

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2098175 JIV report S/N 1077

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

## A. GENERAL INFORMATION:

1. Spill incident Number: 2098175 2. Type of incident\* OIL SPILL  
3. Name of Location 24" Nkpoku - BOMU PIPELINE  
4. Name of nearest community B-DERE 5. State: RIVERS 6. LGA GOKANA  
7. Type of Production facility/Installation OIL PIPELINE  
8. Asset owner/District THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED / PIPELINE

## B. INCIDENT INFORMATION:

9. Details of incident  
a. Date of incident: 12<sup>TH</sup> JUNE 2018  
b. Start date/time of investigation: 14<sup>TH</sup> JUNE, 2018 / 13:48 HRS, 19<sup>TH</sup>, 20<sup>TH</sup>, 22<sup>ND</sup>, 23<sup>RD</sup>, 26<sup>TH</sup> JUNE  
c. Investigation End date: 9<sup>TH</sup> JULY 2018 Actual investigation duration, days: SEVEN (7) DAYS  
d. Description of spill point environment

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Firm soil                | <input checked="" 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             |  |

Additional observations around the spill point: THE JOINT INVESTIGATION TEAM OBSERVED A DRILLED HOLE AT 2 O'CLOCK POSITION BY UNKNOWN PERSON(S).

## c. Description of leak point (tick as applicable);

- |   |  |  |
|---|--|--|
| <input checked="" 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"/> 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 <sup>rd</sup> party equipment impact |
| <input type="checkbox"/> Corrosion                                  | <input type="checkbox"/> Others(specify) _____ |  |

## f. Incident caused by:

- Third party interference (Sabotage ; crude theft ; Line theft ; Accidental 3<sup>rd</sup> 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,

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2098175 JIV report S/N: 1077

g. Spill point coordinates:

h. Measuring unit

NAS 84

Northing: <u>LATITUDE</u> <u>4.67423</u>	Easting: <u>LONGITUDE</u> <u>7.27662</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

- |  |                    |
|--|--------------------|
| <input type="checkbox"/> Government reserved and designated protected area | [ <u>NIL</u> , m ] |
| <input type="checkbox"/> Drinking water source                             | [ <u>NIL</u> , m ] |
| <input type="checkbox"/> Built up area                                     | [ <u>NIL</u> , m ] |
| <input checked="" type="checkbox"/> Farmlands                              | [ <u>2</u> , m ]   |
| <input type="checkbox"/> Fish Farm/pond                                    | [ <u>NIL</u> , m ] |
| <input type="checkbox"/> Fishing net                                       | [ <u>NIL</u> , m ] |
| <input type="checkbox"/> Others (specify):                                 |                    |

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:

OIL SPILL RECOVERY AND REPAIR ACTIVITIES  
ONGOING.

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

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2098175 JIV report S/N: 1077

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
1	CASSAVA	—	✓	✓	FEW	IMPACTED
2	PLANTAIN	✓	✓	—	5	BY SPILL
3	PINEAPPLE	✓	—	—	?	
4	BAMBUD	✓	—	—	1	

**18. Fishing Nets/Fish Ponds**

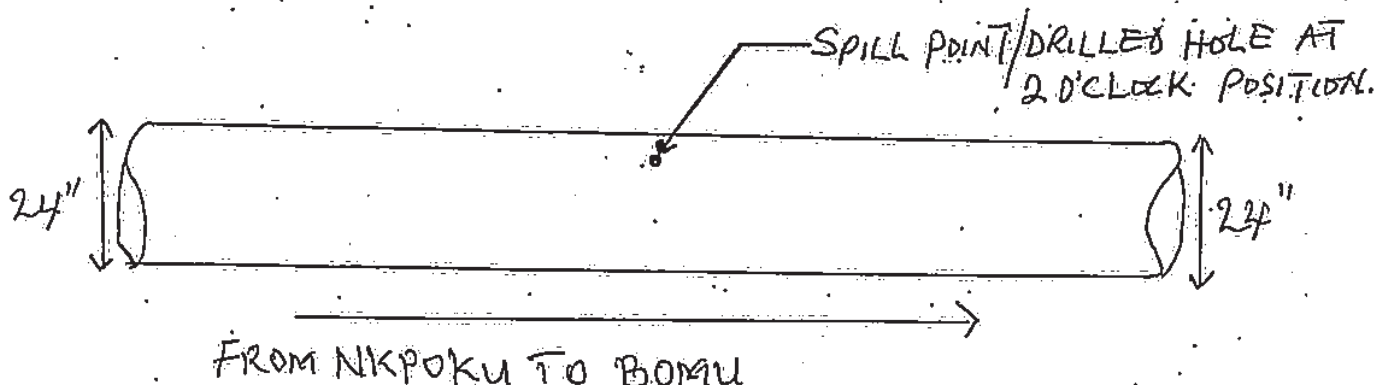
S/N	Nets/Ponds	Description	Quantity/Size	Comments
<u>NONE WITHIN AREA OF IMPACT</u>				

**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 detail report of the leak point should be contained in the leak report, overview sketch of the site should be added as an appendix I)*

SECTION OF 24" NKPOKU - BOMU PIPELINE AT B-DERE SHOWING A DRILLED HOLE AT 2 O'CLOCK POSITION BY UNKNOWN PERSON(S).



FROM NKPOKU TO BOMU

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2098175 JIV report S/N: 1077

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)

~~WLAS 54~~

S/N	Northing	LATITUDE	Easting	LONGITUDE
1.		4.67426		7.27653
2.		4.67420		7.27656
3.		4.67415		7.27662
4.		4.67412		7.27666
5.		4.67377		7.27662
6.		4.67377		7.27667
7.		4.67415		7.27671
8.		4.67450		7.27674
9.		4.67451		7.27672
10.		4.67431		7.27670
11.		4.67457		7.27671
12.		4.67484		7.27667
13.		4.67456		7.27659
14.		4.67451		7.27654
15.		4.67485		7.27664
16.		4.67467		7.27671
17.		4.67479		7.27662
18.		4.67456		7.27656

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2098175 JIV report S/N: 1077

**G. INCIDENT INFORMATION:**

**a. Impacted Area Details**

- Total calculated area of impact 0.14 Ha
- Impact within R.O.W Yes
- Impact outside R.O.W Yes

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

Recovered oil $V_{rec}$ :	<u>21</u>	Barrels
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Controlled recovery/evacuation from source with no impact to environment:

	Barrels
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<b>c. Net Estimated Spilled Volume <math>V_{Est}</math> (bbls)* =</b>	<u>97.17 BARRELS</u>
<b>Estimated Reported Volume** <math>V_{rep}</math> (bbls) =</b>	<u>98 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:

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<sup>3</sup> to barrels is Volume: (m<sup>3</sup>) 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 6e (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.

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2098175 JIV report S/N: 1077

## 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: <input checked="" type="checkbox"/>	
• Department of Petroleum Resources [DPR]: <input type="checkbox"/>	
• National Oil Spill Detection and Response Agency [NOSDRA]: <input checked="" type="checkbox"/>	
• State Ministry of Environment [SME]: <input checked="" type="checkbox"/>	
• Asset Owner: <input checked="" type="checkbox"/>	
• Signatories agree with reported findings: <input checked="" type="checkbox"/>	
• Separate DPR form has been filled out with same findings <input type="checkbox"/>	
	<i>Tick as applicable</i>

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2098175 JIV report S/N: 1077

f. Appendix 1: Overview sketch of the site

