

# JOINT INVESTIGATION REPORT

INCIDENT NO: 1826306 JIV report S/N: Nº 0000270

(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: 1826306 2. Type of incident\* OIL SPILL  
3. Name of Location BONNY OIL AND GAS TERMINAL TANK 9 (NINE) STORAGE  
4. Name of nearest community BONNY 5. State: RIVERS 6. LGA BONNY  
7. Type of Production facility/Installation OIL TANK  
8. Asset owner/District THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED

## B. INCIDENT INFORMATION:

### 9. Details of incident

- a. Date of incident: 25<sup>TH</sup> MARCH, 2017  
b. Start date/time of investigation: 7<sup>TH</sup> APRIL, 2017  
c. Investigation End date: 13<sup>TH</sup> APRIL 2017 Actual investigation duration, days: TWO 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 type="checkbox"/> Swampy     | <input type="checkbox"/> Exposed pipe surface    |
| <input type="checkbox"/> Well Platform (on Water) | <input type="checkbox"/> DrillRig   |  |

Additional observations around the spill point: THE JOINT INVESTIGATION TEAM OBSERVED THE TANK 9 STORAGE WAS OUT OF SERVICE, IT WAS PLANNED FOR REHABILITATION AND SPILL WAS WITHIN TANK 9 BUND AREA.

### 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 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 checked="" type="checkbox"/> Others(specify) <u>(LEAK AROUND THE ANNULAR PLATES FROM THE TANK 9 FOUNDATION SHOULDER)</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) Situation d) construction e) Encroachment f) Fire.


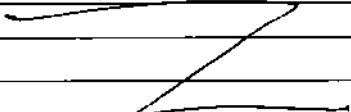
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g. Spill point coordinates

h. Measuring unit

WGS 84

Northing:	Easting:
4.42973	7.16182
	

## 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 SEEN  
WITHIN  
VICINITY.

12. Containment measures put in place:

- Booms     
  Trench     
  Dyke     
  Natural depression     
  Pit     
  None
- Others: BUND WALL DRAINAGE

13. Any pictures or video coverage?      [Y<sup>✓</sup>] [N]

14. Further response/repair initiated as at the time of JIV?      [Y<sup>✓</sup>] [N]

If yes to item 14, give brief description:

RECOVERY AND EVACUATION OF RESIDUAL CRUDE OIL FROM TANK 9 STORAGE COMPLETED WITHIN BUND AREA ONGOING

15. Was there any disruption to the investigation?      [Y] [N<sup>✓</sup>]

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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
	NONE WITHIN AREA OF IMPACT				

**17. Crops/Economic Trees**

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

**18. Fishing Nets/Fish Ponds**

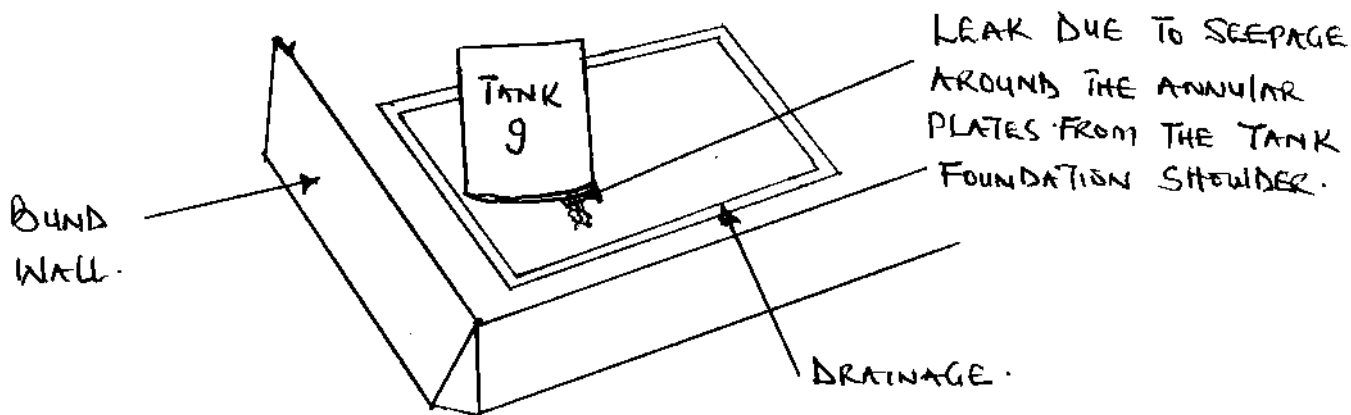
S/N	Nets/Ponds	Description	Quantity/Size	Comments
	NONE WITHIN AREA OF IMPACT			

**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)

SECTIONAL VIEW OF BONNY OIL AND GAS TERMINAL TANK 9 (NINE) STORAGE AT BONNY SHOWING OPERATIONAL SPILL (TANK FOUNDATION SHOULDER SEEPAGE:





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**G. INCIDENT INFORMATION:**

**a. Impacted Area Details**

- Total calculated area of impact 1.02 HA
- Impact within R.O.W YES
- Impact outside R.O.W NO

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

Recovered oil $V_{rec.I}$ :	NIL	Barrels
-----------------------------	-----	---------

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

24,752	Barrels
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**c. Net Estimated Spilled Volume  $V_{Est}(bbls)^*$  =**

569.37 BARRELS

**Estimated Reported Volume  $V_{rep}(bbls)^{**}$  =**

570 BARRELS

**\*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:

- (A) TANK RESIDUAL CONTENT BEFORE LEAKAGE = (25,321 BARRELS)
- (B) ESTIMATED SPILLED VOLUME = 570 BARRELS
- (C) CONTROLLED RECOVERY/EVACUATION FROM TANK = 24,752 BARRELS
- (D) CONTAINED OIL IN DESIGNED SECONDARY CONTAINMENT PUT IN PLACE (DRAINS AND PIT) = 301 BARRELS
- (E) VOLUME TO THE ENVIRONMENT!  $570 - 301 = 269$  BARRELS

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<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 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

This report was filled, agreed and signed by the following joint investigation team representatives:

- Host Community:
- Department of Petroleum Resources [DPR]:
- National Oil Spill Detection and Response Agency [NOSDRA]:
- State Ministry of Environment [SME]:
- Asset Owner:
- Signatories agree with reported findings:
- Separate DPR form has been filled out with same findings

*Tick as applicable*

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f. Appendix 1: Overview sketch of the site

