



No. 00766

A. GENERAL INFORMATION:

1. Spill incident Number: 670909
2. Name of Location 24" NKPOKU - BOMU PIPELINE
3. Name of nearest community BERA (OGONI)
4. State RIVERS LGA GOKANA.
5. Type of Production facility/Installation PIPELINE Asset owner /District UIG/P/NESP.

B. INCIDENT INFORMATION:

6. Details of incident

- a. Date of incident 9TH JUNE, 2011
- b. Date/Period of investigation, 13TH JUNE, 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]✓ |

THE INVESTIGATING TEAM
 OBSERVED THAT THE
 SABOTAGE SPILL WAS
 ACCOMPANIED BY FIRE.

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: <u>NOT APPLICABLE</u> | | |
| <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). <u>NOT APPLICABLE</u> | [Y] | [N]✓ |

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

e. Spill point coordinates

Northing: (MINNA MID-BERT)
75878 - 90 M

Easting:
535037.57M



No. 0786

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 [NIL ,m]
- Built up area [NIL ,m]
- Farmlands [10 ,m]
- Fish Farm/Pond [NIL ,m]
- Fishing net [NIL ,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
	<u>NONE WITHIN AREA OF IMPACT</u>				



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B. Crops/Economic Trees

S/N	Types of crops	Young	Medium	Matured	Quantity	Comments
1	YAMS	✓	✓	NIL	40 x 120m	/
2	CASSAVA	✓	✓	NIL	120m x 15m	/
-	/	/	/	/	/	/
-	/	/	/	/	/	/

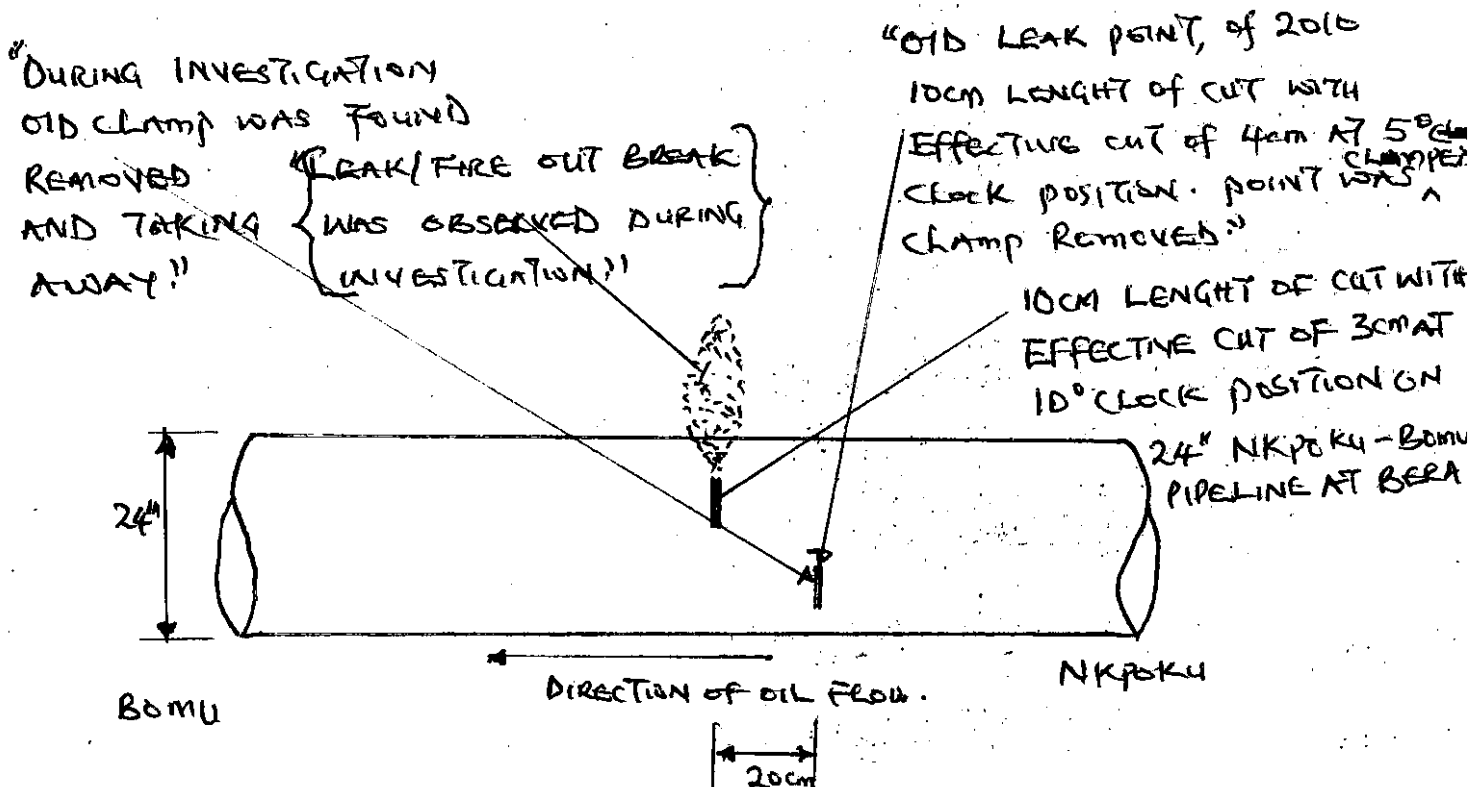
C. Fish/Nets/Ponds

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)





No. 0756

G. INCIDENT INFORMATION:

17 Impacted Area Details

- a. Total calculated area of impact 0.02 Ha
- Impact within SPDC R.O.W 0.02 Ha
 - Impact outside R.O.W NIL

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

Recovered oil V_{rec} :

25	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 _____
- ii. Average Depth (m) of pool of free phase oil _____
- iii. _____

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

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

- i. Area (m^2) covered by the oil: 200m²
- 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 :

1.01	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		
Silvery	0.00008		
Slight Colour	0.00015	NOT	
Bright Colour	0.0003		
Dull	0.001	APPLICABLE	
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} : 4.59 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 $V_{Est}(bbls) = V_{vap}(bbls) + V_{wat}(bbls) + V_{inf}(bbls) + V_{pool}(bbls) + V_{recJ}(bbls)$

$V_{Est}(bbls) = 4.59 + 1.01 + 25 = 30.6$ BARRELS

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

$V_{Est}(bbls) = 30.6 \approx 31$ 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 filed and signed on the 06 / 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