

JOINT INVESTIGATION REPORT

INCIDENT NO: 2757408 JIV report S/N: 0594

(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: 2757408 2. Type of incident* OIL SPILL
3. Name of Location 14" OKORDIA - RUMUEKPE PIPELINE
4. Name of nearest community AKALA-OLU 5. State: RIVERS 6. LGA AHOADA - WEST
7. Production Facility/Installation OIL PIPELINE
8. Asset Owner/Hub TITE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED (SPDC)/PIPELINE

B. INCIDENT INFORMATION:

9. Details of incident
a. Date Reported: 13th OCTOBER, 2020
b. Start date/time of Investigation: 14th OCTOBER, 2020 / 1400HRS
c. Investigation End date: 14th OCTOBER, 2020 Day(s) on site: ONE (1) DAY
d. Description of spill point environment

- | | | |
|---|-------------------------------------|---|
| <input type="checkbox"/> Firm 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 | <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 checked="" 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

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

h. Measuring unit

WGS 84

Northing:	Easting:
LATITUDE	LONGITUDE
SP1 - 5.11134	6.49980
SP2 - 5.11183	6.49907
/	/

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 [NIL ,m]
 Drinking water source [NIL ,m]
 Surface water Borehole
 Built up Area [NIL ,m]
 Residential Area Commercial/Industrial Area
 Farmlands [IMPACTED]
 Fish Farm/Pond [NIL ,m]
 Fishing net [NIL ,m]
 Others (specify) _____ [NIL ,m]

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?

[N]

If yes to item 14, give brief description:

REPAIR AND RECOVERY ACTIVITIES 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]

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 WITHIN AREA OF IMPACT					

18. Crops/Economic Trees

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
1	CASSAVA	FEW	FEW	MANY	MANY	IMPACTED
2	PALM TREE	1NO	2NOS	5NOS	8NOS	IMPACTED

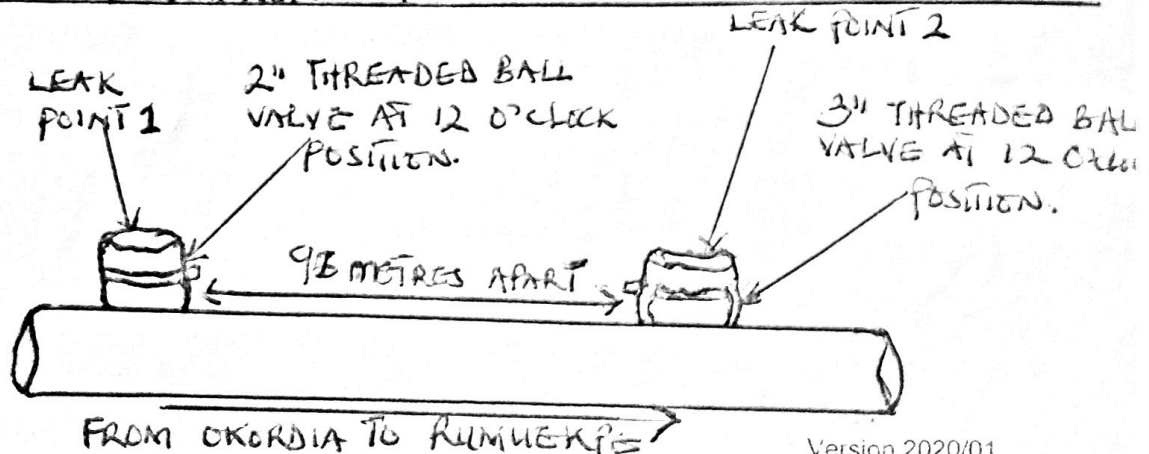
19. Fish/Nets/Ponds

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

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

S/N	Others	Description	Quantity/Size	Comments
NONE 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 14" OKORDIA - RUMUEKPE PIPELINE AT AKALA-OLU SHOWING A 2" THREADED BALL VALVE AND A 3" THREADED BALL VALVE OF 9.8 METRES APART AT 12 O'CLOCK POSITION DONE BY UNKNOWN PERSONS.



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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

~~APPENDED~~
APPENDED

FOR

COORDINATES

~~FIND~~
FIND

APPENDIX

LISTING.

14.10.2020



JIV ALONG 14" OKORDIA-RUMUEKPE TL @AKALA-OLU

INC.NO. 2020 2757408

PT ID	LAT Y	LONG X
SP1	5.11134	6.4998
SP2	5.11183	6.49907
3	5.112	6.4989
4	5.1121	6.49909
5	5.11215	6.49915
6	5.11212	6.49919
7	5.11209	6.49919
8	5.11197	6.49931
9	5.11194	6.49938
10	5.11158	6.49872
11	5.11146	6.49982
12	5.11172	6.49945
13	5.11124	6.50008
14	5.11113	6.49995
15	5.11129	6.49969
16	5.11137	6.49956
17	5.11127	6.49942
18	5.11145	6.4992
19	5.11157	6.49928
20	5.11166	6.4991
21	5.11159	6.49897
22	5.11153	6.49886
23	5.11168	6.49865
24	5.11178	6.49875
25	5.11175	6.49886
26	5.11182	6.49891
27	5.11187	6.49885
28	5.11187	6.49954
29	5.11194	6.49972
30	5.112	6.49969
31	5.11195	6.49949
32	5.1116	6.50007
33	5.11147	6.50019

14.10.2020

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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 $\geq 100 \text{ m}^2$ 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_{recJ}):

Recovered oil V_{recJ} :	<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)* = 66.99 BARRELS

Estimated Reported Volume** V_{rep} (bbls) = 67 BARRELS

*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:

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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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:

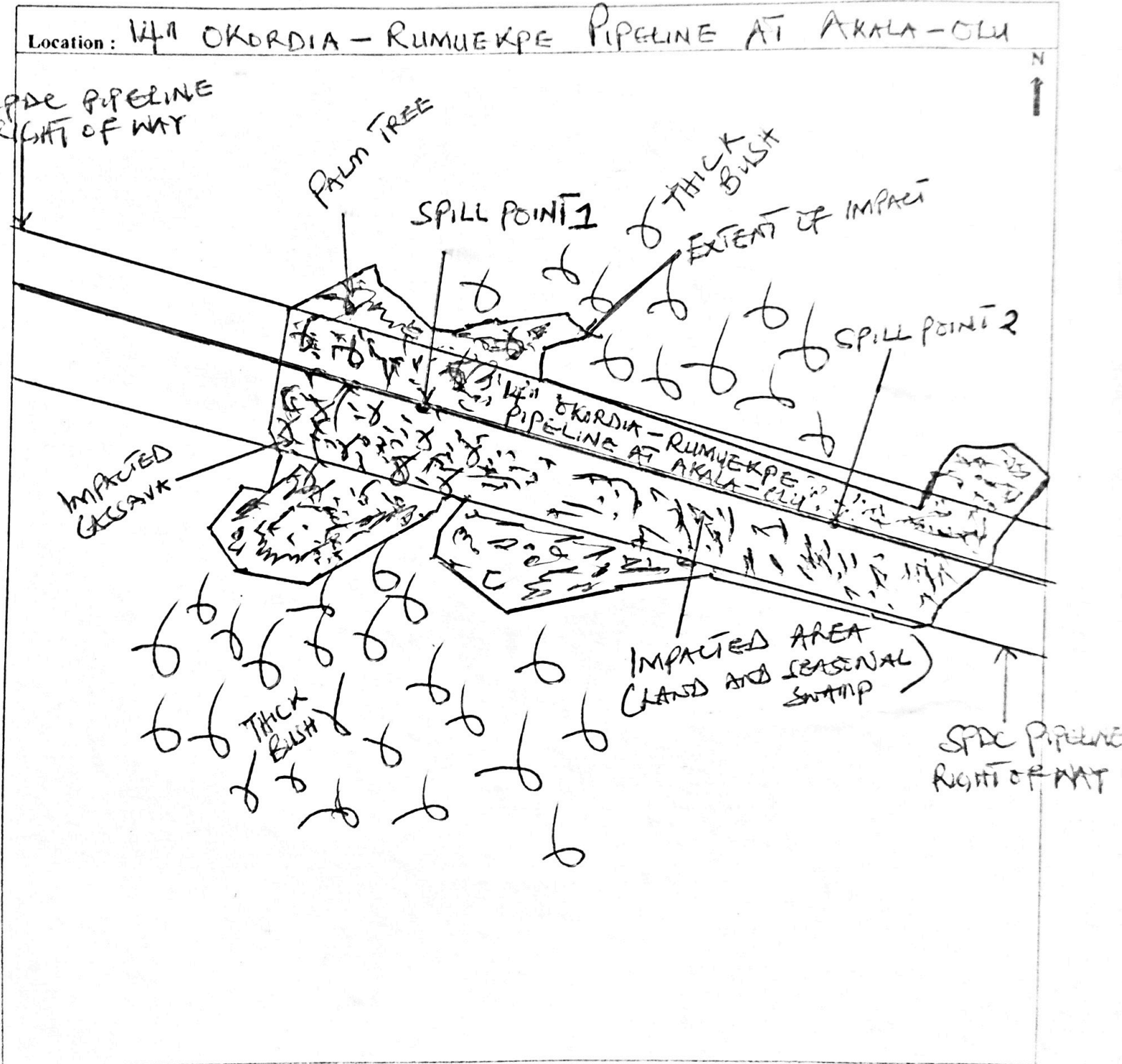
- Host Community:
- Department of Petroleum Resources [DPR]:
- National Oil Spill Detection and Response Agency [NOSDRA]:
- State Ministry of Environment [SME]:
- The Shell Petroleum Development Company [SPDC]:
- *Separate DPR form has been filled out with same findings*
- *Separate NOSDRA form has been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