

JOINT INVESTIGATION REPORT

INCIDENT NO: 2700706 JIV report S/N: 0585

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

A. GENERAL INFORMATION:

1. Fountain Incident Number: 2700706 2. Type of incident* OIL SPILL
3. Name of Location 14" OKORDIA - KUMBERPE PIPELINE
4. Name of nearest community EDBOHA 5. State: RIVERS 6. LGA ABUJA-EAST
7. Production Facility/Installation 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: 1ST AUGUST, 2020
b. Start date/time of Investigation: 1ST AUGUST, 2020 / 1500HRS
c. Investigation End date: 1ST AUGUST, 2020 Day(s) on site: ONE (1) 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 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 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

Northings: (WGS 84)	Easting: (WGS 84)
5.02982	6.61161
/	/
/	/

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 [2 ,m] 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): NOT APPLICABLE

☐ Delayed Community Access Approval

☐ Security Challenges

☐ Access constraint due to terrain

☐ Others (specify) _____

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>1</u>	<u>CASSAVA</u>	<u>Few</u>	<u>Few</u>	<u>Few</u>	<u>Few</u>	<u>IMPACTED</u>

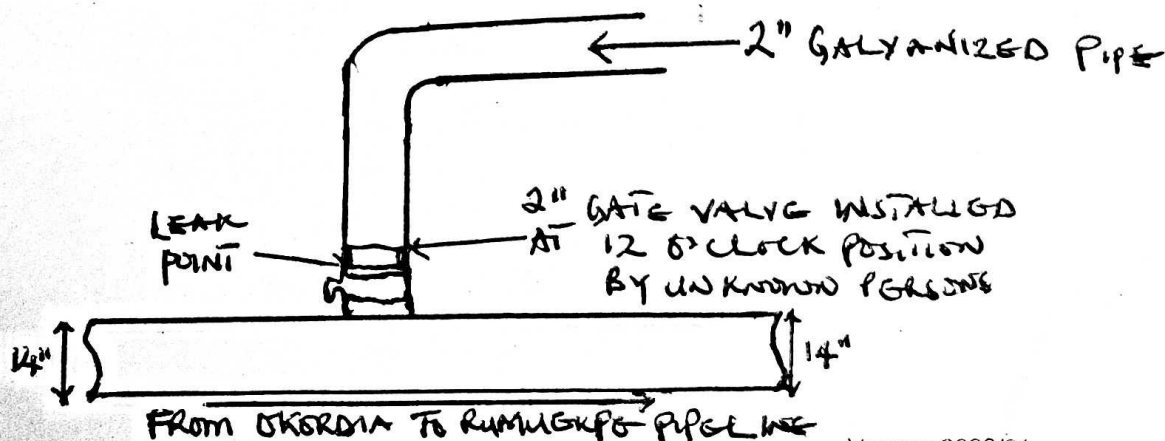
19. Fish/Nets/Ponds

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

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

S/N	Others	Description	Quantity/Size	Comments
	<u>NONE WITHIN AREA OF IMPACT</u>			

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" OKORDA-RUMUKPO PIPELINE AT EDEOMA SHOWING A 2" GATE VALVE AND A 2" GALVANIZED PIPE INSTALLED AT 12 O'CLOCK POSITION 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
1	5.02982	6.61161
2	5.03008	6.61119
3	5.02975	6.61188
4	5.02967	6.61180
5	5.02970	6.61168
6	5.02982	6.61161
6	5.02999	6.61113

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G. INCIDENT INFORMATION:

a. Impacted Area Details *

- Total calculated area of impact (Ha) 0.110 HA
- 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_{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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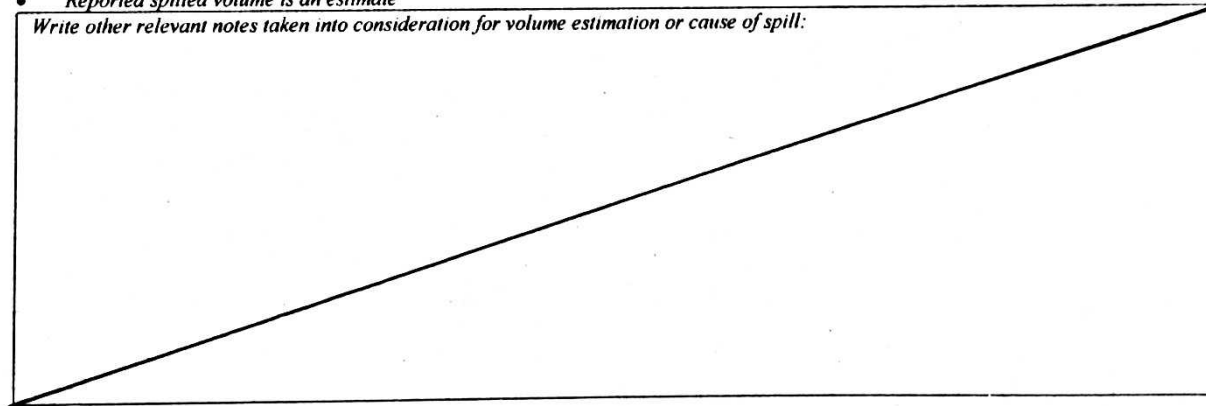
c. Net Estimated Spilled Volume $V_{\text{Est}}(\text{bbls})^* = 43.37 \text{ BARRELS}$

Estimated Reported Volume** $V_{\text{rep}}(\text{bbls}) = 44 \text{ BARRELS}$

*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 $\text{Volume (m}^3) \times 6.29$; **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 <input type="checkbox"/> |
| ii. Investigation of the incident site showed that there is residual impact on site requiring further works <input checked="" type="checkbox"/> |

e. Representatives

This report was filled, agreed and signed by the following joint investigation team representatives:

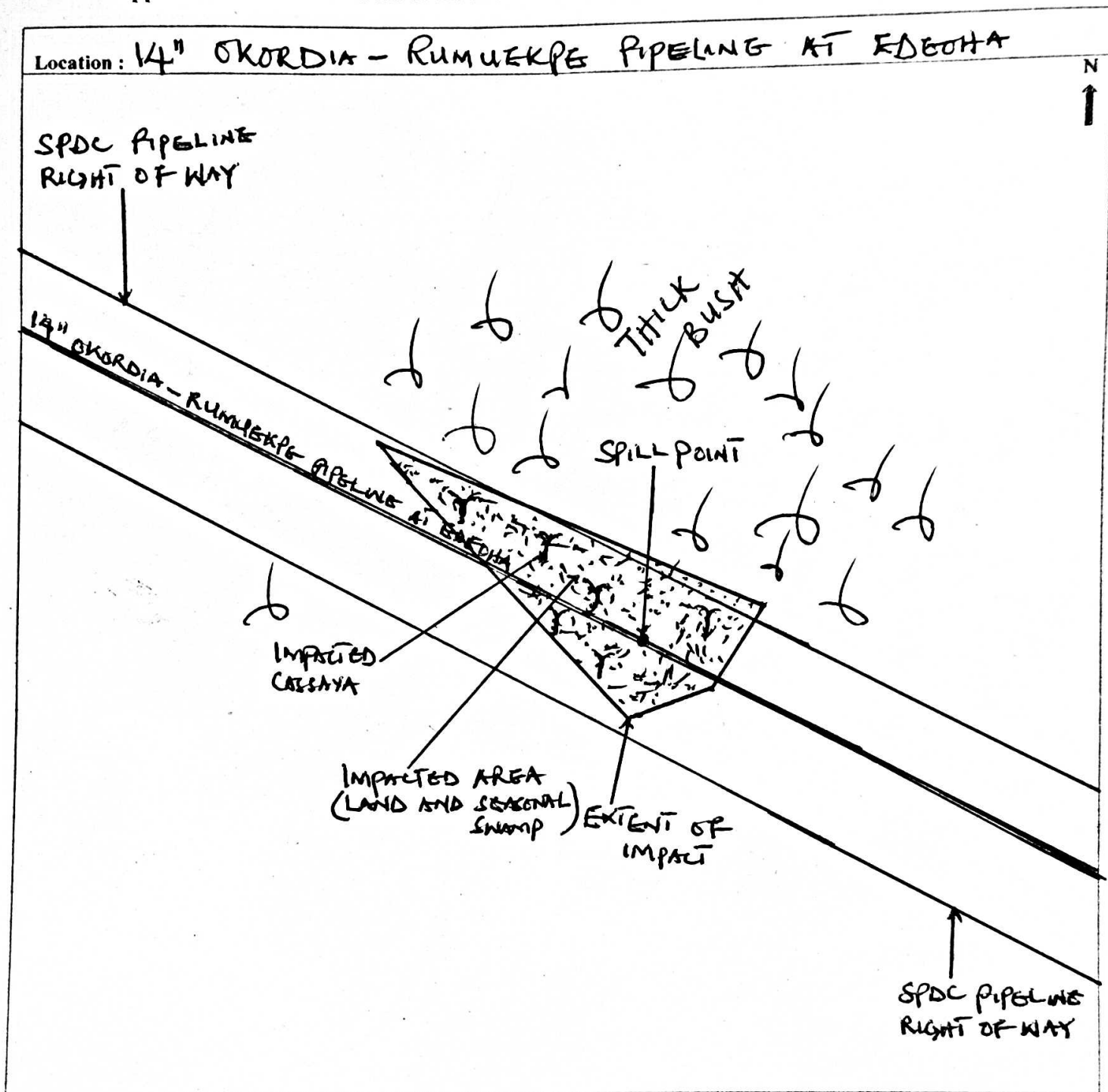
- Host Community: ☒
- Department of Petroleum Resources [DPR]: ☐
- National Oil Spill Detection and Response Agency [NOSDRA]: ☒
- State Ministry of Environment [SME]: ☒
- The Shell Petroleum Development Company [SPDC]: ☒
- Separate DPR form has been filled out with same findings ☐
- Separate NOSDRA form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