

JOINT INVESTIGATION REPORT

INCIDENT NO: 2829256 JIV report S/N: 0748

(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: 2829256 2. Type of incident* OIL SPILL
3. Name of Location 18" ASSA - RUMUKEPE PIPELINE
4. Name of nearest community ELELE ALIMINI 5. State: RIVERS 6. LGA EMOHUA
7. Production Facility/Installation CRUDE 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: 9TH JANUARY 2021
b. Start date/time of Investigation: 10TH JANUARY 2021 / 11:40 HRS
c. Investigation End date: 10TH JANUARY 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);

- | | | |
|--|---|--|
| <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

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

Version 2020/01

JOINT INVESTIGATION REPORT

INCIDENT NO: 2829256 JIV report S/N: 0748

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

h. Measuring unit NGS 84

Northings:	Easting:
<u>5.05520</u>	<u>6.70306</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

- ☐ Government reserved and designated protected area
- ☐ Drinking water source
 - ☐ Surface water ☐ Borehole
- ☐ Built up Area
 - ☐ Residential Area ☐ Commercial/Industrial Area
- ☐ Farmlands
- ☐ Fish Farm/Pond
- ☐ Fishing net
- ☒ Others (specify) PALM TREE AND PLANTAIN

[,m] } NONE SEEN
 [,m] } WITHIN VICINITY.
 [,m] }
 [,m] }
 [,m] }
 [,m] } IMPACTED

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 BY CLAMPING COMPLETED
RECOVERY ACTIVITIES ONGOING.

JOINT INVESTIGATION REPORT

INCIDENT NO: 2829256 JIV report S/N: 0748

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):

☐ 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
<u>NONE WITHIN AREA OF IMPACT</u>					

18. Crops/Economic Trees

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
1	<u>PALM TREE</u>	<u>—</u>	<u>—</u>	<u>✓</u>	<u>SIX</u>	<u>IMPACTED</u>
2	<u>PLANTAIN</u>	<u>—</u>	<u>✓</u>	<u>—</u>	<u>TWO</u>	<u>BY SPILL</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

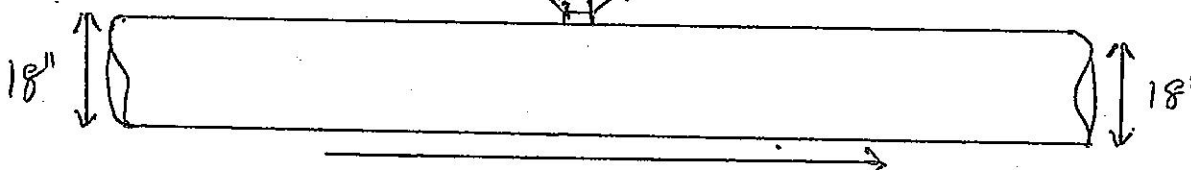
S/N	Others	Description	Quantity/Size	Comments
<u>NONE WITHIN AREA OF IMPACT</u>				

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)

SECTION OF 18" ASSA - RUMUEKPE PIPELINE AT ELELE ALIMINI
SHOWING CRUDE OIL THEFT POINT INSTALLED AT 12 O'CLOCK
POSITION BY UNKNOWN PERSONS.

LEAK POINT

2" BALL VALVE



FROM ASSA TO RUMUEKPE

JOINT INVESTIGATION REPORT

INCIDENT NO: 2829256 JIV report S/N: 0748

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

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

[illegible]

2829256

JIV along 18" Assa to Rymuekpe Pipeline at Elele Alimini

PNT_ISD	LAT	LONG	PNT_ISD	LAT	LONG
1	5.05613	6.70314	28	5.05467	6.70314
2	5.05609	6.70314	29	5.05464	6.7031
3	5.05606	6.70313	30	5.05464	6.70307
4	5.05594	6.70309	31	5.05454	6.70305
5	5.05588	6.70311	32	5.05452	6.70304
6	5.05592	6.70315	33	5.05452	6.70303
7	5.05594	6.7032	34	5.05463	6.70305
8	5.05591	6.70321	35	5.0548	6.70304
9	5.05582	6.70324	36	5.05481	6.70302
10	5.05576	6.70321	37	5.05494	6.70303
11	5.05569	6.70319	38	5.05501	6.70304
12	5.05566	6.70321	39	5.05507	6.703
13	5.05559	6.70321	40	5.05515	6.70298
14	5.05555	6.7032	41	5.0553	6.70298
15	5.0555	6.70321	42	5.05544	6.70305
16	5.05542	6.7032	43	5.05552	6.70303
17	5.05535	6.70319	44	5.05561	6.70299
18	5.05528	6.70319	45	5.0557	6.703
19	5.05524	6.70317	46	5.05586	6.70302
20	5.05517	6.70318	47	5.05588	6.70296
21	5.05511	6.7032	48	5.05593	6.70296
22	5.05501	6.70319	49	5.05591	6.70301
23	5.05492	6.70318	50	5.05592	6.70305
24	5.05488	6.70315	51	5.05598	6.70309
25	5.05486	6.70316	52	5.05608	6.7031
26	5.05478	6.70316	53	5.05612	6.70311
27	5.05474	6.70317	SP	5.0552	6.70306

Handwritten signature

JOINT INVESTIGATION REPORT

INCIDENT NO: 2829256 JIV report S/N: 0748

G. INCIDENT INFORMATION:

a. Impacted Area Details *

- Total calculated area of impact (Ha) 0.29 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>63</u>	Barrels
----------------------------------	-----------	---------

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

<u>NIL</u>	Barrels
------------	---------

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

148.87 BARRELS

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

149 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 $\text{Volume (m}^3) \times 6.29$; **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: 2829256 JIV report S/N: 0748

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

JOINT INVESTIGATION REPORT

INCIDENT NO: 2829256 JIV report S/N: 748

f. Appendix 1: Overview sketch of the site

