

JOINT INVESTIGATION REPORT

INCIDENT NO: 2775202 JIV report S/N:

0579

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

A. GENERAL INFORMATION:

1. Fountain Incident Number: 2775202 2. Type of incident* OIL SPILL
3. Name of Location 6" IMOR 2 - IMOR 1 BULKLINE
4. Name of nearest community ODAGWA 5. State: RIVERS 6. LGA ETCHE
7. Production Facility/Installation CRUDE OIL BULKLINE
8. Asset Owner/Hub THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED (SPDC)/LAND EAST HUB

B. INCIDENT INFORMATION:

9. Details of incident

- a. Date Reported: 2ND NOVEMBER, 2020
b. Start date/time of Investigation: 05TH NOVEMBER, 2020 / 1350 HRS
c. Investigation End date: 05TH NOVEMBER, 2020 Day(s) on site: ONE DAY
d. Description of spill point environment

- | | | |
|---|--|---|
| <input type="checkbox"/> Firm soil | <input checked="" 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 | <input type="checkbox"/> Sand bag(s) |

Additional observations around the spill point:

NOT APPLICABLE

e. Description of leak point (tick as applicable);

- | | | |
|--|---|--|
| <input type="checkbox"/> Smooth round-edge hole | <input type="checkbox"/> Rough-edge hole | <input type="checkbox"/> Hack saw cut |
| <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 rd party equipment impact |
| <input type="checkbox"/> Tear (_____) | | |
| <input type="checkbox"/> Others (specify) _____ | | |

f. Incident caused by:

- Third party interference (Sabotage ; crude theft ; Line theft ; Accidental 3rd party damage
 Operational Others (including Mystery spills) _____

*This can be: (a) Oil Spill (b) Drilling fluid/Chemical (c) Siltation (d) Water Leak (e) Fire (f) Non-leaking theft point removal

Version 2020/01

Distribution of copies: White (Asset Owner); Pink (DPR); Green (NOSDRA); Yellow (State Ministry of Environment); Blue (Host Community)

JOINT INVESTIGATION REPORT

INCIDENT NO: 2775202 JIV report S/N: 0579

g. Spill Point Coordinates (*Incidents $\leq 100m$ apart to be aggregated into one Joint Investigation Report)

h. Measuring unit

Northing:	Easting:
4.980605	7.170462
Z	Z

C. RISK ASSESSMENT

10. Details of Environment

i. Type of environment where spill occurred (select one):

- Land
 Swamp
 Water
 Seasonal swamp
 Shoreline/Waterfront

ii. Type of environment to which oil has spread:

- Land
 Swamp
 Waterbody (specify) _____

iii. Weather condition

- Dry
 Wet
 Windy
 Hot

11. Distance to Sensitive habitat within 100m radius

- Government reserved and designated protected area [,m]
- Drinking water source [,m]
 - Surface water
 - Borehole
- Built up Area [,m]
 - Residential Area
 - Commercial/Industrial Area
- Farmlands [,m]
- Fish Farm/Pond [,m]
- Fishing net [,m]
- Others (specify) _____ [,m]

} NONE SEEN
WITHIN VICINITY

12. Containment measures put in place:

- Booms
 Trench
 Dyke
 Pit
 Natural depression
 None
- Others: _____

13. Any pictures or video coverage? [N]

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

If yes to item 14, give brief description:

NOT APPLICABLE

JOINT INVESTIGATION REPORT

INCIDENT NO: 2775202 JIV report S/N: 0579

15. Was there any disruption to the investigation? [Y]

If yes to item 15 give brief description:

NOT APPLICABLE

16. Was JIV delayed? [Y]

Reason(s):

- Delayed Community Access Approval Security Challenges Access constraint due to terrain
 Others (specify) 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 SEEN WITHIN AREA OF IMPACT</u>					

18. Crops/Economic Trees

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
<u>1</u>	<u>PALM TREE</u>	<u>/</u>	<u>✓</u>	<u>/</u>	<u>1</u>	<u>STAINED</u>

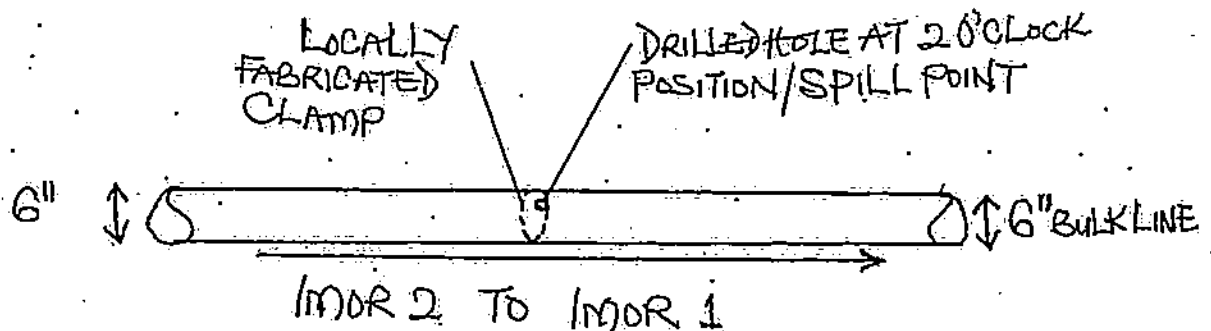
19. Fish/Nets/Ponds

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

20. Others (Specify) e.g. Animal Traps

S/N	Others	Description	Quantity/Size	Comments
<u>NONE SEEN WITHIN AREA OF IMPACT</u>				

E. GRAPHIC DESCRIPTION OF LEAK POINT (while detailed description of the leak point should be contained in the leak report, overview sketch of the site should be added as appendix 1) A SECTION OF 6" BULKLINE IMOR 2 - IMOR 1 AT ODAGWA SHOWING A DRILLED HOLE THROUGH A LOCALLY FABRICATED CLAMP AT 2 O'CLOCK POSITION BY UNKNOWN PERSON(S).



JOINT INVESTIGATION REPORT

INCIDENT NO: 2775202 JIV report S/N: 0579

G. INCIDENT INFORMATION:

a. Impacted Area Details *

- Total calculated area of impact (Ha) 0.00849
- Impact within SPDC R.O.W YES
- Impact outside SPDC R.O.W NO

* Round off to 2 decimal places if area is $\geq 100 \text{ m}^2$ or to 4 decimal places if area is $< 100 \text{ m}^2$ (e.g. 14.55, 0.0051, 0.0009)

* Express in Hectares (Ha)

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)* = 0.39 BARRELS

Estimated Reported Volume** V_{rep} (bbls) = 1 BARREL

*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:

NOT APPLICABLE

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) \times 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.

JOINT INVESTIGATION REPORT

INCIDENT NO: 2775202 JIV report S/N:0579

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):
- The Shell Petroleum Development Company (SPDC):
- *Separate DPR form has been filled out with same findings*
- *Separate NOSDRA form has been filled out with same findings*
- *Separate SME form has been filled out with same findings*

Tick as applicable

JOINT INVESTIGATION REPORT

INCIDENT NO: 2775202 JIV report S/N 579

f. Appendix 1: Overview sketch of the site

