

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2360591 JIV report S/N:0278

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

## A. GENERAL INFORMATION:

1. Spill incident Number: 2360591 2. Type of incident\*: OIL SPILL  
3. Name of Location 28" BOMU - BONNY PIPELINE  
4. Name of nearest community OWOKIRI 5. State: RIVERS 6. LGA ANDONI  
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: 28TH MAY 2019  
b. Start date/time of investigation: 31ST MAY 2019 / 1400HRS  
c. Investigation End date: 31ST MAY 2019 Actual investigation duration, days: ONE (1) DAY  
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:

### 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"/> 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) \_\_\_\_\_

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g. Spill point coordinates

Measuring unit WGS 84

|                           |                           |
|---------------------------|---------------------------|
| Northing: <u>LATITUDE</u> | Easting: <u>LONGITUDE</u> |
| <u>4:55133</u>            | <u>7:24864</u>            |
| /                         | /                         |
| /                         | /                         |

## 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:

REPAIR BY CLAMPING

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 IMPACTS</u> |                    |             |      |        |          |

**17. Crops/Economic Trees**

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

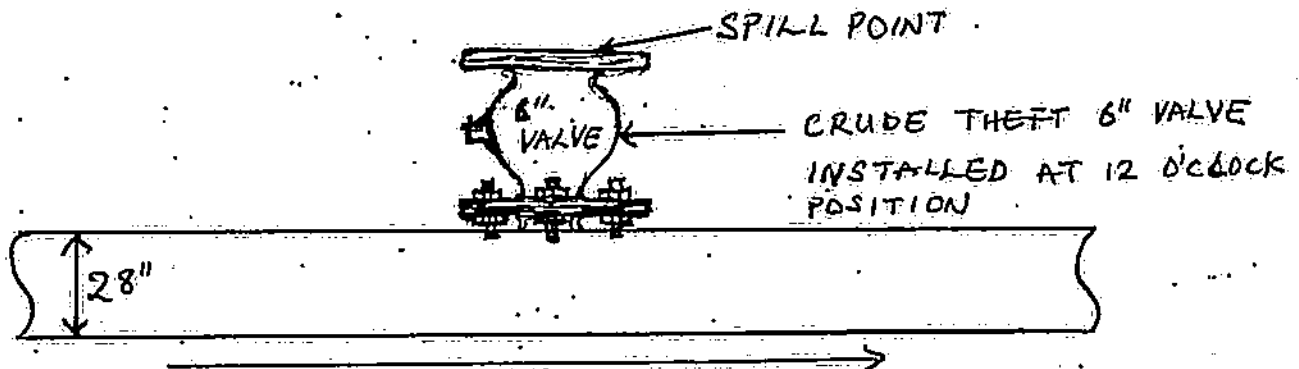
**18. Fishing Nets/Fish Ponds**

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

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

| S/N                                | Others | Description | Quantity/Size | Comments |
|------------------------------------|--------|-------------|---------------|----------|
| <u>NONE WITHIN AREA OF IMPACTS</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 28" BOMU - BONNY PIPELINE AT OWOKIRI SHOWING 6" VALVE CRUDE THEFT POINT INSTALLED AT 12 O'CLOCK POSITION BY UNKNOWN PERSONS.**



BOMU TO BONNY

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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 |
|-----|----------|----------|---------|-----------|
| 1   | 4        | 55137    | 7       | 24868     |
| 2   | 4        | 55136    | 7       | 24851     |
| 3   | 4        | 55133    | 7       | 2485      |
| 4   | 4        | 55131    | 7       | 24867     |
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**G: INCIDENT INFORMATION:**

**a. Impacted Area Details**

- Total calculated area of impact 0.0095 Ha
- 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 |
|---------------------------|------------|---------|

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

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

**c. Net Estimated Spilled Volume  $V_{Est}$  (bbls)\* =**

4.63 BARRELS

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

5 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 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

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

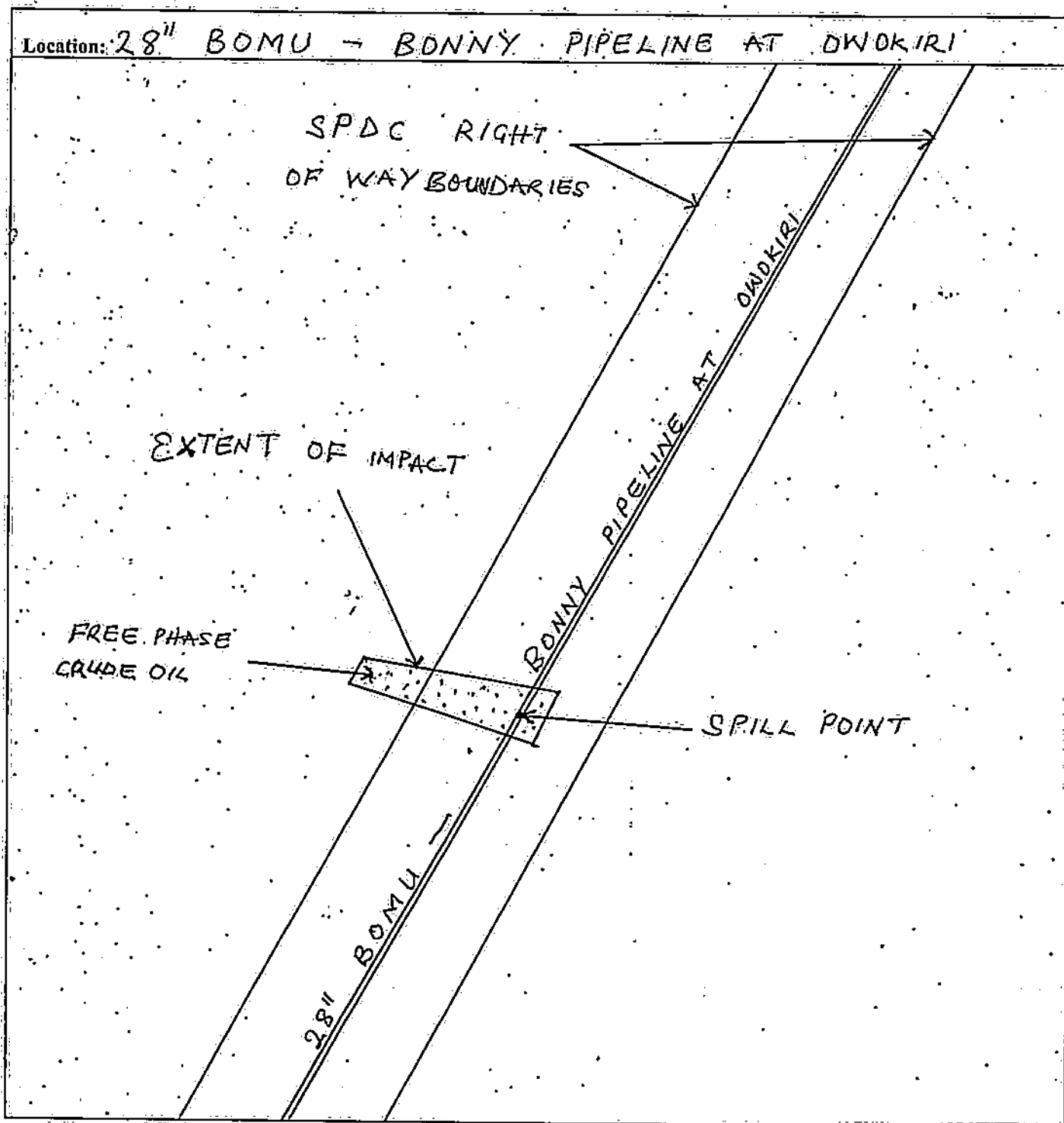
- Host Community:
- Department of Petroleum Resources [DPR]:
- National Oil Spill Detection and Response Agency [NOSDRA]:
- State Ministry of Environment [SME]:
- Asset Owner:
- Signatories agree with reported findings:
- Separate DPR form has been filled out with same findings

*Tick as applicable*

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f. Appendix 1: Overview sketch of the site



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