

**THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED.**

JOINT INVESTIGATION REPORT FOR INCIDENT NO: 1376960 JIV report S/N: 00645

*(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: 1376960 2. Type of incident\* OIL SPILL  
 3. Name of Location 16" TUNU - BRASS CREEK PIPELINE  
 4. Name of nearest community AGBIDIAMA 5. State: BAYELSA 6. LGA EKEREMOR  
 7. Type of Production facility/Installation OIL PIPELINE 8. Asset owner/District PIPELINES

**B. INCIDENT INFORMATION:**

9. Details of incident

- a. Date of incident: 20<sup>TH</sup> MARCH, 2015  
 b. Start date/time of investigation: 15<sup>TH</sup> MAY, 2015 AT 1330 HRS  
 c. Investigation End date: 15<sup>TH</sup> MAY, 2015 Actual investigation duration, days: 1 DAY  
 d. Description of spill point environment

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> Firmed soil              | <input type="checkbox"/> Loose soil        | <input checked="" 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: UPON EXCAVATION, A 4" ILLEGAL HOT-TAP VALVE WAS SEEN WELDED ON THE 16" TUNU - BRASS CREEK PIPELINE AT 12 O'CLOCK POSITION. THOUGH, THERE WAS NO LEAK AT THE POINT OF ATTACHMENT TO THE 16" CRUDE OIL PIPELINE BUT, THERE IS INFILTRATED OIL AND OIL SHEEN ON SURFACE WATER DUE TO LEAK FROM ILLEGAL FLOWLINE.

c. 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 type="checkbox"/> Failed Clamp  | <input type="checkbox"/> Missing Pipeline/Flowline                  |
| <input checked="" type="checkbox"/> Crude oil theft (illegal bunkering) point, |  | <input type="checkbox"/> Third party tampering with Clamp           |
| <input type="checkbox"/> Third party tampering with valve setting,             |  | <input type="checkbox"/> Third party tampering with flange,         |
| <input type="checkbox"/> Corrosion   | <input type="checkbox"/> Saver-pit over flow,  | <input type="checkbox"/> Surge vessel overflow,                     |
| <input type="checkbox"/> Bulging Outward                                       | <input type="checkbox"/> Flare System/Bund wall failure                                      | <input type="checkbox"/> Accidental 3 <sup>rd</sup> party equipment |
| impact <input type="checkbox"/> Valve Failure                                  | <input type="checkbox"/> com unit failure  | <input type="checkbox"/> Cold vent                                  |
| <input type="checkbox"/> Relief valve failure                                  | <input checked="" type="checkbox"/> Others (specify) <u>4" WELD-ON ILLEGAL HOT-TAP VALVE</u> |   |
|  |  | <u>AT 12 O'CLOCK POSITION</u>                                       |

f. Incident caused by:

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

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

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g. Spill point coordinates

| Measuring unit |           |
|----------------|-----------|
| Northings:     | Easting:  |
| LATITUDE       | LONGITUDE |
| 4.91443        | 5.6135    |
|                |           |
|                |           |
|                |           |

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).

[ ,m]  
[ ,m]  
[ ,m]  
[ ,m]  
[ ,m]  
[ ,m]

NONE WITHIN  
THE VICINITY

12. Containment measures put in place;

☒ Booms ☐ Trench ☐ Dyke ☐ Natural depression ☐ Pit ☐ None  
☐ Others: \_\_\_\_\_

13. Any pictures or video coverage?

☒ [N]

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

☒ [N]

If yes to item 14, give brief description: BLIND FLANGING WAS CARRIED OUT BY THE PIPELINES MAINTENANCE TEAM

15. Was there any disruption to the investigation?

[Y] ☒

If yes to item 15 give brief description:

NOT APPLICABLE

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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 |
|-----|----------------------------|-------------|------|--------|----------|
|     | NONE WITHIN AREA OF IMPACT |             |      |        |          |

17. Crops/Economic Trees

| S/N | Type of crops | Young | Medium | Matured | Quantity | Comments            |
|-----|---------------|-------|--------|---------|----------|---------------------|
| 1   | MANGROVES     | FEW   | FEW    | FEW     | FEW      | OIL STAIN MANGROVES |
|     |               |       |        |         |          |                     |
|     |               |       |        |         |          |                     |

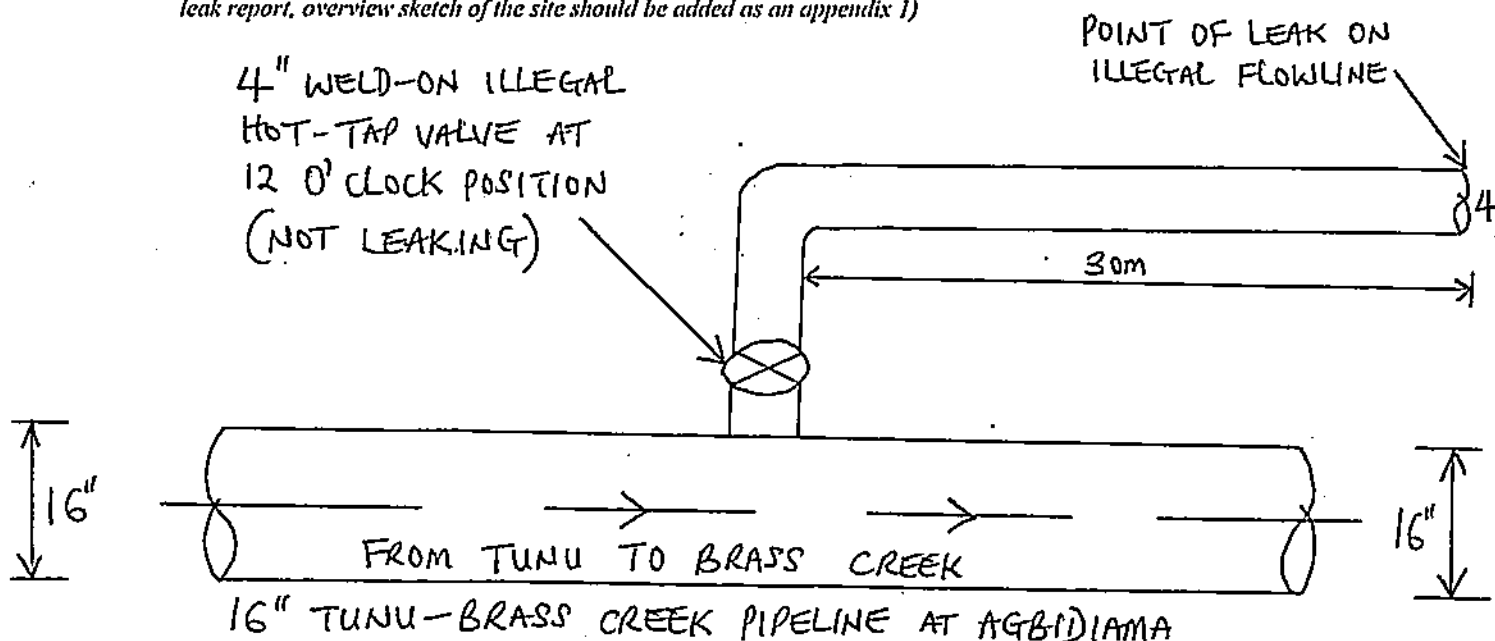
18. Fish/Nets/Ponds

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

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

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

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



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

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G. INCIDENT INFORMATION:

20. Impacted Area Details

- Total calculated area of impact 0.065 Ha
- Impact within SPDC R.O.W YES
- Impact outside SPDC R.O.W NO

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

|                         |             |         |
|-------------------------|-------------|---------|
| Recovered oil $V_{rec}$ | <u>0.31</u> | Barrels |
|-------------------------|-------------|---------|

Controlled recovery/evacuation from source with no impact to environment:

|            |         |
|------------|---------|
| <u>NIL</u> | Barrels |
|------------|---------|

|   |                  |
|---|------------------|
| 22. Net Estimated Spilled Volume $V_{est}$ (bbls) = | <u>4.27 BBLs</u> |
| Estimated Reported Volume $V_{rep}$ (bbls) =        | <u>5 BBLs</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 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<sup>3</sup> to barrels is Volume (m<sup>3</sup>) 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 column estimation; record the calculation in a plain sheet of paper and attach to the JIV report.

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23. GENERAL STATUS OF THE SITE

|  |
|--|
| A. 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"/> |
| B. Investigation of the incident site showed that there is residual impact on site requiring further works <input checked="" type="checkbox"/>   |

24. REPRESENTATIVES

|   |
|---|
| <p>This report was filled, agreed and signed by the following joint investigation representatives:</p> <ul style="list-style-type: none"><li>• Host Community: <input checked="" type="checkbox"/></li><li>• Department of Petroleum Resources [DPR]: <input checked="" type="checkbox"/></li><li>• National Oil Spill Detection and Response Agency [NOSDRA]: <input checked="" type="checkbox"/></li><li>• State Ministry of Environment [SME]: <input type="checkbox"/></li><li>• Nigeria Police Force [NPF]: <input checked="" type="checkbox"/></li><li>• Shell Petroleum Development Company [SPDC]: <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 checked="" type="checkbox"/></li></ul> <p style="text-align: right;"><i>Tick as applicable</i></p> |
|---|

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25. Appendix 1: Overview sketch of the site

