

JOINT INVESTIGATION REPORT

INCIDENT NO: 3043673 JIV report S/N: 01/75

(Note: An incident report is to be signed in the field by all the participating parties)

A. GENERAL INFORMATION:

1. Escalant Incident Number: 3043673 2. Type of incident* OIL SPILL
3. Name of Location 36" RUMUEKPE - NKPOKU PIPELINE
4. Name of nearest community MBODO ALUU 5. State RIVERS 6. LGA IKWERRE
7. Production Facility Installation CRUDE OIL PIPELINE
8. Asset Owner Hub THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LTD (SPDC)/PIPELINE

B. INCIDENT INFORMATION:

9. Details of incident

- a. Date Reported: 28th SEPTEMBER, 2021
b. Start date (time of investigation): 28th SEPTEMBER, 2021 / 1450HRS
c. Investigation End date: 28th SEPTEMBER 2021 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 checked="" 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"/> Straight cut (Similar to 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 oil theft) Line theft Accidental 3rd party damage
 Operational Others (including Mystery spills) _____

*This form is to be filled by (1) Spill (2) Smalling Fluid (Chemical) (3) Situation (4) Cause (5) Time (6) Non-leaking (7) Spill point removal

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Printed in 4 or 10 copies: White (Asset Owner), Pink (DPR), Green (NOSDRA), Yellow (State Ministry of Environment), Blue (Host Community)

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a. Spill from (underwater) (incidents 100m apart to be aggregated into one Joint Investigation Report)

b. Measuring unit

WGS 84

Nothing	Easting:
4.93226	6.96663

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?

[N]

14. Further response/repair initiated as at the time of JIV?

[N]

If yes to item 14, give brief description:

REPAIR BY SPLIT-T ONGOING

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

If yes to item 15 give brief description:

NOT APPLICABLE

16. Was JIV delayed? [Y]

Reasons: NOT APPLICABLE

- Delayed Community Access Approval
 Security Challenges
 Environmental due to terrain
 Others (specify): _____

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

17. Structures Properties

SN	Type of Structures	Description	Size	Number	Comments
	NONE SEEN WITHIN AREA OF IMPACT				

18. Crops Economic Trees

SN	Type of crops	Young	Medium	Matured	Quantity	Comments
	NONE SEEN WITHIN AREA OF IMPACT					

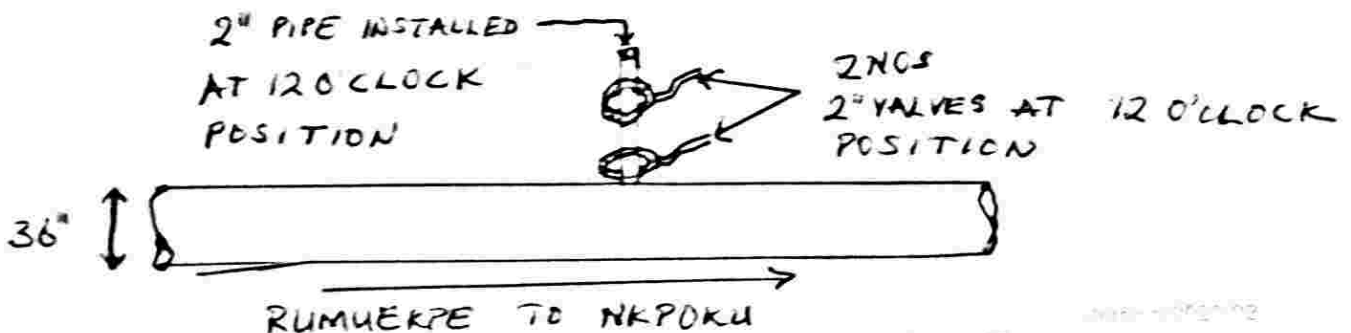
19. Fish Nets/Ponds

SN	Fish Nets/Ponds	Description	Quantity	Size	Comments
	NONE SEEN WITHIN AREA OF IMPACT				

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

SN	Others	Description	Quantity	Size	Comments
	NONE SEEN WITHIN AREA OF IMPACT				

E. GRAPHIC DESCRIPTION OF LEAK POINT (where detailed report of the leak point should be contained in the leak report, a rough sketch of the site should be added as an appendix) A SECTION OF 36" RUMUEKPE - NKPOKU PIPELINE AT ALUU SHOWING 2 NOS 2" BALL VALVE INSTALLED ON A 2" PIPE AT 12 O'CLOCK POSITION BY UNKNOWN PERSON(S)



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TABLE SHOWING SOME OF COORDINATES TAKEN DURING JIV FOR AREA CALLED:

2) Impacted area boundary Coordinates (from first area selected as impacted)

S.N.	Northing	Easting
1	4-93225	6-95528
2	4-93222	6-95533
3	4-93224	6-95553
4	4-93228	6-9556

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G. INCIDENT INFORMATION:

a. Impacted Area Details *

- Total calculated area of impact (Ha) 0.003 Ha
- Impact within SP12 R.O.W (Ha) YES
- Impact outside SP12 R.O.W (Ha) NO

* Round off to the second decimal places if area is ≥ 100 m² or to the 4 decimal places if area is ≤ 100 m² (e.g. 14.55, 0.0051, 0.0000)

b. Volume of oil recovered before completion of JIV ($V_{recovered}$):

Recovered oil $V_{recovered}$	NIL	Barrels
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Controlled recovery in situation from which it is no impact to environment:

NIL	Barrels
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c. Net Estimated Spilled Volume V_{net} (bbls)* 2.71 BARRELS

Estimated reported Volume** $V_{reported}$ (bbls) 3 BARRELS

*Notes:

- Volume estimation was done using an expert based tool (see attached for details on the calculations)
- Reported volume is 3 bbls

Please refer to volume estimation tool for details on volume estimation or cause of spill

NOT APPLICABLE

Calculation of the respective estimated volume is to be done on site or for assessments off site using the new spill volume estimation software on site. Conversion of m³ to bbls is 1 m³ = 6.29 bbls. **Rounded up, to nearest volume to nearest 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 = 15.8 bbls ----- Reported volume = 16 bbls
 Calculated volume = 0.35 bbls ----- Reported volume = 0.4 bbls
 Calculated volume = 0.02 bbls ----- Reported volume = 0.1 bbls

Wherever this calculation tool is not applicable please refer to procedure 10.1 (Oil Spills) of the JIV procedure to use appropriate steps for volume estimation. Also do 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 JII 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:

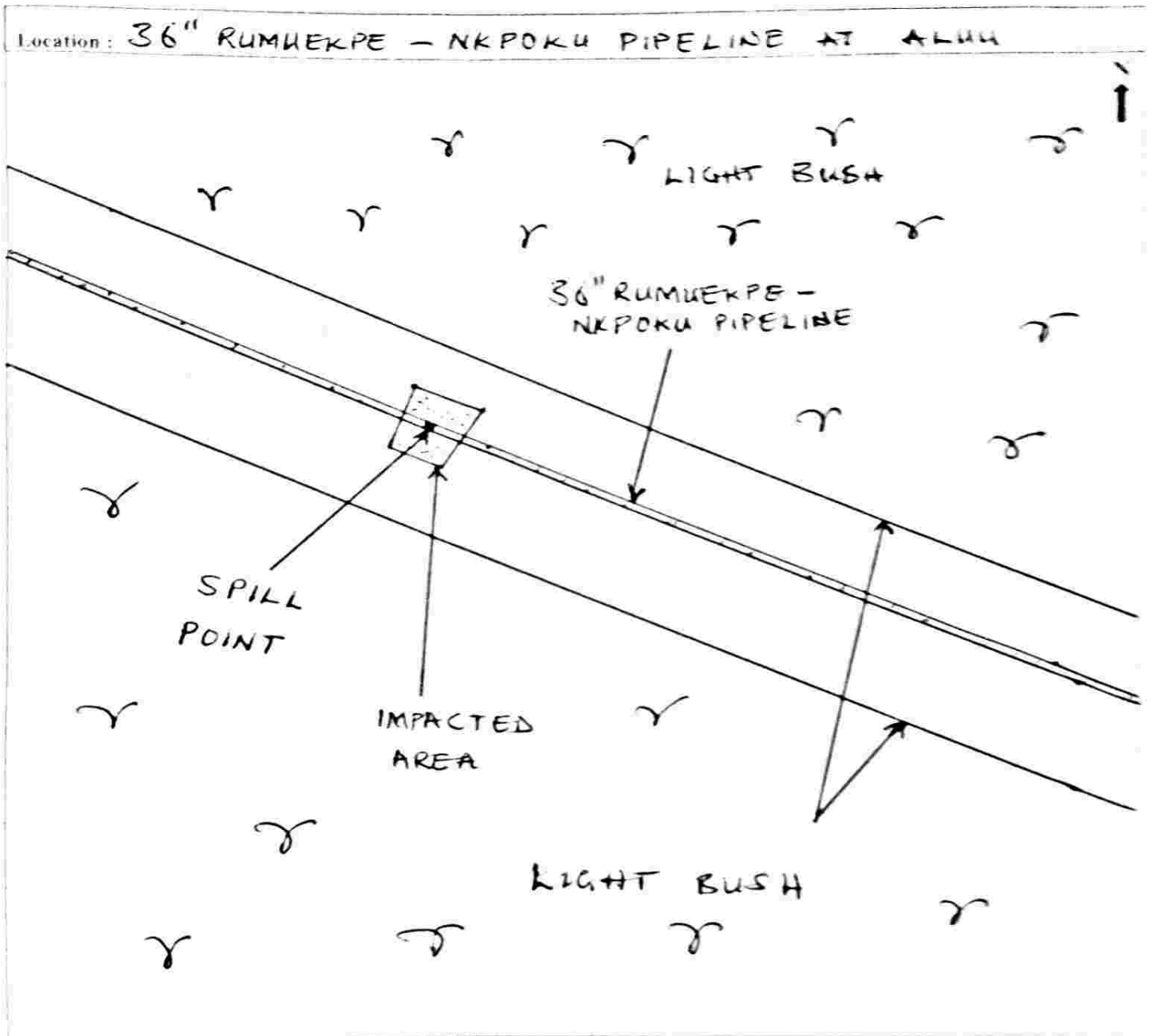
- Host Community:
- Department of Petroleum Resources [DPR]:
- National Oil Spill Detection and Response Agency [NOSDRA]:
- State Ministry of Environment [SME]:
- The Shell Petroleum Development Company [SPDC]:
- *Separate DPR form has been filled out with same findings*
- *Separate NOSDRA form has been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



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