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**REPORT ON OVER FLIGHT TO COVER SPILL AREA AT SHELL NIGERIA EXPLORATION AND
PRODUCTION COMPANY(SNEPCo) – FLOATING , PRODUCTION , STORAGE AND OFFLOADING
(FPSO) FACILITY SPILLED SITE AT BONGA , LAGOS, ON 27TH JULY, 2017.**

1. LOCATION / FACILITY DETAILS:

Bonga Oil Field, Lagos (Offshore) is located 120 km (75mi) southwest of the Niger Delta.

The facility is an oilfield in Nigeria. It is located in license block OPL 212 off the Nigerian coast, which was renamed OML 118 in February 2000. The field is approximately 60 km² in an average water depth of 1,000metres (3,300ft). The field began production in November, 2005. The field is produced via a Floating Production Storage and Offloading (FPSO) vessel. The produces both petroleum and natural gas; the petroleum is offloaded to tankers while the gas is piped back to Nigeria where it is exported via Liquefied Natural Gas (LNG) plant. The field contains approximately 6,000 mm barrels of oil.

The field is operated by Shell Nigeria Exploration Production Company Limited (SNEPCo)'s own 55% of the license. The other partners in the field development are Exxon (20%), Nigerian AGIP { Azienda General Italian Oil Company} (12.5%) and Elf Petroleum Nigeria Limited (12.5%). It's important to note that her daily production is 202,000barrels per day.

On 20th December, 2011 an oil spill occurred that "likely was less than 40,000 barrels (6.4 megalitres) resulted in an oil slick 185km (115mi) long off the Nigerian coast" .

2. PURPOSE OF VISIT:

- i. To carry out an over flight inspection to spill site and also to attain the extent to which the spilled product is located and its likely destination (s).
- ii. To conduct a full assessment of the facility's oil Spill Response Plan to manage the Oil Spill Response Action Plan in line with all Environmental Regulations within the Agency's jurisdiction.

3. DATE AND TIME OF VISIT:

Date: 27th July, 2017

Time: 1610 1630 hours

4. NOSDRA TEAM:

- i. Daniel .O. Okoromu

5. SITE CONTACT:

- i. Mr. Samuel AwonusiHSE Advisor
- ii. Mr. Dare Famuyide Operations Supervisor (Bonga)
- iii. Mr. Chris Etuk Helipad Admin. Officer (Bonga)

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- iv. Capt. David Balogun Chief Pilot (Caverton helicopters –AW 139)
 - v. Capt. Abayomi Kayode Co-Pilot (Caverton helicopters –AW 139)

6.0. BACKGROUND OF THE INCIDENT:

In line with directives from Mr. Olubunmi Akindele the Director Oil Field Assessment (OFA) of National Oil Spill Detection and Response Agency (NOSDRA), Headquarters (Abuja) and Oil Spill / Leak Notification Report (Form A) forwarded to the Agency's Headquarters dated 26th of July, 2017, an over flight was asked to be conducted. The afore-mentioned Form "A" reported an oil spill incident which occurred around Shell Nigeria Exploration Production Company Limited (SNEPCo)'s BONGA Oil Field (OML 118). The facility's coordinates in respect of the spill are as follows;

- i. Spill Starting Point GPS:- Spill Eastings :514731.223 metres and Northings : 504125 metres
- ii. Spill Ending Point GPS: - Eastings: 514498.82 metres and Northings 507471.02 metres.

The facility at about 0440 hours on 26th July, 2017 observed sheen of oil on the water surface within the Bonga Oil Field from unknown sources. The intervention measures which dispatched immediately offshore team commenced monitoring and trouble-shooting to ascertain likely sources as oil production did not give indication of any pressure drops.

In addition, a precautionary measure carried out in which oil production wells at Production Manifolds; 02, 03, 04 and 05 respectively were shut-in. After dawn at 0918 hours, a helicopter was engaged for an over flight which was done to determine the extent of sheen. It was reported that the outcome of the afore-mentioned operations was used to estimate about 500 barrels.

SNEPCo Lagos Emergency Response Team (ERT) was activated and NOSDRA and Department of Petroleum Resources (DPR) were duly informed and Form "A" completed and dispatched. The offshore ERT remained in control throughout.

Results from the over flight, in-field vessels (support vessels) were engaged to carry out mechanical breaking of the sheen through mechanical sheering. In addition, African Vision was called to the Oil Field (an In-field resources vessel) to further conduct relevant investigations.

On Thursday the 27th of July, 2017 SNEPCo (Lagos) ERT on shore reconvened at 0730 hours in support of the offshore ERT in the ongoing operation in the Oil Field. Offshore team confirmed thinning out of the sheen and subsea wells were progressively re-opened.

7.0 OVER FLIGHT TO COVER SPILL AREA:

PREPARATION OF AERIAL OBSERVATION:

Flight preparation involved NOSDRA, SNEPCo and Carverton personnel. A short brief (between 1610-1620 hours) agreed on a flight plan to conduct an Over Flight inspection to ascertain the extent, spread of the spill and affected / impacted areas. A flight polygon slide sheet of the previous day was

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presented and carefully studied to assist us in the exercise. The Form "A" forwarded to the Agency was jointly assessed and GPS readings given in "Site Detail" portion of the it, which stated the beginning and end, was also formed areas to be covered by the exercise. After wards, telecommunication devices were given to NOSDRA representatives and Bonga's operations Supervisor. The devices were connected to the Pilots and tested in preparation for the over flight.

At exactly 1620 hours, Augusta Westland 139 helicopter owned by Caverton at an agreed altitude of 150 metres (500 feet) above mean sea level commenced with the exercise. The Oil spill Observation form (attached in the appendix has details of the observations).

7.1. OBSERVATIONS / FINDINGS:

- Time of the incident was said to be unknown.
- Three (3) of the Vessels deployed to mechanically sheer the sheen were sighted.
- Light / thin sheen which appeared silvery or shimmer was observed during the over flight.
- The only line of sheen was approximately 400 metres in length.
- It was slightly cloudy with light rain due with clear visibility.
- The movement was reported to be South – East (SE) of the FPSO.
- The sea condition was slightly turbulent with rough water surface condition.
- Saw the African Vision carrying out deep sea assessment and evaluation of the reported spill.
- The Facility visually seen need maintenance due to signs of corrosion on the body.
- It was reported to have been shut down for a month from the 4th of March, 2017 (4th turnaround maintenance since the facility began production).

8.0. DOCUMENTS RECEIVED:

- NOSDRA FORM "A" (Oil Spill/ Slick Notification Form
- Flight Polygon slide of the spill area taken on 26th of July , 2017 at 12:30PM
- Attendance
- Oil Spill Observation Form
- Checklist for offshore facilities (upstream) oil spill response preparedness drill exercise notification form.

9.0. PHOTOGRAPHS:

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Attached to appendix

10.0. POST EVENT BRIEFING:

The team arrived back at the platform at 1630 hours. Off the helipad area, the flying crew gave a quick rundown of the team's over flight.

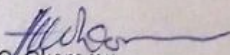
The NOSDRA representative and The FPSO Operations Supervisor discussed the outcome of the exercise, tried to establish the source and cause of the reported sheen. The Operations Supervisor and Bonga Helipad Admin Officer maintained that investigations are still ongoing and that "African Vision" (a multi Purpose Field Support Vessel – MPSV) was still conducting investigation with the aid of Remote Operated Vehicles (ROV) with capacity to go thousands of metres under-water.

11.0. RECOMMENDATIONS:

- A comprehensive incident report should be forwarded to the Agency as soon as possible.
- The underwater investigation report as well as findings should be submitted to the Agency as soon as the inquiry is completed.
- The Facility's Waste Management Plan and Effluent Analysis Results (EAR) for the last two (2) quarters should be submitted to the Agency.

12.0. CLOSING CONFERENCE:

The Agency's representative was concerned with the source(s) and cause(s) of the reported sheen within the Bonga Oil Field. The Operations Supervisor said HSE Advisor (Lagos) will communicate are that have been requested to the Agency as so as possible. Finally, the Agency's representative thanked the facility's team for their support towards the exercise. The Operations Supervisor stated that the recommendations will be communicated to the HSE Advisor at SNEPCo Head Office in Lagos and that all will be done to duly communicate all required reports / document as soon as possible to the Agency. The closing conference ended at 1445hours. The Agency's representative departed the platform at 1710 hours.


D.O. Okoromu,
Assistant Director

APPENDIX

OIL SPILL RECORD SHEET FOR AERIAL OBSERVATION

FEATURE	DATA	COMMENT
LOCATION & EXTENT	- Start=>Eastings :514731.223 metres - Northings : 504125.000 metres - Ending=> Eastings : 514498.82metres - Northings : 507471.02 metres	The approximate seen is 16,476.40 km
COLOUR	- It was sheen like. - Silver in colour	The presence of sheen may be said to be representing a negligible quantity of oil, cannot be recovered or otherwise dealt with to any significant degree by existing response techniques, and its likely to dissipate readily and naturally
CHARACTER	Slick	Seen in only an area as shown in figure 7 and 8 respectively
FEATURES	No definite leading edge	With thin lined edges
COVERAGE		Was not given but visually looked as stated in the location and extent space above.
Traces which can be said to be a slick with silver like colour seen between Bonga and the African Vision .		

OIL SPILL OBSERVATION FORM

OBSERVER INFORMATION	
DATE : 27 th of July, 2017	START AND END TIME OF OVERFLIGHT: 1620 hours – 1630 hours
PLATFORM: Bonga Oil Field	
VIEWING ALTITUDE: 150 metres (500 feet) above mean sea level	
FILLED OUT BY: Daniel Okoromu	UNIT: NOSDRA(LZO)
PHONE#:	

DESCRIPTION OF SPILL / INCIDENT	
LOCATION OF SOURCE (latitude, longitude) : 7.2672° N , 3.62468° E	
SOURCE (platform, vessel, etc.): Unknown	
LEAKAGE (Y /N): Not determined	
PRODUCT SPILLED : Not yet established	MAXIMUM SPILL POTENTIAL : YET TO BE DETERMINED
ORIENTATION OF SLICK: Linear	SLICK DIMENSION : Approx.16,476.40
COLOURS OF THE SLICK: Silver Sheen	ESTIMATED PERCENT COVERAGE OF OIL :
CURRENT RESPONSE ACTIVITIES (ON-SCENE SKIMMERS, BOOM DEPLOYMENT, ETC.):	
No response activities using skimmers, boom deployment was seen. It is important to state that mechanical sheering was reported to have be done before the over flight of Bonga Oil Field.	

ON-SCENE WEATHER CONDITIONS	
SURFACE WIND SPEED AND DIRECTION: Was not given	
SEA STATE : Turbulent	
VISIBILITY: Fair	PRECIPITATION OR FOG : light rain

ON-SCENE SURFACE CURRENTS	
SURFACE CURRENT DIRECTION: South-West of the Facility	
STAGE OF TIDE (flooding or ebbing): Ebbing	



TAKING OVERFLIGHT PHOTOGRAPHS (FIG.5)



PHOTOGRAPH OUT THE AREA OF SPILL (FIG.6)

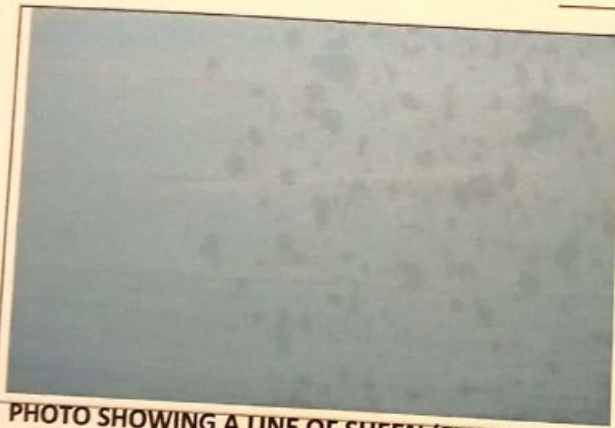
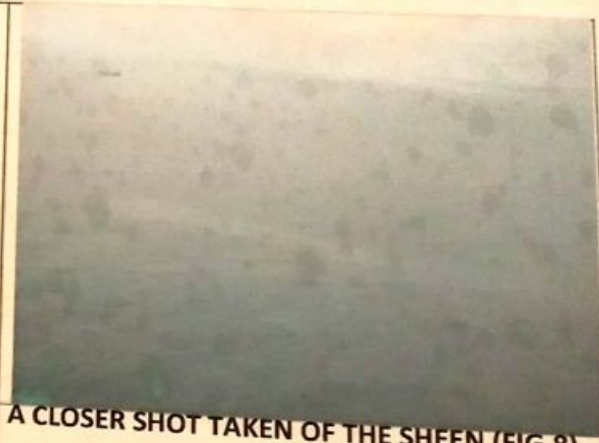


PHOTO SHOWING A LINE OF SHEEN (FIG.7)



A CLOSER SHOT TAKEN OF THE SHEEN (FIG.8)