a minor amount of volcaniclastic material.  |



| SIT          | E 953 F          | IOL     | -E            | A CORE                   | : 1     | 7H     |                          | CORED 150.1 - 159.6 mbsf  |
|--------------|------------------|---------|---------------|--------------------------|---------|--------|--------------------------|---|
| Meter        | Graphic<br>Lith. | Section | Age           | Structure                | Disturb | Sample | Color                    | Description   |
| N. V. Linder |                  | 1       |               | *                        |         |        | N5<br>to<br>2.5Y<br>N4/0 | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS and<br>CALCAREOUS SAND WITH LITHICS<br>AND CRYSTALS<br>Major Lithologies:<br>This core consists mainly of<br>interbedded white to light gray<br>CALCAREOUS SAND WITH<br>LITHICS AND CRYSTALS and<br>CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS. Units  |
| 1            | 與111             |         |               |                          |         |        | 5Y<br>5/1                | typically have sharp bases and are<br>normally graded.  |
| 9            |                  | 3       | late Pliocene | *****                    |         |        | 2.5Y<br>N4/0<br>to<br>N5 | Minor Lithologies:<br>Minor interbeds of white to light gray<br>CALCAREOUS SAND and black<br>LITHIC CRYSTAL SAND, occur in<br>Section 1, 77–90, 97–100, 129–130,<br>and 144–146 cm, Section 3, 3–6, 6–7,<br>26–30, 52–53, 113–115, and 133–136<br>cm, Section 5, 119–129, 129–130,<br>and 136–141 cm, Section 6, 9–12, 30,<br>31, 33–38, 80–81, and 83–84 cm.<br>General Description:<br>This core consists of distinct interbeds |
| e d'aller    | -<br>TEFEFE      | 5       |               | 1 F<br>1 F<br>1 F<br>1 F |         |        | 5Y<br>5/1                | or the major and minor innoiogles.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally<br>composed of proken and whole shell   |
| T. T. T.     |                  | -       |               | <br>                     |         |        | 5Y<br>4/1<br>to<br>N5    | fragments and whole foraminifer tests,<br>and a minor amount of volcaniclastic<br>material.   |
| 6 P.         |                  | 6       |               | 3<br>                    |         | 0      | N5                       |   |
| -            |                  | cc      |               | 33                       |         |        |                          |   |



| SIT                   | E 953 H          | IOL     | E          | A CORE     | 1       | 8H     |  | CORED 159.6 - 169.1 mbsf   |
|-----------------------|------------------|---------|------------|------------|---------|--------|--|--|
| Meter                 | Graphic<br>Lith. | Section | Age        | Structure  | Disturb | Sample | Color                                  | Description  |
| the Lorine            |                  | 1       |            | 3 33       | WWWW    |        | N5/1                                   | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS and<br>CALCAREOUS SAND WITH LITHICS<br>AND CRYSTALS<br>Major Lithologies:<br>This core consists mainly of   |
| 2                     |                  | 2       |            | ***        |         | Sg     | N5/1<br>to<br>2.5Y<br>N3/0             | Interbedged white to light gray<br>CALCAREOUS SAND WITH LITHICS<br>AND CRYSTALS and CLAYEY<br>NANNOFOSSIL OOZE WITH<br>FORAMINIFERS. Units typically have<br>sharp bases and are normally graded.  |
| 4                     |                  | 3       |            | ****       |         |        | N5/1<br>to<br>10YR<br>3/1              | Minor Lithologies:<br>Minor interbeds of white to light gray<br>CALCAREOUS SILTY SAND and<br>black LITHIC CRYSTAL SAND and<br>TEPHRA LAYERS, occur in Section<br>1, 138–146 cm, Section 2, 44–55,  |
| 5                     |                  | 4       | e Pliocene | ***        |         |        | N5/1<br>to<br>2.5Y<br>N3/0             | 60-65, 64-86, 93-96, 11-115, and<br>130-131 cm, Section 3, 105-106,<br>121-124, and 138-139 cm, Section<br>4, 34-39 and 55-60 cm, Section 5,<br>108-112 and 128-136 cm, Section<br>6, 24-32 and 64-68 cm.  |
| Production Production |                  | 5       | lat        | <u></u> ++ | M       |        | 5Y<br>3/1<br>N5/1<br>to<br>2.5Y<br>5/2 | General Description:<br>This core consists of distinct<br>interbeds of the major and minor<br>lithologies. Bioturbation is common in<br>the upper parts of most lithologies.<br>Crystal and lithic sands are<br>yolcaniclastic. Calcareous sands are<br>generally composed of broken and |
| 8                     |                  | 6       |            | <br>       |         | 01     | N5/1<br>to                             | whole shell fragments and whole<br>foraminifer tests, and a minor amount<br>of volcaniclastic material.  |
| 9                     |                  | 7<br>CC |            | 3          |         |        | 2/1                                    |  |



| SII  | E 953 F          | 1OI     | -E  | A CORE    | : 1     | 9H     |                            | CORED 169.1 - 178.6 MDST  |
|--|------------------|---------|-----|-----------|---------|--------|----------------------------|---|
| Meter  | Graphic<br>Lith. | Section | Age | Structure | Disturb | Sample | Color                      | Description   |
| 1  |                  | 1       |     |           |         | т      | N5/1<br>to<br>2.5Y<br>N4/0 | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS<br>Major Lithology:<br>This core consists mainly of<br>interbedded CLAYEY NANNOFOSSIL<br>OOZE WITH FORAMINIFERS. Units<br>typically have sharp bases and are<br>normally graded.<br>Minor Lithologies:   |
| a state of the sta |                  | 3       |     |           |         |        | N5/1<br>to<br>2.5Y<br>N3/0 | CALCAREOUS Solution to light gray<br>CALCAREOUS SILTY SAND and<br>black LITHIC CRYSTAL SILTY<br>SAND, occur in Section 1, 32–33,<br>87–88, and 133–146 cm, Section 2,<br>21–22, 33–34, 38, 82, and 83–84 cm,<br>Section 3, 33–39, 51–52, 113–120,<br>and 146–150 cm, Section 4, 100–110<br>and 122–123 cm, Section 5, 8–13,<br>23–24, 52–54, 54–56, 64–65, and<br>100–101 cm, Section 6, 124–125 cm,<br>and Section 7, 62–64 cm |
| 5 6  |                  | 4       |     |           | ~~~~    | 0      | N5/1<br>to<br>2.5Y<br>4/2  | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally<br>composed of broken and whole shell<br>fragments and whole foraminifer tests,<br>and a minor amount of volcaniclastic<br>material                              |
|  |                  | 6       |     | ***       |         |        | N5/1<br>to<br>2.5Y<br>5/2  |   |



| SI      | TE 953 H         | IOL     | E        | A CORE  | 2       | он     |                                    | CORED 178.6 - 188.1 mbsf  |
|---------|------------------|---------|----------|---|---------|--------|------------------------------------|---|
| Meter   | Graphic<br>Lith. | Section | Age      | Structure   | Disturb | Sample | Color                              | Description   |
| 1       |                  | 1       |          | - ** *********************************  |         | S      | N5/1<br>to<br>2.5Y<br>N5/0         | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS and<br>CALCAREOUS SAND WITH LITHICS<br>AND CRYSTALS<br>Major Lithologies:<br>This core consists mainly of<br>interbedded white to light gray<br>CALCAREOUS SAND WITH LITHICS<br>AND CRYSTALS and CLAYEY<br>NANNOFOSSIL OOZE WITH<br>FORAMINIFERS. Units typically have<br>sharp bases and are normally graded. |
| 3       |                  | 3       |          | 3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3 |         |        | N2.5/1<br>to<br>2.5Y<br>N5/0       | Minor Lithologies:<br>Minor interbeds of white to light gray<br>CALCAREOUS SILTY SAND and<br>black LITHIC CRYSTAL SILTY SAND,<br>occur in Section 1, 19–32 and 113 cm,  |
| 4       |                  |         | ocene    |   |         |        | 5Y<br>3/1<br>to<br>2.5Y<br>N5/0    | Section 2, 110–112, 112–114,<br>122–128, 128–132, and 142–148 cm,<br>Section 3, 86–89, 103–106, 110–113,<br>and 127–131 cm, Section 4, 8–10,<br>38–42, 56–60, and 135–137 cm,<br>Section 5, 16–18 cm, 65 cm.  |
| and the |                  | 4       | late Pli | , 33  |         | .1     | 2.5Y<br>N4/0                       | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.   |
| N I I I |                  | 5       |          |   |         | s      | 2.5Y<br>N5/0<br>to<br>2.5Y<br>N4/0 | Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally<br>composed of broken and whole shell<br>fragments and whole foraminifer tests,   |
| 8<br>1  | FERRER           | 6       |          | 1 F<br>1 F<br>1 F<br>1 F<br>1 F   |         |        | 5Y<br>4/1                          | and a minor amount of volcaniclastic material.  |
| E       |                  | 7       |          | TP  | W M     | T      | 2.5Y<br>N5/0<br>to<br>2.5Y<br>N4/0 |   |



| SIT           | TE 953 H         | IOL     | E         | A CORE                | 2       | 1H     |  | CORED 188.1 - 192.6 mbsf  |
|---------------|------------------|---------|-----------|-----------------------|---------|--------|--|---|
| Meter         | Graphic<br>Lith. | Section | Age       | Structure             | Disturb | Sample | Color  | Description   |
| 1_            |                  | 1       | cene      | 3 22<br>-+ = 22<br>33 |         |        | 2.5Y<br>4/1<br>to<br>5Y<br>4/1<br>2.5Y<br>4/1<br>to<br>5Y<br>2/1 | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS and<br>CALCAREOUS SAND WITH LITHICS<br>AND CRYSTALS<br>Major Lithologies:<br>This core consists mainly of<br>interbedded white to light gray<br>CALCAREOUS SAND WITH LITHICS<br>AND CRYSTALS and CLAYEY<br>NANNOFOSSIL OOZE WITH   |
| here Brockers |                  | 3       | late Plio | »<br>»<br>»<br>»<br>» |         | Ом     |  | FORAMINIFERS. Units typically has<br>sharp bases and are normally grade<br>Minor Lithologies:<br>Minor interbeds of white to light gray<br>CALCAREOUS SAND and black<br>LITHIC CRYSTAL SAND, occur in<br>Section 1, 30–32, 46, and 109–116<br>cm, Section 2, 57–63, 73, and 97–11<br>cm, and Section 3, 54–56 and 126-<br>128 cm.   |
|               |                  |         |           |                       |         |        |  | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally<br>composed of broken and whole shell<br>fragments and whole foraminifer tests,<br>and a minor amount of volcaniclastic<br>material. |



| 511  | E 953 H          | IOL     | E       | B CORE             | 1)      | <u> </u>   | CORED 188.1 - 197.7 mbsf          |  |  |  |  |
|--|------------------|---------|---------|--------------------|---------|--|-----------------------------------|--|--|--|--|
| Meter  | Graphic<br>Lith. | Section | Age     | Structure          | Disturb | Sample   | Color                             | Description  |  |  |  |
| Eachman  |                  | 1       |         |                    | W       |  | 2.5Y<br>4/1                       | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS, CLAYEY<br>NANNOFOSSIL MIXED SEDIMENT,<br>and LITHIC CRYSTAL SAND WITH<br>FORAMINIFERS  |  |  |  |
| and from the   |                  | _       |         | <u>}</u>           |         | т  | 2.5Y<br>3/1                       | Major Lithologies:<br>This core consists mainly of<br>interbedded CLAYEY NANNOFOSSI  |  |  |  |
| L'indiana l'indi |                  | 2       |         |                    |         |  | 2.5Y<br>5/1<br>to<br>5Y<br>N2.5/0 | OOZE WITH FORAMINIFERS,<br>CLAYEY NANNOFOSSIL MIXED<br>SEDIMENT, and LITHIC CRYSTAL<br>SAND WITH FORAMINIFERS. Units<br>typically have sharp bases and are<br>normally graded.   |  |  |  |
| in the second second   |                  |         | liocene |                    |         |  | 2.5Y<br>5/1                       | Minor Lithologies:<br>Minor interbeds of white to light gray<br>CALCAREOUS SILTY SAND and  |  |  |  |
| Transform T  |                  | 4       | late P  |                    |         | 2.5Y<br>5/1<br>to<br>5Y<br>N3/0<br>T 2.5Y<br>5/1<br>to<br>10Y<br>3/1 | 2.5Y<br>5/1<br>to<br>5Y<br>N3/0   | Diack LTHIC CHYSTAL SILT<br>SAND, occur in Section 1, 91–93 cm,<br>Section 2, 39–50 and 120–124 cm,<br>Section 3, 22–27 cm, Section 4,<br>32–37 and 64–72 cm, Section 5,<br>11–15 and 47 cm, Section 6, 3–4, 40,<br>and 41–43 cm.                              |  |  |  |
| orton Froto  |                  | 6       |         | →                  |         |  | 2.5Y<br>5/1<br>to<br>10Y<br>3/1   | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally |  |  |  |
| 7  |                  | cc      |         | <sup>333</sup> (•) |         |  |                                   | composed of broken and whole shell<br>fragments and whole foraminifer tests<br>and a minor amount of volcaniclastic<br>material.   |  |  |  |



| NIE   | 953 F            | IOL     | E ( | C CORE    | : 1\    |        | CORED 0.0 - 187.0 mbsf |   |  |
|-------|------------------|---------|-----|-----------|---------|--------|------------------------|---|--|
| Meter | Graphic<br>Lith. | Section | Age | Structure | Disturb | Sample | Color                  | Description   |  |
|       |                  | 1       |     | ಭಕನ       |         |        |                        | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFER,<br>NANNOFOSSIL CHALK WITH<br>FORAMINIFER and CLAYSTONE<br>WITH NANNOFOSSIL<br>Major Lithologies:<br>This core consists mainly of<br>interbedded white to light gray<br>CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFER, light gray<br>NANNOFOSSIL CHALK WITH<br>FORAMINIFER and dark greenish<br>gray CLAYSTONE WITH<br>NANNOFOSSIL. Units are disturbed.<br>General Description:<br>This core consists of interbeds of the<br>major and minor lithologies. Strong<br>drilling disturbance. Color ranges<br>between 2Y 5/1 and 8Y 3/1. |  |

| SI    | TE 953 H         | 101     | E   | C CORE  | 2       | R           | CORED 187.0 - 196.5 mbsf       |  |  |  |  |
|-------|------------------|---------|-----|---|---------|-------------|--------------------------------|--|--|--|--|
| Meter | Graphic<br>Lith. | Section | Age | Structure   | Disturb | Sample      | Color                          | Description  |  |  |  |
|       |                  | 1       |     | 3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3 |         | S<br>S<br>O | 2.5Y<br>5/1<br>to<br>5Y<br>4/1 | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS<br>Major Lithology:<br>This core consists mainly of light gray<br>CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS.<br>Minor Lithologies:<br>Thin interbeds of dark gray LITHIC<br>FORAMINIFER SAND and black<br>CRYSTAL LITHIC SILTY SAND, occur<br>in Section 1, 18–19, 78–80, 106–110,<br>and 110–115 cm, Section 2, 5–16,<br>23–34, and 38–42 cm.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally<br>composed of whole foraminifer tests<br>and a minor amount of volcaniclastic<br>material. Colors range between black, |  |  |  |





| SIT   | ITE 953 HOLE C CORE 4R |         |     |                           |           |        | CORED 206.1 - 215.8 mbsf    |  |  |
|-------|------------------------|---------|-----|---------------------------|-----------|--------|-----------------------------|--|--|
| Meter | Graphic<br>Lith.       | Section | Age | Structure                 | Disturb   | Sample | Color                       | Description  |  |
|       |                        | 1       |     | 333 † F<br>333<br>333 † F | MWW HHHHH | 0      | 2.5Y<br>4/1<br>7.5GY<br>3/2 | FORAMINIFER NANNOFOSSIL<br>CHALK and FORAMINIFER<br>NANNOFOSSIL MIXED SEDIMENT<br>Major Lithologies:<br>This core consists mainly of<br>interbedded light gray FORAMINIFER<br>NANNOFOSSIL CHALK and<br>FORAMINIFER NANNOFOSSIL<br>MIXED SEDIMENT.<br>Minor Lithologies:<br>Minor Lithologies.<br>Minor Lithologies.<br>Minor Lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies.<br>Lithic<br>component of FORAMINIFER<br>SANDSTONE WITH LITHICS is<br>yolcaniclastic. Colors: range between |  |
|       |                        | _       |     |                           |           |        |                             | light gray and dark gray.  |  |



| SIT                  | E 953 H          | IOL     | .E            | C CORE    | : 5F       | R             | CORED 215.8 - 225.5 ml         |  |  |  |
|----------------------|------------------|---------|---------------|-----------|------------|---------------|--------------------------------|--|--|--|
| Meter                | Graphic<br>Lith. | Section | Age           | Structure | Disturb    | Sample        | Color                          | Description  |  |  |
| Sector Sector Sector |                  | 2       | late Pliocene |           | 111111 www | S S<br>O<br>M | 2.5Y<br>4/1<br>to<br>5Y<br>4/2 | FORAMINIFER NANNOFOSSIL<br>CHALK<br>Major Lithology:<br>This core consists mainly of<br>FORAMINIFER NANNOFOSSIL<br>CHALK.<br>Minor Lithologies:<br>Minor interbeds of dark gray to black<br>NANNOFOSSIL CLAY, occur in<br>Section 1, 18–22, 36–44, 59–64, and<br>95–109.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies.<br>FORAMINIFER NANNOFOSSIL<br>CHALK contains minor amounts of<br>volcaniclastic material. Colors range<br>between black, light gray, and dark |  |  |

| SIT   | E 953 H          | 101     | E   | C CORE    | 6       | R      |             | CORED 225.5 - 235.0 mbsf  |
|-------|------------------|---------|-----|-----------|---------|--------|-------------|---|
| Meter | Graphic<br>Lith. | Section | Age | Structure | Disturb | Sample | Color       | Description   |
| 111   |                  |         |     | []]]]     | >       | ΤS     | 5Y<br>2/1   | FORAMINIFER LITHIC SANDSTONE<br>and FORAMINIFER NANNOFOSSIL   |
| 1.1.1 |                  | [       |     | >>> ~~~   | WW      |        | 2.5Y<br>5/1 | CHALK   |
|       |                  |         |     |           |         |        |             | Major Lithologies:<br>This core consists mainly of<br>FORAMINIFER LITHIC SANDSTONE<br>and FORAMINIFER NANNOFOSSIL<br>CHALK.   |
|       |                  |         |     |           |         |        |             | Minor Lithologies:<br>Interbed of gray FORAMINIFER<br>LITHIC SANDSTONE in Section 1,<br>55–57 cm.   |
|       |                  |         |     |           |         |        |             | General Description:<br>Bioturbation is common in the upper<br>parts of calcareous lithologies. Lithic<br>sandstones are volcaniclastic. Colors<br>range between black, light gray, and<br>dark gray. |

| 953C-5R | 1                        | 2                | 953C-6R | 1       |
|---------|--------------------------|------------------|---------|---------|
|         |                          | 0                | -       |         |
| 5-      |                          | Selle?           | - 5-    |         |
| 10-     | -                        | The second       | - 10-   | 100     |
| 15-     |                          | 1                | - 15-   |         |
| 20-     | frankel.                 | 1                |         |         |
|         |                          | F                | _       |         |
| 25-     | 2                        |                  | - 25-   |         |
| 30—     | -                        | 1                | - 30-   |         |
| 35-     | -                        | 1200             | - 35-   |         |
| 40-     | 12 m                     | -                | - 40-   |         |
|         | 1.10                     | 1000             | -       | 1       |
| 45      |                          |                  | - 45-   | 1       |
| 50-     |                          |                  | - 50-   | See 1   |
| 55-     | 13 ml-                   |                  | - 55    | -       |
| 60-     |                          | Constant Section | - 60-   |         |
| -       | NEEDS -                  | 1                |         | A       |
| 65      | $\left\{ \cdot \right\}$ | 11               |         |         |
| 70-     |                          | 13 (             | - 70-   | 27-     |
| 75—     | 194                      |                  | - 75-   |         |
| 80-     |                          | 6                | - 60-   | 101     |
| -       | 1                        | CR.              |         | R.C.    |
|         |                          |                  | -       | PCEO)   |
| 90-     |                          |                  | - 90-   | 1.24-   |
| 95-     | 1                        | 600              | - 95    | -       |
| 100-    | -                        | 10               | - 100-  | -       |
| 105-    |                          | STRI             | - 105-  |         |
| -       | 1 Second                 | 13               | -       |         |
|         |                          | A DEC            | _ 110   | in the  |
| 115-    |                          | Settion.         | - 115-  | -       |
| 120-    | -                        |                  | - 120   | -       |
| 125-    |                          | P                | - 125-  | -       |
| 130-    | Trans.                   |                  | - 190-  |         |
|         | and the                  | 15               | -       |         |
| 135-    | in the                   |                  | - 135   |         |
| 140-    | 18.6                     | 15-AV            | - 140-  | -       |
| 145-    | 10000                    | and a            | - 145-  | <u></u> |
| 150-    | 6.5                      | PHIED.           | - 150-  | 1       |

| SIT  | E 953 H          | 953     HOLE C     CORE 7R       raphic     upped     Structure     upped       1th.     upped     Structure     upped       1     1     1     1       1     1     1     1       1     1     1     1       2     1     1     1       1     1     1     1       1     1     1     1       1     1     1     1       1     1     1     1       1     1     1     1       1     1     1     1       1     1     1     1       1     1     1     1 |               |  |         |          |  | CORED 235.0 - 244.6 mbsf   |
|--|------------------|--|---------------|--|---------|----------|--|--|
| Meter  | Graphic<br>Lith. | Section  | Age           | Structure  | Disturb | Sample   | Color  | Description  |
| date from the front of the fron |                  | 1<br>2<br>3  | late Pliocene | ↑ F<br>↑ F<br>↑ F<br>↑ F<br>↑ F<br>↑ F<br>↑ F<br>↑ F |         | s<br>T o | 5Y<br>3/1<br>to<br>5Y<br>5/1<br>2.5G<br>2.5/0<br>to<br>7.5G<br>2.5/0 | FORAMINIFER NANNOFOSSIL<br>CHALK and LAPILLISTONE<br>Major Lithologies:<br>This core consists mainly of<br>interbedded light gray FORAMINIFER<br>NANNOFOSSIL CHALK and dark<br>green-black LAPILLISTONE. Units<br>typically have sharp bases and are<br>normally graded.<br>General Description:<br>Bioturbation is common in the upper<br>parts of the FORAMINIFER<br>NANNOFOSSIL CHALK. The<br>LAPILLISTONE is poorly sorted with<br>subrounded to subangular grains and<br>clasts. Most are composed of black |
|  |                  |  |               |  |         |          |  | basaltic rock fragments and minor<br>chalk rip-up clasts. Several fining<br>upward sequences are present within<br>this unit. Colors range between 2Y 5/1<br>and 7G 2/0.4.   |

SITE 953 HOLE C CORE 8R CORED 244.6 - 254.1 mbsf Section Sample Structure District Meter Graphic Color Age Description Lith. FORAMINIFER NANNOFOSSIL †C CHALK, LITHIC SANDSTONE, and 333 CLAYEY SILTSTONE 1 F Major Lithologies: + F 33 This core consists mainly of interbedded FORAMINIFER 1 F NANNOFOSSIL CHALK, LITHIC SANDSTONE, and CLAYEY 2Y SILTSTONE. Units typically have 5/1 歴史 Pliocene sharp bases and are normally graded. to 2 2PB Minor Lithologies: 1/0.1 early Minor interbeds of LAPILLISTONE and 1-1-1-1-CLAYSTONE occur in Section 1, 0-17 :1-1----1 F cm, Section 2, 105-121 cm. 0 333 s General Description: 33 This core consists of distinct interbeds of the major and minor lithologies. Bioturbation is common in the upper 11 parts of most lithologies. Crystal and 1 F lithic sandstones are volcaniclastic. 4



| SIT          | TE 953 H         | IOL     | E             | C CORE                                   | 9          | R      |                                 | CORED 254.1 - 263.7 mbsf   |
|--------------|------------------|---------|---------------|--|------------|--------|---------------------------------|--|
| Meter        | Graphic<br>Lith. | Section | Age           | Structure                                | Disturb    | Sample | Color                           | Description  |
| the Location |                  | 1       |               | ↑ F 333<br>↑ F 333<br>↑ F 333<br>↑ F 333 |            |        | 2.5Y<br>4/2<br>to<br>10Y<br>3/1 | FORAMINIFER NANNOFOSSIL<br>CHALK, SILTY CLAYSTONE, LITHIC<br>SANDSTONE and LAPILLISTONE<br>Major Lithologies:<br>This core consists mainly of<br>interbedded FORAMINIFER   |
| 2            |                  | 2       | arly Pliocene | 33<br>33<br>33                           | - 1/1/1/1/ | 0      | 2.5Y<br>4/2                     | NANNOFOSSIL CHALK, SILTY<br>CLAYSTONE, LITHIC SANDSTONE,<br>and LAPILLISTONE. Units typically<br>have sharp bases and are normally<br>graded.<br>Minor Lithologies:  |
| 4            |                  | 3       | Ð             | ↑ F }}<br>↑ F }}<br>↑ F<br>}}            | HHHH MMMMM | т      | 10Y<br>3/1<br>to<br>2.5Y<br>3/2 | Minor interbeds of CLAYSTONE occur<br>in Section 1, 57–68 and 120–123 cm,<br>and Section 2, 143–150 cm.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sandstones are volcaniclastic. |

| SIT     | Graphic       Uotopool       Bit       Structure       Unit         Graphic       Uotopool       Structure       Unit       Structure         I       I       I       I       Structure       Structure         I       I       I       I       I       Structure       Structure         I       I       I       I       I       Structure       Structure       Structure         I       I       I       I       I       Structure       Structure       Structure         I       I       I       II       III       IIII       Structure       Struct |             |                |  |                   | OR          |             | CORED 263.7 - 273.4 mbsf  |
|---------|--|-------------|----------------|--|-------------------|-------------|-------------|---|
| Meter   | Graphic<br>Lith.   | Section     | Age            | Structure                              | Disturb           | Sample      | Color       | Description   |
| 1 2 3 4 |  | 1<br>2<br>3 | early Pliocene | ************************************** | VVVVV V H V H V H | S<br>S<br>M | 2.5Y<br>4/1 | NANNOFOSSIL CHALK<br>Major Lithology:<br>This core consists mainly of<br>interbedded white to light gray<br>NANNOFOSSIL CHALK. Units<br>typically have sharp bases and are<br>normally graded.<br>Minor Lithologies:<br>Minor Lithologies:<br>Minor interbeds of gray to black<br>LITHIC CRYSTAL SAND, occur in<br>Section 2, 49–53 and 134 cm.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic. |



| SIT         | TE 953 H         | HOLE C CORE 11F           unitid         unitid           structure         add           aby         structure           aby         add           aby         add |                |           |   | 1R             |                                | CORED 273.4 - 283.0 mbsf   |
|-------------|------------------|---|----------------|-----------|---|----------------|--------------------------------|--|
| Meter       | Graphic<br>Lith. | Section   | Age            | Structure | Disturb   | Sample         | Color                          | Description  |
| 1 2 3 4 5 6 |                  | 1<br>2<br>3<br>4<br>5<br>6  | early Pliocene |           | $(1) 1 \mapsto (1) (1) (1) \mapsto (1) (1) \mapsto (1) (1) (1) \mapsto (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)$ | O <sup>1</sup> | 2.5Y<br>5/2<br>to<br>5Y<br>4/1 | NANNOFOSSIL CHALK WITH<br>FORAMINIFERS AND LITHICS AND<br>CRYSTALS and CLAYEY<br>NANNOFOSSIL MIXED SEDIMENTS<br>Major Lithologies:<br>This core consists mainly of<br>interbedded light gray NANNOFOSSIL<br>CHALK WITH FORAMINIFERS AND<br>LITHICS AND CRYSTALS and<br>CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTS. Units typically have<br>sharp bases and are normally graded.<br>General Description:<br>Bioturbation is common in the upper<br>parts of the NANNOFOSSIL CHALK<br>WITH FORAMINIFERS AND LITHICS<br>AND CRYSTALS. Colors range<br>between white, light gray, and dark<br>gray. |

| SIT              | STTE 953 HOLE C CORE 12R |         |              |           |         |        |   | CORED 283.0 - 292.7 mbsf   |  |
|------------------|--------------------------|---------|--------------|-----------|---------|--------|---|--|--|
| Meter            | Graphic<br>Lith.         | Section | Age          | Structure | Disturb | Sample | Color   | Description  |  |
| Level Creek have |                          | 1       | ane          | 3         | +//+    |        | 2.5Y<br>4/2                                   | NANNOFOSSIL CHALK and<br>NANNOFOSSIL OOZE WITH CLAY<br>Major Lithologies:<br>This core consists mainly of<br>interbedded white to light gray<br>NANNOFOSSIL CHALK and<br>NANNOFOSSIL COZE WITH CLAY  |  |
| 3                |                          | 2<br>3  | early Plioce | ****      | ~       | м      | 2.5Y<br>4/2<br>to<br>5Y<br>4/1<br>2.5Y<br>4/2 | Units typically have sharp bases and<br>are normally graded.<br>General Description:<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic. Colors<br>range between white, light gray, and<br>dark gray. |  |



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| SI                         | TE 953 H         | 101                        | E              | C CORE    | 1       | 3R     |                          | CORED 292.7 - 302.4 mbsf  |
|----------------------------|------------------|----------------------------|----------------|-----------|---------|--------|--------------------------|---|
| Meter                      | Graphic<br>Lith. | Section                    | Age            | Structure | Disturb | Sample | Color                    | Description   |
| 1<br>3<br>4<br>6<br>7<br>7 |                  | 1<br>2<br>3<br>4<br>5<br>6 | early Pliocene |           |         | T<br>O | 2.5Y<br>5/2<br>5Y<br>4/2 | NANNOFOSSIL CHALK WITH<br>FORAMINIFERS<br>Major Lithology:<br>This core consists mainly of<br>NANNOFOSSIL CHALK WITH<br>FORAMINIFERS. Units typically have<br>sharp bases and are normally graded.<br>Minor Lithologies:<br>Minor interbeds of gray CLAYSTONE,<br>SILTSTONE and CLAYEY<br>NANNOFOSSIL MIXED SEDIMENT<br>occur in Section 1, 38, 51, 71–75,<br>78–80, 108–113, and 132–133 cm,<br>Section 2, 8–11, 56–61, 72–76,<br>89–96, 101–105, 106–118, 126–129,<br>and 142–143 cm, Section 3, 0–1,<br>30–33, 41–43, 43–60, 87–90, 91–96,<br>and 129–136 cm, Section 4, 11–13,<br>31–34, 75–80, 93–96, 96–106, and<br>127–132 cm, Section 5, 5–9, 42–51,<br>69–75, 86–95, 104–119, 123–127,<br>129–133, and 137–140 cm, Section 6,<br>5–7, 14–19, and 26–30 cm, and<br>Section CC, 6–10 cm.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the most<br>lithologies. Crystal and lithic sands<br>are volcaniclastic. Colors range<br>between white, light gray, and dark<br>gray. |



| 511                     | 2 330 1          | 101          |                | 0 00112   |  | 0             |                                 | 001120 002.4 012.1 1103   |
|-------------------------|------------------|--------------|----------------|-----------|--|---------------|---------------------------------|---|
| Meter                   | Graphic<br>Lith. | Section      | Age            | Structure | Disturt  | Sample        | Color                           | Description   |
| and and and and and and |                  | 1<br>2<br>CC | early Pliocene |           | $\forall \neg \neg$ | O I<br>S<br>M | 2.5Y<br>5/2<br>to<br>10Y<br>4/1 | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS<br>Major Lithology:<br>This core consists mainly of<br>interbedded white to light gray<br>CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS. Units<br>typically have sharp bases and are<br>normally graded.<br>Minor Lithologies:<br>Minor interbeds of gray<br>NANNOFOSSIL CLAY and black<br>LITHIC CRYSTAL SAND, occur in<br>Section 1, 3–8, 17–20, 41–43, 56–58,<br>and 127–130 cm, Section 2, 24–25<br>and 115–117 cm. |
|                         |                  |              |                |           |  |               |                                 | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic. Colors<br>range between white, light gray, and<br>dark gray.   |



| SIT         | E 953 H          | IOL     | E           | C CORE    | 1        | 5R     |                                 | CORED 312.1 - 321.6 mbsf  |
|-------------|------------------|---------|-------------|-----------|----------|--------|---------------------------------|---|
| Meter       | Graphic<br>Lith. | Section | Age         | Structure | Disturb  | Sample | Color                           | Description   |
| L.          |                  | 1       | ene         |           |          | s      | 2.5Y<br>5/2<br>to<br>5BG<br>4/1 | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS and LITHIC<br>CRYSTAL SILTY SAND<br>Major Lithologies:<br>This core consists mainly of<br>interbedded white to light gray  |
| No. No. No. |                  | 2       | early Plioc |           | 1-1-1- / | 0      | 2.5Y<br>5/1                     | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS, and dark<br>gray to black LITHIC CRYSTAL<br>SILTY SAND. Units typically have<br>sharp bases and are normally graded.<br>Minor Lithologies:  |
| 3           |                  | 3<br>CC |             | 333       | > ++     | S<br>M | 5Y<br>4/1                       | Minor interbeds of dark gray CLAY<br>WITH NANNOFOSSILS and black<br>LITHIC CRYSTAL SILTY SAND,<br>occur in Section 1, 20–23, 27–30, and<br>117–118 cm, Section 2, 48, 61, and<br>66 cm.   |
|             |                  |         |             |           |          |        |                                 | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic. Colors<br>range between white, light gray, and<br>dark gray. |

| SIT   | E 953 H          | IOL     | E              | C CORE                | 16      | 6R     |                                | CORED 321.6 - 331.1 mbsf  |
|-------|------------------|---------|----------------|-----------------------|---------|--------|--------------------------------|---|
| Meter | Graphic<br>Lith. | Section | Age            | Structure             | Disturb | Sample | Color                          | Description   |
| 1     |                  | 1       |                | 33<br>33<br>33        |         | 0      | 5Y<br>4/1                      | CLAYEY NANNOFOSSIL OOZE<br>Major Lithology:<br>This core consists mainly of CLAYEY<br>NANNOFOSSIL OOZE.<br>Minor Lithologies:<br>Minor interbeds of black CRYSTAL   |
| 3     |                  | 2<br>3  | early Pliocene | »<br>»<br>»<br>»<br>» |         | s s    | 5Y<br>4/1<br>to<br>2.5Y<br>4/2 | LITHIC SILTY SAND and dark gray<br>NANNOFOSSIL CLAY, occur in<br>Section 3, 28–31, 64–66, and<br>132–136 cm.<br>General Description:<br>This core consists of distinct<br>interbeds of the major and minor<br>lithologies. Bioturbation is common in<br>most lithologies. Crystal and lithic<br>sands are volcaniclastic. |



| SIT                                     | TE 953 HOLE C CORE 17R |         |                       |                   |         |        |                                 | CORED 331.1 - 340.6 mbsf  |  |  |
|---|------------------------|---------|-----------------------|-------------------|---------|--------|---------------------------------|---|--|--|
| Meter                                   | Graphic<br>Lith.       | Section | Age                   | Structure         | Disturb | Sample | Color                           | Description   |  |  |
| Freedomen                               |                        | 1       |                       | *                 |         |        | 2.5Y<br>4/2                     | NANNOFOSSIL OOZE WITH<br>FORAMINIFERS<br>Major Lithology:<br>This core consists mainly of<br>NANNOFOSSIL OOZE WITH<br>FORAMINIFERS.   |  |  |
| N 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |                        | 2       | Pliocene-late Miocene | 3                 |         |        | 2.5Y<br>4/2<br>To<br>5Y<br>4/1  | Minor Lithologies:<br>Minor interbeds of light gray<br>NANNOFOSSIL CLAYEY MIXED<br>SEDIMENT and CLAY WITH<br>NANNOFOSSILS occur in Section 2,<br>12–18 and 75–82 cm, Section 3,<br>8–10, 39–44, 52–54, and 88–92 cm |  |  |
| Printen Print                           |                        | 3       |                       | 333<br>333<br>333 |         |        | 2.5Y<br>4/2<br>To<br>5Y<br>3/1  | Section 4, 2–4, 29–31, and 134–136<br>cm, Section 5, 18–20, 38–50, 70–82,<br>and 116–129 cm.<br>General Description:<br>This core consists of distinct<br>interbeds of the major and minor                          |  |  |
| 5                                       |                        | 4       | earl                  | 333               |         |        | 2.5Y<br>4/2<br>To<br>5Y<br>4/1  | lithologies. Bioturbation is common in<br>the upper parts of most lithologies.  |  |  |
| Terr Version                            |                        | 5       |                       | 333<br>333<br>333 |         | s<br>s | 2.5Y<br>4/2<br>To<br>10Y<br>3/1 |   |  |  |



| SII                     | FE 953 H         | IOL     | E         | C CORE  | 18      | BR     |                                   | CORED 340.6 - 350.2 mbsf   |
|-------------------------|------------------|---------|-----------|---|---------|--------|-----------------------------------|--|
| Meter                   | Graphic<br>Lith. | Section | Age       | Structure   | Disturb | Sample | Color                             | Description  |
| the function            |                  | 1       |           | 3<br>   |         | s      | 5Y<br>4/1                         | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS<br>Major Lithology:<br>This core consists mainly of CLAYEY<br>NANNOFOSSIL OOZE WITH<br>FORAMINIFERS.  |
| 3                       |                  | 2       | ene       | ><br>33<br>33<br>33<br>33<br>33<br>33<br>33<br>33<br>33<br>33<br>33<br>33<br>33 |         |        | 2.5Y<br>4/2<br>to<br>10Y<br>2.5/2 | Minor Lithologies:<br>Minor interbeds of gray CLAYEY<br>NANNOFOSSIL MIXED SEDIMENT<br>occur in Section 1, 84–92, 110–111,<br>and 122–124 cm, Section 2, 72–80<br>cm, Section 3, 80–82 cm, Section CC,<br>117–119 cm. |
| The first second second |                  | 3       | late Mioc | 33<br>1 E   |         |        |                                   | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in most<br>lithologies.  |
| 5                       |                  | 4       |           |   |         | 0      | 2.5Y<br>4/2                       |  |
| 6                       |                  |         |           |   |         | S      |                                   |  |
| 1                       |                  | cc      |           |   |         | т      |                                   |  |

| SIT   | E 953 H          | IOL     | E            | C CORE    | 1       | CORED 350.2 - 359.8 mbsf |                                |   |
|-------|------------------|---------|--------------|-----------|---------|--------------------------|--------------------------------|---|
| Meter | Graphic<br>Lith. | Section | Age          | Structure | Disturb | Sample                   | Color                          | Description   |
| N     |                  | 1<br>2  | late Miocene | **        |         | s<br>o<br>T s            | 5Y<br>3/1<br>to<br>2.5Y<br>3/2 | CLAYEY NANNOFOSSIL OOZE and<br>CLAYEY NANNOFOSSIL MIXED<br>SEDIMENT<br>Major Lithologies:<br>This core consists mainly of<br>interbedded CLAYEY NANNOFOSSIL<br>OOZE and CLAYEY NANNOFOSSIL<br>MIXED SEDIMENT.<br>General Description:<br>Folded beds and clay clasts from<br>0.3–2.7 m. |



| SIT         | TE 953 H         | IOL     | E            | C CORE                                | 20      | R      | CORED 359.8 - 369.5 mbsf       |   |  |  |
|-------------|------------------|---------|--------------|---------------------------------------|---------|--------|--------------------------------|---|--|--|
| Meter       | Graphic<br>Lith. | Section | Age          | Structure                             | Disturb | Sample | Color                          | Description   |  |  |
| 1           |                  | 1       |              | 33                                    |         | S      | 2.5Y<br>3/2<br>to<br>5Y<br>3/1 | CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS and<br>NANNOFOSSIL CLAYEY MIXED<br>SEDIMENT<br>Major Lithologies:<br>This core consists mainly of  |  |  |
| 2           |                  | 2       |              | N N N N N N N N N N N N N N N N N N N |         | S      | 2.5Y<br>3/2                    | Interbedded white to light gray<br>CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS, and gray<br>NANNOFOSSIL CLAYEY MIXED<br>SEDIMENT. Units typically have sharp<br>bases and are normally graded.   |  |  |
| Print Print |                  | 3       | late Miocene | 333                                   | +++     | S      | 2.5Y<br>4/2                    | Minor interbeds of white to light gray<br>CLAY WITH NANNOFOSSILS and<br>black LITHIC CRYSTAL SILTY SAND,<br>occur in Section 2, 67–70, 88–89,<br>92–94, 110–111, 122–124, and<br>144–146 cm, Section 3, 14–16,<br>22–24, 30–34, 63–70, and 99–107 |  |  |
| 5           |                  | 4       |              | 3                                     |         | 10     | 2.5Y<br>4/2<br>to              | cm, Section 4, 10–14, 33–34, 83–84,<br>106–110, 122–123, and 123–129 cm,<br>Section 5, 30–33, 90–91, 107–109,<br>and 145 cm.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.           |  |  |
| 2           |                  | 5       |              | <u>}}</u>                             |         | м      | 5Y<br>4/1                      | parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic. Colors<br>range between white, light gray, and<br>dark gray. Folded beds and clay clasts<br>from 1.3–2.0 m.  |  |  |



| SIT      | FE 953 H         | IOL     | _E           | C CORE                                    | 2                  |        | CORED 369.5 - 379.1 mbsf       |  |
|----------|------------------|---------|--------------|---|--------------------|--------|--------------------------------|--|
| Meter    | Graphic<br>Lith. | Section | Age          | Structure                                 | Disturb            | Sample | Color                          | Description  |
| <b>L</b> |                  | 1       |              | ***                                       |                    |        | 5Y<br>3/1<br>to<br>5Y<br>5/2   | CLAYEY NANNOFOSSIL MIXED<br>SEDIMENT and NANNOFOSSIL<br>OOZE WITH FORAMINIFERS<br>Major Lithologies:<br>This core consists mainly of<br>interbedded white to light gray  |
| 2        |                  | 2       |              |   |                    | S<br>S | 5Y<br>4/1<br>to<br>2.5Y<br>5/2 | NANNOFOSSIL OOZE WITH<br>FORAMINIFERS and CLAYEY<br>NANNOFOSSIL MIXED SEDIMENT.<br>Units typically have sharp bases and<br>are normally graded.<br>Minor Lithologies:<br>Minor Lithologies:  |
| A A      |                  | 3       | late Miocene | ****                                      |                    | S      | 2.5Y<br>3/2<br>to<br>5Y<br>3/1 | CALCAREOUS SI WITE SINGLY SAND, gray<br>laminated FORAMINIFER SAND, and<br>black LITHIC CRYSTAL SILTY SAND,<br>occur in Section 2, 22–25 and 68 cm,<br>Section 3, 23–26, 67, 89–90, 96, 103,<br>and 129 cm, Section 5, 15–19, 35–36,<br>40–41, 70–76, 84–88, 107–110, and<br>110–113 cm.   |
| 5        |                  | 4       |              | *<br>#################################### | H. The second H is | 0      | 2.5Y<br>3/2                    | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic.<br>Calcareous sands are generally<br>composed of broken and whole shell<br>fragments and whole foraminifer tests,<br>and a minor amount of volcaniclastic<br>material. Colors range between white,<br>light gray, and dark gray. Folded beds<br>and clay clasts from 4.7–6.0 m. |


| 511                                     | E 953 F          |         | E       | C CORE  | 24      | 2H     |                                  | CORED 379.1 - 388.6 mbst   |
|---|------------------|---------|---------|---|---------|--------|----------------------------------|--|
| Meter                                   | Graphic<br>Lith. | Section | Age     | Structure   | Disturb | Sample | Color                            | Description  |
| Linetan                                 |                  | 1       |         |   |         |        | 2.5Y<br>3/2<br>to<br>5Y<br>3/2   | CLAYEY NANNOFOSSIL MIXED<br>SEDIMENT, CLAYEY<br>NANNOFOSSIL OOZE WITH<br>FORAMINIFERS and CRYSTAL<br>LITHIC SILTY SAND<br>Major Lithologies:   |
| E N N N N N N N N N N N N N N N N N N N |                  | 2       |         | >>><br>>>><br>>>><br>>>><br>>>>><br>>>>>>>>>>>>>>>>>> |         |        | 5Y<br>4/1<br>to<br>2.5Y<br>4/2   | This core consists mainly of<br>interbedded gray CLAYEY<br>NANNOFOSSIL MIXED SEDIMENT,<br>CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS, and dark<br>gray to black CRYSTAL LITHIC<br>SILTY SAND. Units typically have<br>sharp bases and are normally graded.   |
| builtin                                 |                  | 3       | Miocene | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~                |         |        | 5Y<br>4/1<br>to<br>2.5Y<br>3/2   | Minor Lithologies:<br>Minor interbeds of green gray to black<br>LITHIC CRYSTAL SILTY SAND and<br>LITHIC CRYSTAL SILT occur in<br>Section 1, 18–20, 40–41, 66–69,<br>80–81, 92, 97–102, and 109–110 cm,   |
| 2010                                    |                  | 4       | late    |   |         |        | 2.5Y<br>4/2<br>to<br>5Y<br>3/1   | Section 2, 12–15, 43, and 61 cm,<br>Section 3, 34 cm, Section 4, 22–24,<br>78–83, 94–101, 111–112, and<br>142–146 cm, Section 5, 125–127,<br>131–133, and 140–141 cm, and<br>Section 6, 17–18 cm.  |
| P. Linner                               |                  | 5       |         | *   |         |        | 2.5Y<br>3/2<br>to<br>5Y<br>2.5/1 | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic. Colors<br>range between white, light gray, and<br>dark gray. Folded beds and clay |
| 8                                       |                  | 6<br>CC |         |   | V HHH   | м      | 5Y<br>4/1                        | clasts from 0.8–1.5 m.   |



| SI                      | FE 953 ⊦         | IOL     | E           | C CORE   | 2       | 3R                            |                                | CORED 388.6 - 398.1 mbsf   |  |  |
|-------------------------|------------------|---------|-------------|--|---------|-------------------------------|--------------------------------|--|--|--|
| Meter                   | Graphic<br>Lith. | Section | Age         | Structure  | Disturb | Sample                        | Color                          | Description  |  |  |
| T. C. C. C. C. C. C. C. |                  | 1       |             |  |         |                               | 5Y<br>3/1                      | CLAYEY NANNOFOSSIL MIXED<br>SEDIMENT and CLAYEY<br>NANNOFOSSIL OOZE WITH<br>FORAMINIFERS<br>Major Lithologies:<br>This core consists mainly of   |  |  |
| 2                       |                  | 2       |             |  |         |                               | 5Y<br>3/1<br>to<br>2.5Y<br>3/2 | interbedded gray CLAYEY<br>NANNOFOSSIL MIXED SEDIMENT<br>and CLAYEY NANNOFOSSIL OOZE<br>WITH FORAMINIFERS. Units<br>typically have sharp bases and are<br>normally graded.   |  |  |
| 4                       |                  | 3       | ate Miocene | 3<br>3<br>3  |         |                               | 2.5Y<br>3/2<br>to<br>5Y<br>3/1 | Minor Lithologies:<br>Minor interbeds of gray CLAY WITH<br>NANNOFOSSILS and black LITHIC<br>CRYSTAL SILTY SAND, occur in<br>Section 1, 28–33, 38–41, 56–60,<br>88–90, 104–107, 111–114, and<br>117–122 cm, Section 2, 14–17,<br>34–39, 51–56, 75–81, 115–118, and    |  |  |
| 5                       |                  | 4       |             | 2<br>2<br>2<br>2<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3 |         |                               | 2.5Y<br>4/2<br>to<br>5Y<br>3/1 | 131–136 cm, Section 3, 45–55,<br>59–60, 93–95, 106–113, and 133–136<br>cm, Section 4, 15, 49–50, 76–81,<br>108–109, and 115–117 cm, Section 5,<br>54–59, 72–75, 119–120, and 140 cm.<br>General Description:   |  |  |
| 2                       |                  | 5       |             |  |         | o <sup>l</sup><br>s<br>s<br>M | 5Y<br>3/1<br>to<br>10GY<br>3/0 | of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sands are volcaniclastic. Colors<br>range between white, light gray, and<br>dark gray. Folded beds and clay<br>clasts from 4.5–4.6 m. |  |  |



| SIT   | TE 953 H         | IOL          | E            | C CORE   | 2           | 4R     |  | CORED 398.1 - 407.7 mbsf  |
|-------|------------------|--------------|--------------|--|-------------|--------|--|---|
| Meter | Graphic<br>Lith. | Section      | Age          | Structure  | Disturb     | Sample | Color  | Description   |
|       |                  | 1 2 3        | late Miocene | 1     F     33       1     F     33 | 11111111111 | 0      | 5Y<br>4/1<br>to<br>2.5Y<br>3/2<br>2.5Y<br>3/2<br>to<br>5Y<br>4/1 | NANNOFOSSIL CHALK and CLAYEY<br>NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK<br>Major Lithologies:<br>This core consists mainly of<br>interbedded light gray NANNOFOSSIL<br>CHALK and CLAYEY NANNOFOSSIL<br>CHALK and CLAYEY NANNOFOSSIL<br>MIXED SEDIMENTARY ROCK. Units<br>typically have sharp bases and are<br>normally graded.<br>Minor Lithologies:<br>Minor Litho |
| 6     |                  | 4<br>5<br>CC |              | 1 F 33<br>1 F 33<br>1 F 33<br>33   |             | s<br>M | 5Y<br>4/1<br>to<br>5GY<br>2/1                                    | of the major and minor lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sandstones are volcaniclastic.   |



| SIT             | E 953 H          | 953     HOLE C     CORE     25R       Graphic     000     000     Structure     000       Lith.     000     000     Structure     000       1     000     000     000     000       2     000     000     000       1     000     000     000       1     000     000     000       2     000     000     000       3     000     000     000       3     000     000     000       3     000     000     000 |         |                                 |             |        |                                       | CORED 407.7 - 417.3 mbsf  |  |  |  |
|-----------------|------------------|---|---------|---------------------------------|-------------|--------|---------------------------------------|---|--|--|--|
| Meter           | Graphic<br>Lith. | Section   | Age     | Structure                       | Disturb     | Sample | Color                                 | Description   |  |  |  |
| and an Frederic |                  | 1   |         |                                 | V 1/1/1/1 V |        | 5Y<br>3/1<br>to<br>10Y<br>3/1<br>2.5Y | SILTY CLAYEY MIXED<br>SEDIMENTARY ROCK and<br>CLAYSTONE<br>Major Lithologies:<br>This core consists mainly of<br>interbedded SILTY CLAYEY MIXED<br>SEDIMENTARY ROCK and<br>CLAYSTONE. Units typically have      |  |  |  |
| 2               |                  | 2   | ocene   | 1 F = 3<br>1 F = 3              | _           |        | 5/2<br>to<br>5Y<br>3/1                | sharp bases and are normally graded.<br>Minor Lithologies:<br>Minor interbeds of CALCAREOUS<br>SANDSTONE WITH FORAMINIFERS<br>and LITHIC CRYSTAL SANDSTONE.   |  |  |  |
| the free free   |                  | 3   | late Mi | - 33<br>33<br>33<br>33          | ****        | s      | 2.5Y<br>3/2                           | occur in Section 1, 143–150 cm,<br>Section 2, 114–116 cm, and Section<br>4, 0–5 and 32–34 cm.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.        |  |  |  |
| Lun Paris       |                  | 4   |         | »<br>33<br>33<br>33<br>33<br>33 | V           | S      | 5Y<br>4/1<br>to<br>10Y<br>3/1         | Bioturbation is common in the upper<br>parts of most lithologies. Planar and<br>cross-laminations are common in the<br>lower parts of most lithologies. Crystal<br>and lithic sandstones are<br>volcaniclastic. |  |  |  |



|   | 2 000 1          | 6       | 1          | 0 00112  |         |          |                                  |   |
|---|------------------|---------|------------|--|---------|----------|----------------------------------|---|
| Meter   | Graphic<br>Lith. | Section | Age        | Structure  | Disturb | Sample   | Color                            | Description   |
| Landand   |                  | 1       |            | ₩<br>★ F   |         |          | 5Y<br>3/1<br>to<br>10GY<br>2.5/0 | CLAYSTONE, CLAYSTONE WITH<br>NANNOFOSSILS, and<br>NANNOFOSSIL CLAYSTONE<br>Major Lithologies:<br>This core consists mainly of<br>interbedded CLAYSTONE,   |
| to the second second  |                  | 2       | ane        | ***  |         |          | 5Y<br>3/1<br>to<br>5GY<br>2/1    | CLAYSTONE WITH NANNOFOSSILS,<br>and NANNOFOSSIL CLAYSTONE.<br>Units typically have sharp bases and<br>are normally graded with planar<br>laminated siltstone bases.<br>General Description:<br>This core consists of thin to medium<br>interbeds of the major lithologies.<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic siltstones at the basal contacts<br>are volcaniclastic. |
| The second se | HEREFER F        | 3       | late Mioce | 33<br>22<br>23<br>24<br>24<br>24<br>24<br>24<br>24<br>24<br>24<br>24<br>24<br>24<br>24<br>24 |         | l o<br>s | 5Y                               |   |
| I've Frankline  |                  | 4       |            | *  |         |          | 3/1<br>to<br>7.5G<br>2.5/0       | 2   |



| SI      | FE 953 H         | IOL     | E          | C CORE    | 2       | 7R     |                               | CORED 427.0 - 436.6 mbsf  |
|---------|------------------|---------|------------|-----------|---------|--------|-------------------------------|---|
| - Meter | Graphic<br>Lith. | Section | Age        | Structure | Disturb | Sample | Color                         | Description   |
| 1       |                  | 1       | e.         |           |         | S      | 5Y<br>3/1<br>to<br>10Y<br>3/1 | NANNOFOSSIL CHALK WITH CLAY<br>and CLAYSTONE WITH<br>NANNOFOSSILS<br>Major Lithologies:<br>This core consists mainly of<br>interbedded NANNOFOSSIL CHALK<br>WITH CLAY and CLAYSTONE WITH<br>NANNOFOSSILS. Units typically have<br>sharp bases and are normally graded<br>with silty sandstone at the base.<br>General Description:<br>This core consists of thin to medium<br>interbeds of the major lithologies. |
| 4       |                  | 3 4 5   | late Mioce |           |         | O<br>S | 5Y<br>4/1<br>to<br>5Y<br>3/1  | Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sandstones at the bases of most<br>beds are volcaniclastic.   |



| SITE 953 H       | 953 HOLE C CORE 28F         Graphic Lith.       00         00       00 |              |           |         |        |   | CORED 436.6 - 446.2 mbsf  |
|------------------|--|--------------|-----------|---------|--------|---|---|
| Graphic<br>Lith. | Section  | Age          | Structure | Disturb | Sample | Color   | Description   |
|                  | 1<br>2<br>3<br>4<br>5  | late Miocene |           |         | 0<br>T | 5Y<br>4/1<br>5Y<br>3/1<br>5Y<br>5/1<br>to<br>2.5Y<br>N4/0<br>5GY<br>3/1 | NANNOFOSSIL CHALK WITH CLAY,<br>CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK and<br>CLAYSTONE WITH NANNOFOSSILS<br>Major Lithologies:<br>This core consists of interbedded<br>NANNOFOSSIL CHALK WITH CLAY,<br>CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK, and<br>CLAYSTONE WITH<br>NANNOFOSSILS. Units typically have<br>sharp bases and are normally graded.<br>Sandstone bases are commonly<br>planar- and cross-laminated.<br>General Description:<br>This core consists of interbeds of the<br>major lithologies. Bioturbation is<br>common in the upper parts of most<br>lithologies. Crystal and lithic<br>sandstones are volcaniclastic. |







SITE 953

| SIT             | FE 953 H         | IOL     | E        | C CORE                                | 30            | DR     |                                  | CORED 455.9 - 465.5 mbsf  |
|-----------------|------------------|---------|----------|---------------------------------------|---------------|--------|----------------------------------|---|
| Meter           | Graphic<br>Lith. | Section | Age      | Structure                             | Disturb       | Sample | Color                            | Description   |
| the Contraction |                  | 1       |          |                                       | 1             |        | 5Y<br>4/1<br>to<br>10GY<br>2.5/0 | CLAYSTONE and NANNOFOSSIL<br>CLAYSTONE<br>Major Lithologies:<br>This core consists of interbedded<br>CLAYSTONE and NANNOFOSSIL<br>CLAYSTONE. Units typically have |
| 2 1 1 1 1 1 1 1 |                  | 2       | cene     | 33<br>33<br>33                        |               |        | 5Y<br>4/1<br>to<br>5GY<br>3/1    | General Description:<br>Bioturbation is common in the upper<br>parts of most lithologies. Crystal and<br>lithic sandstones and siltstones are<br>volcasicilastic. |
| 3               |                  | 3       | late Mio | ***                                   | 1111111111111 |        | 5Y<br>4/1<br>to<br>5Y<br>3/1     | voicaniciasiic.   |
| 5               |                  | 4       |          | >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>> | 111111111111  | O<br>T | 5Y<br>4/1<br>to<br>10GY<br>2.5/0 |   |







| SIT   | E 953 H          | IOL     | E           | C CORE        | 32                                      | 2R     |                               | CORED 475.2 - 484.9 mbsf   |
|---|------------------|---------|-------------|---------------|---|--------|-------------------------------|--|
| Meter   | Graphic<br>Lith. | Section | Age         | Structure     | Disturb                                 | Sample | Color                         | Description  |
| to the twee   |                  | 1       |             | ะ<br>พิพพพพพพ |   |        | 5Y<br>3/1<br>to<br>5Y<br>4/1  | CLAYSTONE WITH NANNOFOSSILS,<br>CLAYSTONE and CLAYEY<br>NANNOFOSSIL CHALK<br>Major Lithologies:<br>This core consists mainly of interbedded<br>gray CLAYSTONE WITH   |
| in Landan Para  |                  | 2       | ate Miocene | *             | > s                                     | S      | 5Y<br>4/1<br>to<br>5GY<br>3/1 | NANNOFOSSILS, CLAYSTONE, an<br>CLAYEY NANNOFOSSIL CHALK. U<br>typically have sharp bases.<br>Minor Lithologies:<br>Minor interbeds of CLAYEY<br>SANDSTONE occurs in Section 1,<br>11–16 cm, CRYSTAL SANDSTONE<br>occurs in Section 3, 12–15 cm, CLAY<br>SILTSTONE occurs in Section 2, 0–6 |
| and and and and and and and a second s |                  | 3       |             |               | 111111111111111111111111111111111111111 | 0      | 5Y<br>4/1<br>to<br>5Y<br>3/1  | cm, Section 3, 112–117 cm, Section 4,<br>28–29, 37–38, 46–47, 50–51, 80, 97–98<br>and 112–113 cm, and Section CC, 22<br>cm.<br>General Description:<br>This core consists of distinct interbeds o<br>the major and minor lithologies. Folded<br>beds and clay clasts from 0.2–1.5 m.       |



| SIT   | E 953 H          | IOL     | E          | C CORE                                 | 3       | 3R     |   | CORED 484.9 - 494.5 mbsf  |
|-------|------------------|---------|------------|--|---------|--------|---|---|
| Meter | Graphic<br>Lith. | Section | Age        | Structure                              | Disturb | Sample | Color                                     | Description   |
| 2     |                  | 1       | ene        |  |         | s      | 3Y<br>40<br>5Y<br>3.5/0.5<br>6GY<br>2/0.5 | CLAYEY MIXED SEDIMENTARY<br>ROCK, CLAYSTONE WITH<br>NANNOFOSSILS and<br>NANNOFOSSIL CHALK<br>Major Lithologies:<br>This core consists mainly of<br>interbedded CLAYEY MIXED<br>SEDIMENTARY ROCK,<br>CLAYSTONE WITH<br>NANNOFOSSILS, NANNOFOSSIL<br>CHALK. Units typically have sharp<br>bases.  |
| 3     |                  | 3       | late Mioce | ************************************** |         | 0      | 1Y<br>3/0.5<br>8Y<br>3/1                  | Minor Lithologies:<br>Minor Lithologies:<br>SILTSTONE occur in Section 1,<br>37–38, 41–42, 97–98, and 116–117<br>cm, Section 2, 22–23, 33–34, 36–37,<br>54–55, and 131.5 cm, Section 3,<br>11–12, 22, 52, and 81 cm, Section 4,<br>0–1, 13–14, and 84.5 cm, CRYSTAL<br>LITHIC SANDSTONE occur in<br>Section 1, 27–25 cm, Section 2,<br>72–80 cm, Section 3, 107–122 cm,<br>Section 4, 30 cm.            |
|       |                  | CC      |            | ***                                    | - >     | M      |   | General Description:<br>General lithology:<br>This core consists mainly of distinct<br>interbeds of the major and minor<br>lithologies. Thin interbeds of CLAYEY<br>MIXED SEDIMENTARY ROCK occur<br>in Section 4, 6.5–30 and 43–50 cm,<br>NANNOFOSSIL CHALK occur in<br>Section 2, 98–119 cm, Section 4,<br>30–43 cm. Crystal lithic siltstones and<br>crystal lithic sandstones are<br>volcaniclastic. |



| SIT                                     | TE 953 H         | IOL     | E         | C CORE                               | 3                                       | 4R     |                                      | CORED 494.5 - 504.1 mbsf  |
|---|------------------|---------|-----------|--------------------------------------|---|--------|--------------------------------------|---|
| Meter                                   | Graphic<br>Lith. | Section | Age       | Structure                            | Disturb                                 | Sample | Color                                | Description   |
| Loutor                                  |                  | 1       |           | * F<br>33                            | 11111111                                |        | 2.5Y<br>N3/0<br>to<br>7.5GY<br>2.5/1 | CLAYEY MIXED SEDIMENTARY<br>ROCK and CLAY WITH<br>NANNOFOSSILS<br>Major Lithologies:  |
| 2                                       |                  | 2       |           | ↑ F 33<br>=<br>↑ F 33<br><<br>↑ F 33 | 11111111111111111                       |        | 10YR<br>2/1<br>to<br>5Y<br>3/1       | Inis core consists mainly of<br>interbedded CLAYEY MIXED<br>SEDIMENTARY ROCK and CLAY<br>WITH NANNOFOSSILS. Units<br>typically have sharp bases.<br>Minor Lithologies:<br>Minor interbeds of NANNOFOSSIL<br>CHALK occur in Section 1, 0–4 cm,<br>Section 4, 0, 21 cm, UTHIC |
| 4                                       |                  | 3       | e Miocene | €III II<br>≫                         | 11111111111                             |        | 5GY<br>2/1<br>to<br>5Y<br>3/1        | CRYSTAL SILTSTONE occur in<br>Section 1, 23–24.5 and 142–146.5<br>cm, Section 2, 14–17, 24–25, 34–35,<br>and 40–42 cm, Section 5, 23–35 cm,<br>Section 5, 99–103.5 cm, black LITHIC<br>CRYSTAL SANDSTONE occur in   |
| 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |                  | 4       | lat       | 33                                   | /////////////////////////////////////// | 0      | 10Y<br>3/1                           | Section 2, 77–79 and 99–101.5 cm,<br>Section 3, 59–63 and 77–79 cm,<br>Section 4, 56–59, 66–69, and 88.5–90<br>cm, Section 5, 37–39, 62–63.5, and<br>69–71.5 cm.<br>General Description:  |
| 6                                       |                  | 5       |           | »<br>↑ F<br>33                       | 111111111111                            | S      | to<br>5Y<br>4/1                      | This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Lithic crystal siltstones and<br>sandstones are volcaniclastics.   |
| i                                       |                  | 6       |           | 333<br>333                           | 1111                                    | м      |                                      |   |



| SIT            | E 953 H          | IOL     | E         | C CORE       | 3       | 5R     |              | CORED 504.1 - 513.8 mbsf   |
|----------------|------------------|---------|-----------|--------------|---------|--------|--------------|--|
| Meter          | Graphic<br>Lith. | Section | Age       | Structure    | Disturb | Sample | Color        | Description  |
| -Lever         |                  |         |           | থগথ          | 1111    |        | 6Y<br>4/0.5  | CLAYEY MIXED SEDIMENTARY<br>ROCK, VOLCANIC BRECCIA and<br>CONGLOMERATE   |
| Luntur         |                  |         |           | NNN<br>N     | 1111111 |        | 6GY<br>3/0.5 | Major Lithologies:<br>This core consists mainly of<br>interbedded white CLAYEY MIXED   |
| 2              |                  | 2       | ene       | 3            | 3       |        | 8Y<br>4.1    | BRECCIA, CONGLOMERATE. Units<br>typically have sharp bases.<br>Minor Lithologies:  |
| 3              |                  | _       | te Miocen | 33           |         |        | 5Y<br>4.1    | Minor interbeds of light gray<br>NANNOFOSSIL CHALK occur in<br>Section 3, 0–11 cm, dark gray LITHIC<br>CRYSTAL SANDSTONE AND                             |
| T              |                  | 3       | la        |              | 11111   | , S    | 8Y           | SILTSTONE occur in Section 3,<br>27–28 and 50–51 cm.<br>General Description:   |
| and the second |                  | 4       |           | -m 333       | 111111  | 0      | 4.1          | This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Volcanic breccia and lithic crystal<br>sandstones are volcaniclastic. |
| 5              |                  | 20      |           | >>>><br>>>>> | 11111   | м      | 5GY<br>3/0.5 | n en la mentionale anna pour la construction de la Cola Cola de  |



| SI       | TE 953 H         | 101     | E            | C CORE   | 3   | 6R     | CORED 513.8 - 523.5 mbsf  |   |  |  |  |
|----------|------------------|---------|--------------|--|---|--------|---|---|--|--|--|
| Meter    | Graphic<br>Lith. | Section | Age          | Structure  | Disturb   | Sample | Color   | Description   |  |  |  |
| 2<br>3   |                  | eS 1    | cene e       |  | Di  | Sa     | O<br>5Y<br>4/1<br>to<br>5GY<br>2/1<br>5Y<br>4/1<br>to<br>5Y<br>2/1<br>5Y<br>4/1 | NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CHALK and<br>NANNOFOSSIL CLAYSTONE<br>Major Lithologies:<br>This core consists mainly of<br>interbedded NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CHALK, and<br>NANNOFOSSIL CLAYSTONE. Units<br>typically have sharp bases and<br>bioturbated tops.<br>Minor Lithology:<br>Minor Lithology: |  |  |  |
| <b>.</b> |                  | 3       | late Miocene | 200<br>200<br>200<br>200<br>200<br>200<br>200<br>200<br>200<br>200 |   |        | to<br>7.5GY<br>2.5/1  | LITHIC SILTY SANDSTONE at the<br>bases of many beds.<br>General Description:<br>This core consists of distinct interbeds<br>of the maior and minor lithologies  |  |  |  |
| . L      |                  | 4       |              | ***  | +   |        | 10Y<br>3/1<br>to<br>5GY<br>3/1  | Lithic component of FORAMINIFER<br>LITHIC SILTY SANDSTONE are<br>volcanic rock fragments.   |  |  |  |
| 6        |                  | 5       |              | ***  | $\neg \neg $ |        | 5Y<br>2/1<br>to<br>5GY<br>2/1   |   |  |  |  |



| SIT   | E 953 H          | IOL                   | E            | C CORE    | 37      | 7R          |   | CORED 523.5 - 533.2 mbsf  |
|-------|------------------|-----------------------|--------------|-----------|---------|-------------|---|---|
| Meter | Graphic<br>Lith. | Section               | Age          | Structure | Disturb | Sample      | Color   | Description   |
| 3 4 5 |                  | 1<br>2<br>3<br>4<br>5 | late Miocene |           |         | s<br>o<br>s | 5Y<br>4/1<br>to<br>5GY<br>2/1<br>5Y<br>3/1<br>to<br>5GY<br>2/1<br>10Y<br>4/1<br>to<br>10GY<br>2.5/0<br>10GY<br>2.5/0<br>10GY<br>2.5/0 | NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CLAYSTONE and<br>LITHIC CRYSTAL SILTSTONE<br>Major Lithologies:<br>This core consists mainly of<br>interbedded NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CLAYSTONE, and<br>LITHIC CRYSTAL SILTSTONE. Units<br>typically have sharp bases and fine<br>upward.<br>General Description:<br>This core consists of distinct interbeds<br>of the major lithologies. Lithic crystal<br>siltstones mainly composed of<br>volcaniclastic material. Bioturbation<br>common in upper parts of most beds.<br>Chaotic mixture of green gray mixed<br>sedimentary rock, gray chalk, dark<br>gray claystone, and poorly sorted lithic<br>sands in Section 3, 1–117 cm and<br>Section 4, 0–76 cm. |



| SIT                        | TE 953 H         | 101                   | _E           | C CORE    | 38      | BR     |   | CORED 533.2 - 542.8 mbsf  |
|----------------------------|------------------|-----------------------|--------------|-----------|---------|--------|---|---|
| Meter                      | Graphic<br>Lith. | Section               | Age          | Structure | Disturb | Sample | Color   | Description   |
| 1<br>2<br>3<br>4<br>5<br>6 |                  | 1<br>2<br>3<br>4<br>5 | late Miocene |           |         | 10     | 5Y<br>4/1<br>to<br>7.5GY<br>2.5/1<br>5GY<br>3/1<br>to<br>5GY<br>3/1<br>to<br>10GY<br>3/0<br>10Y<br>3/0<br>10GY<br>3/0 | NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CLAYSTONE and<br>NANNOFOSSIL CLAYSTONE and<br>NANNOFOSSIL CHALK<br>Major Lithologies:<br>This core consists mainly of thin to<br>medium interbedded NANNOFOSSIL<br>MIXED SEDIMENTARY ROCK,<br>NANNOFOSSIL CLAYSTONE, and<br>NANNOFOSSIL CHAYSTONE, and<br>NANNOFOSSIL CHALK. Units<br>typically have sharp bases.<br>Minor Lithology:<br>Minor interbeds of LITHIC CRYSTAL<br>SILTY SANDSTONE are common at<br>the bases of many beds.<br>General Description:<br>This core consists of distinct<br>interbeds of the major and minor<br>lithologies. LITHIC CRYSTAL SILTY<br>SANDSTONES are composed of<br>volcaniclastic material. |



| SIT            | E 953 H          | 101     | E         | C CORE           | 3       | 9R     |                                   | CORED 542.8 - 552.4 mbsf   |
|----------------|------------------|---------|-----------|------------------|---------|--------|-----------------------------------|--|
| Meter          | Graphic<br>Lith. | Section | Age       | Structure        | Disturb | Sample | Color                             | Description  |
| the Constraint |                  | 1       |           |                  |         |        | 5Y<br>3/1<br>to<br>5GY<br>2/1     | NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CLAY,<br>NANNOFOSSIL CHALK and LITHIC<br>CRYSTAL SANDSTONE<br>Maior Lithologies:   |
| 1 million 1    |                  | 2       |           | ****             |         |        | 5Y<br>2/1<br>to<br>5GY<br>2/1     | This core consists of interbedded<br>NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CLAY,<br>NANNOFOSSIL CLAY,<br>NANNOFOSSIL CHALK, and LITHIC<br>CRYSTAL SANDSTONE. Units |
| 3              |                  | 3       | e Miocene | ₩<br>₩<br>₩<br>₩ |         |        | 5Y<br>2/1<br>to<br>7.5GY<br>2.5/1 | typically have sharp bases and bioturbated tops.   |
|                |                  | 4       | middl     | ₩ ₩ ₩ ₩ ₩        |         | 0      | 5Y<br>3/1<br>to<br>7.5G<br>2.5/0  |  |
| Jun Tunul      |                  | 5       |           | 333 F            | T       | U      | 2.5Y<br>N2/0                      |  |
| 8              |                  | 6       |           | <sup>338</sup> = |         |        | to<br>10Y<br>4/1                  |  |



| SIT            | TE 953 H         | 101              | E              | C CORE    | 4       | OR     |  | CORED 552.4 - 561.9 mbs   |
|----------------|------------------|------------------|----------------|-----------|---------|--------|--|---|
| Meter          | Graphic<br>Lith. | Section          | Age            | Structure | Disturb | Sample | Color  | Description   |
| 1 2 3 4 5      |                  | 1<br>2<br>3<br>4 | middle Miocene |           |         | o      | 2007<br>90<br>2007<br>74<br>2007<br>74<br>2007<br>2007<br>2007<br>2007<br>2007<br>2003<br>37<br>2002<br>907<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>37<br>2003<br>2003<br>2003<br>2003<br>2003<br>2003<br>2003<br>2003<br>2005<br>2007<br>2005<br>2007<br>2005<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2 | NANNOFOSSIL CHALK WITH<br>FORAMINIFERS, CLAYSTONE WI'<br>NANNOFOSSILS and LITHIC<br>CRYSTAL SILTY SANDSTONE<br>Major Lithologies:<br>This core consists of interbedded<br>NANNOFOSSIL CHALK WITH<br>FORAMINIFERS, CLAYSTONE WI'<br>NANNOFOSSILS, and LITHIC<br>CRYSTAL SILTY SANDSTONE. Ur<br>typically have sharp bases and<br>bioturbated tops. |
| SIT            | E 953 H          | IOL              | E              | C CORE    | 4       | 1R     |  | CORED 561.9 - 571.4 mbs   |
| Meter          | Graphic<br>Lith. | Section          | Age            | Structure | Disturb | Sample | Color  | Description   |
| The family of  |                  | 1                | Miocene        | ≣⊿        |         |        | 2.5G<br>2.5/0<br>5Y<br>4/1   | CLAYSTONE and CLAYEY<br>NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK<br>Major Lithologies:<br>This core consists of interbedded<br>CLAYSTONE and CLAYEY  |
| and the second |                  |                  | iddle          | $\equiv$  | 1       | 0      | 2.5Y   | NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK. Units  |

2.5Y 3/2 to 5Y 4/1

typically have sharp bases.

SANDSTONE.

Minor Lithology: Minor interbeds LITHIC CRYSTAL

General Description: Fine- to medium-grained thin beds. Commonly parallel-laminated.

middle

333

2

T. 1



| SIT        | TE 953 H         | IOL     | E              | C CORE    | 4       | 2R     |  | CORED 571.4 - 581.0 mbsf  |
|------------|------------------|---------|----------------|-----------|---------|--------|--|---|
| Meter      | Graphic<br>Lith. | Section | Age            | Structure | Disturb | Sample | Color  | Description   |
| 1          |                  | 1       | middle Miocene |           |         | 0      | 7.5GY<br>2.5/1<br>to<br>5Y<br>4/1<br>5Y<br>3/1 | CLAYSTONE and NANNOFOSSIL<br>CHALK WITH CLAY<br>Major Lithologies:<br>This core consists of interbedded<br>CLAYSTONE and NANNOFOSSIL<br>CHALK WITH CLAY. Chalks are<br>moderately to strongly bioturbated.<br>Claystones may be moderately<br>bioturbated or homogeneous. Units |
|            | 4                |         |                |           |         |        |  | Minor Lithologies:<br>A parallel laminated, graded, coarse-<br>grained LITHIC CRYSTAL<br>SANDSTONE bed occurs in Section<br>1, 25-38 cm. A parallel- and cross-<br>laminated SILTSTONE bed occurs in<br>Section 2, 0-9 cm   |
| 517        | TE 953 H         | OL      | E              | C CORE    | 4       | 3R     |  | CORED 581.0 - 590.7 mbsf  |
| Meter      | Graphic<br>Lith. | Section | Age            | Structure | Disturt | Sample | Color  | Description   |
| Eventuaria |                  | 1       | middle Mio.    | 333       | V FFFF  |        | 7.5YR<br>3/2<br>to<br>5GY<br>3/2               | CLAYSTONE WITH NANNOFOSSILS<br>and NANNOFOSSIL CHALK WITH<br>FORAMINIFERS<br>Major Lithologies:   |
|            |                  |         |                |           |         |        | 2  | and NANNOFOSSIL CHALK WITH<br>FORAMINIFERS are moderately to<br>strongly bioturbated. Units typically<br>have sharp bases.  |
|            |                  |         |                |           | *       |        |  | Minor Lithologies:<br>Parallel-laminated SILTSTONE occurs<br>in Section 1, 24–34 cm. LITHIC<br>CRYSTAL SANDSTONE occurs in<br>Section 1, 50–56 and 60–62 cm, and<br>in Section 2, 18–24 cm.   |

| 953C-42R  | 1     | 2     | 953 | IC-43R | 1     | CC    |
|---|-------|-------|-----|--------|-------|-------|
|   |       |       |     |        |       |       |
| -   |       | -     |     | 5      |       | 1000  |
| 10-   | Pro - |       |     | 10-    | 6     |       |
| 15-   | -     |       | -   | 15-    |       |       |
| 20-   | -     |       | -   | -03    |       |       |
|   | 1944  | X.    |     | -      |       |       |
| -   |       | 10.00 |     | -      |       |       |
| 30-   | (in a |       | F   | 30-    |       |       |
| 35—   |       | 1020  | -   | 35—    |       |       |
| 40-   | -     | 留え    | _   | 40-    |       |       |
| -   | 199   |       |     | -      |       |       |
| -   |       |       |     | 40-    |       |       |
| 50-   |       |       | -   | 50-    | 1     |       |
| 55-   | -     |       | -   | 55—    |       |       |
| 60-   | -     |       | -   | 60-    |       |       |
| 65-   |       |       |     | 65-    |       |       |
|   |       |       |     |        | A. A. |       |
| /0  |       |       |     | /0     |       |       |
| 75—   |       |       | -   | 75     |       |       |
| 80-   | 25-   | 1     | -   | 80-    |       |       |
| 85-   |       |       | _   | 85-    |       | _   _ |
|   |       |       |     |        |       |       |
| -   | Sec.  |       |     |        |       |       |
| 95-   |       | 1     | -   | 85-    |       | -     |
| 100-  | -     |       | -   | 100-   |       |       |
| 105-  |       |       | _   | 105-   |       |       |
| 110-  |       |       |     |        |       |       |
|   | - T   |       |     |        |       |       |
|   |       |       |     |        | No.   | 5     |
| 150-  |       |       | -   | 120-   | 1     |       |
| 125-  |       |       | -   | 125-   |       |       |
| 130-  |       |       | -   | 130-   |       |       |
| 135-  |       |       | _   | 135-   |       | _     |
|   |       |       |     | -      |       |       |
| - 041   |       |       |     | - 140  | 4     |       |
| 145   |       |       | -   | 145-   |       |       |
| 150-  |       |       | -   | 150-   | -     | -     |
| and the second se |       |       |     |        |       |       |

| SIT               | E 953 H          | 101     | E             | C CORE           | 4        | 4R     | CORED 590.7 - 600.4 mbsf          |   |  |  |  |
|-------------------|------------------|---------|---------------|------------------|----------|--------|-----------------------------------|---|--|--|--|
| Meter             | Graphic<br>Lith. | Section | Age           | Structure        | Disturb  | Sample | Color                             | Description   |  |  |  |
| and maked         |                  | 1       |               |                  | 1        |        | 2.5Y<br>N2/0<br>to<br>5Y<br>4/1   | CLAYSTONE, NANNOFOSSIL<br>CHALK WITH CLAY, CLAYEY<br>NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK, and<br>NANNOFOSSIL CHALK WITH CLAY<br>AND FORAMINIFERS  |  |  |  |
| Section Sector    |                  | 2       |               | 111 • 111        |          |        | 5Y<br>3/1<br>to<br>2.5Y<br>N2/0   | Major Lithologies:<br>CLAYSTONE may constitute claystone<br>with nannofossils and nannofossil clay<br>over certain intervals and is typically<br>moderately to strongly bioturbated.<br>Claystone with nannofossils and<br>nannofossil clay may oracle into |  |  |  |
| P                 |                  | 3       | iddle Miocene | =<br>}}<br>= ↑ F |          |        | 10GY<br>3/0<br>to<br>2.5Y<br>N2/0 | CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK.<br>NANNOFOSSIL CHALK WITH CLAY<br>is moderately to strongly bioturbated<br>and may grade into NANNOFOSSIL<br>CHALK WITH CLAY AND<br>FORAMINEERS. Linis trongolly have   |  |  |  |
| The first sectors |                  | 4       | Ē             |                  | 1111 111 |        | 10GY<br>3/0<br>to<br>10Y<br>4/1   | sharp bases.<br>Minor Lithologies:<br>SILTSTONE occurs as thin to medium<br>thickness interbeds and may be<br>parallel- or cross-laminated. They  |  |  |  |
| "                 |                  | 5       |               |                  |          | 0      | 10GY<br>3/0<br>to<br>5Y<br>5/1    | commonly grade into LITHIC<br>CRYSTAL SANDSTONE. Beds of<br>LITHIC CRYSTAL SANDSTONE may<br>be massive and also show cross- and<br>parallel-lamination. They commonly<br>show normal grading. SILTSTONE and<br>LITHIC CRYSTAL SANDSTONE                     |  |  |  |
|                   |                  | 6<br>7  |               | IIIII<br>€ €     | 111111   |        | 10GY<br>3/0<br>to<br>5Y<br>2.5/1  | interbeds typically have sharp bases.   |  |  |  |







| 517             | E 953 H          | IOL     | .E             | C CORE    | 4       | 6R             |   | CORED 610.0 - 619.6 mbsf  |
|-----------------|------------------|---------|----------------|-----------|---------|----------------|---|---|
| Meter           | Graphic<br>Lith. | Section | Age            | Structure | Disturb | Sample         | Color   | Description   |
| a set a set     |                  | 0       | 33             |           |         | 7.5GY<br>2.5/1 | NANNOFOSSIL CHALK WITH CLAY<br>and CRYSTAL LITHIC SANDSTONE<br>Major Lithologies: |   |
| VILLAND VILLAND |                  | 2       | niddle Miocene | *         | >       | т              | 7.5GY<br>3/1  | NANNOFOSSIL CHALK WITH CLAY<br>is commonly moderately mottled and<br>streaked and mixed with patchy<br>nannofossil claystone. It forms large,<br>often deformed clasts, in a matrix of  |
| L'underent      |                  | 3       | Ľ              | 3         |         |                | 2.5G<br>4/0<br>to<br>7.5G<br>3/0  | CRYSTAL LITHIC SANDSTONE, or<br>intervals (commonly deformed in<br>Sections 1 and 2) between CRYSTAL<br>LITHIC SANDSTONE interbeds.<br>NANNOFOSSIL CHALK WITH CLAY<br>may grade into clayey nannofossil   |
|                 |                  |         |                |           |         | Υ <u></u>      | 1   | clayey nannofossil mixed sediment<br>with increasing clay content.<br>CRYSTAL LITHIC SANDSTONE<br>occurs as scattered matrix-supported<br>clasts and lapilli within<br>NANNOFOSSIL CHALK WITH CLAY,<br>as deformed beds packed around<br>large clasts of NANNOFOSSIL<br>CHALK WITH CLAY or as discrete<br>interbeds. Sand is polymict, very<br>poorly sorted, fine to coarse grained<br>and contains granule to pebble-size<br>volcanic rock fragments. |
|                 |                  |         |                |           |         |                |   | Minor Lithologies:<br>CLAYEY NANNOFOSSIL MIXED<br>SEDIMENT, CLAYEY NANNOFOSSIL<br>CHALK, and NANNOFOSSIL<br>CLAYSTONE (see under major<br>lithology for description of<br>occurrence).  |



| SIT  | E 953 H          | IOL     | E         | C CORE          | 4       | 7R     |                                    | CORED 619.6 - 629.3 mbsf   |
|--|------------------|---------|-----------|-----------------|---------|--------|------------------------------------|--|
| Meter  | Graphic<br>Lith. | Section | Age       | Structure       | Disturb | Sample | Color                              | Description  |
| 1.1.1.1  |                  | 1       |           |                 |         | 1      | 5GY<br>3/1                         | NANNOFOSSIL CHALK WITH CLAY<br>and CRYSTAL LITHIC SANDSTONE  |
| Territori Francisco  |                  | 2       | e Miocene | 2<br>2 +        | ~       | s      | 7.5GY<br>2.5/1<br>to<br>5GY<br>3/1 | Major Lithologies:<br>NANNOFOSSIL CHALK WITH CLAY<br>occurs as chaotic folded beds and<br>clasts intermixed with CRYSTAL<br>LITHIC SANDSTONE lenses in<br>Sections 1 and 2, or as strongly<br>bioturbatch beds in Sections 3 and 4       |
| Tradition Providence P |                  | 3       | middle    | ¢<br>√<br>√ † F | 4-1-4   |        | 7.5GY<br>3/1<br>to<br>5Y<br>5/1    | NANNOFOSSIL CHALK WITH CLAY<br>may grade into nannofossil clay.<br>CRYSTAL LITHIC SANDSTONE<br>occurs as small lenses and interbeds<br>in NANNOFOSSIL CHALK WITH<br>CLAY or as disturbed, poorly to<br>moderately sorted beds and bands. |
| True L   |                  | 4       |           | ***             |         |        | 5GY<br>4/1                         | May contain granule-sized lithic<br>fragments and sometimes significant<br>quantities of foraminifers.   |
|  |                  |         |           |                 |         |        |                                    | Minor Lithology:<br>NANNOFOSSIL CLAY (see under<br>major lithology for description of<br>occurrence).  |



SITE 953

| SIT   | E 953 H          | IOL     | E           | C CORE  | 4   | BR  |                                  | CORED 629.3 - 638.9 mbsf  |  |                                  |   |
|-------|------------------|---------|-------------|---|---|---|----------------------------------|---|--|----------------------------------|---|
| Meter | Graphic<br>Lith. | Section | Age         | Structure   | Disturb   | Sample  | Color                            | Description   |  |                                  |   |
|       |                  | 1       |             |   |   | т   | 2.5G<br>3/0<br>to<br>5Y<br>6/2   | NANNOFOSSIL CHALK WITH CLAY,<br>NANNOFOSSIL CLAYSTONE, and<br>LITHIC CRYSTAL SANDSTONE<br>Maior Lithologies:  |  |                                  |   |
| 2     |                  | 2       |             |   |   |   | 2.5G<br>3/0<br>to<br>10Y<br>4/1  | NANNOFOSSIL CHALK WITH CLAY<br>occurs as moderately to strongly<br>bioturbated beds but may grade into<br>clayey siltstone. It may contain<br>conspicuous quantities of foraminifers.<br>With increasing clay content,                              |  |                                  |   |
| 3     |                  | 3       | dle Miocene | ↑ F <sup>333</sup><br>   ↑ F <sup>333</sup><br>   ↑ F <sup>333</sup><br>   ↑ F <sup>333</sup> |   |   | 10Y<br>4/1<br>to<br>7.5GY<br>3/1 | NANNOFOSSIL CHALK WITH CLAY<br>grades into clayey nannofossil chalk.<br>NANNOFOSSIL CLAYSTONE occurs<br>as thin to medium thickness,<br>moderately bioturbated beds, which<br>commonly grade down into planar-<br>laminated clayey siltetone. LTHIC |  |                                  |   |
|       |                  | 4       | mid         |   |   |   | 10Y<br>4/1<br>5GY<br>4/1         | CRYSTAL SANDSTONE occurs as<br>thin, poorly to moderately sorted,<br>massive but commonly graded,<br>interbeds which may show planar- and<br>cross-lamination.  |  |                                  |   |
| 5     |                  |         | 5           | 111111111111  | -11111111111  | ₩<br>FF<br>SS<br>SS<br>SS<br>SS<br>SS<br>SS<br>SS<br>SS<br>SS<br>SS<br>SS<br>SS |                                  |   |  | 5GY<br>3/1<br>to<br>7.5GY<br>3/1 | Minor Lithologies:<br>CLAYEY SILTSTONE occurs as thin,<br>commonly planar-laminated intervals,<br>which may grade down into lithic<br>crystal sandstone. CLAYEY |
| 6     |                  |         | т           | 5GY<br>4/1<br>to<br>10Y<br>4/1  | NÁNNOFOSSIL CHALK bands may<br>grade up into nannofossil chalk with<br>clay or nannofossil claystone. |   |                                  |   |  |                                  |   |



| SIT  | TE 953 H         | IOL     | E         | C CORE  | 4       | 9R     |                                   | CORED 638.9 - 648.5 mbsf  |
|--|------------------|---------|-----------|---|---------|--------|-----------------------------------|---|
| Meter  | Graphic<br>Lith. | Section | Age       | Structure                                     | Disturb | Sample | Color                             | Description   |
| Tool Contraction   |                  |         |           | 33<br>= 1 F 33<br>33<br>22                    | 1111    |        | 10GY<br>4/2<br>to<br>10Y<br>5/1   | NANNOFOSSIL CHALK WITH CLAY,<br>NANNOFOSSIL CLAYSTONE, and<br>FORAMINIFER SANDSTONE WITH<br>LITHICS AND CRYSTALS<br>Major Lithologies:  |
|  |                  | 2       | ω Niocene | 33<br>1 = = = = = = = = = = = = = = = = = = = |         | т      | 10Y<br>5/1<br>to<br>5GY<br>3/1    | NANNOFOSSIL CHALK WITH CLAY<br>occurs as thin, moderately bioturbated<br>beds which may contain scattered<br>sand-sized crystal grains, and may<br>grade down into siltstone.<br>NANNOFOSSIL CLAYSTONE occurs<br>as thin, moderately or strongly<br>bioturbated interbeds which may |
| Trubber L  |                  | 3       |           | 33<br>1 F 33<br>1 F 33<br>33                  |         |        | 2.5G<br>2.5/0<br>to<br>10Y<br>4/1 | grade down into planar-laminated<br>siltstone. FORAMINIFER<br>SANDSTONE WITH LITHICS AND<br>CRYSTALS occurs as moderately to<br>poorly sorted, massive or planar-<br>laminated beds which contain<br>common lithic fragments, mud clasts,<br>and graque.sized clasts.               |
| and the second s |                  | 4       | midd      | = = 3   |         |        | 5BG<br>4/1<br>to<br>10GY<br>4/0   | FORAMINIFER SANDSTONE WITH<br>LITHICS AND CRYSTALS may<br>underlie siltstones and show normal<br>grading.   |
| I I I I I I I I I I I I I I I I I I I  |                  | 5       | 5         | = *   |         |        | 5G<br>3/1<br>to<br>5Y<br>5/1      | CRYSTAL LITHIC SANDSTONE may<br>occur as thin-graded or massive<br>interbeds associated with thin,<br>commonly parallel-laminated<br>SILTSTONES.  |
|  |                  | 6       |           |   |         |        | 5Y<br>4/1<br>to<br>2.5G<br>4/0    |   |
|  |                  | 7       |           | = 1 F<br>= ◆                                  |         | т      | 2.5G<br>3/0                       |   |



| SITE 953 HO   | LE             | C CORE    | 5       | 0R              |   | CORED 648.5 - 658.1 mbsf  |
|---------------|----------------|-----------|---------|-----------------|---|---|
| Graphic Lith. | Age            | Structure | Disturb | Sample          | Color   | Description   |
|               | middle Miocene |           |         | т<br>1 о<br>т т | 10G<br>3/1<br>to<br>5Y<br>3/1<br>10Y<br>4/1<br>to<br>5GY<br>3/1<br>10Y<br>4/1<br>to<br>5GY<br>4/1<br>2.5G<br>4/0<br>to<br>7.5G<br>4/0 | NANNOFOSSIL CHALK WITH CLAY,<br>NANNOFOSSIL CLAYSTONE,<br>CLAYSTONE, and VOLCANIC<br>BRECCIA<br>Major Lithologies:<br>NANNOFOSSIL CHALK WITH CLAY<br>occurs as generally thin, moderately to<br>strongly bioturbated beds that may<br>grade down into thin, commonly<br>planar-laminated siltstone and crystal<br>lithic sandstone. NANNOFOSSIL<br>CLAYSTONE also occurs as thin beds<br>that may grade down into planar-<br>laminated siltstone and crystal<br>lithic sandstone. NANNOFOSSIL<br>CLAYSTONE also occurs as thin beds<br>that may grade down into planar-<br>laminated siltstone and crystal<br>lithic sandstone. With increasing clay<br>content, NANNOFOSSIL<br>CLAYSTONE grades into<br>CLAYSTONE grades into<br>CLAYSTONE grades into<br>CLAYSTONE. VOLCANIC BRECCIA<br>occurs as a thick bed in Section 4,<br>7–147 cm, and is polymict,<br>structureless and matrix supported. It<br>contains granule-sized to very large<br>pebbles of phonolite lava, ignimbrite<br>clasts, and other volcanic rock<br>fragments.<br>Minor Lithologies:<br>CRYSTAL LITHIC SANDSTONE and<br>SILTSTONE (see under major<br>lithology for description of |



| SIT                       | E 953 H          | OL      | E              | C CORE                     | 5       | 1R     |                                 | CORED 658.1 - 667.7 mbsf   |
|---------------------------|------------------|---------|----------------|----------------------------|---------|--------|---------------------------------|--|
| Meter                     | Graphic<br>Lith. | Section | Age            | Structure                  | Disturb | Sample | Color                           | Description  |
| The last                  |                  | 1       |                | 333<br>33                  | H- H-   | т      | 5GY<br>3/1<br>to<br>10Y<br>5/1  | NANNOFOSSIL CHALK WITH CLAY,<br>NANNOFOSSIL CLAYSTONE,<br>CLAYSTONE WITH NANNOFOSSILS,<br>and LITHIC CRYSTAL FORAMINIFER<br>SANDSTONE  |
|                           |                  | 2       |                |                            |         |        | 7.5GY<br>3/1<br>to<br>5Y<br>4/1 | Major Lithologies:<br>NANNOFOSSIL CHALK WITH CLAY<br>occurs as thin to medium thickness,<br>moderately to strongly bioturbated<br>beds that may grade down into thin,<br>commonly planar-laminated siltstones,                   |
| international and a state |                  | 3       | niddle Miocene | = <sup>33</sup><br>33      |         | s      | 5GY<br>3/1                      | which have sharp bases.<br>NANNOFOSSIL CLAYSTONE also<br>occurs as thin beds that may grade<br>down into planar-laminated siltstones.<br>NANNOFOSSIL CLAYSTONE grades<br>into CLAYSTONE WITH<br>NANNOFOSSIL with increasing down |
| A further from the        |                  | 4       | L              |                            | Т       |        | 5GY<br>4/1<br>to<br>10Y<br>5/1  | FORAMINIFER SANDSTONE occurs<br>as a thick, massive, polymict, poorly<br>sorted but normally graded bed in<br>Section 4, 68 cm to Section 5, 107 cm.<br>LITHIC CRYSTAL FORAMINIFER   |
| and the line              | 11<br>11         |         |                | 1 F<br>• + F               |         | т      | 2.5G<br>3/0<br>to<br>5GY<br>4/1 | massive, moderately sorted bed in<br>Section 1, 109 cm, to Section 2, 43<br>cm.<br>Minor Lithologies:<br>VOLCANIC CONGLOMERATE occurs  |
| ,                         | 8 <u>8</u>       | 6       |                | ≡ <b>†</b> F <sup>33</sup> |         |        | 5G<br>2/1                       | as drilling breccia in Section 1, 0–12<br>cm. SILTSTONE occurs as thin,<br>commonly parallel-laminated beds  |
|                           |                  |         |                |                            |         |        |                                 | which have sharp bases and typically<br>grade upward into nannofossil chalk<br>with clay, nannofossil claystone, or<br>claystone with nannofossils (see<br>description under major lithologies).                                 |
|                           |                  |         |                |                            |         |        |                                 | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.  |



| SIT                     | E 953 H          | IOL     | E             | C CORE                                 | 52      |        | CORED 667.7 - 677.4 mbsf          |  |
|-------------------------|------------------|---------|---------------|--|---------|--------|-----------------------------------|--|
| Meter                   | Graphic<br>Lith. | Section | Age           | Structure                              | Disturb | Sample | Color                             | Description  |
| and and an              |                  | 1       |               | >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>> | Ŧ       | т      | 5GY<br>4/1<br>to<br>7.5G<br>2.5/0 | NANNOFOSSIL CHALK WITH CLAY,<br>CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CLAYSTONE, and<br>LITHIC CRYSTAL FORAMINIFER<br>SANDSTONE   |
| direction of the second |                  | 2       | iddle Miocene |  |         | т      | 7.5GY<br>4/1<br>to<br>10Y<br>4/1  | Major Lithologies:<br>NANNOFOSSIL CHALK WITH CLAY<br>occurs as thin to medium thickness,<br>moderately to strongly bioturbated<br>beds that may grade down into thin,<br>commonly planar-laminated siltstones  |
| tent to La              |                  | 3       | E             |  |         |        | 5Y<br>2/1<br>to<br>5GY<br>3/1     | MANNOFOSSIL CHALK WITH CLAY<br>grades into CLAYEY NANNOFOSSIL<br>MIXED SEDIMENTARY ROCK and<br>NANNOFOSSIL CLAYSTONE with<br>increasing clay content. LITHIC<br>CPUSTAL ECRAMINIFER  |
| and and                 |                  | 4       |               | <u>}</u>                               |         |        | 10Y<br>4/1<br>5GY<br>3/1          | SANDSTONE occurs as thin, massive,<br>normally graded intervals which may<br>be partly planar-laminated.   |
|                         |                  |         |               |  |         |        |                                   | SILTSTONE occurs as thin, commonly<br>parallel-laminated beds that have<br>sharp bases and typically grade<br>upward into nannofossil chalk with<br>clay, clayey nannofossil mixed<br>sedimentary rock, and nannofossil<br>claystone (see description under major<br>lithologies). |
|                         |                  |         |               |  |         |        |                                   | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.  |



| SIT   | TE 953           | HO      | LE          | C CORE    | 5           | 3R     |  | CORED 677.4 - 687.0 mbsf  |
|---|------------------|---------|-------------|-----------|-------------|--------|--|---|
| Meter   | Graphic<br>Lith. | Section | Age         | Structure | Disturb     | Sample | Color                                      | Description   |
| tree from been  |                  | 1       |             | ₹         | 1           |        | 5Y<br>5/1<br>to<br>10GY<br>2.5/0           | NANNOFOSSIL CHALK WITH CLAY,<br>CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK, CRYSTAL<br>LITHIC SANDSTONE and<br>CONGLOMERATE   |
| the harring the set of the  |                  | 2       |             |           | 1<br>1<br>1 |        | 2.5G<br>2.5/0<br>to<br>10Y<br>3/1          | NANNOFOSSIL CHALK WITH CLAY<br>occurs as thin to medium thickness,<br>moderately to strongly bioturbated<br>beds that may grade down to thin<br>commonly parallel-laminated siltstone<br>and CRYSTAL LITHIC SANDSTONE<br>that have sharp bases.   |
| The second se |                  | 3       | ene         | -m        | 1<br>1      |        | 5Y<br>4/1<br>to<br>5GY<br>2/1              | NANNOFOSSIL CHALK WITH CLAY<br>grades into CLAYEY NANNOFOSSIL<br>MIXED SEDIMENTARY ROCK with<br>increasing clay content. CRYSTAL<br>LITHIC SANDSTONE occurs as thin to<br>thick, normally graded beds that may  |
|   |                  | 4       | middle Mioc | 11 m      |             |        | 5G<br>2/1<br>10G<br>2.5/1                  | De party parallel-taminated.<br>CONGLOMERATE consisting of<br>deformed blocks and clasts of<br>NANNOFOSSIL CHALK WITH CLAY<br>and deformed patches, blebs, and<br>bands of CRYSTAL LITHIC<br>SANDSTONE occurs in Section 5, 49  |
|   |                  | 5       |             | 3<br>NN   | 11111       | т      | 5GY<br>2/1<br>to<br>5Y<br>2/1<br>5Y<br>3/1 | cm to Section 6, 25 cm.<br>Minor Lithologies:<br>SILTSTONE occurs as thin, commonly<br>parallel-laminated beds that may have<br>sharp bases and typically grade up<br>into nannofossil chalk with clay, clayer<br>nannofossil chalk with clay, clayer<br>nannofossil Octuber Developmentary rock. |
|   |                  | 6       |             | 33        | 111         |        |  | Some SILTSTONE may grade down<br>into crystal lithic sandstone. Clayey<br>nannofossil mixed sedimentary rock<br>may grade into NANNOFOSSIL<br>CLAYSTONE with increasing clay<br>content.  |
| 1   | <u>,</u>         |         |             |           | _           |        |  | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.   |



| TE 953 HOLE C CORE 54R |                  |         |                |                               |         |        |                                    | CORED 687.0 - 696.5 mbsf  |  |  |  |
|------------------------|------------------|---------|----------------|-------------------------------|---------|--------|------------------------------------|---|--|--|--|
| Meter                  | Graphic<br>Lith. | Section | Age            | Structure                     | Disturb | Sample | Color                              | Description   |  |  |  |
| Transform              |                  | 1       |                |                               | ⊥<br>⊥⊥ |        | 10Y<br>3/1<br>to<br>5GY<br>3/1     | NANNOFOSSIL CHALK WITH CLAY,<br>CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK, CRYSTAL<br>LITHIC SANDSTONE, and VITRIC<br>LITHIC SANDSTONE WITH<br>CRYSTALS  |  |  |  |
| . L                    |                  | 2       |                | >m<br>333                     |         |        | 10GY<br>3/0<br>to<br>5GY<br>2/1    | Major Lithologies:<br>NANNOFOSSIL CHALK WITH CLAY<br>and CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK occur as thin<br>to thick, moderately to strongly<br>bioturbated beds that may grade down   |  |  |  |
| 4                      |                  | 3       | middle Miocene | <sup>33</sup><br>33<br>33     |         |        | 7.5GY<br>2.5/1<br>to<br>10Y<br>4/1 | to thin, commonly parallel- and cross-<br>laminated siltstone and CRYSTAL<br>LITHIC SANDSTONE which have<br>sharp bases. CRYSTAL LITHIC<br>SANDSTONE occurs as thin, normally<br>graded beds that may be partly or<br>completely parallel-laminated. A thick<br>parallel beinsted head of VITDIC  |  |  |  |
| altered for allered    |                  | 4       |                | 3                             |         |        | 10Y<br>4/1<br>to<br>5Y<br>4/1      | LITHIC SANDSTONE WITH<br>CRYSTALS occurs in Section 5, 103<br>cm, to Section 6, 32 cm.<br>Minor Lithologies:<br>SILTSTONE occurs as thin, commonly<br>parallel-laminated beds that may have   |  |  |  |
|                        |                  | 5       |                | ≡ <sub>† F</sub> <sup>∭</sup> |         |        | 5GY<br>4/1<br>to<br>5Y<br>4/1      | sharp bases and typically grade up<br>into nannofossil chalk with clay and<br>clayey nannofossil mixed sedimentary<br>rock. Some SILTSTONE may grade<br>down into crystal lithic sandstone. A<br>thin, matrix-supported VOLCANIC<br>BRECCIA occurs in Section 4, 84–95<br>cm. This is poorly sorted and consists<br>of medium-sized publies of angular to |  |  |  |
|                        |                  |         |                |                               |         |        |                                    | subangular matic volcanic rock<br>fragments.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.   |  |  |  |



| 517   | TE 953 H         | 101     | E         | C CORE      | 5       | 5R     |                                  | CORED 696.5 - 706.0 mbsf  |
|---|------------------|---------|-----------|-------------|---------|--------|----------------------------------|---|
| Meter   | Graphic<br>Lith. | Section | Age       | Structure   | Disturb | Sample | Color                            | Description   |
| The Local Dates   |                  | 1       |           |             |         |        | 5Y<br>4/1<br>to<br>5GY<br>2/1    | CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CHALK WITH CLAY<br>AND FORAMINIFERS,<br>NANNOFOSSIL CLAYSTONE, and<br>LITHIC CRYSTAL VITRIC  |
| 1.1.1   |                  | 2       |           | }}<br>≡ ↑ F | +++++   | I      | 10GY<br>2.5/0<br>to<br>5Y<br>4/1 | Major Lithologies:<br>CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CHALK WITH CLAY  |
| Line Line   | 日<br> 日<br> 日    | 3       | e Miocene |             |         | I      | 5Y<br>5/1<br>to<br>7.5GY         | NANNOFOSSIL CLAYSTONE occur<br>as thin to medium thickness,<br>moderately to strongly bioturbated<br>beds that may grade down into thin<br>commonly parallel-laminated siltstone<br>and CRYSTAL LITHIC SANDSTONE              |
| The second se | 1<br>1<br>1      | 4       | middl     | ∱ F         | 1       | 1      | 3/1<br>5Y                        | that have sharp bases. LITHIC<br>CRYSTAL VITRIC SANDSTONE<br>occurs as thin to thick, commonly<br>massive, normally graded interbeds<br>that may be partly parallel-laminated.  |
| al a a a a a  |                  |         |           | 33          |         |        | 4/1                              | Minor Lithology:<br>SILTSTONE occurs as a thin,   |
| the second s  |                  | 5       |           |             |         | t      | 5Y<br>3/1<br>to<br>10GY<br>3/0   | commonly parallel-laminated intervals<br>that may have sharp bases and<br>typically grade up into clayey<br>nannofossil mixed sedimentary rock,<br>nannofossil chalk with clay and<br>foraminifers, or nannofossil claystone. |
|   |                  | 6       |           |             |         |        | 5Y<br>2.5/1                      | General Description:<br>This core consists of distinct<br>interbeds of the major and minor<br>lithologies.  |



| TE 953 HOLE C CORE 56R |         |          |                                     |         |                               | CORED 706.0 - 715.5 mbsf   |  |  |  |
|------------------------|---------|----------|-------------------------------------|---------|-------------------------------|--|--|--|--|
| Graphic<br>Lith.       | Section | Age      | Structure                           | Disturb | Sample                        | Color  | Description  |  |  |
|                        | 1       | 1        |                                     | =       |                               | 5GY<br>3/1<br>to<br>5Y<br>2/1  | CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CLAYSTONE,<br>CLAYSTONE WITH NANNOFOSSILS,<br>and LITHIC CRYSTAL SANDSTONE<br>Major Lithologies:  |  |  |
|                        | 2       | liocene  | F ✓ <sup>™</sup> F ✓ <sup>™</sup> m | ++      |                               | 2.5Y<br>N2/0<br>to<br>7.5GY<br>2.5/1   | CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CLAYSTONE, and<br>CLAYSTONE WITH NANNOFOSSILS<br>occur as thin to medium thickness,<br>moderately to strongly bioturbated<br>beds that may grade down into thin<br>commonly parallel-laminated siltstone<br>and LITHIC CRYSTAL SANDSTONE<br>that have sharp bases. LITHIC<br>CRYSTAL SANDSTONE occurs as<br>thin to thick, commonly massive,<br>normally graded interbeds that may be<br>partly parallel-laminated. |  |  |
|                        | 3       | middle M | <br>∱ F                             | /       |                               | 5Y<br>2/1<br>to<br>5GY<br>3/1  |  |  |  |
|                        | 4 F     | † F      | 1                                   |         | 5GY<br>2/1<br>to<br>5Y<br>2/1 | Minor Lithology:<br>SILTSTONE occurs as thin, commonly<br>parallel-laminated beds that may have<br>sharp bases and typically grade up<br>into clavev nannofossil mixed |  |  |  |
|                        | 5       |          | = \$\$                              |         |                               | 5Y<br>2/1  | sedimentary rock, nannofossil<br>claystone, or claystone with<br>nannofossils. Some SILTSTONE may  |  |  |



| SI    | TE 953 H         | IOL     | E           | C CORE                                | 5       | 7R     | CORED 715.5 - 725.2 mbsf         |  |  |  |
|-------|------------------|---------|-------------|---------------------------------------|---------|--------|----------------------------------|--|--|--|
| Meter | Graphic<br>Lith. | Section | Age         | Structure                             | Disturb | Sample | Color                            | Description  |  |  |
| 1     |                  | 1       |             | ₩<br>                                 |         |        | 10Y<br>3/1<br>to<br>10YR<br>2/1  | CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CLAYSTONE,<br>CLAYSTONE, and CLAYSTONE<br>WITH NANNOFOSSILS<br>Major Lithologies:   |  |  |
| 2     |                  | 2       | ene         |                                       |         |        | 5Y<br>2/1<br>to<br>10YR<br>2/1   | CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CLAYSTONE,<br>CLAYSTONE, and CLAYSTONE<br>WITH NANNOFOSSILS occur as very<br>thin- to medium-bedded, moderately to<br>strongly bioturbated beds that may  |  |  |
| 3     |                  | 3       | middle Mioc | = ∭<br>↑ F<br>₩<br>↑ F → =            | WW HHHH |        | 2.5Y<br>N2/0<br>to<br>5GY<br>2/1 | grade downward into thin, commonly<br>parallel-laminated SILTSTONE and<br>CRYSTAL LITHIC SANDSTONE that<br>have sharp bases. LITHIC CRYSTAL<br>VITRIC SANDSTONE occurs as thin<br>to thick, commonly massive, normally<br>graded interbeds that may be partly<br>parallel meineted |  |  |
| 5     |                  | 4       |             | ∭ ∭ ∭ ∭ ∭ ∭ ∭ ∭ ∭ ∭ ∭ ∭ ∭ ∭ ∭ ∭ ∭ ∭ ∭ | 1       |        | 2.5Y<br>N2/0<br>to<br>5GY<br>2/1 | parallel-laminated.<br>Minor Lithologies:<br>LITHIC CRYSTAL SANDSTONE and<br>LAPILLISTONE occurs as thin to thick,<br>commonly parallel-laminated beds that<br>may have sharp bases and typically<br>arede uward into the maior  |  |  |
| 6     |                  | 5       |             | =<br>= *                              |         |        | 5Y<br>2/1<br>to<br>2.5G<br>2.5/0 | lithologies.   |  |  |



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| SIT             | E 953 H          | 101     | E          | C CORE                                 | 58      | 3R     |             | CORED 725.2 - 734.9 mbsf  |
|-----------------|------------------|---------|------------|--|---------|--------|-------------|---|
| Meter           | Graphic<br>Lith. | Section | Age        | Structure                              | Disturb | Sample | Color       | Description   |
| and and and and |                  | 1       |            |  |         |        | 5GY<br>3/1  | CLAYEY NANNOFOSSIL CHALK,<br>CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>CLAYSTONE, and LITHIC<br>SANDSTONE<br>Major Lithologies:<br>CLAYEY NANNOFOSSIL CHALK,<br>CLAYEY NANNOFOSSIL MIXED |
| 2               |                  | 2       |            | == 333<br>== 333<br>↑ F                | ww H    |        | 10GY<br>3/0 | SEDIMENTARY ROCK,<br>CLAYSTONE, and LITHIC<br>SANDSTONE occur as thin to<br>medium bedded, moderately to<br>cleanable bicturbated bade that may   |
| 3               |                  | _       | ne         | <br>                                   | +++     |        | 5GY<br>2/1  | are downward into thin, parallel-<br>laminated SILTSTONE and CRYSTAL<br>LITHIC SANDSTONE that have sharp  |
| 4               |                  | 3       | ddle Mioce | ≣ † F                                  |         |        | 10Y<br>3/1  | bases.<br>Minor Lithologies:<br>SILTSTONE and SILTY CLAYSTONE   |
| 5               |                  | 4       | mic        | •                                      |         | т      | 5G<br>2/1   | laminated beds that may have sharp<br>bases and typically grade up into the<br>major lithologies. Some SILTSTONE<br>may grade down into LITHIC  |
| 9               |                  | 5       |            | ************************************** |         |        | 5Y<br>2/1   | CRYSTAL SANDSTONE.  |
| 7               |                  | 6       |            | *                                      |         |        | 10Y<br>3/1  |   |



| SIT            | TE 953 H         | IOL     | .E             | C CORE                         | 5       | 9R     |                                     | CORED 734.9 - 744.5 mbsf  |
|----------------|------------------|---------|----------------|--------------------------------|---------|--------|-------------------------------------|---|
| Meter          | Graphic<br>Lith. | Section | Age            | Structure                      | Disturb | Sample | Color                               | Description   |
| dama familiana |                  | 1       |                |                                |         |        | 5Y<br>2/1<br>to<br>5GY<br>3/1       | CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CLAYSTONE, and<br>CRYSTAL LITHIC SANDSTONE<br>Major Lithologies:<br>CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,  |
| 3              |                  | 2       |                |                                |         |        | 5Y<br>2.5/1<br>to<br>5GY<br>2/1     | NANNOFOSSIL CLAYSTONE, and<br>CRYSTAL LITHIC SANDSTONE occur<br>as thin to medium bedded, moderately<br>to strongly bioturbated beds that may<br>grade downward into thin, parallel-<br>laminated SILTSTONE and<br>SANDSTONE that have sharp bases.<br>CRYSTAL LITHIC SANDSTONE |
| 4              |                  | 3       |                | ↑ F<br>↑ F<br>↑ F              |         |        | 7.5GY<br>2.5/1                      | occurs as thin to thick, commonly<br>massive, normally graded interbeds<br>that may be partly parallel laminated.   |
|                |                  | 4       | middle Miocene |                                |         | 01     | 7.5GY<br>2.5/1<br>to<br>10YR<br>2/1 | Minor Lithologies:<br>CLAYSTONE and CLAYSTONE WITH<br>NANNOFOSSILS occur as thin<br>interbeds at the tops of major<br>lithologies. SILTSTONE commonly<br>occur at the base on major lithologies.  |
| 6 J            |                  | 5       |                | ∭<br>   <b>†</b> ⊧             | /       | т      | 5B<br>4/1                           |   |
| 8              |                  | 6       |                | 1 F                            | 11 111  | т      | 10Y<br>3/1                          |   |
| 6              |                  | 7       |                | ↑ F<br><u>}}}<br/>}}} _↑ F</u> |         |        | 5GY<br>2/1                          | 2<br>2  |


| SIT         | Graphic<br>Litth.     Litth.     Litth.     Structure<br>BB<br>BC     Structure<br>C     CORE<br>BC     GOR<br>C       Braphic<br>Litth.     Litth.     Litt |                  |                |           |         |        |  | CORED 744.5 - 754.1 mbsf  |
|-------------|--|------------------|----------------|-----------|---------|--------|--|---|
| Meter       | Graphic<br>Lith.   | Section          | Age            | Structure | Disturb | Sample | Color  | Description   |
| 1<br>2<br>3 |  | 1<br>2<br>3<br>4 | middle Miocene |           |         | 1      | 5GY<br>2/1<br>2.5Y<br>N2/0<br>to<br>5Y<br>2/1<br>2.5G<br>3/2<br>to<br>5G<br>2/1<br>5G<br>3/1 | NANNOFOSSIL CLAYSTONE<br>Major Lithology:<br>NANNOFOSSIL CLAYSTONE occurs<br>as thin to medium bedded,<br>moderately to strongly bioturbated<br>beds that may grade downward into<br>parallel-laminated and or cross-<br>laminated SILTSTONE that have<br>sharp bases.<br>Minor Lithologies:<br>NANNOFOSSIL CHALK occurs as<br>thin bedded beds with planar-<br>laminated, silty sharp base in Section<br>1, 46.5–53 and 77–81 cm.<br>LAPILLISTONE occurs as poorly<br>sorted bed with angular to<br>subrounded, fine-grained volcanic<br>clasts in Section 2, 138–150 cm, and<br>Section 3, 0–19 cm. Green CLAYEY<br>NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK with silty<br>sharp base occurs in Section 2, 1–21<br>cm. |
|             | ₽  |                  |                |           | 1       |        |  | General Description:<br>This core consists of distinct<br>interbeds of the major and minor<br>lithologies.  |







| SIT  | TE 953 H         | OL      | E              | C CORE    | 6       | 2R     |                               | CORED 763.6 - 773.1 mbsf   |
|--|------------------|---------|----------------|-----------|---------|--------|-------------------------------|--|
| Meter  | Graphic<br>Lith. | Section | Age            | Structure | Disturb | Sample | Color                         | Description  |
| Cites trees to see   |                  | 1       |                | ୬<br>     |         |        | 2.5Y<br>3/2                   | NANNOFOSSIL CLAYSTONE,<br>CRYSTAL LITHIC SANDSTONE, and<br>VITRIC TUFF<br>Major Lithologies:<br>NANNOFOSSIL CLAYSTONE occurs<br>as thin to medium bedded, slightly to  |
| Transford Transford  |                  | 2       | middle Miocene |           | 4       |        | 5GY<br>2/1<br>to<br>5Y<br>2/1 | strongly bioturbated beds that may<br>display planar-lamination, silty sharp<br>or slightly erosive bases. CRYSTAL<br>LITHIC SANDSTONE occurs as<br>poorly sorted, thin planar beds.<br>VITRIC TUFF occurs as planar- or<br>cross-laminated fining upward beds or<br>as thin beds in Section 3, 0–3 and<br>18–23 cm. It may contain small<br>pumice fragments and crystals and<br>grades up into NANNOFOSSIL<br>CLAYSTONE.<br>Minor Lithologies: |
| the state of the s |                  | 4       |                | →n 1 F    |         | T O    |                               | CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK occurs in<br>Section 3, 3–18 cm.  |
|  |                  |         |                |           |         |        |                               | General Description:<br>This core consists of distinct interbeds<br>of the major lithologies.  |
|  | ΓE 953 H         | IOL     | E              | C CORE    | 6       | 3R     |                               | CORED 773.1 - 782.8 mbsf   |
| Meter  | Graphic<br>Lith. | Section | Age            | Structure | Disturb | Sample | Color                         | Description  |
| 1  |                  | 1       |                |           | VV      | т      | 10Y<br>3/1                    | VITRIC LAPILLISTONE WITH<br>CRYSTALS   |
|  |                  |         |                |           |         |        |                               | Major Lithology:<br>VITRIC LAPILLISTONE WITH<br>CRYSTALS occurs in this core. Lapilli<br>consist of granules to small pebbles,<br>subangular to subrounded pumice and<br>minor black lithics.  |
|  |                  |         |                |           |         |        |                               | Minor Lithologies:<br>NANNOFOSSIL CLAYSTONE occurs<br>at top (Section 1, 0–3 cm).  |



| Meter | Graphic<br>Lith. | Section          | Age            | Structure | Disturb         | Sample      | Color | Description   |
|-------|------------------|------------------|----------------|-----------|-----------------|-------------|-------|---|
|       |                  | 1<br>2<br>3<br>4 | middle Miocene |           | V F V FFF FFFFF | T<br>T<br>T |       | LAPILLISTONE, VITRIC TUFF, and<br>CALCAREOUS VITRIC SILTSTONE<br>Major Lithologies:<br>LAPILLISTONE occurs as medium- to<br>thick-bedded, matrix-supported, poorly<br>sorted, lithic and pumice rich,<br>structureless beds. VITRIC TUFF<br>occurs as fining upward interbeds of<br>parallel-laminated, fine to coarse<br>material with sharp bases.<br>CALCAREOUS VITRIC SILTSTONE<br>occurs as planar- or cross-laminated<br>beds which have sharp bases.<br>Minor Lithologies:<br>NANNOFOSSIL CLAYSTONE and<br>CLAYSTONE WITH NANNOFOSSILS<br>occurs as strongly bioturbated<br>interbeds in Section 2, 0–5 and 11–35<br>cm. NANNOFOSSIL CHALK with silty<br>base occurs in Section 2, 0–11 cm |



| SI    | TE 953 H  | 101     | LE       | C CORE                               | 6       | 5R     |                                | CORED 792.4 - 802.1 mbsf  |
|-------|---|---------|----------|--------------------------------------|---------|--------|--------------------------------|---|
| Meter | Graphic<br>Lith.  | Section | Age      | Structure                            | Disturb | Sample | Color                          | Description   |
| 1     | in the second | 1       |          | <u>↑ F }}}<br/>↑ F }}}<br/>= ↑ F</u> |         |        | 7.5GY<br>2.5/1                 | CALCAREOUS CLAYSTONE, VITRIC<br>TUFF, and CALCAREOUS VITRIC<br>SILTSTONE<br>Major Lithologies:<br>CALCAREOUS CLAYSTONE, VITRIC  |
| 2     |   | 2       |          |                                      |         | 01     | 5GY<br>2/1<br>to<br>10Y<br>3/1 | TUFF, and CALCAREOUS VITRIC<br>SILTSTONE occur as thin to medium<br>bedded, moderately to strongly<br>bioturbated beds with cross- and<br>parallel-laminations and sharp bases.<br>VITRIC TUFF beds commonly fine<br>upward with sandstone bases, but |
| 3     |   | 3       | iocene   | ◆ ↑ F<br>↑ C                         |         |        | 5GY<br>4/1                     | some show coarsening upward<br>sequences.<br>Minor Lithologies:<br>LITHIC VITRIC SANDSTONE occurs<br>as thin commonly parallel laminated  |
| 4     | Telelel   | 4       | middle M | <u>↑</u> F 33                        |         |        | 7.5GY<br>2.5/1                 | beds that may have sharp bases and<br>typically grade up into the major<br>lithologies. Some SILTSTONE may<br>grade down into CPYSTAL UTHIC   |
| 5     | 070707070   |         |          | + E √ (<br>→)<br>)))<br>)))<br>)))   |         |        | 5GY                            | SANDSTONE. CHALK occurs as rare<br>interbeds within the major lithologies.  |
| 6     | ororororor  | 5       |          | <br><br><br>                         |         |        | 4/1                            |   |
| 7     | 000   | 6       |          |                                      |         | -      | 10Y<br>3/1                     | i i i i i i i i i i i i i i i i i i i   |



| Meter                                   | Graphic<br>Lith. | Section               | Age            | Structure | Disturb     | Sample | Color                     | Description   |
|---|------------------|-----------------------|----------------|-----------|-------------|--------|---------------------------|---|
| and |                  | 1<br>2<br>3<br>4<br>5 | middle Miocene |           | VVV VVV V H | т      | 5GY<br>4/1<br>10y<br>N4/0 | CALCAREOUS CLAYSTONE, LITHIC<br>SANDSTONE, VITRIC TUFF, and<br>LAPILLISTONE AND CLAYEY MIXED<br>SEDIMENTARY ROCK<br>Major Lithologies:<br>This core consists of interbedded<br>CALCAREOUS CLAYSTONE, LITHIC<br>SANDSTONE, VITRIC TUFF, and<br>LAPILLISTONE AND CLAYEY MIXED<br>SEDIMENTARY ROCK. These<br>lithologies occur as thin to medium<br>bedded, moderately to strongly<br>bioturbated beds that may grade<br>downward into thin parallel-laminated<br>siltstone and sandstone that have<br>sharp bases. The LAPILLISTONE<br>AND CLAYEY MIXED SEDIMENTARY<br>ROCK unit consists of a chaotic<br>mixture of these two lithologies<br>occurring in Section 3, 34–103 cm.<br>Minor Lithology:<br>Minor CHALK is interbedded within the<br>major lithologies. |



| SIT         | E 953 H          | IOL     | E        | C CORE                  | 6       |        | CORED 811.7 - 821.4 mbsf       |   |
|-------------|------------------|---------|----------|-------------------------|---------|--------|--------------------------------|---|
| Meter       | Graphic<br>Lith. | Section | Age      | Structure               | Disturb | Sample | Color                          | Description   |
| The Lordson |                  | 1       |          | <b>+</b> F              |         |        | 10Y<br>3/1                     | VITRIC SILTSTONE, CLAYEY<br>NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK, and LITHIC<br>CRYSTAL SANDSTONE<br>Major Lithologies:<br>VITRIC SILTSTONE, LITHIC<br>CRYSTAL SANDSTONE, and  |
| 3           |                  | 2       | Aiocene  | ₹<br>    <b>↑</b> F<br> | ++      | T<br>T | 10Y<br>3/1<br>to<br>5GY        | SEDIMENTARY ROCK occur as thin<br>to medium bedded, moderately to<br>strongly bioturbated beds that may<br>grade downward into thin, parallel-<br>laminated siltstone and sandstone tha<br>have sharp bases. LITHIC CRYSTAL<br>SANDSTONE occurs as thin to<br>medium, commonly normally graded<br>interbeds that may be parallel- |
| 4           |                  | 4       | middle N | III                     |         |        | 2/1                            | laminated.<br>Minor Lithology:<br>Minor CHALK occur as interbeds<br>within the major lithologies.   |
| and a mark  |                  |         |          | ≡ † F                   |         |        | 10Y<br>3/1                     |   |
| 6           |                  | 5       |          | t E →TI                 |         |        | 10Y<br>3/1<br>to<br>5GY<br>2/1 |   |
| 7           |                  |         |          |                         |         |        |                                |   |



| SI    | FE 953 H         | 101                   | E              | C CORE    | 6       | BR                  |  | CORED 821.4 - 831.1 mbsf  |
|-------|------------------|-----------------------|----------------|-----------|---------|---------------------|--|---|
| Meter | Graphic<br>Lith. | Section               | Age            | Structure | Disturb | Sample              | Color  | Description   |
| 13    |                  | 1<br>2<br>3<br>4<br>5 | middle Miocene |           |         | s<br>s <sub>s</sub> | 10Y<br>2.5/1<br>5GY<br>N2.5/0<br>5GY<br>2/1<br>to<br>5G<br>3/1 | NANNOFOSSIL MIXED<br>SEDIMENTARY<br>ROCK, NANNOFOSSIL CHALK WITH<br>FORAMINIFERS, and CRYSTAL<br>LITHIC SANDSTONE<br>Major Lithologies:<br>NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CHALK WITH<br>FORAMINIFERS, and CRYSTAL<br>LITHIC SANDSTONE occur as thin to<br>medium bedded, moderately to<br>strongly bioturbated beds that may<br>grade downward into thin, parallel-<br>laminated siltstone and sandstone that<br>have sharp bases. LITHIC CRYSTAL<br>VITRIC SANDSTONE occurs as thin to<br>thick, commonly massive, normally<br>gradel interbeds that may be partly<br>parallel laminated. |



| SIT                            | TE 953 H         | IOL     | E              | C CORE    | 69      | R      |                                | CORED 831.1 - 840.8 mbsf   |
|--------------------------------|------------------|---------|----------------|-----------|---------|--------|--------------------------------|--|
| Meter                          | Graphic<br>Lith. | Section | Age            | Structure | Disturb | Sample | Color                          | Description  |
| direction of the second second |                  | 1       |                | ~~~~~     |         |        | 2.5Y<br>N3/0                   | SILTY NANNOFOSSIL CLAYSTONE,<br>VITRIC LITHIC SANDSTONE, VITRIC<br>SILTSTONE, and NANNOFOSSIL<br>MIXED SEDIMENTARY ROCK<br>Major Lithologies:<br>SILTY NANNOFOSSIL CLAYSTONE,<br>VITRIC LITHIC SANDSTONE, VITRIC   |
| 2                              |                  | 2       |                |           |         |        | 5GY<br>2/1                     | SILTSTONE, and NANNOFOSSIL<br>MIXED SEDIMENTARY ROCK occur<br>as thin to medium bedded, moderately   |
| the former                     |                  | 3       | middle Miocene | =<br>     | 1       |        | 5GY<br>2/1<br>to<br>10Y<br>3/1 | arrian of the second se |
| 4 111                          |                  | _       |                | -11       |         |        | 5GY<br>2/1                     | CHALK occur within the major<br>lithologies.   |
| 5                              |                  | 4       |                | >m =      |         |        | 5GY<br>2/1<br>to<br>10Y<br>3/1 | ×  |
| 6                              |                  | 5       |                | 388 m     |         |        | 5GY<br>3/1                     |  |



| SI     | TE 953 H         | IOL     | E       | C CORE                   | 7       | DR     |                                 | CORED 840.8 - 850.4 mbsf  |
|--------|------------------|---------|---------|--------------------------|---------|--------|---------------------------------|---|
| Meter  | Graphic<br>Lith. | Section | Age     | Structure                | Disturb | Sample | Color                           | Description   |
| 1      |                  | 1       |         | → F<br>→ F<br>→          |         | т      | 5GY<br>3/1                      | NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CLAYSTONE,<br>NANNOFOSSIL CHALK WITH<br>FORAMINIFERS, and VITRIC<br>SILTSTONE   |
| 2      |                  | 2       |         | <del>}}</del><br>↑ F<br> |         |        | 5GY<br>2/1<br>to<br>10Y<br>N4/0 | Major Lithologies:<br>NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>NANNOFOSSIL CLAYSTONE,<br>NANNOFOSSIL CHALK WITH<br>FORAMINIFERS, and VITRIC  |
| 3      |                  | 3       | Miocene |                          |         | т      | 5GY<br>2/1<br>to<br>5Y<br>2/1   | SILTSTONE occur as thin to medium<br>bedded, moderately to strongly<br>bioturbated beds that may grade<br>downward into thin, parallel-laminated<br>siltstone and sandstone that have<br>sharp bases. |
| 5      |                  | 4       | middle  |                          |         |        | 5GY<br>4/1                      | Minor Lithologies:<br>Interbeds of CHALK and LITHIC<br>CRYSTAL SANDY SILTSTONE occur<br>throughout the major lithologies.   |
| 6<br>Z |                  | 5       |         | ***<br>***<br>***        |         |        | 5GY<br>3/1<br>to<br>10Y<br>3/1  |   |



|  |                     | Ę      |          |  | P  | Ð     |                                   | 1  |   |
|--|---------------------|--------|----------|--|--|-------|-----------------------------------|--|---|
| Meter  | Graphic<br>Lith.    | Sectio | Age      | Structure  | Distur   | Sampl | Color                             | Description  |   |
| TALLET AND | 11111111<br>1777377 | 1      |          | <u>↑</u> F 💥<br>↑ F 💥<br>↑ F                               | VV F   |       | 10GY<br>2.5/0<br>to<br>5G<br>2/1  | CLAYEY NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK,<br>CLAYSTONE, LAPILLISTONE, and<br>CRYSTAL LITHIC SANDSTONE<br>Major Lithologies:<br>CLAYEY NANNOFOSSIL MIXED  |   |
| strations for the                              |                     | 2      | liocene  | \$\$<br>\$<br>\$<br>\$<br>\$<br>\$<br>\$<br>\$<br>\$<br>\$ |  | S     | 10YR<br>3/1<br>to<br>2.5Y<br>N2/0 | SEDIMENTARY ROCK and<br>CLAYSTONE occur as thin to medium<br>thickness, generally strongly<br>bioturbated beds that may grade down<br>to thin, commonly parallel-laminated<br>siltstone or CRYSTAL LITHIC<br>SANDSTONE bands that have sharp<br>bases I APILI ISTONE occurs as a |   |
| the second second                              |                     | 3      | middle N |  | \//      +     +     +     +     +     ///     +     +     +     +     ///     + | s     | 2.5Y<br>3/2<br>to<br>10YR<br>2/1  | polymict, normally graded bed<br>containing a variety of volcanic clasts<br>in Section 4, 0–39 cm. CRYSTAL<br>LITHIC SANDSTONE occurs as thin<br>interbeds that may grade upward to<br>siltstone, and as thick, massive,<br>crudely parallel-laminated beds in                   |   |
| 11111  |                     | 4      |          |  |  | т     | 10GY<br>2.5/0                     | Section 4, 62–114 cm, and Section 5,<br>0–66 cm.<br>Minor Lithology:   |   |
| La Line Line                                   |                     | 5      | 5        |  |  |       | S<br>I<br>T                       | 5YR<br>2/1<br>to<br>2.5Y<br>N2/0   | SILTSTONE occurs as thin, commonly<br>parallel-laminated beds that may have<br>sharp bases and typically grade into<br>the major lithologies. |
|  |                     |        |          |  |  |       | L                                 | General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Apart from the sandstones, the<br>sediments are extensively bioturbated.  |   |



| SI  | TE 953 H         | IOL     | E        | C CORE                             | 7       | 2R     |                                  | CORED 860.1 - 869.7 mbsf   |
|---|------------------|---------|----------|------------------------------------|---------|--------|----------------------------------|--|
| Meter                                     | Graphic<br>Lith. | Section | Age      | Structure                          | Disturb | Sample | Color                            | Description  |
| L. C. |                  | 1       |          | 33                                 | 1<br>1  |        | 5G<br>2/1<br>to<br>5GY<br>4/1    | CLAYSTONE WITH NANNOFOSSILS,<br>NANNOFOSSIL CLAYSTONE,<br>CLAYEY NANNOFOSSIL MIXED<br>SEDIMENT, and LITHIC CRYSTAL<br>SANDSTONE  |
| 3   |                  | 2       | iocene   |                                    | 111     | s      | 5G<br>2/1<br>to<br>10Y<br>3/1    | Major Lithologies:<br>CLAYSTONE WITH NANNOFOSSILS,<br>NANNOFOSSIL CLAYSTONE, and<br>CLAYEY NANNOFOSSIL MIXED<br>SEDIMENT occur as thin to medium-<br>thick, generally strongly bioturbated<br>beds that may grade down to thin,<br>commonly parallel-laminated siltstone<br>or LITHIC CRYSTAL SANDSTONE<br>beds that have sharp bases. LITHIC<br>CRYSTAL SANDSTONE occurs as thir<br>interbeds, and as a medium-thick,<br>normally graded bed in Section 5,<br>33–64 cm. |
| 5   |                  | 4       | middle N | 333<br>1 F 33<br>1 F <sup>33</sup> |         |        | 5G<br>2/1<br>to<br>10G<br>2.5/1  | Minor Lithologies:<br>SILTSTONE occurs as thin, commonly<br>parallel-laminated beds that may have<br>sharp bases and typically grade into<br>major lithologies. A black massive<br>LITHIC CRYSTAL TUFF composed of   |
| 6   |                  | 5       |          | F F 3                              |         |        | 2.5Y<br>N2/0<br>to<br>10Y<br>3/1 | sand-sized volcaniclastic grains occurs<br>in Section 1, 0–18 cm.<br>General Description:<br>This core consists of distinct interbeds<br>of the major and minor lithologies.<br>Apart from the sandstones, the<br>sediments are extensively bioturbated  |
| 8   |                  | 6       |          | *                                  | N H     |        | 5Y<br>2/1                        | econicitio die ontensiroly biolabated.   |



| SIT  | E 953 H                   | IOL     | E            | C CORE                    | 7       | 3R     |                                   | CORED 869.7 - 879.4 mbsf  |
|--|---------------------------|---------|--------------|---------------------------|---------|--------|-----------------------------------|---|
| Meter  | Graphic<br>Lith.          | Section | Age          | Structure                 | Disturb | Sample | Color                             | Description   |
| L'andress of the second se |                           | 1       |              | *                         |         | т      | 5Y<br>3/1<br>to<br>2.5G<br>2.5/0  | CALCAREOUS SILTY CLAYSTONE<br>Major Lithology:<br>CALCAREOUS SILTY CLAYSTONE<br>occurs as thin to medium thickness,<br>generally moderately bioturbated beds<br>that typically grade down into                          |
| 2 in line  |                           | 2       |              | + F 33<br>= 33<br>→ 32    |         |        | 10GY<br>2.5/0<br>to<br>10Y<br>3/1 | commonly thin sitty claystone, clayey<br>siltstone, siltstone and lithic sandstone<br>with crystals that have sharp bases.<br>Minor Lithologies:<br>SILTY CLAYSTONE, CLAYEY<br>SILTSTONE, SILTSTONE and LITHIC          |
| 4  | 9197979191919191919191    | 3       | ne           | 33<br>4 F 33<br>4 F 33    |         |        | 10Y<br>3/1<br>to<br>5G<br>2/1     | SANDSTONE WITH CRYSTALS<br>occur as thin, commonly cross- and<br>planar-laminated interbeds that<br>typically grade up into the major<br>lithology. Some beds show contorted<br>laminae and may show normal<br>grading. |
| al and a state of the  |                           | 4       | middle Mioce | = <u>↑</u> F ∭<br>↑ F ∭   |         | т      | 2.5G<br>2.5/0                     | General Description:<br>This core consists of a repetitive<br>sequence of stacked beds of<br>alternating major and minor lithologies.   |
|  |                           | 5       |              | ***                       |         |        | 5Y<br>3/1                         |   |
| 8  | International enternation | 6       |              | ↑ F<br>▲ E ऄ<br>-m ↑ F }} |         |        | 5BG<br>4/1<br>to<br>10Y<br>3/1    |   |
| 9 111111   | Tereservieren             | 7       |              |                           |         |        | 5BG<br>4/1<br>to<br>5G<br>2/1     |   |



| 21    | IE 955 F         |         | - <u>-</u> - |                          |         | 4n     | -                                | CORED 879.4 - 869.1 11051  |
|-------|------------------|---------|--------------|--------------------------|---------|--------|----------------------------------|--|
| Meter | Graphic<br>Lith. | Section | Age          | Structure                | Disturb | Sample | Color                            | Description  |
| L     | 5                | 1       | cene         | = ≜ E<br>↑ F ∞ 33<br>↑ F | Т       |        | 5BG<br>4/1<br>to<br>5Y<br>2/1    | CALCAREOUS CLAYSTONE and<br>CLAYSTONE<br>Major Lithologies:<br>CALCAREOUS CLAYSTONE occurs<br>as thin to medium thickness,<br>moderately bioturbated beds that   |
| 2     |                  | 2       | middle Mio   | <u>+</u> F 33            |         |        | 10GY<br>2.5/0<br>to<br>5Y<br>2/1 | grade down into LITHIC SILTSTONE<br>WITH CRYSTALS that have sharp<br>bases. Moderately bioturbated<br>CLAYSTONE occurs as thin beds<br>usually grading downward to<br>SILTSTONE and LITHIC SILTSTONE<br>that have sharp bases. |
|       |                  | CC      |              |                          | -       |        |                                  | Minor Lithologies:<br>SILTSTONE occurs in Section 1, 84<br>cm. LITHIC SILTSTONE WITH<br>CRYSTALS occurs as thin fining<br>upward, graded, planar- or cross-<br>laminated beds in Section 1, 72,<br>96–99, and 150 cm.          |
|       |                  |         |              |                          |         |        |                                  | General Description:<br>This core consists of a repetitive<br>sequence of stacked beds of<br>alternating major and minor<br>litholonies  |

| Meter | Graphic<br>Lith. | Section | Age        | Structure | Disturb | Sample | Color                      | Description   |
|-------|------------------|---------|------------|-----------|---------|--------|----------------------------|---|
|       |                  | 1       | m. Miocene |           | $\geq$  |        | 4Y<br>3/0.5<br>2G<br>2/0.4 | CALCAREOUS CLAYSTONE WITH<br>FORAMINIFERS<br>Major Lithology:<br>Strongly disrupted CALCAREOUS<br>CLAYSTONE WITH FORAMINIFERS.<br>Minor Lithologies:<br>Strongly bioturbated CLAYSTONE<br>occurs in Section 1, 15–29 cm.<br>Moderate to poorly sorted, medium- to<br>coarse-grained LITHIC SANDSTONE<br>containing basattic lithic grains occurs<br>in Section 1, 29–34 cm. |



| SIT      | E 953 H          | IOL     | -E          | C CORE    | 7       | 6R     |                | CORED 898.7 - 908.3 mbsf  |
|----------|------------------|---------|-------------|-----------|---------|--------|----------------|---|
| Meter    | Graphic<br>Lith. | Section | Age         | Structure | Disturb | Sample | Color          | Description   |
| the fame |                  | 1       | middle Mio. |           | VVVVV   | т      | 7.5GY<br>2.5/1 | LITHIC BRECCIA<br>Major Lithology:<br>LITHIC BRECCIA occurs as a<br>structureless, very poorly sorted   |
|          |                  |         |             |           |         |        |                | deposit and ranges from clay-grade to<br>pebble in grain size. Basalt fragments<br>form the main clast type. Vesicular,<br>aphyric basaltic fragments are<br>common |

SITE 953 HOLE C CORE 77R

CORED 908.3 - 918.0 mbsf

| Meter   | Graphic<br>Lith. | Section     | Age            | Structure                                | Disturb                   | Sample | Color | Description  |
|---|------------------|-------------|----------------|--|---------------------------|--------|-------|--|
| Contraction of the second s |                  | 1<br>2<br>3 | middle Miocene | an a | VV THTTTTTTTTTTTTTTTTTTTT | т      |       | BASALTIC LAPILLISTONE<br>Major Lithology:<br>BASALTIC LAPILLISTONE occurs as<br>a matrix-supported, massive<br>sequence. Basaltic clasts are poorly<br>to moderately vesiculated, angular to<br>subrounded, and finer fraction might<br>be palagonitized. Fractured veinlets<br>with calcite are common. |

| SIT   | TE 953 H         | IOL     | E              | C CORE    | 78      | 3R     |   | CORED 918.0 - 927.6 mbsf  |
|-------|------------------|---------|----------------|-----------|---------|--------|---|---|
| Meter | Graphic<br>Lith. | Section | Age            | Structure | Disturb | Sample | Color   | Description   |
| 2     |                  | 2       | middle Miocene |           |         |        | 2.67R<br>2.601<br>6.1Y<br>2.3/0.2<br>9.6GY<br>2.5/0.5<br>3.9YR<br>3.5/0.4 | BASALTIC LAPILLISTONE<br>Major Lithology:<br>BASALTIC LAPILLISTONE occurs as<br>a matrix-supported, ungraded massive<br>sequence. Basaltic clasts have pebble<br>to cobble size and are aphyric to<br>vesiculated and subangular to<br>subrounded.<br>Minor Lithologies:<br>PYROXENE PHYRIC BASALT occurs<br>in Section 1, 0–5 cm. BASALTIC<br>PILLOW FRAGMENT occurs in<br>Section 1, 16–27 cm. GABBRO<br>BRECCIA occurs in Section 2, 35 and<br>50 cm. APHYRIC BASALT with chilled<br>margin occurs in Section 2, 95–102<br>cm. |



| Meter<br>Age<br>Disturb<br>Color  | Description  |
|---|--|
|   |  |
| 2<br>4<br>4<br>4<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 | NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK and LITHIC<br>CRYSTAL SANDSTONE<br>Major Lithologies:<br>NANNOFOSSIL MIXED<br>SEDIMENTARY ROCK occurs as thin<br>to medium thickness, generally heavily<br>bioturbated beds that typically grade<br>down into commonly thin planar-<br>and/or cross-laminated lithic crystal<br>sandstone or siltstone that have sharp<br>bases.<br>Minor Lithologies:<br>CLAYSTONE with heavy bioturbation<br>occurs in Section 1, 3–23 cm.<br>CLAYSTONE with heavy bioturbation<br>occurs in Section 3, 0–3 and 114 cm.<br>LITHIC CRYSTAL SILTSTONE occurs<br>as thin- to medium-bedded, commonly<br>planar- or cross-laminated interbeds<br>with sharp bases. Some beds show<br>normal grading.<br>General Description: |

| Meter | Graphic<br>Lith. | Section | Age       | Structure | Disturb | Sample | Color                             | Description  |
|-------|------------------|---------|-----------|-----------|---------|--------|-----------------------------------|--|
|       |                  | 1       | ddle Mio. |           |         |        | - <sup>9Y</sup> -<br>4BG<br>2/0.4 | LITHIC CRYSTAL SANDSTONE<br>Major Lithology:<br>Coarse LITHIC CRYSTAL  |
|       |                  |         | Ē         |           |         |        |                                   | SANDSTONE occurs in this core and<br>contains a 6-cm-diameter, pyroxene<br>phyric basaltic lava fragment.  |
|       |                  |         |           |           |         |        |                                   | Minor Lithologies:<br>LITHIC CRYSTAL SILTSTONE with<br>faint laminations and sharp base<br>occurs in Section 1, 0–7 cm.<br>CLAYSTONE WITH NANNOFOSSILS<br>occurs in Section 1, 8–9 cm. |



| SIT                   | E 953 H                     | IOL           | E                 | C CORE              | : 8           | IR          |  | CORED 946.8 - 956.4 mbst  |
|-----------------------|-----------------------------|---------------|-------------------|---------------------|---------------|-------------|--|---|
| Meter                 | Graphic<br>Lith.            | Section       | Age               | Structure           | Disturb       | Sample      | Color  | Description   |
| and and the states of |                             | 1             | middle Miocene    | 44                  |               |             | - 1505 -<br>0.2BG<br>2/0.3<br>3.4BG<br>1.6/0.3 | BASALTIC LAPILLISTONE<br>Major Lithology:<br>BASALTIC LAPILLISTONE occurs as<br>a matrix-supported, ungraded,<br>massive sequence. Angular to<br>subangular basaltic clasts are granule<br>to cobble size and are vesiculated.<br>Clasts have an average diameter of<br>0.5 cm in Section 2. Veinlet of calcite |
|                       | ****                        |               |                   |                     |               |             |  | occurs in Section 1, 119 cm   |
| SIT                   | E 953 H                     | IOL           | .E                | C CORE              | 82            | 2R          |  | CORED 956.4 - 966.0 mbsf  |
| Meter IS              | E 953 H<br>Graphic<br>Lith. | Section O     | Age m             | C CORE<br>Structure | Disturb 8     | Sample 8    | Color  | CORED 956.4 - 966.0 mbsf<br>Description   |
| Meter III             | E 953 H<br>Graphic<br>Lith. | D 1 Section O | middle Mio. Age H | C CORE<br>Structure | HHHHH Disturb | Sample<br>T | 5.6BG<br>2/0<br>3.5BG<br>2/0                   | CORED 956.4 - 966.0 mbsf<br>Description<br>BASALTIC LAPILLISTONE<br>Major Lithology:<br>BASALTIC LAPILLISTONE occurs as<br>a matrix-supported, ungraded,<br>massive sequence. Angular to  |

|      |   | the second se |     |      |              |      |   |
|------|---|---|-----|------|--------------|------|---|
| 5-   |   | -   | -   | 5-   | - 1          | -1.  | - |
| 10-  | Sec.  | 1000  |     | 10-  |              | 18   |   |
|      |   | 100   |     | -    |              | 123  |   |
| 15-  | A   | -   | -   | 15-  |              | -    |   |
| 20-  |   | 1.00-   |     | 20-  |              | Rail |   |
| _    |   | Arrest a  |     |      |              |      |   |
| 25   | 1   |   | -   | 25-  |              | -    | - |
| 20   |   |   |     |      | k and        |      |   |
|      | 11.1  | ALC:  |     | 30-  |              | Π.   |   |
| 35-  | 1   | -61   | -   | 85-  |              | -    | - |
|      |   | 0.36  |     | -    |              |      |   |
| 40-  |   | - And   |     | 40-  | b = 1        |      |   |
| 45-  |   | - Server  | H . | 45-  |              | _    | - |
|      | (Maria)   |   |     | -    |              | -    | £ |
| 50-  |   | L PROFES  |     | 50-  | Sec.         |      | - |
| 55-  | -   |   | -   | 55-  |              | _    | - |
| -    |   |   |     | -    |              |      |   |
| 60-  |   |   | -   | 60-  |              | -    | - |
| 65-  |   |   | -   | 65-  |              | _    | 1 |
| -    |   |   |     | -    |              |      |   |
| 70-  |   |   | -   | 70-  |              | -    | - |
| 75-  |   |   | _   | 75-  |              |      | _ |
| _    | t = 1   |   |     | -    |              |      |   |
| 80-  |   | -   | -   | 80-  | East         | -    | - |
| 85-  |   |   | _   | 95   |              |      |   |
|      |   |   |     | -    |              |      | 1 |
| 80-  | hand?   | -   | -   | 90-  |              | -    | - |
| 85-  |   |   | _   |      |              |      |   |
| -    |   |   |     |      |              |      |   |
| 100- |   | -   | -   | 100- | 1. · · · · · | -    | - |
| 105- |   |   | -   | 105- |              |      |   |
| -    |   |   |     | -    | 13日          |      |   |
| 110- |   |   | -   | 110- |              | -    | - |
| 115- |   |   | _   | 115  |              |      |   |
|      | 7   |   |     | -    |              |      |   |
| 150- |   |   | -   | 120- |              | -    | - |
| 125- |   |   | _   | 125- | 1            |      |   |
| -    | and the second se |   |     | -    |              |      |   |
| 130  | and i   |   | -   | 130- |              | -    | - |
| 135  |   |   |     | 195  |              |      |   |
|      | 1   |   |     |      |              |      |   |
| 140- |   |   | -   | 140- |              |      |   |
| 145- | 1   | 14  | -   | 145- |              |      |   |
| -    | -   |   |     | -    |              |      |   |
| 150- | Contraction in  |   | -   | 150  |              | -    | 4 |
|      |   |   |     |      |              |      |   |

953C-81R 1 2 953C-82R 1 CC

| 517         | TE 953 H         | IOL     | E              | C COR          | E 8            | 3R     |                                      | CORED 966.0 - 975.6 mbsf   |
|-------------|------------------|---------|----------------|----------------|----------------|--------|--------------------------------------|--|
| Meter       | Graphic<br>Lith. | Section | Age            | Structure      | Disturb        | Sample | Color                                | Description  |
| 1           |                  | 1       | middle Miocene |                | 1 H H 1/// H   | S      | 2.5G<br>3/0<br>to<br>5BG<br>N3/0     | CALCAREOUS CLAYSTONE and<br>BASALTIC LAPILLISTONE<br>Major Lithologies:<br>CALCAREOUS CLAYSTONE occurs<br>as thin to medium thickness, generally<br>strongly bioturbated beds that<br>twicelly credes down into thin   |
| 2           |                  | 2       |                | > %            | 11111          |        | 7.5G<br>2.5/0                        | CRYSTAL LITHIC SILTSTONE and<br>SANDSTONE normally graded layers<br>which have sharp or load-casted  |
| 3           |                  | 3       |                | • =<br>+ F     | 1111111111111  |        |                                      | base. Zeolitization occurs in Section<br>1, 10–132 cm. BASALTIC<br>LAPILLISTONE occurs as a matrix-<br>supported, massive sequence with<br>graded intervals. Basaltic clasts are<br>angular and moderately vesiculated.<br>Grain size varies from sand to<br>granule. The matrix consists in |
|             |                  | 4       | sene           | ↑F             | 1111111        |        |                                      | hyaloclastic glass particles.<br>Minor Lithologies:<br>CRYSTAL LITHIC SANDSTONE<br>occurs at base of CALCAREOUS  |
|             |                  | 5       | early Miod     | ♦ 1 F<br>1 F   | 111111111      | -      | 2.5G<br>2.5/0<br>to<br>10GY<br>2.5/0 | CLAYSTONE intervals in Section 1,<br>17, 30–31, 41, 49–50, 61, 73, 75, 80,<br>81, 101, 104, 109, and 117 cm,<br>Section 2, 35–52, 60–67, 72.5–73,<br>and 77–80 cm. CRYSTAL LITHIC<br>SILTSTONE occurs in Section 2, 0,   |
| Constraints |                  | 6       |                | † F            | 11 -1-1-1      | ч<br>т |                                      | 15, and 27–28 cm, and Section 2,<br>91–93 cm. Siltstones bands occur in<br>Section 2, 85, 86, 89, and 91 cm.   |
| 8           |                  | 7       |                | ∑<br>1 F<br>†C | 11111111111111 |        |                                      |  |



| SIT         | E 953 H          | 101     | E            | C CORE               | 8       | 4R     |               | CORED 975.6 - 985.3 mbsf  |
|-------------|------------------|---------|--------------|----------------------|---------|--------|---------------|---|
| Meter       | Graphic<br>Lith. | Section | Age          | Structure            | Disturb | Sample | Color         | Description   |
|             |                  | 1       |              |                      |         |        | 7.5G<br>2.5/0 | HYALOCLASTITE TUFF WITH<br>LITHICS<br>Major Lithology:<br>HYALOCLASTITE TUFF WITH<br>LITHICS occurs as medium to thick<br>beds of moderately sorted, fine- to |
| 2           |                  | 2       |              | ** ≡ † F<br>**<br>** |         |        | 2.5G<br>2.5/0 | coarse-grained, planar- and cross-<br>laminated fining upward sequences.<br>Coarsening upward sequences are<br>rare. Lithic fragments are primarily           |
| 3           |                  | 3       |              | 1 F<br>1 F<br>1 F    |         | т      | 50            | basaltic rock. Thin quartz veins are<br>present in Section 1, 33–37, 90, and<br>130 cm, Section 2, 20 and 45 cm, and<br>Section 4, 78 and 82 cm.              |
| 4           |                  | 4       | ne           | 4 F<br>4 F           |         |        | 3/1           |   |
| 5           |                  | 5       | early Miocer | T T                  |         |        | 5G<br>2.5/1   |   |
| 6           |                  |         |              |                      |         |        | 2.5G<br>2.5/0 |   |
| The last of |                  | 6       |              | 111                  |         | S      |               |   |
| Children C  |                  | 7       |              | ااا<br>ال            |         | т      | 7.5G<br>2.5/0 |   |
| 8           |                  | 8       |              | Ш                    |         |        |               |   |



| Meter | Graphic<br>Lith. | Section | Age           | Structure | Disturb | Sample | Color                         | Description   |
|-------|------------------|---------|---------------|-----------|---------|--------|-------------------------------|---|
|       |                  | 1 2 3   | early Miocene |           |         | т      | 2.5G<br>2.5/0<br>10G<br>2.5/1 | HYALOCLASTITE TUFF,<br>HYALOCLASTITE TUFF BRECCIA,<br>and BRECCIATED HYALOCLASTITE<br>TUFF<br>Major Lithologies:<br>HYALOCLASTITE TUFF occurs as a<br>moderately to poorly sorted, fine- to<br>coarse-grained bed.<br>HYALOCLASTITE TUFF BRECCIA<br>occurs as a very thick units of lapilli<br>tuff breccia in a matrix of fine-grained<br>hyaloclastite. BRECCIATED<br>HYALOCLASTITE TUFF consists of<br>brecciated hyaloclastite. Thin quartz<br>veins are present throughout the core. |



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| SIT      | TE 953 H         | IOL     | .E         | C CORE    | 8       | 6R     |                                      | CORED 995.0 - 1004.6 mbsf   |
|----------|------------------|---------|------------|-----------|---------|--------|--------------------------------------|---|
| Meter    | Graphic<br>Lith. | Section | Age        | Structure | Disturb | Sample | Color                                | Description   |
| L'antres |                  | 1       |            |           |         | 1      | 2.5G<br>3/1                          | HYALOCLASTITE LAPILLISTONE<br>and HYALOCLASTITE TUFF<br>Major Lithologies:<br>HYALOCLASTITE TUFF is coarse<br>grained and is planar laminated. Lithic             |
| 200      |                  | 2       |            |           | +       |        | to<br>10G<br>N3/0                    | fragments are composed of vesicular<br>basaltic rock fragments.<br>HYALOCLASTITE LAPILLISTONE<br>consists of angular to subangular<br>vesicular basalt fragments. |
| 3        |                  | 3       | ne         |           |         |        | 7.5G                                 |   |
| 4        |                  |         | arly Mioce |           | L       |        | 2.5/0                                |   |
| 5        |                  | 4       | e          |           | 111     |        |                                      |   |
| 6        |                  | 5       |            |           |         |        | 7.5G<br>2.5/0<br>to<br>2.5G<br>2.5/0 |   |
| Z        |                  | 6       |            |           | ++      |        |                                      |   |



| SIT   | E 953 H          | IOL     | E          | C CORE    | 8       | 7R     |                                  | CORED 1004.6 - 1014.2 mbsf  |
|---|------------------|---------|------------|-----------|---------|--------|----------------------------------|---|
| Meter   | Graphic<br>Lith. | Section | Age        | Structure | Disturb | Sample | Color                            | Description   |
| Contraction of the second s |                  | 1       | ty Miocene | 目         |         | т      | 5G<br>2/1<br>to<br>7.5G<br>2.5/0 | HYALOCLASTITE TUFF and LITHIC<br>CRYSTAL SILTSTONE<br>Major Lithologies:<br>HYALOCLASTITE TUFF and LITHIC<br>CRYSTAL SILTSTONE occurs as<br>medium to thick beds of moderately<br>sorted, fine- to coarse-grained,<br>planar- and cross-laminated fining<br>upward sequences. Lithic fragments<br>are primarily basalt. |
| and and and   |                  | 3       | ear        |           |         |        | 10G<br>2.5/1<br>to<br>5G<br>2/1  |   |

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| Meter                  | Graphic<br>Lith. | Section     | Age           | Structure                | Disturb | Sample | Color                        | Description  |
|------------------------|------------------|-------------|---------------|--------------------------|---------|--------|------------------------------|--|
|                        |                  | 1<br>2<br>3 | early Miocene | tc<br>J/r                |         | т      | 5BG<br>2.5/1<br>10G<br>2.5/1 | HYALOCLASTITE LAPILLISTONE<br>and HYALOCLASTITE TUFF<br>Major Lithologies:<br>HYALOCLASTITE LAPILLISTONE<br>and HYALOCLASTITE TUFF are thick<br>bedded, very poorly sorted, very<br>coarse to coarse grained, and<br>structureless. Lithic fragments are<br>composed of dark green and purple<br>vesicular basallic rock fragments.<br>Hyaloclastite matrix is strongly<br>zeolitized. |
| attend from the second |                  | 4           |               | ↑ F<br>↑ F<br>↑ F<br>↑ F |         |        |                              |  |



| SIT                     | E 953 H          | IOL     | E            | C CORE    | 90      | OR     |                                     | CORED 1023.7 - 1033.2 mbsf   |
|-------------------------|------------------|---------|--------------|-----------|---------|--------|-------------------------------------|--|
| Meter                   | Graphic<br>Lith. | Section | Age          | Structure | Disturb | Sample | Color                               | Description  |
| L                       |                  | 1       |              |           |         | т      | 2.5G<br>2.5/0<br>to<br>5G<br>N2.5/0 | HYALOCLASTITE TUFF WITH<br>LAPILLISTONE, HYALOCLASTITE<br>LAPILLISTONE, and<br>HYALOCLASTITE TUFF  |
| Contraction Contraction |                  | 2       | 9            | J.P       |         |        |                                     | Major Lithologies:<br>HYALOCLASTITE TUFF WITH<br>LAPILLISTONE, HYALOCLASTITE<br>TUFF, and HYALOCLASTITE<br>LAPILLISTONE occur as thick,<br>structureless beds that are very poorly<br>sorted and very coarse to coarse<br>grained. Lithic fragments are                    |
| 3                       |                  | 3       | early Miocen | 11        |         | 0      | 5BG<br>4/1<br>to<br>5G<br>N2.5/0    | composed of dark green and purple<br>vesicular basaltic rock fragments.<br>Hyaloclastite matrix is strongly<br>zeolitized. Thin, zeolite-filled veins are<br>present in Section 1, 100 cm, Section<br>2, 30–35 cm, and Section 3, 5, 90, 96,<br>120, 125, 130, and 140 cm. |
| 5                       |                  | 4       |              | 44 44     | -       | U      |                                     |  |
| 6                       |                  | 5       | AF AF        | VVVVV     | Т       |        |                                     |  |



| 511                                     | E 953 F          |         | E             | C CORE            | : 9     | н      |                                 | CORED 1033.2 - 1042.9 mbst  |
|---|------------------|---------|---------------|-------------------|---------|--------|---------------------------------|---|
| Meter                                   | Graphic<br>Lith. | Section | Age           | Structure         | Disturb | Sample | Color                           | Description   |
| and the last                            |                  | 1       |               | 417 429           |         |        | 5BG<br>2.5/1<br>to<br>5B<br>4/1 | HYALOCLASTITE LAPILLISTONE<br>and HYALOCLASTITE LAPILLI TUFF<br>Major Lithologies:<br>HYALOCLASTITE LAPILLISTONE<br>and HYALOCLASTITE LAPILLI TUFF<br>are thick bedded, very poorly sorted,   |
| Lin |                  | 2       | early Miocene | to #1             |         |        |                                 | very coarse to coarse grained, and<br>structureless. Clasts are angular to<br>subangular and are composed of dark<br>green and purple vesicular basaltic<br>rock fragments with pyroxene and<br>altered olivine. The beds are<br>composed of about equal amounts of<br>hyaloclastite matrix and basaltic clasts |
| Line Contraction                        |                  | 3       |               | ∱ F<br>† F<br>† F |         |        | 2.5/1                           | Hyaloclastite matrix is strongly<br>zeolitized. Zeolites infill vesicules and<br>veins. Pillow basalt fragments are<br>present.   |

| SIT   | E 953 H          | IOL     | E             | C CORE    | 92      | 2R     |               | CORED 1042.9 - 1052.6 mbsf   |
|-------|------------------|---------|---------------|-----------|---------|--------|---------------|--|
| Meter | Graphic<br>Lith. | Section | Age           | Structure | Disturb | Sample | Color         | Description  |
|       |                  | 1       | early Miocene |           |         | O<br>T | 2.5G<br>2.5/0 | HYALOCLASTITE LAPILLISTONE<br>Major Lithology:<br>HYALOCLASTITE LAPILLISTONE is<br>thick bedded, very poorly sorted, very<br>coarse to coarse grained, and<br>structureless. Clasts are angular to<br>subangular and are composed of dark<br>green and purple vesicular basaltic<br>rock fragments with pyroxene and<br>altered olivine. Beds are composed of<br>equal amounts of hyaloclastite matrix<br>and basaltic clasts. Hyaloclastite<br>matrix is strongly zeolitized. Zeolites<br>infill vesicules and veins. Pillow basalt |



| SIT               | FE 953 H         | IOL     | E             | C CORE    | 9       | 3R     |                                     | CORED 1052.6 - 1062.2 mbsf   |
|-------------------|------------------|---------|---------------|-----------|---------|--------|-------------------------------------|--|
| Meter             | Graphic<br>Lith. | Section | Age           | Structure | Disturb | Sample | Color                               | Description  |
| L'and Lorent      |                  | 1       |               |           |         | т      |                                     | HYALOCLASTITE TUFF BRECCIA<br>Major Lithology:<br>HYALOCLASTITE TUFF BRECCIA<br>consists of vesicular basalt breccia<br>supported in a hyaloclastite matrix. |
| Tree large large  |                  | 2       |               |           |         |        |                                     |  |
| and Annual Lines. |                  | 3       | early Miocene |           |         |        | 2.5G<br>2.5/0<br>to<br>5B<br>N2.5/0 |  |
| ad month from the |                  | 4       |               |           |         | т      |                                     |  |
| references from   |                  | 5       |               |           |         |        |                                     |  |
|                   |                  | 6       |               |           |         |        |                                     |  |



| SIT   | E 953           | HOI     | LE            | C CORE    | 94      | 1R     |            | CORED 1062.2 - 1071.9 mbsf  |
|-------|-----------------|---------|---------------|-----------|---------|--------|------------|---|
| Meter | Graphi<br>Lith. | Section | Age           | Structure | Disturb | Sample | Color      | Description   |
| 3 4   |                 | 2 2 3   | early Miocene |           |         | O      | 5BG<br>4/1 | HYALOCLASTITE LAPILLISTONE<br>BRECCIA<br>Major Lithology:<br>HYALOCLASTITE LAPILLISTONE<br>BRECCIA consists of basalt breccia<br>supported in a hyaloclastic matrix.<br>Two types of basalt clasts are<br>present: 1) vesicular basalt with<br>pyroxene, and 2) massive basalt with<br>pyroxene and altered olivine<br>phenocrysts and possible quenched<br>rims. |



| SIT                        | E 953 H          | IOL     | E        | C CORE     | 9       | 5R     |                  | CORED 1071.9 - 1081.5 mbsf   |
|----------------------------|------------------|---------|----------|------------|---------|--------|------------------|--|
| Meter                      | Graphic<br>Lith. | Section | Age      | Structure  | Disturb | Sample | Color            | Description  |
| Total Area                 |                  | 1       |          | † F<br>† F |         | т      |                  | HYALOCLASTITE TUFF and<br>HYALOCLASTITE LAPILLISTONE<br>Major Lithologies:<br>HYALOCLASTITE LAPILLISTONE   |
| second from the second     |                  | 2       |          |            |         |        |                  | and HYALOCLASTITE TUFF are very<br>poorly sorted and generally<br>structureless, except for faint fining<br>and coarsening upward sequences.<br>Clasts are angular to subangular and<br>are composed of dark green, purple,<br>and red vesicular and massive |
| See Second Level           |                  | 3       | ocene    |            |         |        | 4BG<br>2/1<br>to | basaltic rock fragments with pyroxene<br>and altered olivine. Beds are<br>composed of equal amounts of<br>hyaloclastite matrix and basaltic<br>clasts. Pillow basalt fragments are<br>present.   |
| and Stand Served Served Se |                  | 4       | early Mi |            |         |        | 6.5BG<br>2/0     |  |
| Trend Trends               |                  | 5       |          | †c<br>†c   |         | 0      |                  |  |
| adaren feren               |                  | 6       |          |            | ×       | т      |                  |  |



| SITE 953 H       | IOL                        | E             | C CORE                   | 96      | SR     |                                    | CORED 1081.5 - 1091.2 mbsf   |
|------------------|----------------------------|---------------|--------------------------|---------|--------|------------------------------------|--|
| Graphic<br>Lith. | Section                    | Age           | Structure                | Disturb | Sample | Color                              | Description  |
|                  | 1<br>2<br>3<br>4<br>5<br>6 | early Miocene | ↑ F<br>↑ F<br>↑ F<br>↑ F |         | T      | 1.4BG<br>2/1<br>to<br>6.5GB<br>2/1 | HYALOCLASTITE TUFF,<br>HYALOCLASTITE LAPILLISTONE,<br>and HYALOCLASTITE BRECCIA<br>Major Lithologies:<br>HYALOCLASTITE TUFF,<br>HYALOCLASTITE LAPILLISTONE,<br>and HYALOCLASTITE BRECCIA are<br>structureless and very poorly sorted.<br>Clasts are angular to subangular and<br>are composed of dark green and<br>purple vesicular basaltic rock<br>fragments with pyroxene and altered<br>olivine. Hyaloclastite matrix is very<br>coarse to coarse grained and strongly<br>zeolitized. Zeolites infill vesicles and<br>veins. Pillow basalt fragments are<br>present. |



| SIT                                  | E 953 H          | IOL           | E  | C CORE   | 9             | 7R     |       | CORED 1091.2 - 1100.9 mbsf   |
|--------------------------------------|------------------|---------------|--|--|---------------|--------|-------|--|
| Meter                                | Graphic<br>Lith. | Section       | Age  | Structure  | Disturb       | Sample | Color | Description  |
| Leef and and and and and and and and |                  | early Miocene | 1<br>1<br>1<br>1<br>1<br>2<br>2<br>3<br>3<br>4<br>F<br>4<br>F<br>4<br>4<br>F<br>4<br>4<br>F<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4 | HYALOCLASTITE TUFF,<br>HYALOCLASTITE TUFF,<br>HYALOCLASTITE TUFF WITH<br>LITHICS, HYALOCLASTITE<br>LAPILLISTONE, and<br>HYALOCLASTITE LAPILLISTONE<br>WITH LITHICS<br>Major Lithologies:<br>HYALOCLASTITE TUFF,<br>HYALOCLASTITE TUFF,<br>HYALOCLASTITE TUFF WITH<br>LITHICS, HYALOCLASTITE<br>LAPILLISTONE, and<br>HYALOCLASTITE LAPILLISTONE<br>WITH LITHICS are very poorly sorted<br>and are distinguished on their content<br>of lapilli and large (decimeter-sized)<br>rock fragments. HYALOCLASTITE<br>LAPILLISTONE WITH LITHICS occurs<br>in Section 1, 0–53 cm, and is underlain<br>by HYALOCLASTITE TUFF WITH<br>LITHICS (Section 1, 53–124 cm) which<br>is partly parallel laminated, and this<br>litholony crades into |               |        |       |  |
| a land and and a land                |                  | 5             |  |  | VVVVV HH VVVV |        |       | HYALOCLASTITE TUFF (Section 2, 0<br>cm, to Section 3, 100 cm) and<br>HYALOCLASTITE LAPILLISTONE<br>(Section 3, 100 cm, to Section 5, 105<br>cm) downcore. Lapilli are angular to<br>subrounded and composed mainly of<br>dark reddish brown altered vesicular<br>basaltic rock fragments and altered<br>massive glass fragments. Larger clasts<br>are predominatly altered basalt.<br>General Description:<br>The major lithologies form thick beds<br>which grade into each other. Color is<br>very uniform in this core. |



| SITE 953 H       | IOL     | E         | C CORE    | 98             | BR           |   | CORED 1100.9 - 1110.5 mbsf  |
|------------------|---------|-----------|-----------|----------------|--------------|---|---|
| Graphic<br>Lith. | Section | Age       | Structure | Disturb        | Sample       | Color   | Description   |
|                  | 1       |           |           | 11111111       |              | 5G<br>2/1   | HYALOCLASTITE LAPILLISTONE<br>WITH LITHICS, HYALOCLASTITE<br>BRECCIA, and HYALOCLASTITE<br>TUFF<br>Maior Lithologies: |
|                  | 2<br>3  | r Miocene |           | 11 11111111 11 | 10G<br>2.5/1 | HYALOCLASTITE LAPILLISTONE<br>WITH LITHICS forms a thick, poorly<br>sorted bed from Section 1, 0 cm to<br>Section 5, 145 cm, and contains<br>abundant lapilli of angular to<br>subangular, dark reddish brown<br>altered vesicular basalt, and green<br>massive glassy fragments and lithic<br>clasts. Lithic clasts are predominantly<br>dark gray-brown moderately vesicular<br>basalt. HYALOCLASTITE BRECCIA<br>forms a thick, poorly sorted bed from<br>Section 6, 0 cm, to Section 7, 123 cm,<br>and contains abundant, matix-<br>supported angular to subrounded<br>cobble-sized clasts of altered reddish-<br>brown vesicular basalt. Vesicles in the<br>basalts may be infilled with zeolites.<br>HYALOCLASTITE TUFF forms a<br>disturbed bed in Section 7, 122 cm to |   |
|                  | 5 6 7 8 | 69        |           |                | 5BG<br>4/1   | contorted lamination.<br>General Description:<br>The major lithologies form thick beds<br>that grade into each other. Color is<br>fairly uniform in this core.  |   |



| SIT             | E 953 H          | IOL     | _E          | C CORE         | 9         | 9R     |               | CORED 1110.5 - 1120.2 mbsf   |  |      |   |
|-----------------|------------------|---------|-------------|----------------|-----------|--------|---------------|--|--|------|---|
| Meter           | Graphic<br>Lith. | Section | Age         | Structure      | Disturb   | Sample | Color         | Description  |  |      |   |
| 1               |                  | 1       |             | 4 F            | H- ////// |        | 5G<br>2/1     | HYALOCLASTITE TUFF and<br>HYALOCLASTITE LAPILLISTONE<br>Major Lithologies:<br>HYALOCLASTITE TUFF forms a thick,<br>slightly normally graded, but otherwise<br>structureless bed from Section 1, 0  |  |      |   |
| 2               |                  | 2       |             |                |           |        | 10G<br>2.5/1  | cm, to Section 3, 150 cm. It contains<br>rare, small subangular to rounded<br>lapilli of altered basalt.<br>HYALOCLASTITE LAPILLISTONE<br>forms a thick bed from Section 4, 0<br>cm, to Section 8, 37 cm. This lithology<br>is very poorly sorted, slightly normally<br>graded and contains abundant |  |      |   |
| here the second |                  | 3       | Je          | _ 1 <u>F</u> _ | V F       |        | 7.5G<br>2.5/0 | subangular to subrounded lapilli of<br>altered basalt, some of which may be<br>vesicular (especially the larger lapilli<br>and clasts). In vesicular clasts the<br>vesicles may be infilled with zeolites.<br>Some basalt lapilli and clasts contain<br>pyroxene phenocrysts.                        |  |      |   |
| 5               |                  | 4       | early Mioce |                | $^{>}$    | 0      | 5G<br>3/1     | General Description:<br>The major lithologies form thick beds<br>that grade into each other.   |  |      |   |
| ree Carelone    |                  | 5       |             |                | 5         | 5      |               |  |  | 7.56 |   |
| 8               |                  | 6       |             |                |           |        | 5             |  |  |      | 1 |
| 9               |                  | 7<br>8  |             | <b>↑</b> F     |           |        | 10G<br>2.5/1  |  |  |      |   |



|  | FE 953 H         | 101     | E             | C CORE    | 10            | 00R    | -            | CORED 1120.2 - 1129.8 mbsf  |
|--|------------------|---------|---------------|-----------|---------------|--------|--------------|---|
| Meter  | Graphic<br>Lith. | Section | Age           | Structure | Disturb       | Sample | Color        | Description   |
| ALL LL COLD LL COLD  |                  | 1       |               |           |               |        | 2.5G<br>3/0  | HYALOCLASTITE LAPILLISTONE<br>and HYALOCLASTITE BRECCIA<br>Major Lithologies:<br>HYALOCLASTITE LAPILLISTONE<br>forms a thick, very poorly sorted  |
| THE PROPERTY OF THE PROPERTY O |                  | 2       |               |           | 1111111111111 |        | 10G<br>2.5/1 | structureless bed from Section 1, 0<br>cm to Section 4, 150 cm. Lapilli are<br>predominantly subangular to<br>subrounded dark gray to reddish gray<br>altered basalt fragments, some of<br>which are vesicular.<br>HYALOCLASTITE BRECCIA forms a<br>thick bed in Section 5, 0–135 cm, and |
| A REPORT OF A R  |                  | 3       | early Miocene |           | 111111111111  |        | 7.5G<br>3/0  | contains lapilli and cobble-sized dark<br>gray angular basalt fragments.<br>General Description:<br>This core comprises a thick overall<br>normally graded sequence and the<br>major lithologies grade into each<br>other.  |
|  |                  | 4       | 4             |           | 1111111111    |        |              |   |
| The second second  |                  | 5       |               |           | 1/1/1/1/1/    | 0      | 5B<br>4/1    |   |
|  |                  |         |               |           | 1             |        |              |   |



| SIT         | TE 953 H         | IOL     | E           | C CORE    | 1       | 01R    | CORED 1129.8 - 1139.4 mbsf    |   |  |
|-------------|------------------|---------|-------------|-----------|---------|--------|-------------------------------|---|--|
| Meter       | Graphic<br>Lith. | Section | Age         | Structure | Disturb | Sample | Color                         | Description   |  |
| LL.         |                  | 1       |             |           |         |        |                               | HYALOCLASTITE LAPILLISTONE<br>and HYALOCLASTITE BRECCIA<br>Major Lithologies:<br>HYALOCLASTITE LAPILLISTONE<br>and HYALOCLASTITE BRECCIA are<br>structures and year poody soded   |  |
| 2           |                  | 2       |             |           |         |        |                               | Lapilli are supported in medium- to<br>coarse-grained, vesicular and<br>nonvesicular hyaloclastite. Clasts are<br>angular to subangular and are<br>composed of dark purple, green, and<br>minor brick red vesicular (20%) and<br>parturgitude (20%) |  |
| 3           |                  | 3       | rly Miocene |           |         |        | 10/0.4<br>to<br>10G<br>11/0.1 | clinopyroxene basaltic rock<br>fragments. Beds are composed of<br>equal amounts of hyaloclastite matrix<br>and basalt clasts. Zeolites infill<br>vesicles. Pillow basalt fragments are  |  |
| 4           |                  |         | ea          |           |         |        |                               | common.   |  |
| 5           |                  | 4       |             |           |         |        |                               |   |  |
| and and and |                  | 5       |             |           |         |        |                               |   |  |
| 7           | 1. 10.0.0        |         |             |           |         |        |                               |   |  |

| SIT   | E 953 H          | IOL     | E             | C CORE    | 1   | 02R    |                                  | CORED 1139.4 - 1149.1 mbsf  |
|-------|------------------|---------|---------------|-----------|---|--------|----------------------------------|---|
| Meter | Graphic<br>Lith. | Section | Age           | Structure | Disturb   | Sample | Color                            | Description   |
| 1 2   |                  | 1       | early Miocene |           | $\vdash$ | 0      | 1B<br>12/0<br>to<br>10BG<br>12/1 | HYALOCLASTITE LAPILLISTONE<br>Major Lithology:<br>HYALOCLASTITE LAPILLISTONE is<br>very poorly sorted and structureless.<br>Clasts are angular to subangular and<br>are composed of dark green and<br>purple, vesicular and nonvesicular<br>basaltic rock fragments with pyroxene<br>and altered olivine. Hyaloclastite<br>matrix is fine grained to granule size,<br>and both vesicular and nonvesicular.<br>Zeolites infill vesicles. Pillow basalt<br>fragments are present. |



| SIT  | FE 953 H         | 101     | E        | C CORE         | 1       | 03R    |                     | CORED 1149.1 - 1158.7 mbsf  |
|--|------------------|---------|----------|----------------|---------|--------|---------------------|---|
| Meter  | Graphic<br>Lith. | Section | Age      | Structure      | Disturb | Sample | Color               | Description   |
| 1.0010   |                  | 1       |          | $\equiv$       | 1       |        |                     | HYALOCLASTITE TUFF and<br>HYALOCLASTITE LAPILLISTONE  |
| and the  |                  |         |          | † F            | 11      |        |                     | Major Lithologies:<br>This core consists of<br>HYALOCLASTITE TUFF and   |
| of on Frontin  |                  | 2       |          | † F            |         |        |                     | HYALOCLASTITE LAPILLISTONE that<br>are generally structureless and very<br>poorly sorted. Planar laminations do<br>occur. Lapilli are supported in vesicular<br>to nonvesicular hyaloclastite. Clasts<br>are angular to subanular and are<br>composed of vesicular and<br>nonvesicular olivine clinopyroxene<br>basaltic fragments. |
| from Ex  |                  | 3       |          | =              |         |        |                     |   |
| the second   |                  |         | ocene    |                |         |        | 4G<br>2.5/0.7<br>to |   |
| L  |                  | 4       | early Mi | <br>↑ F<br>↑ F |         |        | 2/0.7               |   |
| in the second se |                  |         |          | † F            |         | 1      |                     |   |
| Trand  |                  | 5       |          |                |         |        |                     |   |
| , -  |                  |         |          |                |         |        |                     |   |
| 8  |                  | 6       |          |                |         |        |                     | 145   |

