



No. 61681

**A. GENERAL INFORMATION:**

1. Spill incident Number: 622495
2. Name of Location 8" OBIGBO NORTH DELIVERY LINE
3. Name of nearest community UMUARE
4. State RIVERS LGA OBIGBO
5. Type of Production facility/Installation DELIVERY LINE Asset owner /District UIG/P/NESP

**B. INCIDENT INFORMATION:**

6. Details of incident

- a. Date of incident 14TH FEBRUARY, 2011
- b. Date/Period of investigation, 16TH FEBRUARY, 2011
- c. Description of spill point environment

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

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: \_\_\_\_\_

- |  |     |       |
|--|-----|-------|
| <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 type="checkbox"/> Others (specify). _____ |     |       |

e. Spill point coordinates (MINNA MID-BELT)

Northing:

94252.507m

Easting:

518040.38m

AFTER JOINT INVESTIGATION OF THE INCIDENT, SPILL WAS FOUND TO BE DUE TO THIRD PARTY INTERFERENCE



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C. RISK/DAMAGE ASSESSMENT

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). **NOT APPLICABLE**

9. Containment measures put in place;

- Booms [Y] [N]✓
- Trench [Y] [N]✓
- Dyke [Y] [N]✓

Others: NOT APPLICABLE

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

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

If yes give brief description:

NOT APPLICABLE

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
<b>NONE WITHIN AREA OF IMPACT</b>					



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B. Crops/Economic Trees

S/N	Types of crops	Young	Medium	Matured	Quantity	Comments
	NONE WITHIN AREA OF IMPACT					

C. Fish/Nets/Ponds

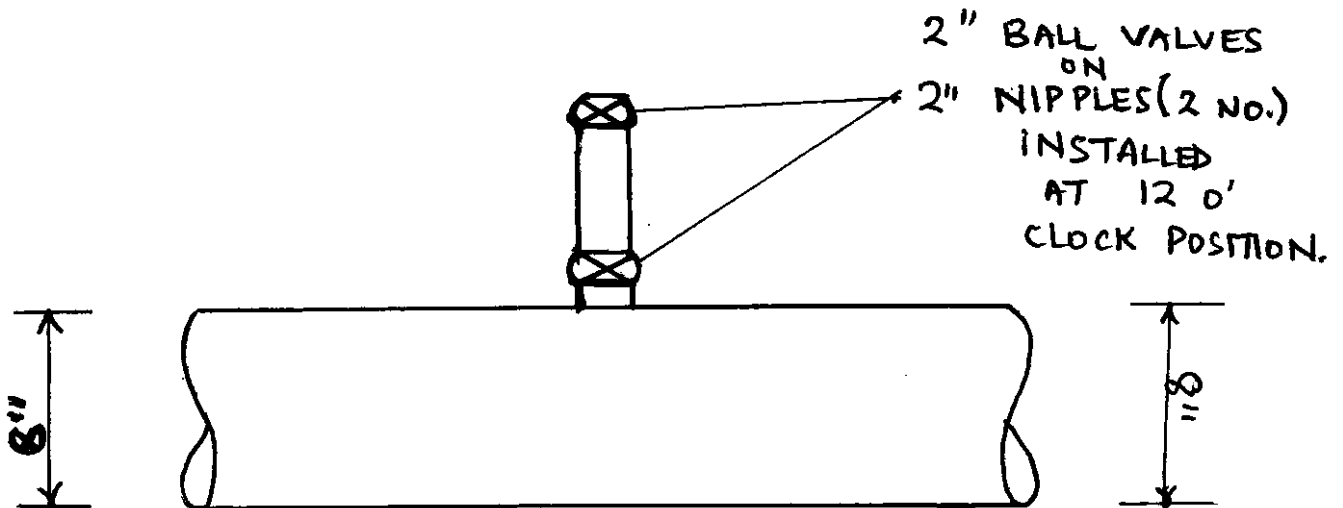
S/N	Fish/Nets/Ponds	Description	Quantity/Size	Comments
	NONE WITHIN AREA OF IMPACT			

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

S/N	Others	Description	Quantity/Size	Comments
	NONE WITHIN AREA OF IMPACT.			

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

SECTION OF 8" DBIGBO-NORTH DELIVERY LINE SHOWING  
ILLEGAL BUNKERING POINT FITTING







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**G. INCIDENT INFORMATION:**

**17 Impacted Area Details**

- a. Total calculated area of impact 28 m<sup>2</sup>
- Impact within SPDC R.O.W 21 m<sup>2</sup>
  - Impact outside R.O.W 7 m<sup>2</sup>

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

Recovered oil V <sub>recj</sub> :	<b>NOT APPLICABLE</b>	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 NOT APPLICABLE
- ii. Average Depth (m) of pool of free phase oil NOT APPLICABLE
- iii.

Volume of pooled of free phase oil. V <sub>pool</sub> :	<b>NIL</b>	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: 28
- ii Average Depth (m) below ground surface of infiltration of oil: 0.05
- iii Soil type: CLAY
- iv. p<sub>e</sub> (effective porosity of the soil): 8%

	<b>0.70</b>	barrels
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**20. Computation of volume of oil on open water based on standard coloration.**

	Thickness (mm)	Percentage coverage	Volume (m3)
Barely Visible	0.00004		
Silvery	0.00008		
Slight Colour	0.00015	<b>NOT</b>	
Bright Colour	0.0003		
Dull	0.001		
Dark	0.002	<b>APPLICABLE</b>	
Black oil	0.1		
Emulsion (30% Oil)	1		
	Percent Total	100%	Total Volume <b>NIL</b> bbl

Spill Factors from USCG FOG (2000 Edition)



Volume of oil on open water $V_{wat}$	NIL	barrels
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21. Calculation of evaporated volume:

- i. Oil type: BONNY MEDIUM
- ii. E-Factor: 15%
- iii.

Volume of evaporated oil $V_{vap}$	0.12	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 $V_{Est}(bbls) = V_{vap}(bbls) + V_{wat}(bbls) + V_{inf}(bbls) + V_{pool}(bbls) + V_{recJ}(bbls) = 0.12 + NIL + 0.70 + NIL + NIL = 0.82$
$V_{Est}(bbls) =$ <u>0.82 BARREL</u>
10. Net Total Estimated Spilled Volume $V_{Est}(bbls) = V_{vap}(bbls) + 0.6 * V_{wat}(bbls) + V_{inf}(bbls) + V_{pool}(bbls) + V_{recJ}(bbls) = 0.12 + NIL + 0.70 + NIL + NIL = 0.82$
$V_{Est}(bbls) =$ <u>0.82 BARREL</u>

- \*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 16 / 02 / 20 11 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*