

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2436822 JIV report S/N: 1030127

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

## A. GENERAL INFORMATION:

1. Fountain Incident Number: 2436822 2. Type of incident\* OIL SPILL  
3. Name of Location IMD RIVER WELL 59T FLOWLINE  
4. Name of nearest community IGIRIUKWU 5. State: ABIA 6. LGA UKWA WEST  
7. Type of Production facility/Installation OIL FLOWLINE  
8. Asset owner/District THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED / LAND EAST HUB

## B. INCIDENT INFORMATION:

### 9. Details of incident

- a. Date Reported: 23<sup>RD</sup> AUGUST, 2019  
b. Start date/time of investigation: 24<sup>TH</sup> AUGUST, 2019 / 14:20 HRS  
c. Investigation End date: 24<sup>TH</sup> AUGUST, 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 checked="" type="checkbox"/> Recently excavated area |
| <input type="checkbox"/> Under water              | <input type="checkbox"/> Swampy     | <input checked="" type="checkbox"/> Exposed pipe surface    |
| <input type="checkbox"/> Well Platform (on Water) | <input type="checkbox"/> Drill Rig  |   |

Additional observations around the spill point:

NOT APPLICABLE

### 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 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"/> Others(specify) _____                                 |   |  |

### 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, g) non leaking Theft point removal  
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g. Spill point coordinates

h. Measuring unit

(KGS 84)

|                                    |                           |
|------------------------------------|---------------------------|
| Northing: <u>LATITUDE</u>          | Easting: <u>LONGITUDE</u> |
| <del>7-195900</del> <u>4.99236</u> | <u>7-195900</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 to Sensitive habitat within 100m radius

|  |                  |
|--|------------------|
| <input type="checkbox"/> Government reserved and designated protected area | [ <u>NIL</u> ,m] |
| <input type="checkbox"/> Drinking water source                             | [ <u>NIL</u> ,m] |
| <input type="checkbox"/> Built up area                                     | [ <u>NIL</u> ,m] |
| <input type="checkbox"/> Farmlands   | [ <u>NIL</u> ,m] |
| <input type="checkbox"/> Fish Farm/Pond                                    | [ <u>NIL</u> ,m] |
| <input type="checkbox"/> Fishing net                                       | [ <u>NIL</u> ,m] |
| <input type="checkbox"/> Others (specify).                                 |                  |

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?

[ Y ] [  ]

If yes to item 14, give brief description:

NOT APPLICABLE

15. Was there any disruption to the investigation?

[ Y ] [  ]

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If yes to item 15 give brief description:

NOT APPLICABLE

16. Was JIV delayed? [Y] [X]

If yes to item 16 give brief description: NOT APPLICABLE

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

**17. Structures / Properties**

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

**18. Crops/Economic Trees**

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

**19. Fish/Nets/Ponds**

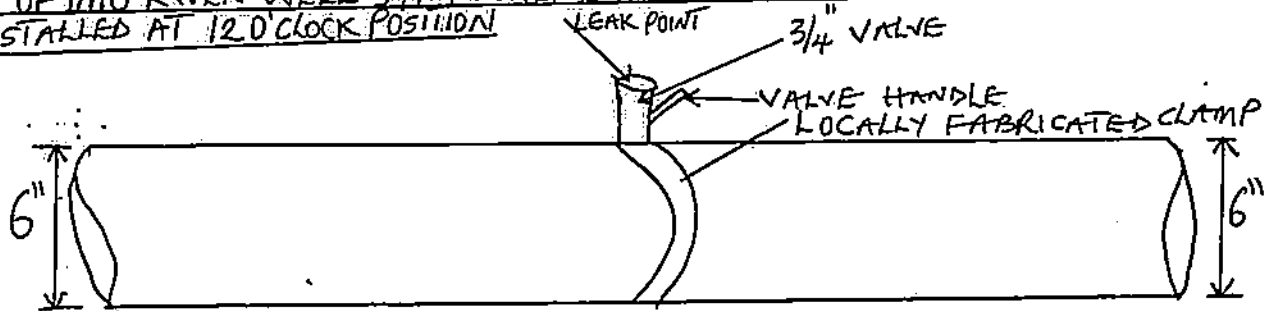
| S/N                               | Fish/Nets/Ponds | Description | Quantity/Size | Comments |
|-----------------------------------|-----------------|-------------|---------------|----------|
| <u>NONE WITHIN AREA OF IMPACT</u> |                 |             |               |          |

**20. 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 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)

SECTION OF IMO RIVER WELL 59T FLOWLINE AT IGIRUKWU SHOWING CRUDE OIL THEFT POINT INSTALLED AT 12 O'CLOCK POSITION



FROM WELL 59T TO IMO RIVER 3 FLOW STATION  
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| PNT_ID      | LAT      | LONG     |    |
|-------------|----------|----------|----|
| SPILL POINT | 4.992363 | 7.1959   | P1 |
| P2          | 4.99116  | 7.194421 | P1 |
| P3          | 4.991177 | 7.194413 | P1 |
| P4          | 4.991217 | 7.194393 | P1 |
| P5          | 4.991228 | 7.194377 | P1 |
| P6          | 4.991516 | 7.19473  | P1 |
| P7          | 4.991506 | 7.19474  | P1 |
| P8          | 4.991422 | 7.194639 | P1 |
| P9          | 4.991402 | 7.194651 | P1 |
| P10         | 4.99161  | 7.194808 | P1 |
| P11         | 4.991598 | 7.19482  | P1 |
| P12         | 4.99158  | 7.194919 | P1 |
| P13         | 4.991567 | 7.194926 | P1 |
| P14         | 4.991762 | 7.194987 | P1 |
| P15         | 4.991778 | 7.194974 | P1 |
| P16         | 4.991738 | 7.195054 | P1 |
| P17         | 4.991731 | 7.195068 | P1 |
| P18         | 4.991969 | 7.195161 | P1 |
| P19         | 4.991962 | 7.19517  | P1 |
| P20         | 4.991955 | 7.195161 | P1 |
| P21         | 4.992225 | 7.19531  | P1 |
| P22         | 4.992234 | 7.195289 | P1 |
| P23         | 4.992356 | 7.195345 | P1 |
| P24         | 4.992533 | 7.195436 | P1 |
| P25         | 4.99251  | 7.195452 | P1 |
| P26         | 4.992532 | 7.19548  | P1 |
| P27         | 4.992539 | 7.195547 | P1 |
| P28         | 4.992509 | 7.19556  | P1 |
| P29         | 4.992507 | 7.195643 | P1 |
| P30         | 4.992532 | 7.19563  | P1 |
| P31         | 4.992476 | 7.195693 | P1 |
| P32         | 4.992418 | 7.195663 | P1 |
| P33         | 4.992268 | 7.19559  | P1 |
| P34         | 4.992241 | 7.195566 | P1 |
| P35         | 4.992258 | 7.195522 | P1 |
| P36         | 4.992223 | 7.19547  | P1 |
| P37         | 4.992288 | 7.195389 | P1 |
| P38         | 4.992312 | 7.19541  | P1 |
| P39         | 4.99243  | 7.195702 | P1 |
| P40         | 4.99241  | 7.195783 | P1 |
| P41         | 4.992352 | 7.195903 | P1 |
| P42         | 4.992373 | 7.195914 | P1 |
| P43         | 4.992281 | 7.195578 | P1 |
| P44         | 4.992437 | 7.195636 | P1 |

|        |          |          |    |
|--------|----------|----------|----|
| ROAD 1 | 4.991168 | 7.194401 | P2 |
| ROAD 2 | 4.991202 | 7.194369 | P2 |
| ROAD 3 | 4.991401 | 7.194656 | P2 |
| ROAD 4 | 4.991759 | 7.195001 | P2 |
| ROAD 5 | 4.992639 | 7.19542  | P2 |
| ROAD 6 | 4.992619 | 7.195461 | P2 |
| ROAD 7 | 4.991729 | 7.195042 | P2 |
| ROAD 8 | 4.991582 | 7.194903 | P2 |

JIV ALONG IMO RIVER W59T FLOW LINE  
AT IGIRI UKWU  
INC. NO 2019\_2436822

A handwritten signature in black ink is written over a circular stamp. The stamp contains some illegible text and a central emblem. The signature appears to be 'J. O. O.' followed by some numbers.

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**G. INCIDENT INFORMATION:**

**a. Impacted Area Details**

- Total calculated area of impact 0.098556 HA
- Impact within SPDC R.O.W. YES
- Impact outside SPDC 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 |
|------------|---------|

|   |
|---|
| <b>c. Net Estimated Spilled Volume <math>V_{est}</math> (bbls)* = <u>4.59 BARRELS</u></b> |
| <b>Estimated Reported Volume** <math>V_{rm}</math> (bbls) = <u>5 BARRELS</u></b>          |

**\*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 volume estimation or cause of spill:

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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## 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

ii. Investigation of the incident site showed that there is residual impact on site requiring further works

## e. Representatives

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

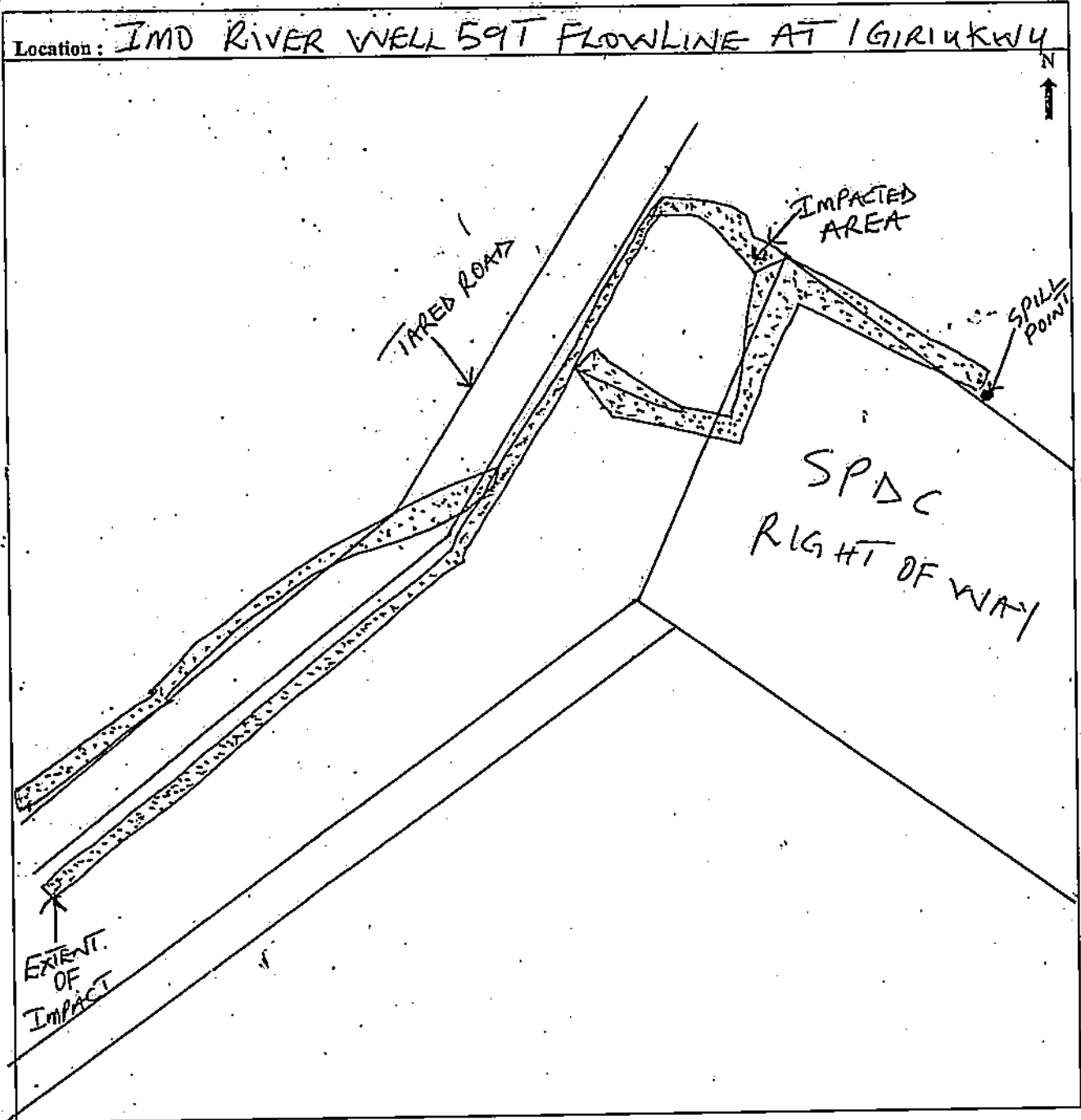
- Host Community:
- Department of Petroleum Resources [DPR]:
- National Oil Spill Detection and Response Agency [NOSDRA]:
- State Ministry of Environment [SME]:
- Shell Petroleum Development Company [SPDC]:
- *Separate DPR form has been filled out with same findings*

*Tick as applicable*

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f. Appendix d: Overview sketch of the site



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