



No. 61582

A. GENERAL INFORMATION:

1. Spill incident Number: 2011-631575
2. Name of Location 28" TFP ROW AT CHANOMI
3. Name of nearest community YEYE
4. State DELTA LGA BURUTU
5. Type of Production facility/Installation PIPELINE Asset owner /District UIA/P/NWSP

B. INCIDENT INFORMATION:

6. Details of incident
- a. Date of incident 06TH MARCH, 2011
- b. Date/Period of investigation: 10TH MARCH, 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 type="checkbox"/> [Y] | <input checked="" type="checkbox"/> [N] |
| <input checked="" type="checkbox"/> Under water | <input checked="" type="checkbox"/> [Y] | <input type="checkbox"/> [N] |
| <input type="checkbox"/> Swampy | <input checked="" type="checkbox"/> [Y] | <input type="checkbox"/> [N] |
| <input type="checkbox"/> Exposed pipe surface | <input type="checkbox"/> [Y] | <input checked="" type="checkbox"/> [N] |
- 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] |
- 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). _____ | | |
- e. Spill point coordinates

Northing: 158189MN

Easting: 328938MB



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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 *N/A*
- 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: _____
- } 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:

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



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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

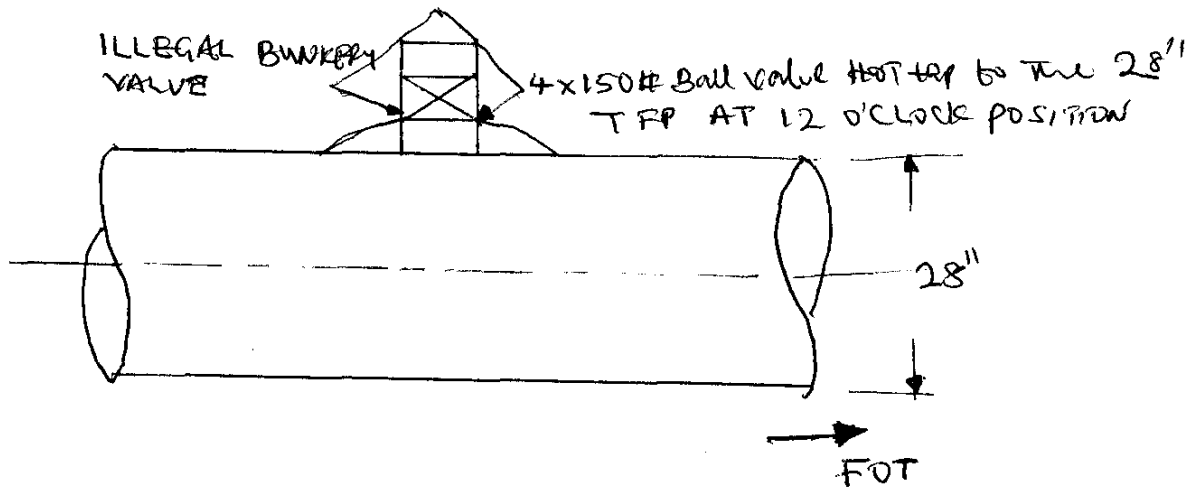
S/N	Fish/Nets/Ponds	Description	Quantity/Size	Comments
	NONE	WITHIN AREA OF IMPACT		

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)

28" TFP TRANS PORCARS PIPELINE AT OMANOMI CREEK





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G. INCIDENT INFORMATION:

17 Impacted Area Details

- a. Total calculated area of impact 2203 m² 2803 m²
- Impact within SPDC R.O.W 2224 m² 235.88 m²
 - Impact outside R.O.W NIL 467.12 m²

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

Recovered oil V_{recj}:

NIL	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 (m²) 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_{pool}:

NIL	barrels
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iv.

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

- i Area (m²) covered by the oil: 2803 m²
- ii Average Depth (m) below ground surface of infiltration of oil: 0.05 m
- iii Soil type: CLAYEY
- iv. P_e (effective porosity of the soil): 8%_o

v.

Volume of infiltrated oil V _{inf}	14.1	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		
Bright Colour	0.0003		
Dull	0.001		
Dark	0.002		
Black oil	0.1		
Emulsion (30% Oil)	1		
	Percent Total	100%	Total Volume

NOT APPLICABLE
NO OIL SHEEN OBSERVED
NIL

Spill Factors from USCG FOG (2000 Edition)



THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED

JOINT INVESTIGATION REPORT FOR INCIDENT NO: 031573

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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} : 2.5 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 $V_{Est}(bbls) = V_{vap}(bbls) + V_{wat}(bbls) + V_{inf}(bbls) + V_{pool}(bbls) + V_{recJ}(bbls)$
2.5 + NIL + 14.1 + NIL + NIL

$V_{Est}(bbls) =$

10. Net Total Estimated Spilled Volume $V_{Est}(bbls) = V_{vap}(bbls) + 0.6 * V_{wat}(bbls) + V_{inf}(bbls) + V_{pool}(bbls) + V_{recJ}(bbls)$
2.5 + NIL + 14.1 + NIL
+ NIL

$V_{Est}(bbls) =$ 16.6 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 10TH/MAR/2011 at incident site by joint investigation representative from

- Host Community
- Department of Petroleum Resources [DPR]: (DPR WAS NOT REPRESENTED)
- 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