

# JOINT INVESTIGATION REPORT

INCIDENT NO: 1737810

JIV report S/N:

No: 0000364

(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: 1737810 2. Type of incident\* OIL SPILL  
3. Name of Location 6" KANBO WELL - 6T FLOWLINE  
4. Name of nearest community AGBIDIAMA 5. State: BAYELSA 6. LGA EKEREMOR  
7. Type of Production facility/Installation FLOWLINE  
8. Asset owner/District THE SHELL PETROLEUM DEVELOPMENT COMPANY OF

## B. INCIDENT INFORMATION: NIGERIA LIMITED / SWAMP WEST

9. Details of incident  
a. Date of incident: 23<sup>RD</sup> OCTOBER, 2016  
b. Start date/time of investigation: 27<sup>TH</sup> OCTOBER, 2016 AT 0924 HRS  
c. Investigation End date: 27<sup>TH</sup> OCTOBER, 2016 Actual investigation duration, days: ONE DAY  
d. Description of spill point environment

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Firm soil                | <input type="checkbox"/> Loose soil        | <input type="checkbox"/> Recently excavated area |
| <input checked="" type="checkbox"/> Under water   | <input checked="" 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: ON LIFTING THE FLOWLINE, THE JOINT INVESTIGATION TEAM OBSERVED HACK-SAW CUTS AT 2 O' CLOCK POSITIONS RESPECTIVELY, AT A DISTANCE OF ABOUT 15M APART.

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

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Drilled hole                               | <input checked="" 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"/> Others(specify) _____                      |  |  |

## f. Incident caused by:

- Third party interference (Sabotage ; crude theft ; Line theft ; Accidental 3<sup>rd</sup> party damage   
 Operational  Others (including Mystery spills) \_\_\_\_\_

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

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g. Spill point coordinates

h. Measuring unit

WGS 84

Northing:	Easting:
SP1 = 4.886702	5.664786
SP2 = 4.886657	5.664919

### 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 | [ |   | ,m] |
| <input type="checkbox"/> Drinking water source                             | [ | 0 | ,m] |
| <input type="checkbox"/> Built up area                                     | [ |   | ,m] |
| <input type="checkbox"/> Farmlands   | [ |   | ,m] |
| <input type="checkbox"/> Fish Farm/Pond                                    | [ |   | ,m] |
| <input type="checkbox"/> Fishing net                                       | [ |   | ,m] |
| <input type="checkbox"/> Others (specify). <b>MANGROVES</b>                | [ | 0 | ,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:

NOT APPLICABLE

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
<b>NONE WITHIN AREA OF IMPACT</b>					

**17. Crops/Economic Trees**

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
1	MANGROVES	LOT	FEW	—	LOT	OIL STAINED
	/	/	/	/	/	/

**18. Fishing Nets/Fish Ponds**

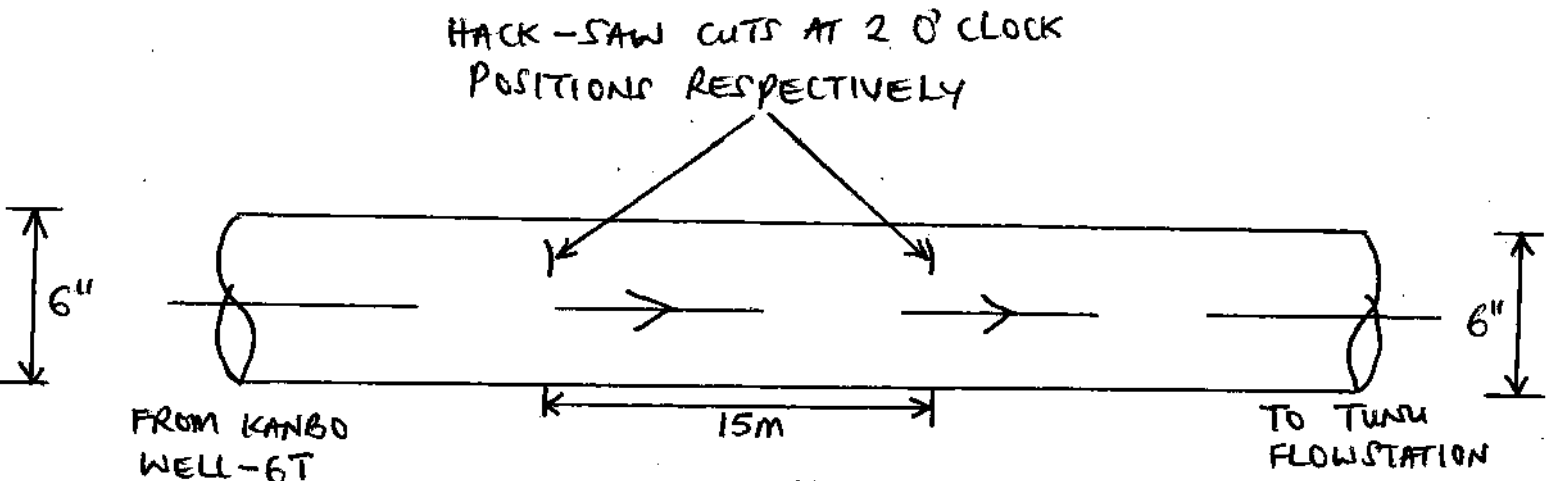
S/N	Nets/Ponds	Description	Quantity/Size	Comments
<b>NONE WITHIN AREA OF IMPACT</b>				

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

S/N	Others	Description	Quantity/Size	Comments
<b>NONE WITHIN AREA OF IMPACT</b>				

**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)

SECTION OF 6" KANBO WELL - 6T FLOWLINE AT AGBIDAMA SHOWING; POSITIONS OF HACK-SAW CUT





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LIST OF IMPACTED AREA COORDINATES OF 6"KANBO WELL 6T FLOWLINE SPILL @ AGBIDIAMA

WGS 84

PTS	EASTINGS	NORTHINGS
6050	5.664786	4.886702
6051	5.664919	4.886657
6062	5.667576	4.886212
6063	5.666847	4.886497
6064	5.665891	4.886854
6065	5.665305	4.886997
6066	5.665163	4.887482
6067	5.66472	4.887068
6068	5.664306	4.887097
6069	5.663735	4.88714
6070	5.663178	4.886869
6071	5.662536	4.886483
6072	5.662393	4.88604
6073	5.662707	4.885084
592	5.66313	4.8852
5980	5.663503	4.885636
596	5.66356	4.88497
597	5.66399	4.88516
598	5.664406	4.885327
599	5.664706	4.885484
600	5.664906	4.885569
601	5.66502	4.885784
602	5.665091	4.886012
604	5.665363	4.886183
606	5.665491	4.88614
6060	5.666219	4.885955
6061	5.66729	4.885669
6073	5.662707	4.885084
592	5.66313	4.8852
593	5.66325	4.88508
594	5.66336	4.88513
595	5.66342	4.88508
596	5.66356	4.88497
611	5.66444	4.88233
612	5.66478	4.88195
6130	5.664565	4.881593
6110	5.664313	4.882281
610	5.66337	4.88415
609	5.66304	4.88473

612	5.66478	4.88195
638	5.66565	4.88
636	5.665094	4.87933
635	5.66613	4.87766
634	5.66722	4.87705
628	5.6665	4.87627
627	5.66583	4.87758
626	5.66535	4.87823
625	5.66474	4.87902
624	5.66349	4.87852
623	5.66195	4.87732
622	5.66092	4.87652
621	5.66053	4.87656
620	5.65985	4.8771
619	5.65955	4.87762
618	5.65943	4.87832
617	5.65984	4.87882
616	5.66071	4.87939
615	5.6622	4.8803
614	5.66325	4.88087
613	5.66381	4.88116
6130	5.664565	4.881593

6052	5.665436	4.886163
6053	5.665654	4.886085
6054	5.665625	4.886036
6055	5.665413	4.886108

612	5.66478	4.88195
638	5.66565	4.88
636	5.665094	4.87933
635	5.66613	4.87766
634	5.66722	4.87705
628	5.6665	4.87627
627	5.66583	4.87758
626	5.66535	4.87823
625	5.66474	4.87902
624	5.66349	4.87852
623	5.66195	4.87732
622	5.66092	4.87652
621	5.66053	4.87656
620	5.65985	4.8771
619	5.65955	4.87762
618	5.65943	4.87832
617	5.65984	4.87882
616	5.66071	4.87939
615	5.6622	4.8803
614	5.66325	4.88087
613	5.66381	4.88116
6130	5.664565	4.881593

6052	5.665436	4.886163
6053	5.665654	4.886085
6054	5.665625	4.886036
6055	5.665413	4.886108

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**G. INCIDENT INFORMATION:**

**a. Impacted Area Details**

- Total calculated area of impact OIL ON WATER (FREE PHASE OIL) = 7.69 HA
- Impact within R.O.W OIL STAIN ON WATER (SLOT) = 1.42 HA
- Impact outside R.O.W OIL STAIN ON OPEN RIVER = 20.17 HA

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

Recovered oil $V_{rec.}$ :	NIL	Barrels
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Controlled recovery/evacuation from source with no impact to environment:

NIL	Barrels
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**c. Net Estimated Spilled Volume  $V_{Est}$  (bbls)\* =**

389.61 BBLs

**Estimated Reported Volume\*\*  $V_{rep}$  (bbls) =** 390 BBLs

**\*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:

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 ( $m^3$ ) 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 <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:
- 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

