



No. 00566

**A. GENERAL INFORMATION:**

1. Spill incident Number: SPDC SPILL INCIDENT (782670)
2. Name of Location SPM 3, BONNY CRUDE LOADING PLATFORM
3. Name of nearest community OFFSHORE BONNY
4. State RIVERS LGA BONNY
5. Type of Production facility/Installation PRODUCTION PLATFORM Asset owner /District \_\_\_\_\_

**B. INCIDENT INFORMATION:**

6. Details of incident

- a. Date of incident 26/02/2012
- b. Date/Period of investigation, 27/02/2012
- c. Description of spill point environment

- |  |    |     |     |
|--|----|-----|-----|
| <input type="checkbox"/> Firmed soil               | NA | [Y] | [N] |
| <input type="checkbox"/> Loose soil                | NA | [Y] | [N] |
| <input type="checkbox"/> Previously excavated area | NA | [Y] | [N] |
| <input type="checkbox"/> Under water               | NA | [Y] | [N] |
| <input type="checkbox"/> Swampy                    | NA | [Y] | [N] |
| <input type="checkbox"/> Exposed pipe surface      | NA | [Y] | [N] |

\* OFFSHORE

d. Description of leak point (tick as applicable);

- |  |     |      |
|--|-----|------|
| <input type="checkbox"/> Drilled hole,                                 | [Y] | [N]✓ |
| <input type="checkbox"/> Hack saw cut,                                 | [Y] | [N]✓ |
| <input type="checkbox"/> Explosive tear,                               | [Y] | [N]✓ |
| <input type="checkbox"/> Complete Rupture                              | [Y] | [N]✓ |
| <input type="checkbox"/> Inward dent,                                  | [Y] | [N]✓ |
| <input type="checkbox"/> Well head tampering                           | [Y] | [N]✓ |
| <input type="checkbox"/> Failed Weld-on illegal hot tap valve,         | [Y] | [N]✓ |
| <input type="checkbox"/> Missing pipeline (flowline)                   | [Y] | [N]✓ |
| <input type="checkbox"/> Crude oil theft (illegal bunkering) point,    | [Y] | [N]✓ |
| <input type="checkbox"/> Third party tampering with Clamp Bolt/Nut,    | [Y] | [N]✓ |
| <input type="checkbox"/> Third party tampering with valve setting,     | [Y] | [N]✓ |
| <input type="checkbox"/> Third party tampering with flange Nuts/bolts, | [Y] | [N]✓ |
| <input type="checkbox"/> Corrosion,                                    | [Y] | [N]✓ |

Type: 1

- |   |     |      |
|---|-----|------|
| <input type="checkbox"/> Saver-pit over flow,                                     | [Y] | [N]✓ |
| <input type="checkbox"/> Surge vessel overflow,                                   | [Y] | [N]✓ |
| <input type="checkbox"/> Outward dent   | [Y] | [N]✓ |
| <input checked="" type="checkbox"/> Others (specify). <u>LOADING HOSE FAILURE</u> |     |      |

e. Spill point coordinates

Northing:

N 4° 06' 34"

Easting:

E 7° 07' 33"



**C. RISK/DAMAGE ASSESSMENT**

No. 0566

7. Type of environment of spill site:

- Land
- Swamp
- water

Type of environment of which oil has spread:

- Land
- Swamp
- water

8. Distance from the nearest sensitive habitat

- Government reserved and designated protected area ,m]
- Drinking water source ,m]
- Built up area ,m]
- Farmlands ,m]
- Fish Farm/Pond ,m]
- Fishing net ,m]
- Others (specify). ,m]

NOT APPLICABLE

9. Containment measures put in place;

- Booms [Y] [N]
- Trench [Y] [N]
- Dyke [Y] [N]
- Others: NONE

10. Any pictures or video coverage? [Y]  [N]

11. Was there any disruption to the investigation? [Y] [N]

If yes give brief description:

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**D. TYPE/NUMBERS OF PROPERTIES, IF ANY, FOUND WITHIN THE AREA OF SPREAD OF OIL**

A. Structures / Properties

S/N	Type of Structures	Description	Size	Number	Comments
	NOT APPLICABLE				



No. 0566

B. Crops/Economic Trees

S/N	Types of crops	Young	Medium	Matured	Quantity	Comments
	NOT APPLICABLE					

C. Fish/Nets/Ponds

S/N	Fish/Nets/Ponds	Description	Quantity/Size	Comments
	NOT APPLICABLE			

D. Others (Specify) i.e. Animal Traps

S/N	Others	Description	Quantity/Size	Comments
	NOT APPLICABLE			

E. GRAPHIC DESCRIPTION OF LEAK POINT (Details should be contained in leak repair report)





No. 0566

**G. INCIDENT INFORMATION:**

**17 Impacted Area Details**

- a. Total calculated area of impact 3,000,000 m<sup>2</sup>
- Impact within SPDC R.O.W \_\_\_\_\_
  - Impact outside R.O.W \_\_\_\_\_

**18 Volume of oil recovered before completion of JIV (V<sub>rec</sub>):**

Recovered oil V <sub>rec</sub> :	<u>0.00</u>	barrels
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**19. Computation of the residual volume on site**

a. Computation of the volume of pooled free phase oil (on land or confined water body).

- i. Area (m<sup>2</sup>) occupied by pool of free phase oil 0.00
- ii. Average Depth (m) of pool of free phase oil 0.00
- iii.

Volume of pooled of free phase oil, V <sub>pool</sub> :	<u>0.00</u>	barrels
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iv.

b. Computation of volume of infiltrated oil in the soil (V-3).

- i Area (m<sup>2</sup>) covered by the oil: 0.00
- ii Average Depth (m) below ground surface of infiltration of oil: 0.00
- iii Soil type: 0.00
- iv. p<sub>e</sub> (effective porosity of the soil): 0.00
- v.

	<u>0.00</u>	barrels
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**20. Computation of volume of oil on open water based on standard coloration.**

Area on open water: 3,000,000 m<sup>2</sup>

	Thickness (mm)	Percentage coverage	Volume (m <sup>3</sup> )
Barely Visible	0.00004		
Silvery	0.00008		
Slight Colour	0.00015	<u>10%</u>	
Bright Colour	0.0003	<u>80%</u>	
Dull	0.001	<u>10%</u>	
Dark	0.002		
Black oil	0.1		
Emulsion (30% Oil)	1		
	Percent Total	100%	Total Volume

6.70 bbl

Spill Factors from USCG FOG (2000 Edition)



Volume of oil on open water $V_{recJ}$	<u>6.70</u>	barrels
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21. Calculation of evaporated volume:

- i. Oil type: Bonny Light
- ii. E-Factor: 60%
- iii.

Volume of evaporated oil $V_{vap}$	<u>10.05</u>	barrels
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Oil Type		Bonny Light	Bonny Medium
		E-Factor	E-Factor
Period Since Oil Spill	<1 day	10%	5%
	1-7 days	25%	15%
	>7 days	40%	25%

9. Gross Total Estimated Spilled Volume  $V_{Est}(bbls) = V_{vap}(bbls) + V_{wat}(bbls) + V_{inf}(bbls) + V_{pool}(bbls) + V_{recJ}(bbls)$   
6.70 + 10.05

$V_{Est}(bbls) =$  16.75 Bbls

10. Net Total Estimated Spilled Volume  $V_{Est}(bbls) = V_{vap}(bbls) + 0.6 * V_{wat}(bbls) + V_{inf}(bbls) + V_{pool}(bbls) + V_{recJ}(bbls)$

$V_{Est}(bbls) =$  14.13 Bbls

- \* Calculation of the respective estimated volume is to done using the new spill estimation software on site
- \* Conversion of m3 to barrel is Total volume VT (m3) x6.29
- \* Emulsification factor for spill on water to consider is 60% of volume of oil.

This report was filled and signed on the 27/10/2012 at incident site by joint investigation representative from

- Host Community
- Department of Petroleum Resources [DPR]:
- National Oil Spill Detection and Response Agency [NOSDRA]:
- State Ministry of Environment [SME]:
- Nigeria Police Force [NPF]:
- Shell Petroleum Development Company [SPDC]:

*Tick as applicable*



DEPARTMENT OF PETROLEUM RESOURCES

FIELD JOINT INVESTIGATION REPORT

(Note: As practicable as possible the field report is to be signed in the field by all the participating parties)

- 1. Company THE SHELL PETROLEUM DEVELOPMENT COMPANY
2. Incident Serial Number SPDC SPILL INCIDENT 782670
3. Name of Location/Facility SPM 3, BONNY CRUDE LOADING PLATFORM OFFSHORE

4. Type of Incident: (Indicate check where appropriate and X where not applicable)

- Crude Oil Spill [checked]
Product Spill (Specify) [ ]
Drilling Mud/Chemicals Spill [ ]
Fire [ ]
Others (specify) [ ]

5. Details of Incident

- i. Date of Incident: 26/02/2012
ii. Date Reported to the DPR: 27/2/2012
iii. Date/Period of First Investigation: 27/02/2012
iv. Date/Period of Second/Subsequent Investigation: 27/02/2012

v. Cause of Incident (Indicate check where appropriate and X where not applicable)

- Corrosion [ ]
Equipment Failure [checked]
Human Error (Production/Maintenance) [ ]
Third Party Interference [ ]
Mystery Spill [ ]
Others (Specify) [ ]

Additional description of cause of incident (if any): FAILURE FROM ONE OF HOSE DURING LOADING OPERATION

6. Coordinates of Spill Point/Location(s): N4° 06' 34" E 7° 07' 33"

7. Brief Description of Circumstances Around Spill Point(s) (Please indicate containment measures put in place, point of breach along pipeline and any necessary details observed at site. Attach additional sheets if necessary)

**8. Delineation of Impacted Area:** (Indicate ✓ where appropriate and X where not applicable)

- a) Within company's facilities/ROW
- b) Outside company's facilities/ROW

**9. Description of Environment Around Spill Point/Location(s):** (Indicate ✓ where appropriate and X where not applicable)

- Land
- Seasonal Swamp
- Swamp
- Coastland
- Inland waters
- Near shore
- Offshore

Please provide a graphic sketch of spill site/leak point (Detailed sketches and maps can be attached where necessary)

**Table of Key Coordinates of Mapped Area**

S/N	Eastings	Northings
1120	007° 15' 70"	04° 10' 24"
1157	007° 14' 89"	04° 10' 67"
1157	007° 16' 47"	04° 10' 4"
1204	007° 16' 41"	04° 05' 83"
1203	007° 12' 17"	04° 07' 37"
1210	007° 10' 78"	04° 12' 72"
1213	007° 13' 85"	04° 14' 46"

S/N	Eastings	Northings

**10. Property Impacted** (Provide details)

OFFSHORE (NONE)

**11. Communities Impacted**

- a) NA
- b)



c)  
d)

e)  
f)

12. Estimated Quantity Spilled (bbls): ..... 14.0 Bbls: .....

(Please provide below, the methodology used, standards adopted and any assumptions made in the estimate. Where relevant, make brief comments on quantities unaccounted for. Attach and endorse additional sheets if necessary)

13. Quantity Recovered (As at time of the investigation): ..... NIL

14. Any Photograph or Video Recording? (Provide details): ..... YES

15. Additional Comments/Remarks, if any:

.....  
.....  
.....  
.....  
.....  
.....

16. Participants

**Report of the Joint Assessment Over-flight to Bonny Crude Loading Platform (CPM) SPM3 with Bonny community Representatives**

**Date of Overflight:** 28<sup>th</sup> February 2012

**Time:** 11:31 TAKE OFF FROM 1A: 12:33 BACK TO 1A

**Location:** SPM3, Crude loading platform, off shore Bonny

**Overflight Coverage:** Area around the CPM and the nearby coast line

**Background:** At about 1710 hours, Sunday 26 Feb 2012, oil sheen was sighted around one of the hose string at the Bonny Single Point Mooring (SPM) 3 Facility, 38.4 Kilometres from shore, while loading of GENMAR ZEUS tanker vessel. Loading operations was immediately suspended; SPM was isolated and emergency response activated. An assessment of the location was carried out on 27<sup>th</sup> February 2012 with regulators and based on the sheen sighted on water, it was calculated that an estimated volume of 14 barrels was spilled.

The over-flight with Bonny representatives was being carried out to ascertain the status of the site and to provide first hand information of the incident to Bonny community.

**Observations during the over-flight**

Clear weather:  Y  N  
 Visibility:  Excellent  Good  Poor  
 Sea Sate:  Calm  Rough  
 Any oil/Sheen Sighted around the location:  Y  N

**Average Coloration:**

Oil/Sheen Color	If Yes, Pls indicate average size	Tick if None
Barely Visible	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
Silvery	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
Slight Color	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
Bright Color (Rainbow)	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
Dull	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
Dark	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
Oil, Black/Dark Brown	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
Oil, Emulsion (30% Oil)	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N

Condition of the coastline:  oil sighted (coordinates : NOT APPLICABLE)  Clean

Video/Picture Records  Y  N

Other Comments:

THE TEAM OBSERVED A THIN LINE OF DEBRIS  
ALONG THE TIDAL CHANGE LINE