

JOINT INVESTIGATION REPORT

INCIDENT NO: 3077316 JIV report SN: 01115

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

A. GENERAL INFORMATION:

1. Forman Incident Number: 3077316 2. Type of incident: OIL SPILL
 3. Name of Location: 14" OKORODIA - RUMUEKPE PIPELINE
 4. Name of nearest community: UKPELEIDE RIVERS LGA: AIHADA-WEST
 7. Production Facility/Installation: CRUDE OIL PIPELINE
 8. Asset Owner/Hub: THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED (SPDC) PIPELINE

B. INCIDENT INFORMATION:

9. Details of incident
 a. Date Reported: 30TH DECEMBER, 2021
 b. Start date/time of investigation: 1ST JANUARY 2022. 13:12 HRS
 c. Investigation End date: 1ST JANUARY, 2022 Day(s) on site: ONE (1) DAY
 d. Description of spill point environment
 Firm soil Loose soil Recently excavated area
 Under water Swampy Exposed pipe surface
 Well Platform (on water) Drill Rig Sand bag(s)

Additional observations around the spill point.

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

<input type="checkbox"/> Smooth round-edge hole	<input type="checkbox"/> Rough-edge hole	<input type="checkbox"/> Straight cut (Similar to hack saw cut)
<input type="checkbox"/> Complete Rupture	<input type="checkbox"/> Leeward 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 Flow line
<input checked="" type="checkbox"/> Crude oil theft (illegal bunkering) point,	<input type="checkbox"/> Save-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 oil theft ; line theft ; Accidental 3rd party damage
 Operational Others (including Mystery spills) _____

*This report is for (a) Oil Spill (b) Drilling fluid/Chemical (c) Spillages (d) Blowout (e) Fire (f) non leaking Tight point removal
 Distribution of copies: White (Asset Owner); Pink (DPR); Green (NOSDRA); Blue (State Ministry of Environment);
 Black (Community)

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

h. Measuring unit WGS 84

Northing: <u>LATITUDE</u>	Easting: <u>LONGITUDE</u>
<u>5.091891</u>	<u>6.529146</u>
/	/
/	/

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
- Others: _____

13. Any pictures or video coverage? [Y] [N]

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

ii) up to item 14, give brief description:

REPAIR BY CLAMPING

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

If yes to item 15 give brief description:
NOT APPLICABLE
NOT APPLICABLE

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

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 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

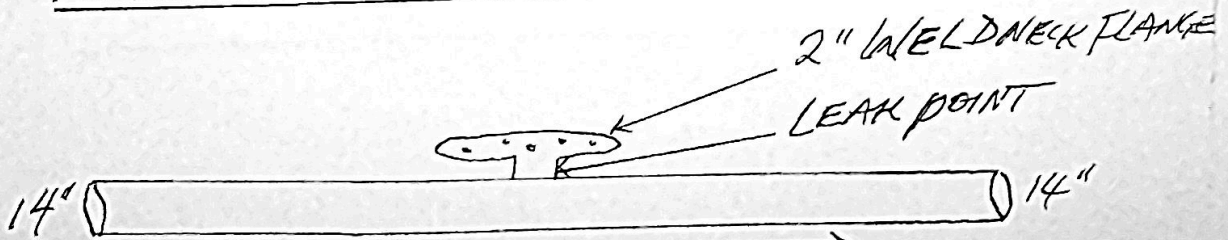
S/N	Fish/Nets/Ponds	Description	Quantity/Size	Comments
	<u>NONE WITHIN AREA OF IMPACT</u>			

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 attached as an appendix 1) A SECTION OF 14"

OKORDIA-RUMUEKPE PIPELINE AT UKPELEIDE
SHOWING A 2" WELDNECK FLANGE INSTALLED
AT 12 O'CLOCK POSITION BY UNKNOWN PERSON(S)



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G. INCIDENT INFORMATION:

a. Impacted Area Details *

- Total calculated area of impact (Ha) 0.12712 = 0.13 Ha
- Impact within SPDC R.O.W (Ha) YES
- Impact outside SPDC R.O.W (Ha) YES

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

<u>NIL</u>	Barrels
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c. Net Estimated Spilled Volume V_{est} (bbls)*:	<u>5.81 BARRELS</u>
Estimated Reported Volume** V_{rep} (bbls)=	<u>6 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 volume estimation in case 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 $\text{Volume (m}^3) \times 6.29$. *Round up reported 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 procedure for determination of the JIV procedure to use appropriate steps for volume estimation. record the calculation in a plain sheet of paper and attach with 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]:
- 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

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f. Appendix 1: Overview sketch of the site

