

THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED.

JOINT INVESTIGATION REPORT FOR INCIDENT NO: 1192317 JIV report S/N: 0554

(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: 1192317 2. Type of incident* OIL SPILL
 3. Name of Location SANTA BARBARA MOBILE PRODUCTION FACILITY
NEMBE-BASSKMBIRI
 4. Name of nearest community _____ 5. State: BAYELSA 6. LGA NEMBE
 7. Type of Production facility/Installation FLOW STATION 8. Asset owner/District SWAMP 2

B. INCIDENT INFORMATION:

9. Details of incident
 a. Date of incident: 7th JUNE 2014
 b. Start date/time of investigation: 10th JUNE 2014 : 11:30 HOURS
 c. Investigation End date: 10th JUNE 2014 Actual investigation duration, days: (1) ONE DAY
 d. Description of spill point environment

- | | | |
|--|-------------------------------------|--|
| <input type="checkbox"/> Firmed 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 checked="" type="checkbox"/> Well Platform (on Water) | <input type="checkbox"/> Drill Rig | |

MOBILE CONCRETE PRODUCTION FACILITY ON WATER

Additional observations around the spill point: IT WAS OBSERVED THAT THE OIL SPILL WAS FROM SANTA BARBARA CONCRETE BARGE MOBILE PRODUCTION FACILITY CLOSED DRAIN COVER EDGES. WHERE STAINS OF CRUDE OIL WERE SEEN.

- e. Description of leak point (tick as applicable);
- | | | |
|---|--|---|
| <input type="checkbox"/> Drilled hole | <input type="checkbox"/> Hack saw cut | <input type="checkbox"/> Tear (_____), |
| <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"/> Third party tampering with Clamp |
| <input type="checkbox"/> Third party tampering with valve setting, | | <input type="checkbox"/> Third party tampering with flange, |
| <input type="checkbox"/> Corrosion | <input checked="" type="checkbox"/> Saver-pit over flow, | <input type="checkbox"/> Surge vessel overflow, |
| <input type="checkbox"/> Bulging Outward | <input type="checkbox"/> Flare System/Bund wall failure | <input type="checkbox"/> Accidental 3 rd party equipment |
| impact | <input type="checkbox"/> Valve Failure | <input type="checkbox"/> com unit failure |
| <input type="checkbox"/> Relief valve failure | <input type="checkbox"/> Others (specify) _____ | <input type="checkbox"/> Cold vent |

- 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) construction e) Encroachment f) Fire.

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g. Spill point coordinates

Measuring unit M		MINDA (M/D-BELI)	
Northing:		Easting:	
59778.89		449039.02	
/		/	

C. RISK ASSESSMENT

10. Type of environment:

- Land
 Swamp
 Water
 Seasonal swamp
 Shoreline/Waterfront

i. Type of environment to which oil has spread: **AS THE TIME OF JOINT INVESTIGATION ONLY STAINS WERE SEEN ON THE CLOSED DRAIN COVER**

- 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 [,m]
- Drinking water source **NONE SEEN** [,m]
- Built up area **WITHIN VICINITY** [,m]
- Farmlands [,m]
- Fish Farm/Pond [,m]
- Fishing net [,m]
- Others (specify) [,m]

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? [Y]

If yes to item 14, give brief description:

NO FREE-PHASE OIL SEEN

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

If yes to item 15 give brief description:

NOT APPLICABLE

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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
	NOT	APPLICABLE			

17. Crops/Economic Trees

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
	NOT	APPLICABLE				

18. Fish/Nets/Ponds

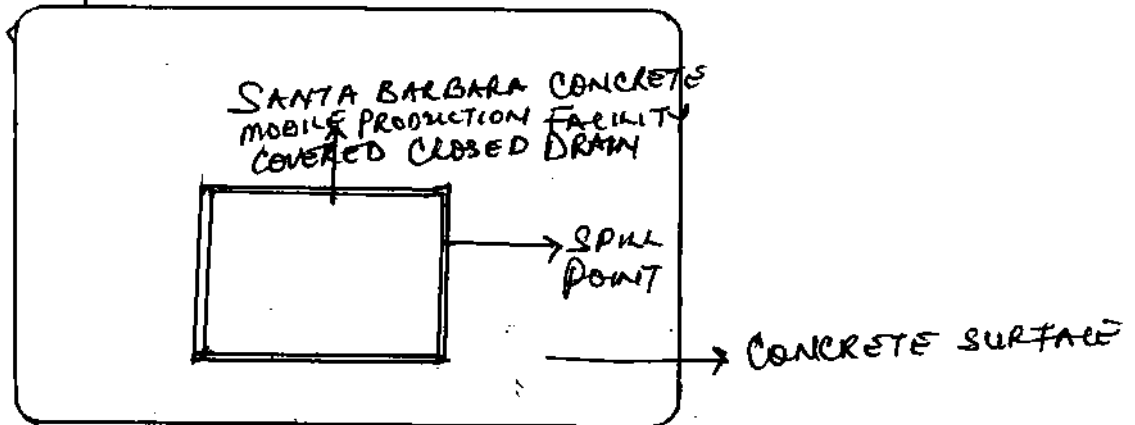
S/N	Fish/Nets/Ponds	Description	Quantity/Size	Comments
	NOT	APPLICABLE		

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

S/N	Others	Description	Quantity/Size	Comments
	NOT	APPLICABLE		

E. GRAPHIC DESCRIPTION OF LEAK POINT (while detail report of the leak point should be contained in the leak report, overview sketch of the site should be added as an appendix 1)

SANTA BARBARA CONCRETE MOBILE PRODUCTION FACILITY



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G. INCIDENT INFORMATION:

20. Impacted Area Details

- Total calculated area of impact 0.000093Ha ($\approx 1m^2$)
- Impact within SPDC R.O.W YES
- Impact outside SPDC R.O.W NO

21. 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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22. Net Estimated Spilled Volume V_{est} (bbls)* = <u>0.13 BARRELS</u>
Estimated Reported Volume** V_{rm} (bbls) = <u>0.2 BARRELS</u>

***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 in the box below:

ON THE DAY OF JOINT INVESTIGATION VISIT NO IMPACT WAS SEEN ON THE RIVER AND ITS ENVIRONMENT AROUND THE MOBILE PRODUCTION FACILITY. VISIBLE CRUDE OIL STAIN WAS SEEN ON THE CONCRETE COVER OF THE CLOSED DRAIN. BASED ON THE INTERVIEW WITH THE PRODUCTION TEAM AT SANTA BARBARA MOBILE PRODUCTION FACILITY AN AREA OF FOUR SQUARE METERS (4sqm) WITH AN ESTIMATED THICKNESS OF 0.5CM WHICH WAS WASHED AWAY BY RAIN ON THE DAY OF INCIDENT. BY THIS, THE TOTAL ESTIMATED VOLUME WILL BE 0.13 BARRELS

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) 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 column estimation; record the calculation in a plain sheet of paper and attach to the JIV report.

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23. GENERAL STATUS OF THE SITE

A. 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"/>
B. Investigation of the incident site showed that there is residual impact on site requiring further works <input type="checkbox"/>

24. REPRESENTATIVES

This report was filled, agreed and signed by the following joint investigation representatives:

- Host Community:
- Department of Petroleum Resources [DPR]:
- National Oil Spill Detection and Response Agency [NOSDRA]:
- State Ministry of Environment [SME]:
- Nigeria Police Force [NPF]:
- Shell Petroleum Development Company [SPDC]:
- Signatories agree with reported findings:
- Separate DPR form has been filled out with same findings

Tick as applicable

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25. Appendix 1: Overview sketch of the site

