

JOINT INVESTIGATION REPORT

INCIDENT NO: 3029689 JIV report S/N: 0000964

(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: 3029689 2. Type of incident* OIL SPILL
3. Name of Location 28" BONNY - BONNY TRANS NIGER PIPELINE
4. Name of nearest community AKRAMA 5. State: RIVERS 6. LGA ANBONI
7. Production Facility/Installation OIL PIPELINE
8. Asset Owner/Hub THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED PIPELINE

B. INCIDENT INFORMATION:

9. Details of incident

- a. Date Reported: 17th SEPTEMBER, 2021
b. Start date/time of Investigation: 18th SEPTEMBER, 2021 TO 19th SEPTEMBER, 2021 AND
c. Investigation End date: 24th SEPTEMBER, 2021 Day(s) on site: THREE (3) DAYS
d. Description of spill point environment

- | | | |
|---|--|--|
| <input type="checkbox"/> Firm soil | <input type="checkbox"/> Loose soil | <input type="checkbox"/> Recently excavated area |
| <input type="checkbox"/> Under water | <input checked="" 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: THE JOINT INVESTIGATION TEAM OBSERVED BETWEEN 9 O'CLOCK TO 3 O'CLOCK POSITION OF THE PIPE, THE CONCRETE AND PE COATING HAVE WEAR OFF AT THE AFFECTED SECTION OF THE PIPE.

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

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Smooth round-edge hole | <input checked="" 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 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 ≤100m apart to be aggregated into one Joint Investigation Report)

h. Measuring unit

(WGS 84)

Northing:	Easting:
4.52806	7.24205

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: _____

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:

RECOVERY OF SPILL CRUDE OIL AND REPAIR BY CLAMPING
WORK COMMENCE AND IS ON GOING.

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

If yes to item 15 give brief description:

NOT APPLICABLE

16. Was JIV delayed? [Y] [N] [N]

Reason(s):

- 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
NONE WITHIN AREA OF IMPACT					

18. Crops/Economic Trees

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
NONE WITHIN AREA OF IMPACT						

19. Fish/Nets/Ponds

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

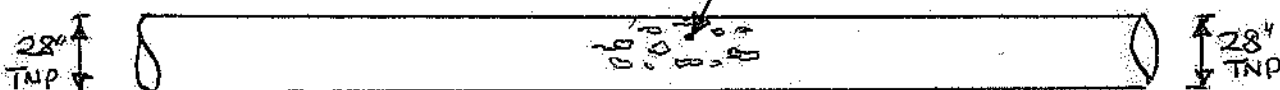
20. Others (Specify) e.g. Animal Traps

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)

SECTIONAL VIEW OF 28" BOMU - BONNY TRANS NIGER PIPELINE AT AGBA-OKWAN ASARAMA SHOWING! ABOUT 2-3mm PIN HOLE AT 11 O' CLOCK POSITION.

LEAK DUE TO (2-3mm) PIN HOLE FROM A PITTING SECTION AT 11 O' CLOCK POSITION.



PNT_ISD	LAT	LONG
	1 4.52726	7.24159
	2 4.52751	7.24175
	3 4.5277	7.24184
	4 4.52808	7.242
	5 4.5281	7.24201
	6 4.52823	7.24208
	7 4.52831	7.24209
	8 4.52843	7.24214
	9 4.52858	7.24219
	10 4.52871	7.24228
	11 4.52893	7.24233
	12 4.52938	7.2425
	13 4.53029	7.24279
	14 4.53028	7.24284
	15 4.52935	7.24257
	16 4.52892	7.24239
	17 4.52899	7.24247
	18 4.52908	7.24262
	19 4.52922	7.24288
	20 4.52948	7.24314
	21 4.52966	7.24331
	22 4.52983	7.24337
	23 4.5298	7.24344
	24 4.52952	7.24331
	25 4.5293	7.24309
	26 4.52909	7.24281
	27 4.52888	7.24247
	28 4.52851	7.24227
	29 4.52808	7.2421
	30 4.52805	7.2421
	31 4.52764	7.24195
	32 4.52719	7.24162
SP	4.52806	7.24205

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G. INCIDENT INFORMATION:

a. Impacted Area Details *

- Total calculated area of impact (Ha) 0.48 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_{recd}):

Recovered oil V_{recd}	<u>31</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 $V_{\text{est}}(\text{bbbls})^* =$

49.52 Barrels

Estimated Reported Volume** $V_{\text{rep}}(\text{bbbls}) =$

50 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:

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) $\times 6.29$; **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

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*

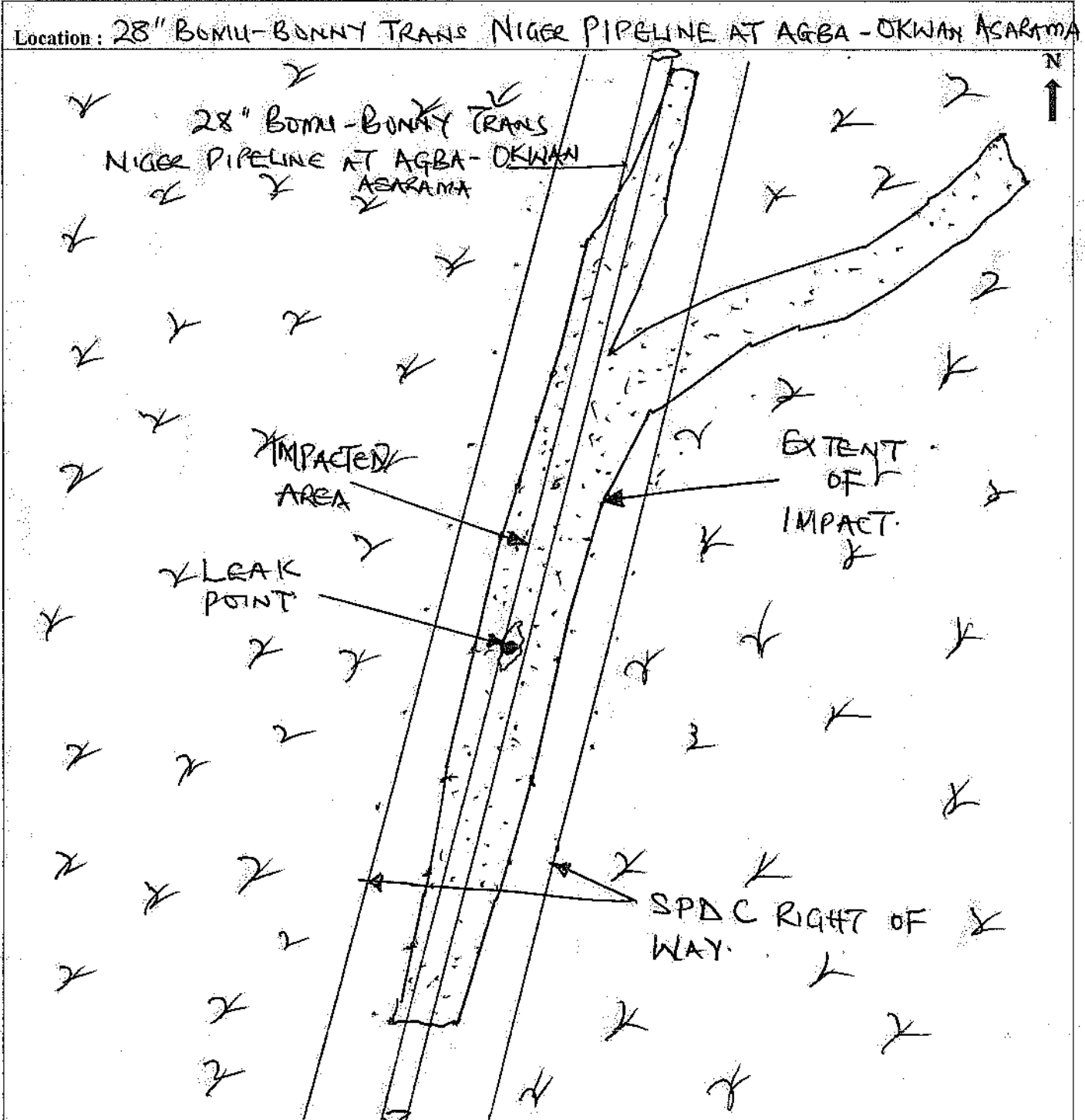
Tick as applicable.

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f. Appendix I: Overview sketch of the site



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