

JOINT INVESTIGATION REPORT

INCIDENT NO: 3007363 JIV report S/N: 0001007

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: 3007363 2. Type of incident* OIL SPILL
3. Name of Location FORCADOS SINGLE POINT MOORING 2
4. Name of nearest community OGULAGHA 5. State: DELTA 6. LGA BURUTU
7. Production Facility/Installation CRUDE OIL EXPORT FACILITY
8. Asset Owner/Hub THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED (SPDC) WEST ASSET.

B. INCIDENT INFORMATION:

9. Details of incident

- a. Date Reported: 05TH AUGUST, 2021
b. Start date time of Investigation: 16TH AUGUST, 2021 / 1447 HRS
c. Investigation End date: 17TH AUGUST, 2021 Day(s) on site: 2 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 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 NO TRACE OF CRUDE OIL AROUND THE SINGLE POINT MOORING 2 AT THE TIME OF JOINT INVESTIGATION VISIT.

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 (_____) | | |
- Others (specify) SPECIAL PLUG FAILURE

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

Version 2020/01

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

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

h. Measuring unit

WGS 84

Northing:	Easting:
LATITUDE	LONGITUDE
5.17039	5.16400

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) ATLANTIC OCEAN

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:

REPAIRS ON THE PRODUCT DISTRIBUTION UNITS (PDU) IS ONGOING

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

If yes to item 15 give brief description. NOT APPLICABLE

16. Was JIV delayed? [X] [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
	<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>					

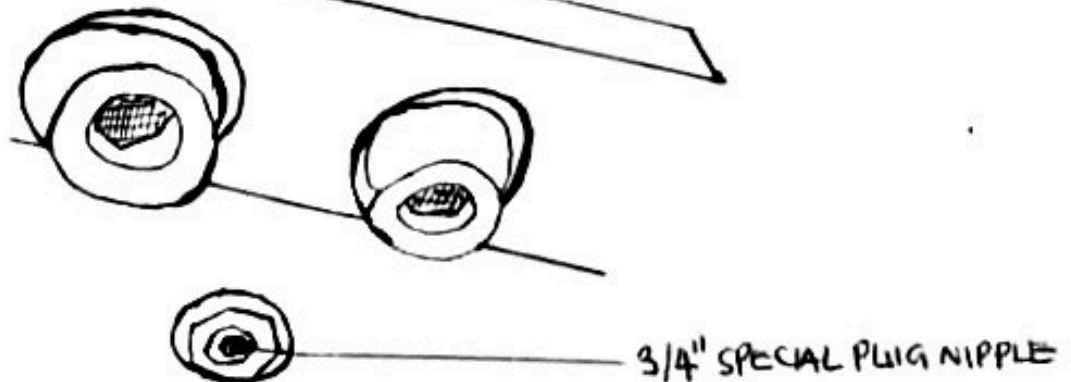
19. Fish Nets/Ponds

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 FOUCADOS SINGLE POINT MOORING 2 AT OGULAGHA SHOWING FAILED SPECIAL PLUG NIPPLE.



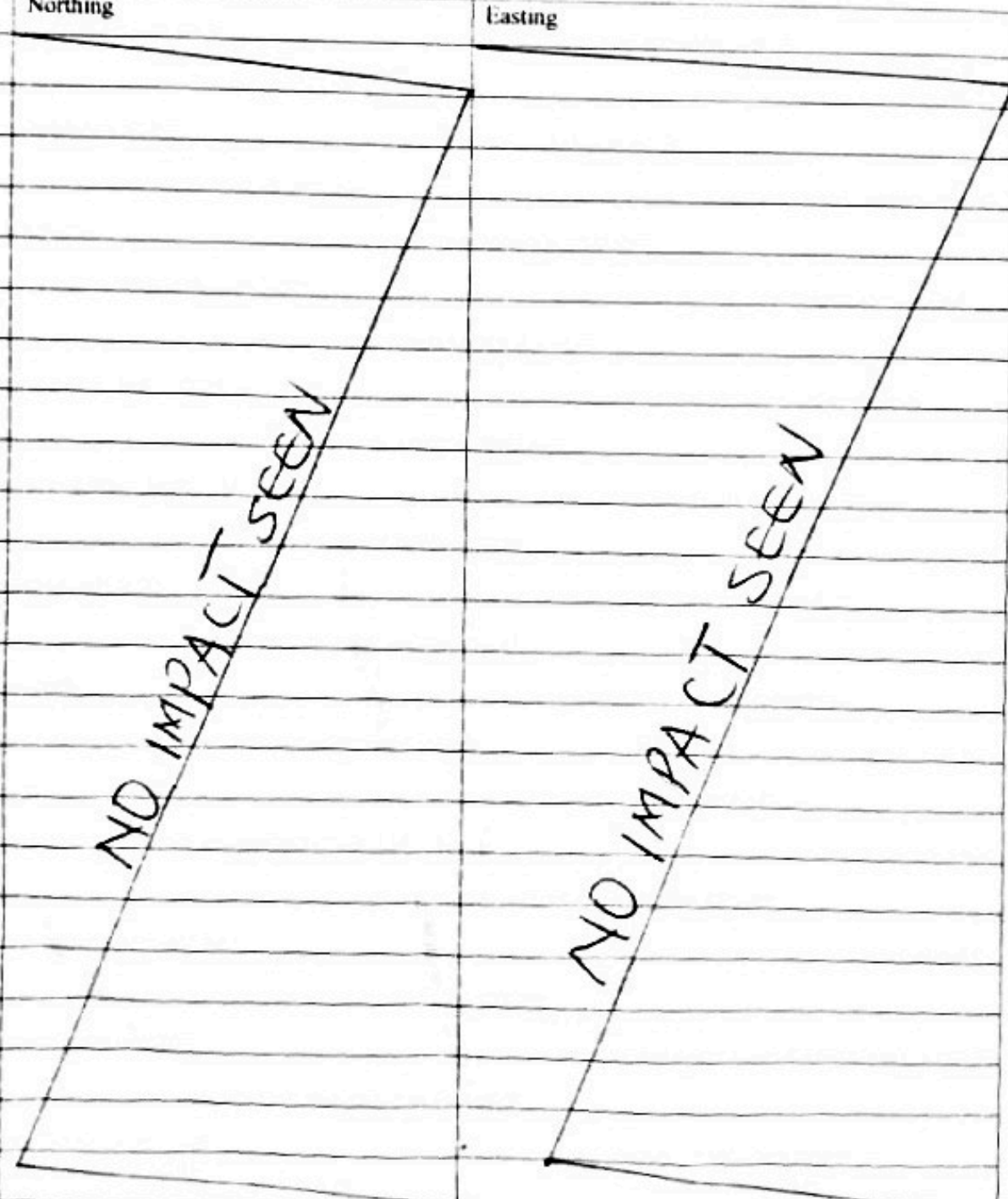
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F: TABLE SHOWING SOME OF COORDINATES TAKEN DURING JIV FOR AREA CALCULATION

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

S/N	Northing	Easting



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G. INCIDENT INFORMATION:

a. Impacted Area Details *

- Total calculated area of impact (Ha) NIL
- Impact within SPDC R.O.W NIL
- Impact outside SPDC R.O.W NIL

* 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>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 $V_{\text{net}}(\text{bbls})^* =$

1.8 BARRELS

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

2.0 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

**SPILL VOLUME ESTIMATION GIVEN BY
ASSET OWNER.**

Calculation of the respective estimated volume is to be done on site or for 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 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 <input checked="" type="checkbox"/> |
| ii. Investigation of the incident site showed that there is residual impact on site requiring further works <input 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

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f. Appendix 1: Overview sketch of the site

