

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2114870 JIV report S/N 1090

(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: 2114870 2. Type of incident: OIL SPILL  
3. Name of Location: IMO RIVER WELL 59 FLOWLINE ROW  
4. Name of nearest community: IGIRIUKWU 5. State: ABIA 6. LGA: UKWA-WEST  
7. Type of Production facility/Installation: FLOWLINE  
8. Asset owner/District: THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED

## B. INCIDENT INFORMATION:

### 9. Details of incident

- a. Date of incident: 4TH JULY, 2018  
b. Start date/time of investigation: 6TH JULY, 2018/12:05 HRS  
c. Investigation End date: 6TH JULY, 2018 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 type="checkbox"/> Exposed pipe surface               |
| <input type="checkbox"/> Well Platform (on Water) | <input type="checkbox"/> Drill Rig  | <u>OPEN DITCH</u>   |

Additional observations around the spill point: THE JOINT INVESTIGATION TEAM OBSERVED ILLEGAL (THEFT) FITTING WITH LOCALLY FABRICATED CLAMP INSTALLED BY UNKNOWN PERSON(S).

### 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"/> 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,

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2114870 JIV report S/N: 1090

g. Spill point coordinates

h. Measuring unit

Northing: <u>LATITUDE</u>	Easting: <u>LONGITUDE</u>
<u>4.98726</u>	<u>7.20438</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

- |  |          |
|--|----------|
| <input type="checkbox"/> Government reserved and designated protected area | [NIL, m] |
| <input type="checkbox"/> Drinking water source                             | [NIL, m] |
| <input type="checkbox"/> Built up area                                     | [NIL, m] |
| <input type="checkbox"/> Farmlands   | [NIL, m] |
| <input type="checkbox"/> Fish Farm/pond                                    | [NIL, m] |
| <input type="checkbox"/> Fishing net                                       | [NIL, m] |
| <input type="checkbox"/> Others (specify)                                  | NONE     |

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:

NOT APPLICABLE

15. Was there any disruption to the investigation?

[Y]       [N]

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2114870 JIV report S/N: 1090

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						

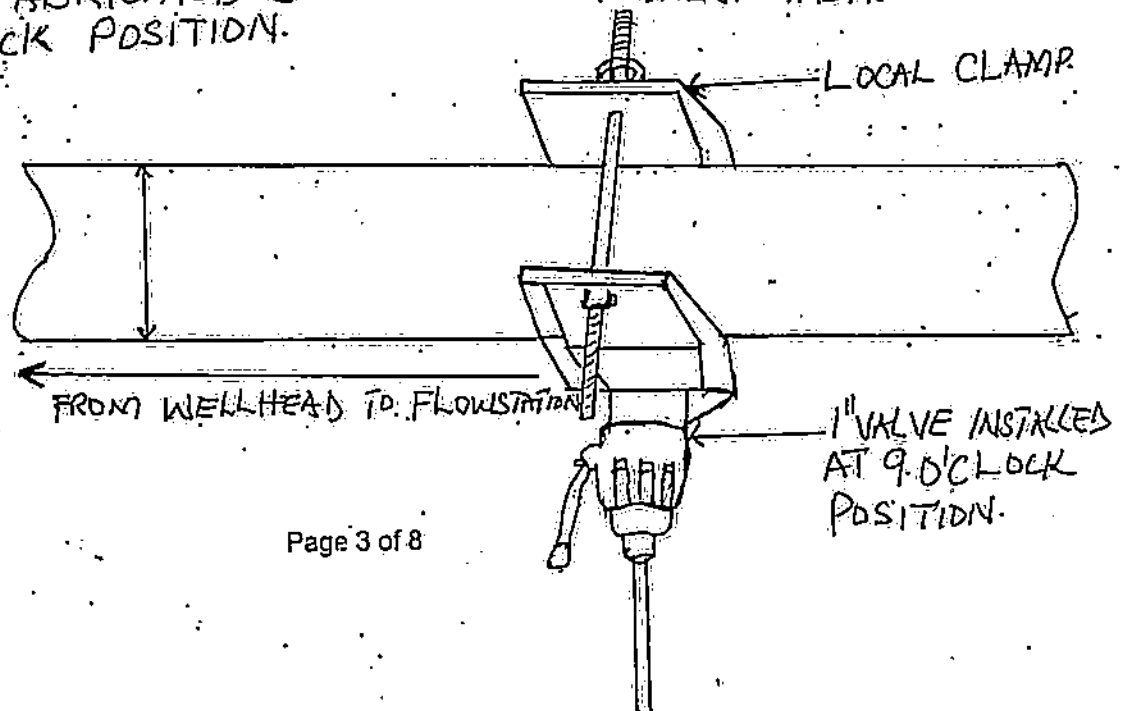
18. Fishing Nets/Fish Ponds

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.) A SECTION OF INIO RIVER WELL 59 FLOWLINE ROW AT IGIRIUKWU SHOWING LOCALLY FABRICATED CLAMP AND A 1" VALVE INSTALLED AT 9 O'CLOCK POSITION.



# JOINT INVESTIGATION REPORT

INCIDENT NO: 2114876

JIV report S/N: 1090

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)

was 84

S/N	Northings LATITUDE	Eastings LONGITUDE
1	4.98725	7.20443
2	4.98720	7.20451
3	4.98720	7.20446
4	4.98716	7.20451
5	4.98710	7.20446
6	4.98717	7.20440
7	4.98731	7.20437
8	4.98725	7.20434
9	4.98727	7.20439
10	4.98742	7.20392
11	4.98746	7.20387
12	4.98736	7.20388
13	4.98740	7.20387
14	4.98745	7.20382
15	4.98763	7.20372
16	4.98766	7.20372
17	4.98776	7.20377
18	4.98774	7.20378
19	4.98795	7.20386
20	4.98791	7.20386
21	4.98790	7.20382
22	4.98792	7.20382
23	4.98796	7.20385

# JOINT INVESTIGATION REPORT

INCIDENT NO: 211487D JIV report S/N: 1090

**G. INCIDENT INFORMATION:**

**a. Impacted Area Details**

- Total calculated area of impact 0.03119
- Impact within R.O.W 768
- Impact outside R.O.W 768

**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:

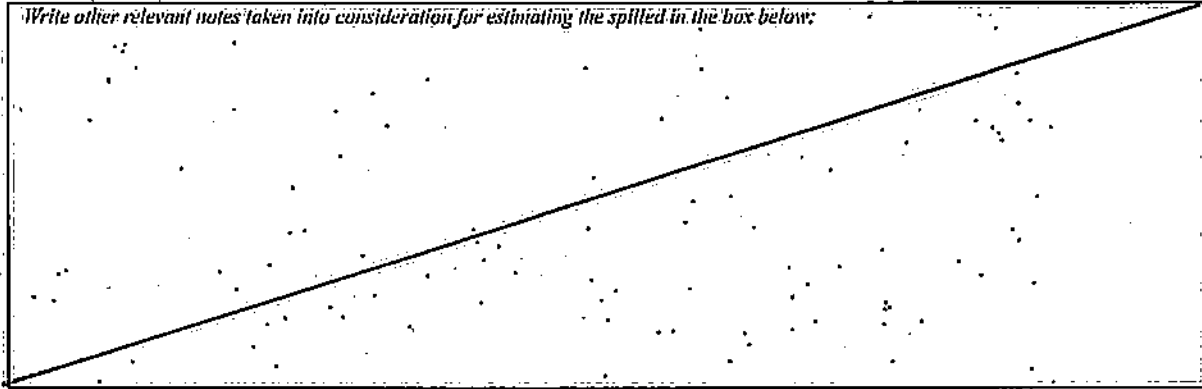
<u>NIL</u>	Barrels
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c. <u>Net Estimated Spilled Volume <math>V_{Est}</math> (bbls)* =</u>	<u>1.92 BARRELS</u>
<u>Estimated Reported Volume** <math>V_{Rep}</math> (bbls) =</u>	<u>2 BARRELS</u>

**\*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 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 6e (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.

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2114870 JIV report S/N: 1090

## 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]:
- Asset Owner:
- Signatories agree with reported findings:
- Separate DPR form has been filled out with same findings

*Tick as applicable*

# JOINT INVESTIGATION REPORT

INCIDENT NO: 214870 JIV report S/N: 1090

f. Appendix 1: Overview sketch of the site

