**Oman Drilling Project – BA3A – Lead Scientist On-Site Log (LSOS).**

**8th January 2018 to 22nd January 2018**

This is an electronic version of the blue on-site logbook.

**BA3 22.866169ºN, 58.71057ºE, Altitude 554 m**

Hole CM3A. Vertical hole

***Overview***

**DAILY UPDATES**

**6th January 2018, Saturday**

Packed up tent, tarp and kit. Repitched tent at BA3. Drillers moved rig etc.

**7th January 2018, Sunday**

Pitched tarp and prepared core tent. Drillers finished moving their kit. Core boxes transported to Mubailla.

**8th January 2018, Monday**

**On-site: NW, JC, SP, LC, JdO, LN**

**LSOS: Jude Coggon**

Arrived on site: 12:50

Rig started:

Rotation started:

Summary of the day:

Spud in at 13:30 exactly!

15:05 Reaming started for casing. Casing to 5.7 m (0.3 m above ground)

(4.1 m = total length of bottom hole assembly)

Today was the first day of drilling at site 9A [(BA3A)]. We started with ~3 m of alluvium then we drilled through highly altered harzburgite with a lot of whitish veining. Veins are mostly composed of serpentine, magnesite and could be? Gabbroic dykelet. A dew intervals show brecciated texture with mm sized altered harzburgite in carbonated fine grained matrix. This was also a day of training for the newly arrived scientists. LC

**9th January 2018, Tuesday**

**On-site: NW, JC, LC, LN, GA, SP, JdO, AE, AT, EE, KR**

**LSOS: Jude Coggon**

Arrived on site: 07:11

Rig started: already started

Rotation started: already started

Summary of the day:

Surface casing extended from 5.7 m to 8.7 mbgl after core 9Z

Great day with 33.00 m of coring. Mainly highly serpentinised harzburgite with serpentine vein networks. From 17.70 m to 38.70 m we got mostly full recovery of serp. Harzburgite with a few of pyroxenite layers. A few gabbro (rodingite) dykelets around 30-32 m.

**10th January 2018, Wednesday**

**On-site: NW, JC, LC, LN, GA, SP, JdO, AE, AT, EE, KR, JMM**

**LSOS: Jude Coggon / Jürg Matter**

Arrived on site: 07:15

Rig started: already started

Rotation started: already started

Summary of the day:

After core 20Z, POOHing as wireline has broken – need to pull out to retrieve barrel and then repair wireline.

Goat feast for lunch!

Good day with 30.00 m of coring. Nice cores of serpentinised harzburgite with a few gabbroic dykelets, one norite/gabbro dyke in core 30Z with the first occurrence of oxides. Vein networks (mostly serpentine) throughout the cores.s

**11th January 2018, Thursday**

**On-site: NW, JMM, LC, LN, GA, SP, JdO, AE, AT, EE, KR**

**LSOS: Jürg Matter**

Arrived on site: 07:14

Rig started: already started

Rotation started: already started

Summary of the day:

Extended casing after core 4 [35Z] from 8.7 mbgl to 11.7 mbgl. Continued drilling at 11:20 but after a while found bit is blocked and there is no fluid circulation. Check inner tube; RIH again; Same problem persists so decided to POOH and check/clean the drill bit. POOHed and replaced the bit at 12:30. Drilling resumed at 13:30 after lunch.

Surface casing extended again for 1.5 m making it upto 13.20 mbgl.

Drilling started again @ 16:05.

Serpentinised harzburgite (minimal lherzolite) with serpentine vein networks (no carbonate vein observed). A few pyroxenite, dunite and cataclastic zones.

**13th January 2018, Saturday**

**On-site: NW, JMM, LC, LN, GA, SP, JdO, AE, AT, EE, KR**

**LSOS: Jürg Matter**

Arrived on site: 07:10

Rig started:

Rotation started: 07:13

Summary of the day:

Extended the HW surface casing from 13.20 mbgl to 20.70 mbgl after 41Z.

14:00 POOH and RIH again after checking the inner tube and removing core from core barrel, started drilling again at 15:20.

We cored through serpentinised harzburgite with pyroxenite layers and a few dunitic layers. Serpentine vein networks occur throughout the cores. A few cm-thick altered gabbroic (fine grained) dikes with [?]. One piece 2.13 m long, the longest up to now! [at this hole]

**14th January 2018, Sunday**

**On-site: NW, JMM, LC, LN, GA, SP, JdO, AE, AT, EE, KR**

**LSOS: Jürg Matter**

Arrived on site: 07:10

Rig started:

Rotation started: 07:06

Summary of the day:

14:00 Stop drilling for problem with the oil filter [no more core today].

At 15:50 we [left] the site after Box 39 has been closed.

We cored 18.00 m of serpentinised harzburgite with serp. vein networks. A few 1 to 2 cm wide pyroxenite layers. Cataclastic and brecciated intervals.

**15th January 2018, Monday**

**On-site: NW, PK, LC, LN, GA, SP, JdO, AE, AT, EE, KR**

**LSOS: Peter Kelemen**

Arrived on site: 07:16

Rig started:

Rotation started: 07:00

Summary of the day:

16:28 Reamed and extended the HW surface casing from 20.70 m to 23.70 mbgl

Today Peter Kelemen joined the party!

We cored 30.00 m of serpentinised harzburgite with serp vein networks. A few dunitic layers, gabbro-rodingite dykelets (0.5 – 1 cm wide) and cataclastic zones.

**16th January 2018, Tuesday**

**On-site: NW, JMM, PK, LC, LN, GA, SP, JdO, AE, AT, EE, KR**

**LSOS: Jürg Matter / Peter Kelemen**

Arrived on site: 07:10

Rig started: already started

Rotation started: already started

Summary of the day:

We cored 27.00 m of serpentinised harzburgite with serpentine vein networks. Dykelets of gabbro/roding (0.5 – 2 cm wide) occurs throughout the cores. A few dunitic layers, pyroxenite bands, catalclastic zones and slickensides. Elisabetta Mariani joined the party after lunch time.

**17th January 2018, Wednesday**

**On-site: NW, JMM, PK, LC, LN, GA, SP, JdO, AE, AT, EE, KR, EM**

**LSOS: Jürg Matter / Peter Kelemen**

Arrived on site: 07:09

Rig started: already started

Rotation started: already started

Summary of the day:

Amazing day for coring: total advance 36 m! Plus 4 biosamples

We cored through serp. Harzburgite with gabbroic/roding grt bearing dyke (cm-scale).

**18th January 2018, Thursday**

**On-site: NW, JMM, PK, LC, LN, GA, SP, JdO, AE, AT, EE, KR, EM**

**LSOS: Jürg Matter / Peter Kelemen**

Arrived on site: 07:10

Rig started: already started

Rotation started: already started

Summary of the day:

Longest piece of the hole today: 2.36 m!!

Today we cored 27.00 m of serp. Harzburgite with serpentine vein networks, pyroxenite bands, a few gabbroic (roding.) dykes and cataclastic zones with slickensides.

Last day for Suzanne, Grace, J-Carlos and Aled.

**20th January 2018, Saturday**

**On-site: NW, JMM, PK, LC, LN, AT, EE, KR, EM, EG, JN, ARE, LT**

**LSOS: Jürg Matter / Peter Kelemen**

Arrived on site: 07:09

Rig started: already started

Rotation started: already started

Summary of the day:

Today we cored 27.00 m of serpentinised harzburgite with serpentine vein networks, pyroxenite bands, gabbroic and rodingitic dykes (cm wide or less) and a few slickensides.

Before lunch, Julie, Ali and Lotta arrived on site and joined the Party!

**21st January 2018, Sunday**

**On-site: NW, JMM, PK, LC, LN, AT, EE, KR, EM, EG, JN, ARE, LT**

**LSOS: Jürg Matter / Peter Kelemen**

Arrived on site: 07:08

Rig started: already started

Rotation started: already started

Summary of the day:

Today we cored 21 m of serpentinised harzburgite characterized by serpentine vein networks, pyroxenite bands and gabbroic/roding. Dykelets. A few

08:00 Small problem with the generator. Fixed! In 10 minutes ☺

**22nd January 2018, Monday**

**On-site: NW, JMM, PK, LC, LN, AT, EE, KR, EM, EG, JN, ARE, LT**

**LSOS: Jürg Matter / Peter Kelemen**

Arrived on site: 07:09

Rig started: already started

Rotation started: already started

Summary of the day:

Total advance 12.00 m

Borehole Completed!!!

~13:00 Rig off – finished POOHing