JOINT INVESTIGATION REPORT

INCIDENT NO: 2858413 **JIV report S/N:** 0000764

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

A. GENERAL INFORMATION:

1. Fountain Incident Number: 2858413 2. Type of incident* OIL SPILL
3. Name of Location 18" ASSA-RUMUEKPE PIPELINE
4. Name of nearest community AWARA 5. State: IMO 6. LGA OHAJI-EGBEMA
7. Production Facility/Installation 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: 11TH FEBRUARY, 2021
   b. Start date/time of Investigation: 14TH FEBRUARY, 2021/1230HRS
   c. Investigation End date: 14TH FEBRUARY, 2021 Day(s) on site: ONE 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:

NOT APPLICABLE

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

☐ Smooth round-edge hole	☐ Rough-edge hole	☐ Hack saw cut
☐ Complete Rupture	☐ Inward dent,	☐ Well head tampering
☐ Failed Weld-on illegal hot tap valve	☐ Failed Clamp,	☐ Missing Pipeline/Flowline
☑ Crude oil theft (illegal bunkering) point,	☐ Saver-pit over flow	☐ Third party tampering with Clamp
☐ Third party tampering with valve setting	☐ Bulging Outward	☐ Third party tampering with flange,
☐ Flare System/Bund wall failure	☐ Cold vent	☐ Surge vessel overflow,
☐ Valve Failure	☐ Relief valve failure	☐ Accidental 3rd party equipment impact
☐ Tear (_____)		
☐ 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

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

h. Measuring unit

Northing:	Easting:
5·30134	6·78432

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	[80 ,m]
☐ Fish Farm/Pond	[,m]
☐ Fishing net	[,m]
☐ Others (specify) _____	[,m]

12. Containment measures put in place:

☐ Booms ☐ Trench ☐ Dyke ☐ Pit ☑ Natural depression ☐ 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 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
	NONE SEEN WITHIN AREA OF IMPACT				

18. Crops/Economic Trees

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
1	BAMBOO	—	—	✓ YES	MANY	IMPACTED
/	/	/	/	/	/	/

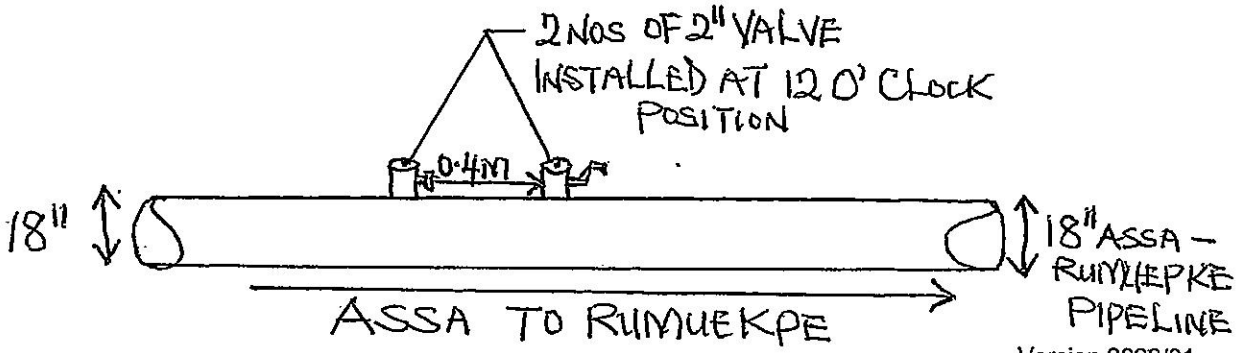
19. Fish/Nets/Ponds

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

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

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

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 18" ASSA – RUMUEKPE LINE AT AWARA SHOWING 2NOS OF 2" BALL VALVES INSTALLED AT 12 O'CLOCK POSITION BY UNKNOWN PERSON(S).



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F: TABLE SHOWING SOME OF COORDINATES TAKEN DURING JIV FOR AREA CALCULATION

21. Impacted area boundary Coordinates (*If more, Print and attach as Appendix*)

S/N	Northing	Easting
1	5·30171	6·78427
2	5·30138	6·78402
3	5·30119	6·7842
4	5·30001	6·78537
5	5·29752	6·78659
6	5·29537	6·78779
7	5·29322	6·78906
8	5·29322	6·78908
9	5·29343	6·78902
10	5·29428	6·78847
11	5·29607	6·78743
12	5·29802	6·78638
13	5·30006	6·78541
14	5·30112	6·78437
15	5·30163	6·78447
16	5·30171	6·78443
17	5·47367	6·75647

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G. INCIDENT INFORMATION:

a. Impacted Area Details *

- Total calculated area of impact (*Ha*) 0·72HA
- Impact within SPDC R.O.W YES
- Impact outside SPDC R.O.W YES

** Round off to 2 decimal places if area is ≥ 100 m² or to 4 decimal places if area is < 100 m² (e.g. 14.55, 0.0051, 0.0009)*
** Express in Hectares (Ha)*

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

Recovered oil V_{recJ}:	NIL	Barrels

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

NIL	Barrels

c. Net Estimated Spilled Volume V_{Est}(bbls)* = 11·54BARRELS

Estimated Reported Volume V_{rep}(bbls)= 12BARREL**

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 m³ to barrels is Volume (m3) 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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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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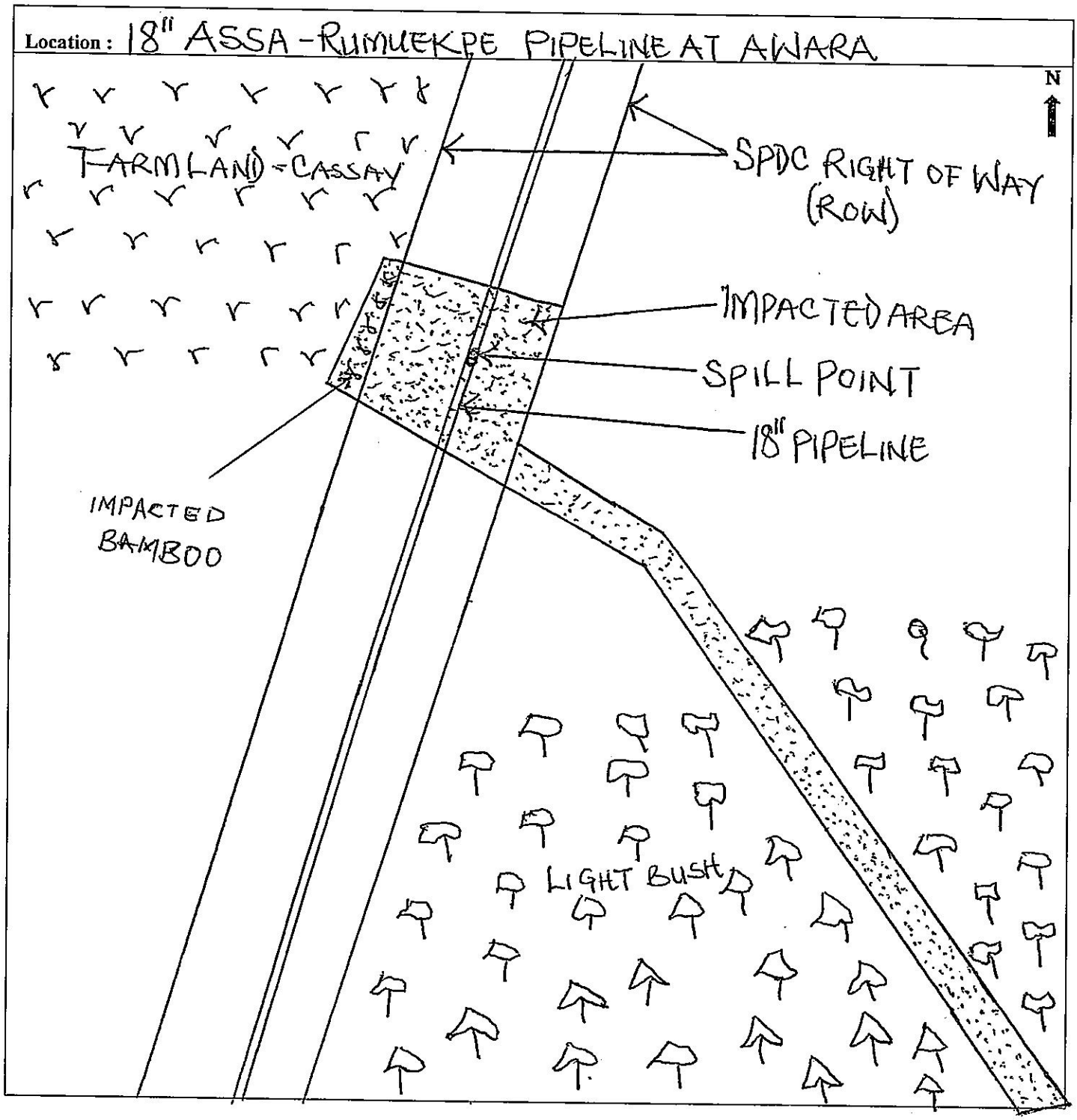
f. Appendix 1: Overview sketch of the site