

JOINT INVESTIGATION REPORT

INCIDENT NO: 3074251 JIV report S/N: 0001021

(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: 3074251 2. Type of incident* OIL SPILL
3. Name of Location FORCADOS TERMINAL SKIMMING PIT
4. Name of nearest community OGULAGHA 5. State: DELTA 6. LGA BURUTU
7. Production Facility/Installation SKIMMING PIT
8. Asset Owner/Hub THE SHELL PETROLEUM DEVELOPMENT COMPANY NIGERIA LIMITED / SWAMP WEST

B. INCIDENT INFORMATION:

9. Details of incident

- a. Date Reported: 19TH DECEMBER, 2021
b. Start date/time of Investigation: 23RD DECEMBER, 2021 AT 2:48 PM
c. Investigation End date: 23RD DECEMBER, 2021 Day(s) on site: ONE (1) DAY
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 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:

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 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 checked="" type="checkbox"/> Others (specify) <u>FAILED SKIMMING PIT</u> | | |

f. Incident caused by:

- Third party interference (Sabotage ; crude theft ; Line theft ; Accidental 3rd party damage
 Operational Others (including Mystery spills) EQUIPMENT FAILURE

*This can be: (a) Oil Spill (b) Drilling fluid/Chemical (c) Siltation (d) Water Leak (e) Fire (f) Non-leaking theft point removal

Version 2020/01

Distribution of copies: White (Asset Owner); Pink (DPR); Green (NOSDRA); Yellow (State Ministry of Environment); Blue (Host Community)

JOINT INVESTIGATION REPORT

001021

INCIDENT NO: 3074251 JIV report S/N:

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

h. Measuring unit

WGS (84)

Northing: <u>LATITUDE</u>	Easting: <u>LONGITUDE</u>
<u>5.33752</u>	<u>5.35042</u>

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

- | | | | |
|---|---|-----|----------------------------------|
| <input type="checkbox"/> Government reserved and designated protected area | [| ,m] | } NONE SEEN WITHIN THE VICINITY. |
| <input type="checkbox"/> Drinking water source | [| ,m] | |
| <input type="checkbox"/> Surface water <input type="checkbox"/> Borehole | | | |
| <input type="checkbox"/> Built up Area | [| ,m] | |
| <input type="checkbox"/> Residential Area <input type="checkbox"/> Commercial/Industrial Area | | | |
| <input type="checkbox"/> Farmlands | [| ,m] | |
| <input type="checkbox"/> Fish Farm/Pond | [| ,m] | |
| <input type="checkbox"/> Fishing net | [| ,m] | |
| <input type="checkbox"/> Others (specify) _____ | [| ,m] | |

12. Containment measures put in place:

- Booms
 Trench
 Dyke
 Pit
 Natural depression
 None

Others: _____

13. Any pictures or video coverage? [X] [N]

14. Further response/repair initiated as at the time of JIV? [Y] [N]

If yes to item 14, give brief description:

NOT APPLICABLE

JOINT INVESTIGATION REPORT

INCIDENT NO: 3074251 JIV report S/N: 0001021

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

If yes to item 15 give brief description:

NOT APPLICABLE

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

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>NONE WITHIN AREA OF IMPACT</u>					

19. Fish/Nets/Ponds

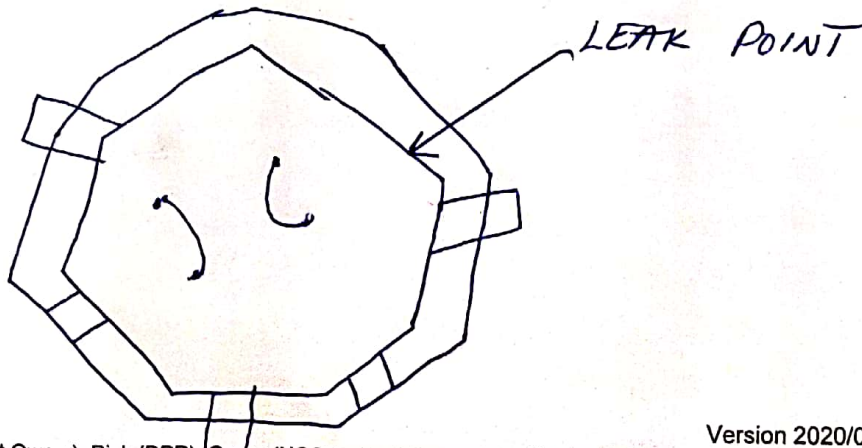
S/N	Fish/Nets/Ponds	Description	Quantity/Size	Comments
	<u>NONE WITHIN AREA OF IMPACT</u>			

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 FORCADOS TERMINAL SKIMMING PIT AT FORCADOS SHOWING FAILED SKIMMING PIT.



JOINT INVESTIGATION REPORT

INCIDENT NO: 3074251 JIV report S/N: 0001021

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

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

WGS (84)

S/N	Northing	Easting
	5. 33718	5. 35015
	5. 33719	5. 35014
	5. 33739	5. 35014
	5. 33739	5. 35016
	5. 33736	5. 35043
	5. 33743	5. 35044
	5. 33744	5. 35036
	5. 3375	5. 35036
	5. 33749	5. 35048
	5. 33761	5. 35049
	5. 33761	5. 35039
	5. 33769	5. 35039
	5. 33769	5. 35052
	5. 3378	5. 35052
	5. 33784	5. 35023
	5. 3379	5. 35015
	5. 33765	5. 35008
	5. 33763	5. 35012
	5. 33774	5. 35021
	5. 33758	5. 35013
	5. 33657	5. 35005
	5. 33679	5. 34865
	5. 33676	5. 34864

SEE ATTACHED

APPENDIX A

FORCADOS TERMINAL SKIMMING PIT SPILL AT FORCADOS

INCIDENT NUMBER:3074251

WGS 84

POINT	EASTINGS(m)	NORTHING(m)
sp	5.35042	5.33752
1	5.35015	5.33718
2	5.35014	5.33719
3	5.35014	5.33739
4	5.35016	5.33739
5	5.35043	5.33736
6	5.35044	5.33743
7	5.35036	5.33744
8	5.35036	5.3375
9	5.35048	5.33749
10	5.35049	5.33761
11	5.35039	5.33761
12	5.35039	5.33769
13	5.35052	5.33769
14	5.35052	5.3378
15	5.35023	5.33784
16	5.35015	5.3379
17	5.35008	5.33765
18	5.35012	5.33763
19	5.35021	5.33774
20	5.35013	5.33758
21	5.35005	5.33657
22	5.34865	5.33679
23	5.34864	5.33676
24	5.34868	5.33674
25	5.3484	5.33498
26	5.34783	5.33507
27	5.34757	5.33513
28	5.34757	5.33504
29	5.34781	5.33505
30	5.34865	5.33491
31	5.34865	5.33493
32	5.34843	5.33498
33	5.3487	5.33674
34	5.35009	5.33655
35	5.35008	5.33653
36	5.35009	5.33653
37	5.3501	5.33654
38	5.35025	5.33652
39	5.35025	5.33654
40	5.35008	5.33657
41	5.35014	5.33741

42 5.35031 5.33744
43 5.35031 5.33765
44 5.35019 5.33766
45 5.35015 5.33757
46 5.35023 5.33773
47 5.3502 5.33768
48 5.35031 5.33767

JOINT INVESTIGATION REPORT

INCIDENT NO: 3074251 JIV report S/N: 0001021

G. INCIDENT INFORMATION:

a. Impacted Area Details *

- Total calculated area of impact (Ha) 0.32 Ha
- Impact within SPDC R.O.W YES
- Impact outside SPDC R.O.W NO

* 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>2 BARREL</u>	Barrels
----------------------------------	-----------------	---------

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

	Barrels
--	---------

c. Net Estimated Spilled Volume $V_{\text{Est}}(\text{bbls})^* =$

5.82 BARREL

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

6 BARREL

*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.

Version 2020/01

Distribution of copies : White (Asset Owner); Pink (DPR); Green (NOSDRA); Yellow (State Ministry of Environment); Blue (Host Community)

JOINT INVESTIGATION REPORT

INCIDENT NO: 3074251 JIV report S/N: 001021

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

<p>This report was <u>filled</u>, <u>agreed</u> and <u>signed</u> by the following joint investigation team representatives:</p> <ul style="list-style-type: none">• Host Community: <input checked="" type="checkbox"/>• Department of Petroleum Resources [DPR]: <input checked="" type="checkbox"/>• National Oil Spill Detection and Response Agency [NOSDRA]: <input checked="" type="checkbox"/>• State Ministry of Environment [SME]: <input checked="" type="checkbox"/>• The Shell Petroleum Development Company [SPDC]: <input checked="" type="checkbox"/>• <i>Separate DPR form has been filled out with same findings</i> <input checked="" type="checkbox"/>• <i>Separate NOSDRA form has been filled out with same findings</i> <input checked="" type="checkbox"/>• <i>Separate SME form has been filled out with same findings</i> <input checked="" type="checkbox"/> <p style="text-align: right;"><i>Tick as applicable</i></p>
--

Version 2020/01

Distribution of copies: White (Asset Owner); Pink (DPR); Green (NOSDRA); Yellow (State Ministry of Environment);
Blue (Host Community)

Page 6 of 8

JOINT INVESTIGATION REPORT

INCIDENT NO: 3074251 JIV report S/N: 0001021

f. Appendix 1: Overview sketch of the site

