

JOINT INVESTIGATION REPORT

INCIDENT NO: 2233292 JIV report S/N:0181

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

A. GENERAL INFORMATION:

1. Spill incident Number: 2233292 2. Type of incident* OIL SPILL

3. Name of Location 18° ASSA - RUMUEKPE PIPELINE

4. Name of nearest community AKWARA (OCHIA) 5. State: IMO 6. LGA ORHOMI/EGBESMA

7. Type of Production facility/Installation OIL PIPELINE

8. Asset owner/District SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED (SPDC) / PIPELINE

B. INCIDENT INFORMATION:

9. Details of incident

a. Date of incident: 23RD DECEMBER 2018

b. Start date/time of investigation: 26TH DECEMBER 2018 / 12:00LT

c. Investigation End date: 26TH DECEMBER, 2018 Actual investigation duration, days: ONE (1) 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

Additional observations around the spill point:

THE JOINT INVESTIGATION TEAM OBSERVED EVIDENCE OF
SANDBAGS USED TO CONCEAL THE THEFT POINT.

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

Drilled hole

Hack saw cut

Tear _____

Complete Rupture

Inward dent

Well head tampering

Failed Weld-on illegal hot tap valve

Failed Clamp

Missing Pipeline/Flowline

Crude oil theft (illegal bunkering) point

Saver-pit over flow

Third party tampering with Clamp

Third party tampering with valve setting

Bulging Outward

Third party tampering with flange

Flare System/Bund wall failure

Cold vent

Surge vessel overflow

Valve Failure

Relief valve failure

Accidental 3rd party equipment impact

Corrosion

Others(specify) _____

f. Incident caused by:

Third party interference (Sabotage ; crude theft ; Line theft ; Accidental 3rd party damage)

Operational

Mystery spills

Others(specify) _____

*This can be: a) Oil Spill b) Drilling fluid/Chemical c) Siltation d) construction e) Encroachment f) Fire.

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g. Spill point coordinates

(THEFT POINT)

WGS 84

Measuring unit

| Northing: | Easting: |
|------------------|------------------|
| <u>5 349 330</u> | <u>6 795 463</u> |
| | |
| | |
| | |

C. RISK ASSESSMENT

10. Type of environment:

Land Swamp Water Seasonal swamp Shoreline/Waterfront

i. Type of environment to which oil has spread:

Land Swamp Water River (identify) _____

ii. Weather condition

Rain Sunny Dry Wet Windy Hot cool

11. Distance from the nearest sensitive habitat

- Government reserved and designated protected area
- Drinking water source
- Built up area
- Farmlands
- Fish Farm/Pond
- Fishing net
- Others (specify).

[m]
[m]
[m]
[m]
[m]
[m]
[m]
[m] NONE SEEN
WITHIN
VICINITY

12. Containment measures put in place;

Booms Trench Dyke Natural depression Pit 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:

RECOVERY AND REPAIR ACTIVITIES ARE ONGOING

15. Was there any disruption to the investigation?

[Y]

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If yes to item 15 give brief description:

NOT APPLICABLE

D. TYPE/NUMBERS OF PROPERTIES, IF ANY, FOUND WITHIN THE AREA OF SPREAD OF OIL

16. Structures / Properties

| S/N | Type of Structures | Description | Size | Number | Comments |
|-----|--------------------|-------------|------|--------|-----------------------------------|
| | | | | | <u>NONE WITHIN AREA OF IMPACT</u> |

17. Crops/Economic Trees

| S/N | Type of crops | Young | Medium | Matured | Quantity | Comments |
|-----|---------------|-------|--------|---------|----------|-----------------------------------|
| | | | | | | <u>NONE WITHIN AREA OF IMPACT</u> |

18. Fishing Nets/Fish Ponds

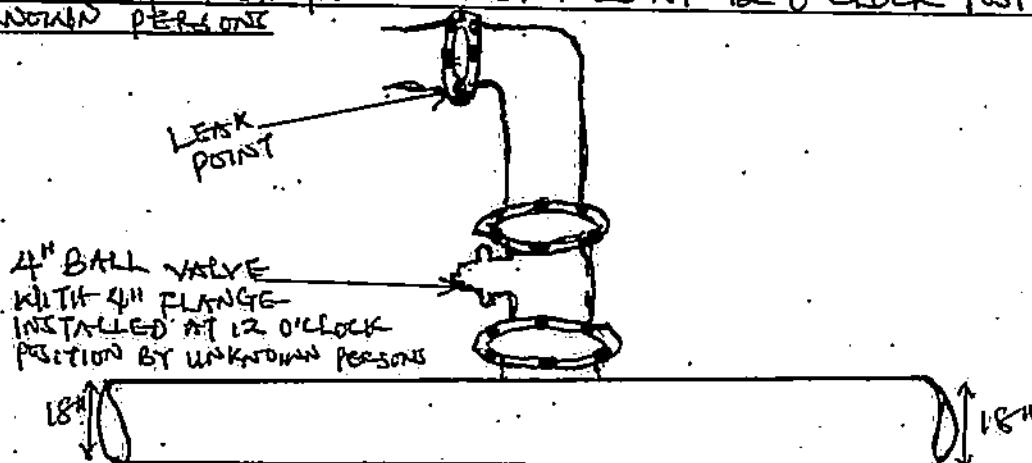
| S/N | Nets/Ponds | Description | Quantity/Size | Comments |
|-----|------------|-------------|---------------|-----------------------------------|
| | | | | <u>NONE WITHIN AREA OF IMPACT</u> |

19. Others (Specify) i.e. Animal Traps

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

E. GRAPHIC DESCRIPTION OF LEAK POINT (*while detailed report of the leak point should be contained in the leak report, overview sketch of the site should be added as an appendix I*)

ASSA - RUMUKEPE PIPELINE AT AKARRA SHOWING A 4" BALL VALVE WITH 4" FLANGE ALL INSTALLED AT 12 O'CLOCK POSITION BY UNKNOWN PERSONS



FROM ASSA TO RUMUKEPE PIPELINE

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

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

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G. INCIDENT INFORMATION:

a. Impacted Area Details

- Total calculated area of impact 0.02 ha
- Impact within R.O.W YB
- Impact outside R.O.W ND

b. Volume of oil recovered before completion of JIV (V_{rec}):

| | | |
|---------------------------|----------|---------|
| Recovered oil V_{rec} : | <u>5</u> | Barrels |
|---------------------------|----------|---------|

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

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

c. Net Estimated Spilled Volume $V_{est}(bbls) \approx 11.36$ 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 estimating the spilled volume in the box below:

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 m³ to barrels is Volume (m³) 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 volume 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]:
- Asset Owner:
- Signatories agree with reported findings:
- Separate DPR form has been filled out with same findings

Tick as applicable

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f. Appendix 1: Overview sketch of the site

