

JOINT INVESTIGATION REPORT

INCIDENT NO: 2679256 JIV report S/N:
0641

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

A. GENERAL INFORMATION:

1. Fountain Incident Number: 2679256
2. Type of incident* OIL SPILL
3. Name of Location 20" KOLOCREEK - RUMNEKPE PIPELINE
4. Name of nearest community OWEREWERE
5. State Rivers
6. LGA OBIA - ONSAL
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: 1ST JULY, 2020 4:42PM
 - b. Start date/time of investigation: 5TH JULY 2020 16:25PM
 - c. Investigation End date: 5TH JULY 2020 Day(s) on site: ONE 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"/> Leaked down | <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 Bungs |
| <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 (<u> </u>) | | |
| <input type="checkbox"/> Others (specify) _____ | | |

f. Incident caused by:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Third party interference (Sabotage <input type="checkbox"/> crude theft <input checked="" type="checkbox"/> Line theft <input type="checkbox"/> Accidental 3 rd party damage <input type="checkbox"/> | |
| <input type="checkbox"/> Operational | <input type="checkbox"/> Others (including Mystery spills) _____ |

*This can be 'Oil Oil Spill (or Drilling fluid/Chemical) to Situation at Water Level, No Fire' (if Non-leaking) and 'Crude oil/Chemical to Environment' (if leaking)

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

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B. Spill Point Coordinates: *Incidents < 100m apart to be aggregated into one Joint Investigation Report)

C. Measuring unit

Northing	Eastings
4954689	6572466
Z	Z

WGS 84

C. RISK ASSESSMENT

i. Details of Environment:

Type of environment where spill occurred (select one):

 Land Ditchway Water Residential swamp Shoreline/Waterfront

ii. Type of environment to which oil has spread:

 Land Ditchway Waterbody (specify) _____

iii. Weather condition:

 Dry Windy Rainy Snow

iv. Distance to Sensitive habitat within 10km radius:

- Government reserved and designated protected area
- Drinking water source
 ❑ Surface water Groundwater
- Built up Area
 ❑ Residential Area Commercial/Industrial Area
- Farmland
- Fish Farm/Pond
- Fishing net
- Other (specify) _____

NONE SEEN
WITHIN
VICINITY

v. Containment measures put in place:

 Boom Beach Dike H. Natural depression None
 Other: _____vi. Any pictures or video coverage? (Y) (N)vii. Further response/repair initiated as of the time of JIV? (Y) (N)

If yes to item vii, give brief description:

RECOVERY OF FUEL - PLEASE DIL WAS ONGOING WHILE FLOW ON AFFECTED PIPELINE SECTION WAS DRAINED BY ENGINEER

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(a) Was there any disruption to the investigation?

(Y) (N)

(b) Was no legal action initiated?

NOT APPLICATION

(c) Was JIV delayed?

(Y) (N)

Obstacles:

- Delays (Community Action Approval) Security Challenges Access constraint due to terrain
- Other specify:

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

(a) Structures Properties

S/N	Type of Structure	Description	Size	Number	Comments
NONE WITHIN AREA OF IMPACT					

(b) Agricultural Land

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

(c) Livestock Farms

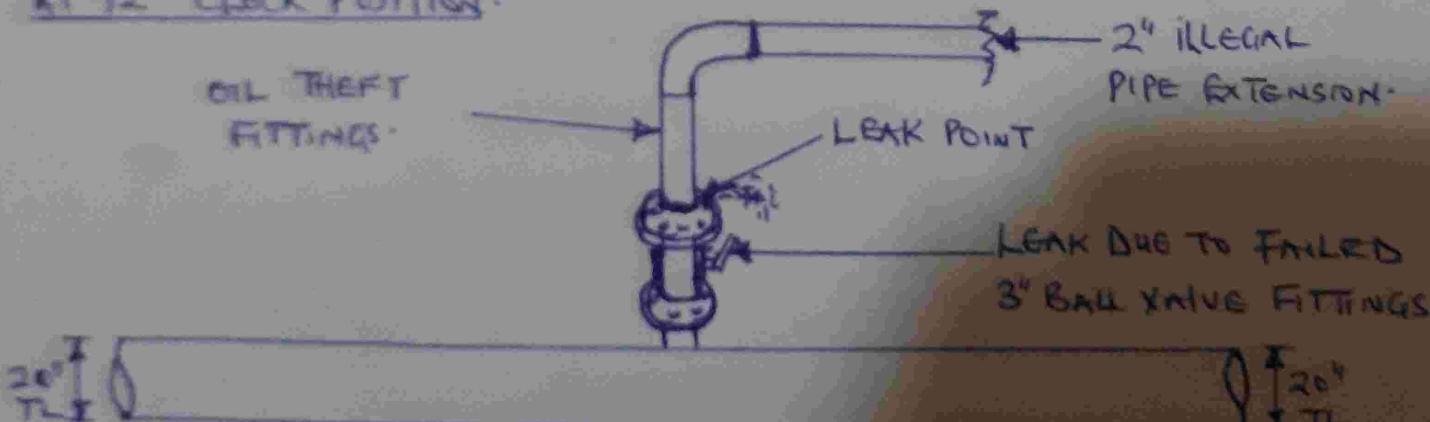
S/N	Fish/Shell/Farms	Description	Quantity/Size	Comments
NONE WITHIN AREA OF IMPACT				

(d) 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 !)

SECTIONAL VIEW OF 20" KOLDKREEK - RUMUREKE (TRUNKLINE) PIPELINE AT CHEGWENE SHOWING: FAILED 3" BALL VALVE FITTINGS INSTALLED AT 12° CLOCK POSITION.



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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)

WGS 84

SN	Northing	Easting
	4.954529	6.571989
	4.954369	6.572238
	4.954570	6.572471
	4.954683	6.572682
	4.954751	6.572856
	4.954873	6.572798
	4.954913	6.572645
	4.954830	6.572488
	4.954677	6.572256
	4.954660	6.572149
	4.954612	6.572135

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G. INCIDENT INFORMATION:

a. Impacted Area Details *

- Total calculated area of impact (ha) 0.22 ha
- Impact within SPDC R.O.W YES
- Impact outside SPDC R.O.W YES

* Round off to 2 decimal places if area is $\geq 100 m^2$ or to 4 decimal places if area is $< 100 m^2$ (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_{est} (bbls)* =

24 BARRELS

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

24 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.

Version 2020/01

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a. General Details of the site

Joint investigation is the process that brings the three independent bodies under the same chapter and it is conducted by members that have the skills to conduct one.

Participation of the members are invited for Joint Investigation meeting on the following letter below.

b. Representations

This report was first signed and signed by the following joint investigation team representatives:

- Blue Community:
- Department of Petroleum Resources (DPR):
- National Oil Spill Detection and Response Agency (NOSDA):
- State Ministry of Environment (SME):
- The Shell Petroleum Development Company (SPDC):
- Supreme OML form has been filled out with some findings:
- Supreme NOSDA form has been filled out with some findings:
- Supreme DPR form has been filled out with some findings:

Tick as applicable

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1. Appendix 1: Overview sketch of the site

