

## Holes U1415B and U1415C<sup>1</sup>

K.M. Gillis, J.E. Snow, A. Klaus, G. Guerin, N. Abe, N. Akizawa, G. Ceuleneer, M.J. Cheadle, Á. Adrião, K. Faak, T.J. Falloon, S.A. Friedman, M.M. Godard, Y. Harigane, A.J. Horst, T. Hoshide, B. Ildefonse, M.M. Jean, B.E. John, J.H. Koepke, S. Machi, J. Maeda, N.E. Marks, A.M. McCaig, R. Meyer, A. Morris, T. Nozaka, M. Python, A. Saha, and R.P. Wintsch<sup>2</sup>

### Chapter contents

|                                  |   |
|----------------------------------|---|
| <a href="#">Operations</a> ..... | 1 |
| <a href="#">References</a> ..... | 2 |
| <a href="#">Table</a> .....      | 3 |

### Operations

The locations of Integrated Ocean Drilling Program Holes U1415B and U1415C (see Fig. F8 in the “Expedition 345 summary” chapter [Gillis et al., 2014b]) were selected to test sediment thickness and subseafloor drilling conditions, with the aim of finding a suitable site for establishing a deep hole. Hole operations are summarized in Table T1 and outlined below. All times are ship local time (UTC – 7 h).

#### Near-bottom 3.5 kHz pinger and camera survey

After pulling out of the seafloor in Hole U1415A, we continued a near-bottom survey of the bench with the 3.5 kHz pinger and camera system (see Table T1 and Fig. F3 in the “Bench site survey” chapter [Gillis et al., 2014a]). At 0830 h on 23 December 2012, we stopped the survey to conduct operations in Holes U1415B and U1415C.

#### Hole U1415B drilling operations

The drill string was spaced out for a jet-in test, and Hole U1415B was spudded at 0905 h on 23 December 2012. This test penetrated 11.7 m into the seafloor (4856.3–4868.0 meters below rig floor [mbrf]) before the driller had to make a drill string connection to add another drilling knobby. After making the connection, the driller was unable to get back to bottom, indicating something had fallen into the hole preventing further advancement. The drill string was pulled clear of the seafloor, ending Hole U1415B.

#### Hole U1415C drilling operations

Hole U1415C was spudded at 0945 h on 23 December 2012 without offsetting the ship from Hole U1415B. This time the driller made a connection before penetrating the seafloor, to allow increased penetration before having to pause to add drill pipe. The third jet-in test appeared to extend from seafloor (4856.3 mbrf) to 76.4 meters below seafloor (4932.7 mbrf). As it turned out, this penetration was only perceived. In reality, the bottom-hole assembly (BHA) was most likely lying slack on the seafloor. This was discovered when the camera system was recovered, and the driller found that the drill string could not be rotated. Damage to the BHA was determined on recovery, including the bending of several collars and the tapered drill collar. This damage was attributed to the difficulty in starting a hole in unstable, rubbly base-

<sup>1</sup>Gillis, K.M., Snow, J.E., Klaus, A., Guerin, G., Abe, N., Akizawa, N., Ceuleneer, G., Cheadle, M.J., Adrião, Á., Faak, K., Falloon, T.J., Friedman, S.A., Godard, M.M., Harigane, Y., Horst, A.J., Hoshide, T., Ildefonse, B., Jean, M.M., John, B.E., Koepke, J.H., Machi, S., Maeda, J., Marks, N.E., McCaig, A.M., Meyer, R., Morris, A., Nozaka, T., Python, M., Saha, A., and Wintsch, R.P., 2014. Holes U1415B and U1415C. *In* Gillis, K.M., Snow, J.E., Klaus, A., and the Expedition 345 Scientists, *Proc. IODP, 345*: College Station, TX (Integrated Ocean Drilling Program).

doi:10.2204/iodp.proc.345.105.2014

<sup>2</sup>[Expedition 345 Scientists' addresses.](#)



ment with an unknown but likely very thin sediment cover. Drilling was further complicated by the use of drilling knobblies at the top of the drill string and significant ship heave, which led to large weight fluctuations ( $\pm 50,000$  lb) on the driller's weight indicator; this masked the weight change when the bit encountered hard rubble to the extent that it was not detected at the driller's console. The seafloor depth was cleared at 1445 h on 23 December, all 30 ft drilling knobblies in the string were laid out, and the remaining drill string was recovered. At the surface, the BHA was inspected, resulting in one joint of 5½ inch transition drill pipe, one tapered drill collar, and five control-length drill collars being taken out of service because they were either obviously bent or suspect.

## References

- Gillis, K.M., Snow, J.E., Klaus, A., Guerin, G., Abe, N., Akizawa, N., Ceuleneer, G., Cheadle, M.J., Adrião, Á., Faak, K., Falloon, T.J., Friedman, S.A., Godard, M.M., Harigane, Y., Horst, A.J., Hoshide, T., Ildfonse, B., Jean, M.M., John, B.E., Koepke, J.H., Machi, S., Maeda, J., Marks, N.E., McCaig, A.M., Meyer, R., Morris, A., Nozaka, T., Python, M., Saha, A., and Wintsch, R.P., 2014a. Bench site survey. *In* Gillis, K.M., Snow, J.E., Klaus, A., and the Expedition 345 Scientists, *Proc. IODP, 345: College Station, TX (Integrated Ocean Drilling Program)*. doi:10.2204/iodp.proc.345.103.2014
- Gillis, K.M., Snow, J.E., Klaus, A., Guerin, G., Abe, N., Akizawa, N., Ceuleneer, G., Cheadle, M.J., Adrião, Á., Faak, K., Falloon, T.J., Friedman, S.A., Godard, M.M., Harigane, Y., Horst, A.J., Hoshide, T., Ildfonse, B., Jean, M.M., John, B.E., Koepke, J.H., Machi, S., Maeda, J., Marks, N.E., McCaig, A.M., Meyer, R., Morris, A., Nozaka, T., Python, M., Saha, A., and Wintsch, R.P., 2014b. Expedition 345 summary. *In* Gillis, K.M., Snow, J.E., Klaus, A., and the Expedition 345 Scientists, *Proc. IODP, 345: College Station, TX (Integrated Ocean Drilling Program)*. doi:10.2204/iodp.proc.345.101.2014

**Publication:** 12 February 2014  
**MS 345-105**

**Table T1.** Operations summary, Holes U1415B and U1415C.**Hole U1415B (jet-in test only; no coring):**

Latitude: 2°15.1355'N

Longitude: 101°32.8671'W

Time at site (h): 5.8 (0345 h, 23 December–0930 h, 23 December 2012)

Seafloor (drill pipe measurement below rig floor, m DRF): 4856.3

Distance between rig floor and sea level (m): 11.2

Water depth (drill pipe measurement from sea level, mbsl): 4845.1

Total penetration (drilling depth below seafloor, m DSF): 11.7

**Hole U1415C (damaged bottom-hole assembly):**

Latitude: 2°15.1349'N

Longitude: 101°32.8669'W

Time on site (h): 22.0 (0930 h, 23 December–0730 h, 24 December 2012)

Seafloor (drill pipe measurement below rig floor, m DRF): 4856.3

Distance between rig floor and sea level (m): 11.2

Water depth (drill pipe measurement from sea level, mbsl): 4845.1

Total penetration (drilling depth below seafloor, m DSF): unknown; bottom-hole assembly bent during penetration

Local ship time was UTC – 7 h. DRF = drilling depth below rig floor, DSF = drilling depth below seafloor.