

14th May 2016 –20th May 2016

1. Operations

Apart from some rig maintenance, coring continued throughout 14th May, with a total of 11 cores collected which advanced the hole depth by a further 30.80 m. These cores were noted to be of a very high quality and 100% recovery. The hole depth at the end of the day was 890.34 mbsf.

On 15th May, coring continued from the previous day, with high quality cores retrieved at a recovery rate of 100%. Some rig maintenance was carried out and coring recommenced without further interruption. At the end of the day, a depth of 926.94 mbsf was achieved, which is an advance of 36.60 m, with a total of 14 cores collected.

Coring continued throughout the day of the 16th May. The changes in formation slowed progress for short periods of time, and a loss circulation zone. Cores were again of an extremely high quality with a 100% recovery rate and a steadily improving coring rate. The coring rate steadily increased further throughout the 17th May, with a total of 17 cores (total of 51.85 m) recovered over the 24 hour period, taking the hole depth beyond the 1 km mark, to 1015.39 mbsf.

The coring progressed on 18th May, with a further 42.13 m (15 cores) of high-quality core taken, advancing the hole depth to 1057.52 mbsf. However, the day ended with the drill team investigating why the core barrel was not latching when deployed downhole.

The first action on the 19th May was to pull out of the hole (POOH) due to a worn bit. The bit was replaced and, once running the pipe back in was complete, coring recommence. Six high-quality cores with 100% recovery were retrieved throughout the day, with an end of day depth of 1075.92 mbsf being achieved.

Coring continued throughout the 20th May, with 15 high-quality cores collected (a cumulative total of 45.72 m) at 100% recovery, advancing the hole depth to 1121.64 mbsf. The week ended with coring continuing into the 21st May.

2. Hole summary

Hole	M0077A
Latitude	21°26.996' N
Longitude	89°56.968'W
First core	142R
Last core	233R
Cores recovered	92
Drilled length (Coring)	262.10 m
Drilled Length (Open Hole)	0 m
Recovered length	266.45 m
Depth in hole	1121.64 m
Hole recovery	100%

3. Science

Throughout the week we have been principally drilling granite, with occasional dikes. There are some small variations in the granite, with weaker and harder zones, slight changes in texture and degree of fracturing. The dikes are variable in nature, and some may be pre-impact whereas others are more likely to be formed from the injection of impact melt and breccia. With increasing depth in the hole, there are less dikes and the dikes are thinner. The physical properties are broadly unchanging, but there are occasional small anomalies. The density and magnetic susceptibility readings are interesting and may correlate with differences in lithology, fracturing or shock metamorphism.

4. HSE Activity

N/A

5. Outreach Activity

Expedition participants continued to blog at;

<https://esoexpedition364chicxulubimpactcrater.wordpress.com/>

ESO outreach facebook page was frequently updated; for the week of 14th – 20th May, **4,417** people were “reached”, with **194** “page views”. Since the start of Exp 364, the page has received **427** “likes”.

<https://www.facebook.com/ESO-outreach-305621560212/>

On Wednesday 18th May, Dave Smith and Chris Delahunty took part in an interview for ‘National Driller’ with the article due in the July Issue.

<http://www.nationaldriller.com/>

On Thursday 19th May, Joanna Morgan took part in a web conference with undergraduate students from the University of Washington, giving a talk on the aims and objectives of Expedition 364, followed by questions from the students.

6. Figures

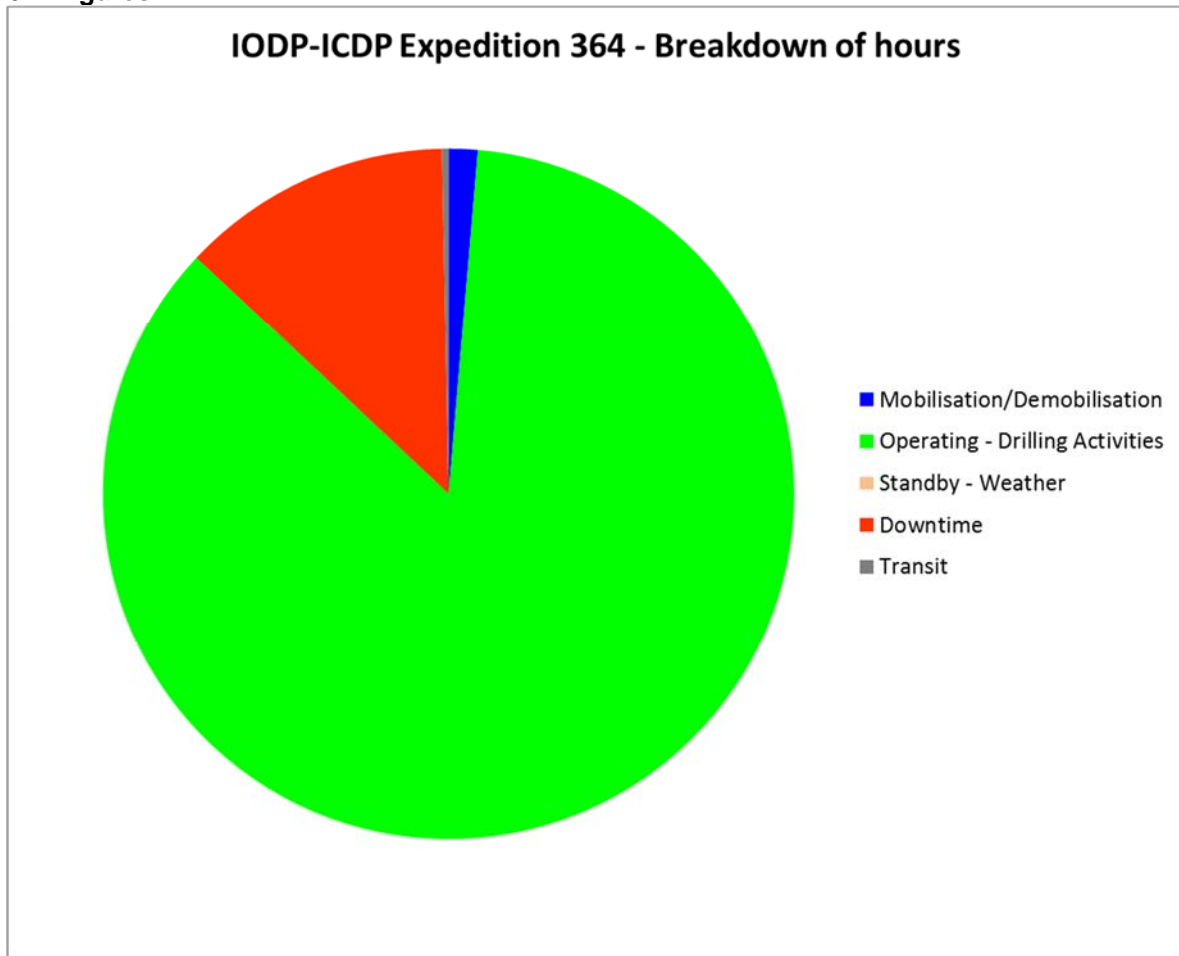


Figure 1: Breakdown of hours from 00:00 April 5th to 24:00 May 20th.

Expedition 364 Chicxulub Impact Crater
 Offshore Data Summary
 Week 6: May 14 2016 to May 20 2016
 M0077A
 Chix-03B

21 27.009 N
 89 56.962 W
 Water Depth: 19.8m (Drillers Depth)

Depth (mbsf)	Core	Recovery
860	142R	
	143R	
	144R	
870	145R	
	146R	
	147R	
880	148R	
	149R	
	150R	
890	152R	
	153R	
	154R	
900	155R	
	156R	
	157R	
	158R	
910	159R	
	160R	
	161R	
920	163R	
	164R	
	165R	
	166R	
930	167R	
	168R	
	169R	
	170R	
940	171R	
	172R	
	173R	
950	174R	
	175R	
	176R	
	177R	
960	178R	
	180R	
	181R	
970	182R	
	183R	
	184R	
	185R	
980	186R	
	187R	
	188R	
990	189R	
	190R	
	191R	
1000	192R	
	193R	
	194R	
1010	195R	
	196R	
	197R	
	198R	
1020	200R	
	201R	
	202R	
1030	203R	
	204R	
	205R	
1040	206R	
	207R	
	208R	
	209R	
1050	210R	
	211R	
	212R	
1060	213R	
	214R	
	215R	
1070	216R	
	217R	
	218R	
	219R	
1080	220R	
	221R	
	222R	
1090	223R	
	224R	
	225R	
	226R	
1100	227R	
	228R	
	229R	
1110	230R	
	231R	
	232R	
1120	233R	

Figure 2: Core Recovery during operations from 00:00 May 14th to 24:00 May 20th

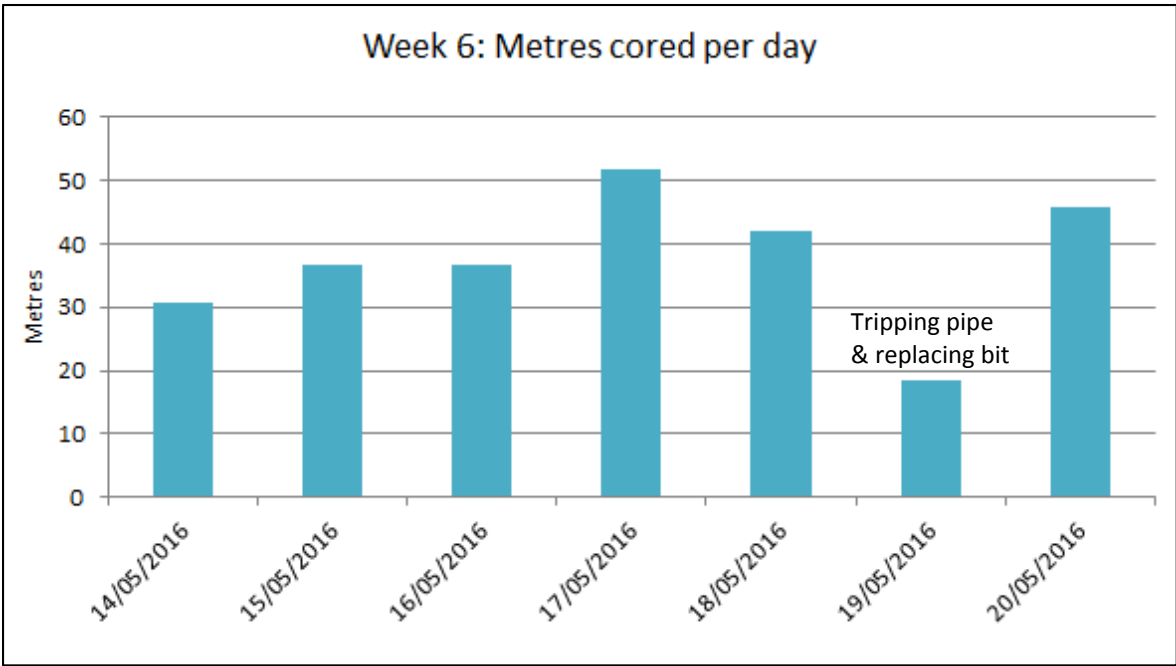


Figure 3: Week 6 coring rates.

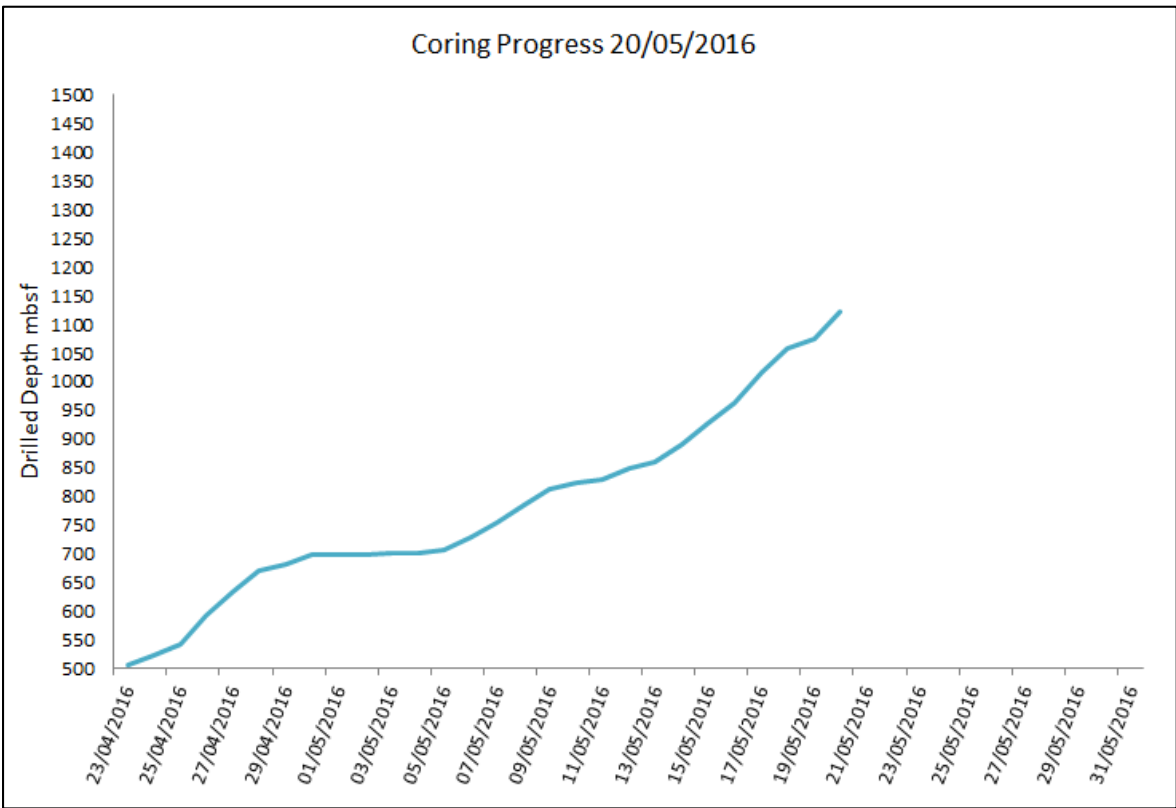


Figure 4: Coring progress at end of week 6, May 20th.

7. Photographs

