

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2314360 JIV report S/N: 0232

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

## A. GENERAL INFORMATION:

1. Spill incident Number: 2314360 2. Type of incident\*: OIL SPILL  
3. Name of Location 16" NUN RIVER - KOLO CREEK PIPELINE  
4. Name of nearest community OTUEGWE 1 5. State: BAYELSA 6. LGA OGBIA  
7. Type of Production facility/Installation OIL PIPELINE  
8. Asset owner/District THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LTD (SPDC) / PIPELINE

## B. INCIDENT INFORMATION:

### 9. Details of incident

- a. Date of incident: 3RD APRIL 2019  
b. Start date/time of investigation: 12TH APRIL 2019 / 1300HRS  
c. Investigation End date: 14TH APRIL 2019 Actual investigation duration, days: TWO (2) DAYS  
d. Description of spill point environment

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Firm soil                | <input type="checkbox"/> Loose soil        | <input type="checkbox"/> Recently excavated area |
| <input type="checkbox"/> Under water              | <input checked="" type="checkbox"/> Swampy | <input type="checkbox"/> Exposed pipe surface    |
| <input type="checkbox"/> Well Platform (on Water) | <input type="checkbox"/> Drill Rig         |  |

Additional observations around the spill point:

### e. Description of leak point (tick as applicable);

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Drilled hole                              | <input type="checkbox"/> Hack saw cut            | <input type="checkbox"/> Tear (_____)                                      |
| <input type="checkbox"/> Complete Rupture                          | <input type="checkbox"/> Inward dent             | <input type="checkbox"/> Well head tampering                               |
| <input type="checkbox"/> Failed Weld-on illegal hot tap valve      | <input checked="" type="checkbox"/> Failed Clamp | <input type="checkbox"/> Missing Pipeline/Flowline                         |
| <input type="checkbox"/> Crude oil theft (illegal bunkering) point | <input type="checkbox"/> Saver-pit over flow     | <input type="checkbox"/> Third party tampering with Clamp                  |
| <input type="checkbox"/> Third party tampering with valve setting  | <input type="checkbox"/> Bulging Outward         | <input type="checkbox"/> Third party tampering with flange                 |
| <input type="checkbox"/> Flare System/Bund wall failure            | <input type="checkbox"/> Cold vent               | <input type="checkbox"/> Surge vessel overflow                             |
| <input type="checkbox"/> Valve Failure                             | <input type="checkbox"/> Relief valve failure    | <input type="checkbox"/> Accidental 3 <sup>rd</sup> party equipment impact |
| <input type="checkbox"/> Corrosion                                 | <input type="checkbox"/> Others(specify) _____   |  |

### f. Incident caused by:

- Third party interference (Sabotage ; crude theft ; Line theft ; Accidental 3<sup>rd</sup> party damage   
 Operational  Mystery spills  Others(specify) \_\_\_\_\_

\*This can be: a) Oil/Spill b) Drilling fluid/Chemical c) Siltation d) construction e) Encroachment f) Fire. Version 2018/01  
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g. Spill point coordinates

WGS 84

Measuring unit Northing:	Easting:
LATITUDE	LONGITUDE
04° 84' 37"	006° 23' 44"

## C. RISK ASSESSMENT

10. Type of environment:

- Land   
  Swamp   
  Water   
  Seasonal swamp   
  Shoreline/Waterfront

i. Type of environment to which oil has spread:

- Land   
  Swamp   
  Water   
  River (identify) \_\_\_\_\_

ii. Weather condition

- Rain   
  Sunny   
  Dry   
  Wet   
  Windy   
  Hot   
  Cool

11. Distance from the nearest sensitive habitat

- Government reserved and designated protected area
- Drinking water source
- Built up area
- Farmlands
- Fish Farm/Pond
- Fishing net
- Others (specify): \_\_\_\_\_

}

NONE SEEN  
WITHIN  
VICINITY

12. Containment measures put in place:

- Booms   
  Trench   
  Dyke   
  Natural depression   
  Pit   
  None
- Others: \_\_\_\_\_

13. Any pictures or video coverage?

[Y]     [N]

14. Further response/repair initiated as at the time of JIV?

[Y]     [N]

If yes to item 14, give brief description:

CLAMP REPLACEMENT

15. Was there any disruption to the investigation?

[Y]     [N]

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If yes to item 15 give brief description:

NOT APPLICABLE

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

**16. Structures / Properties**

S/N	Type of Structures	Description	Size	Number	Comments
<u>NONE WITHIN AREA OF IMPACT</u>					

**17. Crops/Economic Trees**

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
<u>NONE WITHIN AREA OF IMPACT</u>						

**18. Fishing Nets/Fish Ponds**

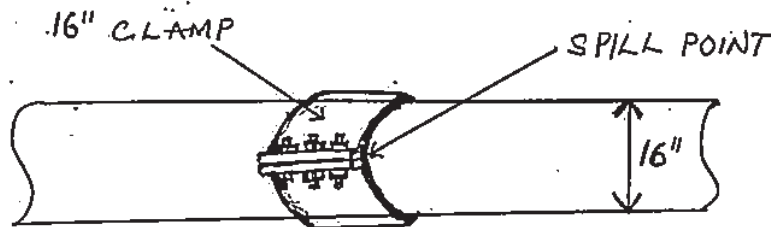
S/N	Nets/Ponds	Description	Quantity/Size	Comments
<u>NONE WITHIN AREA OF IMPACT</u>				

**19. Others (Specify) i.e. Animal Traps**

S/N	Others	Description	Quantity/Size	Comments
<u>NONE WITHIN AREA OF IMPACT</u>				

**E. GRAPHIC DESCRIPTION OF LEAK POINT** (while detailed report of the leak point should be contained in the leak report, overview sketch of the site should be added as an appendix 1) A SECTION OF 16"

NUN RIVER - KOLOCREEK PIPELINE AT OTUEGWE I SHOWING FAILED CLAMP.



NUN RIVER TO KOLOCREEK

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F: TABLE SHOWING SOME OF COORDINATES TAKEN DURING JIV FOR AREA CALCULATION

20. Impacted area boundary Coordinates. (If more, Print and attach as an appendix)  
WGS 84

S/N	Northing	LATITUDE	Easting	LONGITUDE
		4.84427		6.2374
		4.84432		6.23742
		4.84431		6.23745
		4.84432		6.23749
		4.84438		6.23756
		4.84444		6.2376
		4.84451		6.23765
		4.84457		6.23777
		4.84452		6.23779
		4.84461		6.23783
		4.84457		6.23773
		4.84448		6.23771
		4.84443		6.23761
		4.84445		6.2375
		4.84436		6.23737
		4.8443		6.23733
		4.84447		6.23758
		4.84448		6.23757
		4.84438		6.23743

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## G. INCIDENT INFORMATION:

### a. Impacted Area Details

- Total calculated area of impact 0.05Ha
- Impact within R.O.W YES
- Impact outside R.O.W YES

### b. Volume of oil recovered before completion of JIV ( $V_{rec}$ ):

Recovered oil $V_{rec}$ :	<u>NIL</u>	Barrels
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Controlled recovery/evacuation from source with no impact to environment:

<u>NIL</u>	Barrels
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c. <u>Net Estimated Spilled Volume <math>V_{Est}</math> (bbbls)*=</u>	<u>2.84 BARRELS</u>
<u>Estimated Reported Volume** <math>V_{rep}</math> (bbbls)=</u>	<u>3 BARRELS</u>

#### \*Notes:

- Volume estimation was done using an excel based tool (see attached for details on the calculation).
- Reported spilled volume is an estimate

Write other relevant notes taken into consideration for estimating the spilled volume in the box below:

Calculation of the respective estimated volume is to be done on site as far as practicable using the new spill volume estimation software on site; Conversion of  $m^3$  to barrels is Volume ( $m^3$ ) x 6.29; \*\*Round up estimated volume to next whole number using the following rules:

- Any spill volume in excess of 1 bbl is rounded up to the next whole number.
- Any spill volume in less than 1 bbl is rounded up to the next 0.1 bbl.

Examples: Calculated volume = 15.3 bbl — Reported volume = 16 bbl  
Calculated volume = 0.35 bbl — Reported volume = 0.4 bbl  
Calculated volume = 0.01 bbl — Reported volume = 0.1 bbl.

Wherever this estimation tool is not applicable please refer to paragraph 6c (Deviations) of the JIV procedure to use appropriate steps for volume estimation; record the calculation in a plain sheet of paper and attach to the JIV report.

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## d. General Status of the site

i. Joint investigation of the incident site found that there is no residual impact after the initial response and JIT therefore recommend that the site be closed out <input type="checkbox"/>
ii. Investigation of the incident site showed that there is residual impact on site requiring further works <input checked="" type="checkbox"/>

## e. Representatives

<p>This report was filled, agreed and signed by the following joint investigation team representatives:</p> <ul style="list-style-type: none"><li>• Host Community: <input checked="" type="checkbox"/></li><li>• Department of Petroleum Resources [DPR]: <input type="checkbox"/></li><li>• National Oil Spill Detection and Response Agency [NOSDRA]: <input checked="" type="checkbox"/></li><li>• State Ministry of Environment [SME]: <input checked="" type="checkbox"/></li><li>• Asset Owner: <input checked="" type="checkbox"/></li><li>• Signatories agree with reported findings: <input checked="" type="checkbox"/></li><li>• Separate DPR form has been filled out with same findings <input type="checkbox"/></li></ul> <p style="text-align: right;"><i>Tick as applicable</i></p>
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f. Appendix 1: Overview sketch of the site

