

ORV SAGAR KANYA

CRUISE REPORT

SK 321 B

Submitted to
NATIONAL CENTRE FOR ANTARCTIC & OCEAN RESEARCH,
HEAD LAND SADA, MORMUGAO, GOA,
As per ORV Sagar Kanya Annual Maintenance Contract
With
Ministry of Earth Science, New Delhi

By

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Vessel : ORV. Sagar Kanya.
Cruise No : SK 321 B.
Chief Scientist : Mr. Senthil Kumar
Objective : Data Buoy
Institution : NIOT.
Embarkation : Mormugao, Goa.
Disembarkation : Mormugao, Goa.
Period : 30.06.2015 to 23.07.2015.
: (13.07.2015 to 15.07.2015 AS Goa)
Participants : V.C. Sarathchandran.
A.C.Luis
G. K. Tharanitharan.
R. Ramesh

Acknowledgement.

We, the Norinco engineers onboard, thank the Chief Scientist and the scientific team for their support and extending their knowledge during the course of our servicing activities onboard.

We thank the Captain, ship staff and crew for their active support and care during the voyage.

The co-ordination and support of Director, NCAOR and his colleagues are gratefully acknowledged.

-Norinco Engineers Team

Introduction.

This report forms part of the Annual Maintenance Contract awarded to Norinco Private Limited for maintenance of scientific equipment onboard ORV. Sagar Kanya.

Regular servicing and Maintenance of equipment during cruise was carried out as per maintenance schedule.

This report describes the breakdown service carried out on those equipments that were found defective during routine maintenance, equipment used and required breakdown maintenance and performance of those equipment used in the cruise.

The report also includes a list of spares consumed, their source and requirement of spare for future use onboard.

A. Chemical / Analytical Instruments

A 02.	Oxygen Titration Units	Maintenance Schedule: Date & Service: AS – Mormugao 14.07.2015: MS
Service carried out and Remarks: 14.07.2015: Monthly service carried out as per the schedule. All three units are operational.		

A 03.	Quartz Distillation Unit	Maintenance Schedule: Date & Service: AS – Mormugao 13.07.2015; QS
Service carried out and Remarks: 13.07.2015: Quarterly service carried out as per the schedule. The equipment is operational.		

A 04.	Water Purifying system	Maintenance Schedule: Date & Service:
Service carried out and Remarks: A new pre-filter and reservoir tank was installed and kept ready for operations. Not tested as the inlet line has to be connected by ship personnel. All the three units i.e. Elix-3, Mill-Q-Gradient and reservoir tank have been secured on the table. For securing the pre-filter a new bracket was fitted to the ships bulkhead.		

A 05.	Vaccum Pumps	Maintenance Schedule: Date & Service: 22.07.2015: QS
Service carried out and Remarks: 22.07.2015: Quarterly service carried out as per the schedule. Both the equipment are operational.		

A 06.	pH Meter	Maintenance Schedule: Date & Service: 03.07.2015} 10.07.2015}: WS 17.07.2015}: MS
Service carried out and Remarks: 03.07.2015} 10.07.2015}: Weekly service carried out on these days as per the schedule. 17.07.2015: Monthly maintenance carried out as per the schedule and the equipment is operational.		

B. Geological / Geological Instruments

B 01.	Gravity Corer	Maintenance Schedule: Date & Service: 06.07.2015: MS
Service carried out and Remarks: 06.07.2015: Monthly maintenance carried out as per the schedule and the equipment is operational.		

B 03.	Rock Saw	Maintenance Schedule: Date & Service: 04.07.2015: MS
Service carried out and Remarks: 04.07.2015: Monthly maintenance carried out as per the schedule and the equipment is operational.		

B 04.	Liner Saw Unit	Maintenance Schedule: Date & Service: 04.07.2015: MS
Service carried out and Remarks: 04.07.2015: Monthly maintenance carried out as per the schedule and the equipment is operational.		

B 05.	Rock Mill	Maintenance Schedule: Date & Service: 10.07.2015: MS
Service carried out and Remarks: 10.07.2015: Monthly maintenance carried out as per the schedule and the equipment is operational.		

B 06.	Bottom Grab {Small}	Maintenance Schedule: Date & Service: 11.07.2015: MS.
Service carried out and Remarks: 11.07.2015: Monthly maintenance carried out as per the schedule and the equipment is operational.		

B 07.	Bottom Grab {Large}	Maintenance Schedule: Date & Service: 11.07.2015: MS.
Service carried out and Remarks: 11.07.2015: Monthly maintenance carried out as per the schedule and the equipment is operational.		

B 10.	Side Scan Sonar + Tow Fish	Maintenance Schedule: Date & Service: 19.07.2015: MS.
Service carried out and Remarks: 19.07.2015: Monthly maintenance carried out as per the schedule and the equipment is operational.		

B 12.	Pingers	Maintenance Schedule: Date & Service: 16.07.2015; QS
Service carried out and Remarks: 16.07.2015: Quarterly maintenance carried out as per the schedule and both units are operational.		

B 13.	Deep Sea Echo sounder + Repeaters	Maintenance Schedule: Date & Service: Operation : 07.07.2015; MS
Service carried out and Remarks: Deep sea echosounder was used in this cruise and data was recorded. On completion of the cruise the recorded data was copied to CD. 07.07.2015: Monthly maintenance carried out as per the schedule and the equipment is operational.		

B 14.	Shallow Water Echo sounder + Repeaters	Maintenance Schedule: Date & Service: 07.07.2015; MS
Service carried out and Remarks: The equipment is non - operational.		

B 15.	MBES	Maintenance Schedule: Date & Service:
Service carried out and Remarks: The system was used for surveying the deployment area of the Data Buoy. The recorded data was processed, plotted and handed over to Chief Scientist. Found faulty the KVM USB Extender of Navigational repeater in the wheel house, a new spare extender from Norinco stock was replaced in place of the faulty one. The operational status of the equipment was satisfactory and the equipment is operational. 16.07.2015: Monthly maintenance carried out as per the schedule and the equipment is operational.		
Spares Used:- KVM USB Extender : 01 No Model : CE 100R Serial Number : F3C2W010B0D0145		

B 16.	SBP	Maintenance Schedule: Date & Service: Operation ; 09.07.2015: MS
Service carried out and Remarks: 30.06.2015: As soon as the vessel left harbour, the system was switched on and the system was ON throughout the cruise and data was recorded. On completion of the cruise data was copied		

on CD.
09.07.2015: Monthly maintenance carried out as per the schedule and the equipment is operational.

B 17.	Spade Corer	Maintenance Schedule: Date & Service: 17.07.2015: MS
Service carried out and Remarks: 17.07.2015: Monthly maintenance carried out as per the schedule and the equipment is operational.		

B 18.	Chain Bag Dredge	Maintenance Schedule: Date & Service: 18.07.2015: MS
Service carried out and Remarks: 18.07.2015: Monthly maintenance carried out as per the schedule and the equipment is operational.		

B 21.	Tension Meter for Winch	Maintenance Schedule: Date & Service: Operation 20.07.2015: MS
Service carried out and Remarks: The unit was used during Deep Sea Winch operations. 20.07.2015: Monthly maintenance carried out as per the schedule and the equipment is operational.		

B 22.	Sieve Shaker	Maintenance Schedule: Date & Service: 21.07.2015: MS
Service carried out and Remarks: 21.07.2015: Monthly maintenance carried out as per the schedule and the equipment is operational.		

C. Oceanography / Meteorology / Biology Equipment
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C 01.	MPN	Maintenance Schedule: Date & Service: 22.07.2015: MS
Service carried out and Remarks: 22.07.2015: Monthly maintenance carried out as per the schedule. The equipment is operational.		

C 04.	CTD Idronaut	Maintenance Schedule: Date & Service: AS – Mormugao 14.07.2015: QS
Service carried out and Remarks: 14.07.2015: Quarterly maintenance carried out as per the schedule.		

The equipment is operational.

C 11.	Bucket Thermometers	Maintenance Schedule: Date & Service: 18.07.2015: MS
Service carried out and Remarks: 18.07.2015: Monthly maintenance carried out as per the schedule and both the units are operational.		

C 13.	Barometer	Maintenance Schedule: Date & Service: 19.07.2015: MS
Service carried out and Remarks: 19.07.2015: Monthly maintenance carried out as per the schedule and the unit is operational.		

C 15.	Radio Sonde	Maintenance Schedule: Date & Service: 02.07.2015: QS
Service carried out and Remarks: 02.07.2015: Quarterly maintenance carried out as per the schedule and unit is operational.		

C 17.	Thermosalinograph	Maintenance Schedule: Date & Service: Operation
Service carried out and Remarks: Thermosalinograph was used during the cruise and data was recorded on CD. At the end of the cruise the sensors were flushed with fresh water. 18.07.2015: Monthly maintenance carried out as per the schedule. The equipment is operational.		

C 19.	Weather Fax	Maintenance Schedule: Date & Service: 21.07.2015: QS
Service carried out and Remarks: 21.07.2015: Quarterly maintenance carried out as per the schedule. The equipment is operational.		

C 20.	Rotary Shaker	Maintenance Schedule: Date & Service: 22.07.2015: MS
Service carried out and Remarks: 22.07.2015: Monthly maintenance carried out as per the schedule. The equipment is operational.		

D. Auxiliary / General Equipment

D 01	GPS + Power Supply	Maintenance Schedule: Date & Service: Operation.
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		: 05.07.2015: QS
<p>Service carried out and Remarks: GPS was used throughout during the cruise and navigational data was made available to all under way equipments (DSES, TSG, and SBP). 05.07.2015: Quarterly maintenance was carried out as per the schedule. The equipment is operational.</p>		

D 02	CCTV	Maintenance Schedule: Date & Service: Operation : 06.07.2015; QS
<p>Service carried out and Remarks: CCTV was used throughout the cruise for monitor various activities onboard especially in DSW operations. 06.07.2015: Quarterly maintenance was carried out as per the schedule. The equipment is operational.</p>		

D 03.	Refrigerators	Maintenance Schedule: Date & Service: 03.07.2015 } 10.07.2015 }; WS 17.07.2015 }; MS
<p>Service carried out and Remarks: 03.07.2015 } 10.07.2015 }; Weekly maintenance carried out on these days as per the schedule. 17.07.2015: Monthly maintenance was carried out as per the schedule. All refrigerators are operational.</p>		

D 06.	Meter Wheel Units	Maintenance Schedule: Date & Service: 17.07.2015 }; MS
<p>Service carried out and Remarks: Forward Pulley was used during CTD deployment and the performance was satisfactory 17.07.2015: Monthly maintenance was carried out as per the schedule. Both the units are operational.</p>		

D 07	Personal Computer / Server & Peripherals (12 CPUs, 15 monitors)	Maintenance Schedule: Date & Service: Operation	
<p>Service carried out and Remarks: The following computers are available onboard and their status are as follows:</p>			
Sl. No	PC	Loc: / Dedicated to	Status / Remarks
01	<u>Computer: 01</u> Make: Lenovo Think Centre. M/N: 8811-FRA. S/N: L9AM500. <u>Monitor: 01</u> Lenovo Think Vision	Chief scientist Cabin	Used / Operational

02	<p>Computer: 02 Make: Lenovo Think Centre P/N: MT-M 8811-FR8 S/N: L9AM507 Monitor: 02 Make: HPLE1851W. P/N: NK033A. S/N: CNC102QH7B</p>	Met Lab / AWS	Operational
03	<p>Computer: 03 Make: HP Compaq 8100. P/N: XT767PA#ACJ. S/N: INA109VJRJ. Monitor: 03 Make: HP LE1851w. P/N: NK033A. S/N: CNC102QH85.</p>	Met Lab / General Purpose	Used / Operational
04	<p>Computer: 04 Make: HP Compaq 8100 P/N: XT767PA#ACJ S/N: INA109VJYS Monitor: 04 Make: HP LE1851w. P/N: NK033A. S/N: CNC102QH7B.</p>	Dry-Lab Port / Thermosalinograph	Used / Operational
05	<p>Computer: 05 Make: HP Compaq 8100 P/N: XT767PA#ACJ S/N: INA109VJRR Monitor: 07 Make: HP LE1851w. P/N: NK033A. S/N: CNC102QHM3.</p>	Dry-Lab Port / CTD	Used / Operational.
06	<p>Computer: 06 Make: Lenovo Think Centre. M/N: 8811-FRA. S/N: L9AM534. Monitor: 06 Make :AOC Model No. TFT185W80PS S/N: AOCWSM5NA1802098.</p>	Dry-Lab Port/ ADCP	Operational
07	<p>Computer: 07 Make: HP Compaq 8100. P/N: XT 767PA#ACJ S/N: INA109VJWD. Monitor: 08 Make: HP LE1851w. P/N: NK033A. S/N: CNC102QH7K.</p>	Dry-Lab Port / Magnetometer	Operational.
08	<p>Computer: 08 Make: Lenovo Think Centre. M/N: 8811-FRA.</p>	Dry Lab Stbd /	The CPU and monitor were offloaded to NPL Chennai

	S/N: L9AM499. Monitor: 05 Make : Acer Model : V193HQL Version : V193HQL H6 P/N : VM.XV3SS.HO1 S/N : MMLKESS0063010C9938507	Echo sounder	office for Repairs.
09	Computer: 09 Make: HP Compaq 8100. P/N: XT767PA#ACJ. S/N: INA109VJKN. Monitor: 09 Make: HP LE1851w. P/N: NK033A. S/N: CNC102QFYF.	Conference room	Operational
10	Computer: 10 Make: HP Compaq 8100. P/N: XT767PA#ACJ. S/N: INA109VJYM. Monitor: 10 AOC. 18.5' Wide LED P/N. e950Sw Model No.185LM00013 S/N: AOCAR96C3052436	Photo Lab	Operational
11	Computer: 11 Make: Lenovo Think Centre M/N: 8811-FRA. S/N: L9AM498 Monitor: 11 Make: Lenovo Model: 9227-AD1 Serial Number: VIA2955	Photo Lab	Operational
12	Computer: 12 Make: Zebronics. Model: Elegance.	Photo Lab	Operational
13	Computer: 13 Make: XTECH.	Photo Lab	Operational
Monitors			
14	Monitor:12 Make: Lenovo Think Vision Model: 9227 AD1. S/N: V1A2976.	Wheel House	Operational. This is connected as deep sea echo sounder repeater in wheel house.
15	Monitor:13 Make : AOC S/N: AOCWSM5NA1801905	Dry Lab Stbd / SWES	Operational. This is connected with SWES.
Except CPU #08 and Monitor #05 all other systems are operational.			

D 09	Printers	Maintenance Schedule: Date & Service: 30.06.2015: MS
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Service carried out and Remarks:

The following printers are available onboard and their status are as follows:

No	Make of the printer	Location	Status / Remarks
1	HP LaserJet P 2015dn	CS Cabin	Used, Operational
2	HP LaserJet P 1007	Met Lab	Used ,Operational
3	HP LaserJet P 1007	Photo Lab	Operational
4	HP LaserJet P 1007	Photo Lab	Operational
5	HP LaserJet CP 1525n	Conference Room	Used ,Operational
6	HP LaserJet P 2015dn	CTD Lab	Used, Operational
7	HP LaserJet 1150	Photo Lab	Operational
8	HP LaserJet 1150	Tape Store	Operational, Cover broken
9	HP LaserJet 1150	Tape Store	Operational

30.06.2015: Monthly maintenance carried out as per the schedule and all Printers are operational.

D 10.	External CD Writer	Maintenance Schedule: Date & Service: 01.07.2015: MS
Service carried out and Remarks: 01.07.2015: Monthly maintenance was carried out as per the schedule. The CD Writer is operational.		

D 11.	Scanner	Maintenance Schedule: Date & Service: 01.07.2015: MS
Service carried out and Remarks: 01.07.2015: Monthly maintenance was carried out as per the schedule. The unit is operational.		

D 12.	Plotter	Maintenance Schedule: Date & Service:
Service carried out and Remarks: The equipment is non - operational		

D 13.	Autoclave	Maintenance Schedule: Date & Service: 21.07.2015: MS
Service carried out and Remarks: 21.07.2015: Monthly maintenance was carried out as per the schedule. The unit is operational.		

D 18.	Dynamic Positioning System & All sub - Units	Maintenance Schedule: Date & Service: Operation
Service carried out and Remarks : The DP was used during the Retrieval / Deployment of Data Buoys and CTD stations. Though the system was operational, the following sub units are non-functional and need replacement:		

<p>1. Portside Wind sensor. 2. Forward OS console Monitor.</p>
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D 20.	Deck Crane	Maintenance Schedule: Date & Service: Operation
Service carried out and Remarks : The Crane was used during the cruise and it is operational.		

E 25.	Deep sea Winch	Maintenance Schedule: Date & Service: Operation
Service carried out and Remarks : The Deep Sea Winch was operated for Data Buoy retrieval / deployment. On 07.07.2015, during the Buoy retrieval the winch rope slipped off from the Traction winch and got damage. Around 60meters of rope was chopped off and made new eye connection with the help of ship's staffs and continued operation.		

ADDITIONAL WORKS CARRIED OUT

	SBE 9/11plus CTD. (Deck unit SN: 11P61163-0862 / Underwater unit SN: 09P61163-1019).	Maintenance Schedule: Date & Service: operation
Service carried out and Remarks : During the cruise CTD was operated at 03 stations and data was collected. After every operation the system was washed with fresh water and secured. The equipment is operational.		

	CTD Winches (Aft& forward).	Maintenance Schedule: Date & Service: Operation
Service carried out and Remarks : Forward CTD winch was operated during the CTD operations and the performance was satisfactorily.		

For Norinco Private Limited,

Chief Scientist

V C Sarathchandran

Service Engineer

Mr. Senthil Kumar

NIOT, Chennai.