

THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED.

JOINT INVESTIGATION REPORT FOR INCIDENT NO: 1342421 JIV report S/N: 00844

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

A. GENERAL INFORMATION:

1. Spill incident Number: 1342421 2. Type of incident* OIL SPILL
 3. Name of Location IMO RIVER WELL 59T FLOWLINE
 4. Name of nearest community IGIRUKWU 5. State: ABIA 6. LGA UKWA WEST
 7. Type of Production facility/Installation FLOWLINE 8. Asset owner/District NELI | IMO RIVERS

B. INCIDENT INFORMATION:

9. Details of incident
 a. Date of incident: 20TH FEBRUARY, 2015
 b. Start date/time of investigation: 25TH FEBRUARY, 2015
 c. Investigation End date: 25TH FEBRUARY, 2015 Investigation duration, days: ONE DAY
 d. Description of spill point environment

- | | | |
|---|-------------------------------------|---|
| <input type="checkbox"/> Firmed 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 |

Additional observations around the spill point: JIT TEAM OBSERVED THE ILLEGAL THEFT FITTING WAS INSTALLED ON A LOCAL CLAMP AND ATTACHED TO A DRILLED HOLE AT 12 O'CLOCK POSITION ON THE IMO RIVER WELL 59T 6" FLOWLINE AT IGIRUKWU.

- e. Description of leak point (tick as applicable);
- | | | |
|--|---|---|
| <input checked="" 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 checked="" type="checkbox"/> Failed Valve 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"/> Third party tampering with Clamp |
| <input type="checkbox"/> Third party tampering with valve setting, | | <input type="checkbox"/> Third party tampering with flange, |
| <input type="checkbox"/> Corrosión | <input type="checkbox"/> Saver-pit over flow, | <input type="checkbox"/> Surge vessel overflow, |
| <input type="checkbox"/> Bulging Outward | <input type="checkbox"/> Flare System/Bund wall failure | <input type="checkbox"/> Accidental 3 rd party equipment |
| impact | <input type="checkbox"/> Valve Failure | <input type="checkbox"/> com unit failure |
| <input type="checkbox"/> Relief valve failure | <input type="checkbox"/> Others (specify) _____ | <input type="checkbox"/> Cold vent |

- 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) construction e) Encroachment f) Fire,*

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g. Spill point coordinates

Measuring unit <u>M</u>		<u>MINNA (MID BELT)</u>	
Northings:	<u>Meters</u>	Easting:	<u>Meters</u>
	<u>109570.26</u>		<u>526346.67</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 | [| ,m] | } NONE SEEN
WITHIN
VICINITY. |
| <input type="checkbox"/> Drinking water source | [| ,m] | |
| <input type="checkbox"/> Built up area | [| ,m] | |
| <input type="checkbox"/> Farmlands | [| ,m] | |
| <input type="checkbox"/> Fish Farm/Pond | [| ,m] | |
| <input type="checkbox"/> Fishing net | [| ,m] | |
| <input type="checkbox"/> Others (specify). | [| ,m] | |

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 WORK PLANNED

15. Was there any disruption to the investigation?

[Y] [N]

If yes to item 15 give brief description:

NOT APPLICABLE.

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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. Fish/Nets/Ponds

S/N	Fish/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
✓	PALM TREE	MATURED	TWO (2)	

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)

SECTIONAL VIEW OF IMO RIVER WELL 59T 6" FLOWLINE AT IGIRUKWA
SHOWING :- FAILED ILLEGAL CRUDE OIL THEFT POINT.

LEAK DUE TO 1" BALL VALVE CRUDE OIL ILLEGAL THEFT POINT INSTALLED WITH LOCAL CLAMP AT 12⁰ CLOCK POSITION. ON WELL 59T FLOWLINE.



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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)

MINNA MID-BELI

S/N	Northing Meter	Easting Meter
	109570.27	526343.59
	109564.10	526352.82
	109561.02	526358.98
	109564.09	526362.06
	109564.09	526358.98
	109570.23	526362.07
	109579.47	526349.77

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G. INCIDENT INFORMATION:

20. Impacted Area Details

- Total calculated area of impact 0.018Ha
- Impact within SPDC R.O.W No
- Impact outside SPDC R.O.W YES

21. Volume of oil recovered before completion of JIV (V_{rec}):

Recovered oil V_{rec} :	NIL	Barrels
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Controlled recovery/evacuation from source with no impact to environment:

NIL	Barrels
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<p>22. <u>Net Estimated Spilled Volume V_{Est}(bbls)* =</u></p> <p align="center" style="font-size: 1.2em;">4.93 BARRELS</p>
<p><u>Estimated Reported Volume** V_{rep}(bbls) =</u> 5 BARRELS</p>

***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:

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) 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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23. GENERAL STATUS OF THE SITE

A. 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"/>
B. Investigation of the incident site showed that there is residual impact on site requiring further works <input checked="" type="checkbox"/>

24. REPRESENTATIVES

<p>This report was filled, agreed and signed by the following joint investigation representatives:</p> <ul style="list-style-type: none">• Host Community: <input checked="" type="checkbox"/>• Department of Petroleum Resources [DPR]: <input checked="" type="checkbox"/>• National Oil Spill Detection and Response Agency [NOSDRA]: <input checked="" type="checkbox"/>• State Ministry of Environment [SME]: <input type="checkbox"/>• Nigeria Police Force [NPF]: <input checked="" type="checkbox"/>• Shell Petroleum Development Company [SPDC]: <input checked="" type="checkbox"/>• Signatories agree with reported findings: <input checked="" type="checkbox"/>• Separate DPR form has been filled out with same findings <input type="checkbox"/> <p style="text-align: right;"><i>Tick as applicable</i></p>
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25. Appendix 1: Overview sketch of the site

