***Cruise Report (26/08/2014 – 24/09/2014)***

***AX080914 – Maersk Vilnius (Call Sign: 9V8503)***

***Technician: Chris Jacobs***

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The AX080914 transect began training for the AX08 transect from Cape Town, South Africa to Newark, USA was completed on a short cruise from Durban to Cape Town aboard the Maersk Vilnius from 26 August 2014 – 1 September 2014 and was given by Gus McKay to Christopher Jacobs. The purpose of this short cruise was to familiarize the new rider, Chris Jacobs, with the equipment to be deployed and used on the upcoming voyage to Newark and prepare him for any situations which may occur and how to fix them.

The training took the following form:

1) Explanation of the equipment and the installation of the equipment aboard the vessel

2) Explanation of the software to be used, possible glitches and the introduction of basic equipment malfunctions

3) Explanation of Equipment malfunctions and how to repair them.

4) Starting up of Remotely sensed equipment (ie ARGO floats) and the deployment thereof

5) Training in “Real life” scenarios and situations

On 1 September 2014, the Maersk Vilnius departed Cape Town and arrived at Newark on 24 September 2014. During the voyage, 489 expendable bathythermographs (XBTs), 10 drifter buoys and five ARGO floats were deployed (details given in table 1 and 2 below).

 *Table 1: Table summarizing the details for the drifter buoy deployments*

|  |  |  |
| --- | --- | --- |
| ***Serial Number*** | ***Deployment Date (time GMT)*** | ***Deployment Position*** |
| ***116371*** | ***04 September 2014 (14h08)*** | ***24 59 61S ; 006 12 90E*** |
| ***116265*** | ***“*** | ***“*** |
| ***116372*** | ***05 September 2014 (03h55)*** | ***23 00 24S ; 003 51 65E*** |
| ***116374*** | ***“*** | ***“*** |
| ***129320*** | ***05 September 2014 (18h04)*** | ***20 58 56S ; 001 29 58E*** |
| ***129324*** | ***“*** | ***“*** |
| ***129323*** | ***06 September 2014 (07h30)*** | ***19 03 34S ; 000 38 43W*** |
| ***116376*** | ***“*** | ***“*** |
| ***129321*** | ***06 September 2014 (20h20)*** | ***17 03 87S ; 002 41 34W*** |
| ***129322*** | ***“*** | ***“*** |

*Table 2: Table summarizing the details of the ARGO float deployments*

|  |  |  |  |
| --- | --- | --- | --- |
| ***Serial Number*** | ***Date Started (time GMT)*** | ***Date Deployed (time GMT)*** | ***Deployment position*** |
| *SOLO 1: 1175* | *30/08/2014 (14h00)* | *04/09/2014 (23h55)* | *27 00 19S ; 008 9 14E* |
| *SOLO 1: 1176* | *30/08/2014 (14h00)* | *05/09/2014 (03h55)* | *23 00 24S ; 003 51 65E* |
| *SOLO 2: 7180* | *30/08/2014 (14h00)* | *06/09/2014 (02h38)* | *16 06 28S ; 003 37 71W* |
| *SOLO 2: 7196*  | *30/08/2014 (14h00)* | *13/09/2014 (06h02)* | *05 57 12 N ; 025 28 92W* |
| *SOLO 2: 7202* | *30/08/2014 (14h00)* | *18/09/2014 (21h34)* | *24 56 61N ; 046 50 39W* |

***XBTs***

During the voyage, very little problems were encountered with both the equipment and software. The Auto-Launcher performed exceptionally with no problems at all. Maintenance was done one a day, usually in the morning when reloading the AL, so as to avoid salt build-up on the AL and full functioning of the pins inside. As the ship travelled at an average speed of 12 knots, deployments occurred every 1hour and 6mins. Empty canisters were placed back in the empty boxes and neatly packed away for removal once in port. The MK21/USB intermittently gave problems with sometimes no communication with the laptop thus a falsified no splash alarm would trigger. This problem was resolved by restarting the computer and running a diagnostic and report check by the MK box. Once this was completed, a manual auto-launch was completed so as to not miss the deployment. This problem occurred very rarely but was easily resolved.

***Drifter Buoys***

All of the deployments took place while the ship was underway travelling at around 12.5 knots. During all of the deployments, calm seas with long swells were experienced with no inclement weather for any of the deployments. The drifter buoys were deployed from the aft of the vessel and were deployed at times to coincide with an XBT drop so as to confirm position and Sea Surface Temperature (SST). All of the drifters were deployed using the three step method as provided with drifter buoys which are:

1. Remove plastic wrap
2. DO NOT REMOVE paper tape, cardboard, or anything BUT plastic
3. Throw Buoy in water

The drifter deployments during the AX080914 cruise were successful which very little to no problems experienced thus no recommendations are suggested for future deployments

***ARGO floats***

Initially eight ARGO floats were started up on 30/08/2014 however because of deflation issues and communication issues, it was advised to not deploy the following floats with the subsequent serial numbers: 7197, 7023 and 7024. These floats were returned to the Suez room where they were stored safely and securely till dock in Newark where they will be removed and repaired for future use.

Similar to the drifter buoy deployments all of the deployments took place while the ship was underway travelling at around 12.5 knots. During all of the deployments, calm seas with long swells were experienced with no inclement weather for any of the deployments. The ARGO floats were deployed from the aft of the vessel and were deployed at times to coincide with an XBT drop so as to confirm position and SST. The deployment method for all of the deployments was with the use of the nylon bridle and lowered till the base of the float was in contact with the water. No serious problems were encountered during the deployments except with the deployment of SOLO 1 float, 1175 where the salt collar did not dissolve completely. The box slipped through the nylon bridle and so the ARGO float was deployed. This did not occur with any of the other deployments as the salt collar dissolved easily allowing the float to be released.

ARGO deployments during the AX080914 cruise were successful with very little to no problems experienced thus no recommendations are suggested for future deployments.

***General***

The Maersk Vilnius is an ideal vessel for all types of deployments with the captain and crew being more than willing to assist with the deployments even during the early hours of the morning. A huge thank you to the captain, Rachel Keown, officers and crew of the Maersk Vilnius, especially AB Dave and Haji, for all the effort and assistance, with the deployments during the early hours of the morning, and for the great hospitality aboard the cruise.