



No. 00990

A. GENERAL INFORMATION:

1. Spill incident Number: 678544
2. Name of Location 12" IMO RIVER PIPELINE AT UZUAKU
3. Name of nearest community UZUAKU
4. State ABIA LGA UKWA - WEST
5. Type of Production facility/Installation PIPELINE Asset owner /District UIC/P/NESP

B. INCIDENT INFORMATION:

6. Details of incident

- a. Date of incident 27TH JUNE 2011
- b. Date/Period of investigation, 29TH JUNE 2011
- c. Description of spill point environment

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

AFTER JOINT INVESTIGATION OF THE INCIDENT SPIK WAS FOUND TO BE DUE TO

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

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

THIRD PARTY INTERFERENCE.

Type: _____

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

e. Spill point coordinates (MINNA ROAD BELT)

Northing: (m)
101528.47

Easting: (m)
524737.98



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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 [Nil,m]
- Drinking water source **NOT** [Nil,m]
- Built up area **APPLICABLE** [Nil,m]
- Farmlands [Nil,m]
- Fish Farm/Pond [Nil,m]
- Fishing net [Nil,m]
- Others (specify). [Nil,m]

9. Containment measures put in place;

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

Others: _____

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
		NONE WITHIN AREA OF IMPACT			



B. Crops/Economic Trees

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

C. Fish/Nets/Ponds

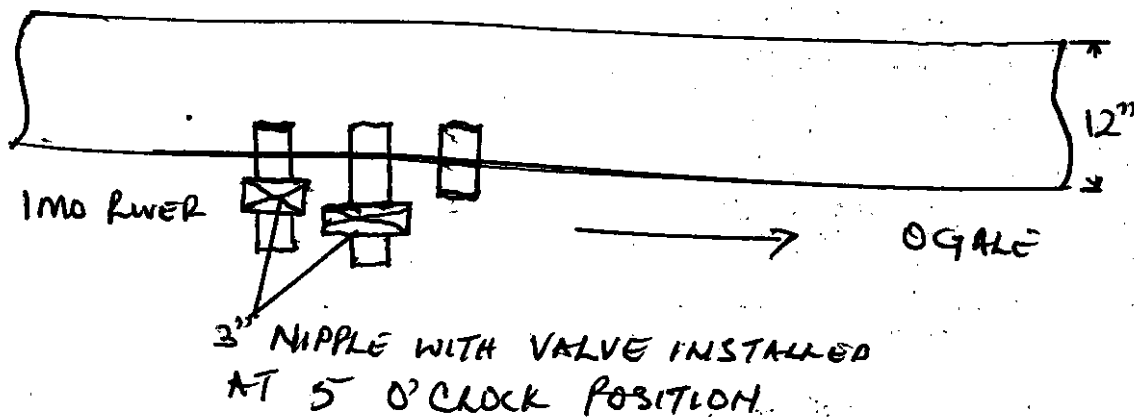
S/N	Fish/Nets/Ponds	Description	Quantity/Size	Comments
	NONE	WITHIN AREA OF IMPACT		

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)

A SECTION OF 12" IMORIVER PIPELINE AT UZUAKU SHOWING THE
 ILLEGAL BUNKERING POINTS





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G. INCIDENT INFORMATION:

17 Impacted Area Details

- a. Total calculated area of impact 0.12 Ha
- Impact within SPDC R.O.W NIL
 - Impact outside R.O.W 0.12 Ha

18 Volume of oil recovered before completion of JIV (V_{rec}):

Recovered oil V_{rec} :

<u>NIL</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^2) occupied by pool of free phase oil 907
- ii. Average Depth (m) of pool of free phase oil 0.005
- iii.

Volume of pooled of free phase oil. V_{pool} :

<u>28.5</u>	barrels
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iv.

b. Computation of volume of infiltrated oil in the soil (V_3).

- i. Area (m^2) covered by the oil: 1189
- ii. Average Depth (m) below ground surface of infiltration of oil: 0.01
- iii. Soil type: CLAY
- iv. p_e (effective porosity of the soil): 8%
- v.

Volume of infiltrated oil V_3 :

<u>6</u>	barrels
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20. Computation of volume of oil on open water based on standard coloration.

	Thickness (mm)	Percentage coverage	Volume (m^3)
Barely Visible	0.00004	<u>NOT</u>	
Silvery	0.00008		
Slight Colour	0.00015	<u>APPLICABLE</u>	
Bright Colour	0.0003		
Dull	0.001		
Dark	0.002		
Black oil	0.1		
Emulsion (30% Oil)	1		
Percent Total		100%	Total Volume <u>NIL</u> bbl

Spill Factors from USCG FOG (2000 Edition)



Volume of oil on open water V_{wat} : NIL barrels

21. Calculation of evaporated volume:

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

Volume of evaporated oil V_{vap} : 6.1 barrels

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 $V_{Est}(bbls) = V_{vap}(bbls) + V_{wat}(bbls) + V_{inf}(bbls) + V_{pool}(bbls) + V_{recJ}(bbls) = 6.1 + NIL + 6 + 28.5 + NIL = 40.6$

$V_{Est}(bbls) = 40.6$ BARRELS

10. Net Total Estimated Spilled Volume $V_{Est}(bbls) = V_{vap}(bbls) + 0.6 * V_{wat}(bbls) + V_{inf}(bbls) + V_{pool}(bbls) + V_{recJ}(bbls) = 6.1 + NIL + 6 + 28.5 + NIL = 40.6$

$V_{Est}(bbls) = 40.6$ BARRELS

- * 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 29/06/2011 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