

# JOINT INVESTIGATION REPORT

INCIDENT NO: 1749924 JIV report S/N: 0981

(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: 1749924 2. Type of incident\* OIL SPILL  
3. Name of Location 16" NUNRIVER - KOLOCREEK PIPELINE  
AGBURA  
4. Name of nearest community OTUOKPOTI 5. State: BAYELSA LGA TENAGOA/OGBIA  
7. Type of Production facility/Installation OIL PIPELINE  
8. Asset owner/District SPDC / PIPELINE

## B. INCIDENT INFORMATION:

9. Details of incident  
a. Date of incident: 27<sup>TH</sup> OCTOBER, 2016  
b. Start date/time of investigation: 8<sup>TH</sup> NOVEMBER, 2016 / 16:07 HOURS  
c. Investigation End date: 9<sup>TH</sup> FEBRUARY 2018 Actual investigation duration, days: SIXTY SEVEN (67) DAYS  
d. Description of spill point environment  
 Firm soil  Loose soil  Recently excavated area  
 Under water  Swampy  Exposed pipe surface  
 Well Platform (on Water)  Drill Rig

Additional observations around the spill point: JOINT INVESTIGATION TEAM (JIT) OBSERVED THAT THE INCIDENT OCCURED AT A RIVER CROSSING AND TOOK MORE THAN A YEAR TO ACCESS THE LEAK POINT. JIT ALSO OBSERVED THAT THE PIPELINE WAS TOTALLY SUBMERGED IN WATER. A SECTION OF COMPLETELY BROKEN OF THE PIPELINE WAS SUSPENDED.

- e. Description of leak point (tick as applicable);  
 Drilled hole  Hack saw cut  Tear (\_\_\_\_\_)  
 Complete Rupture  Inward dent,  Well head tampering  
 Failed Weld-on illegal hot tap valve  Failed Clamp,  Missing Pipeline/Flowline  
 Crude oil theft (illegal bunkering) point,  Saver-pit over flow  Third party tampering with Clamp  
 Third party tampering with valve setting  Bulging Outward  Third party tampering with flange,  
 Flare System/Bund wall failure  Cold vent  Surge vessel overflow,  
 Valve Failure  Relief valve failure  Accidental 3<sup>rd</sup> party equipment impact  
 Corrosion  Others(specify) COMPLETELY BROKEN PIPELINE
- 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,

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g. Spill point coordinates

h. Measuring unit

WGS 84

Northing:	Easting:
<u>LATITUDE</u>	<u>LONGITUDE</u>
<u>6.26407</u>	<u>4.86338</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) EKOLE RIVER

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 [      ,m]  
 Built up area [      ,m]  
 Farmlands [ > 20 ,m]  
 Fish Farm/pond [      ,m]  
 Fishing net IMPACTED BY SPILL. [      ,m]  
 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:

REPAIR WORK ACTIVITIES ARE ONGOING.

15. Was there any disruption to the investigation?

[N]

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If yes to item 15 give brief description:

COMMUNITY DISTURBANCE

## 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
AGBURA	OTUOKPOT	COMMUNITIES INFORMED THAT KITS, CANOES, CAMPS WERE IMPACTED, BUT THIS WAS NOT SIGHTED DURING THE 1ST AND 2ND VISITS OF 19TH & 20TH DECEMBER 2016, THOUGH SEEN DURING THE 3RD VISIT OF 9TH FEBRUARY 2018 WHEN THE PIPE WAS EXHUMED.			

### 17. Crops/Economic Trees

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
AGBURA	OTUOKPOT	COMMUNITIES INFORMED THAT CASSAVA, PLANTAIN, RICE AND ECONOMIC TREES WERE IMPACTED BUT THIS WAS NOT SIGHTED DURING THE 1ST AND 2ND VISITS OF 19TH & 20TH DECEMBER 2016, THOUGH SEEN DURING THE 3RD VISIT OF 9TH FEBRUARY 2018 WHEN THE PIPE WAS EXHUMED.				

### 18. Fishing Nets/Fish Ponds

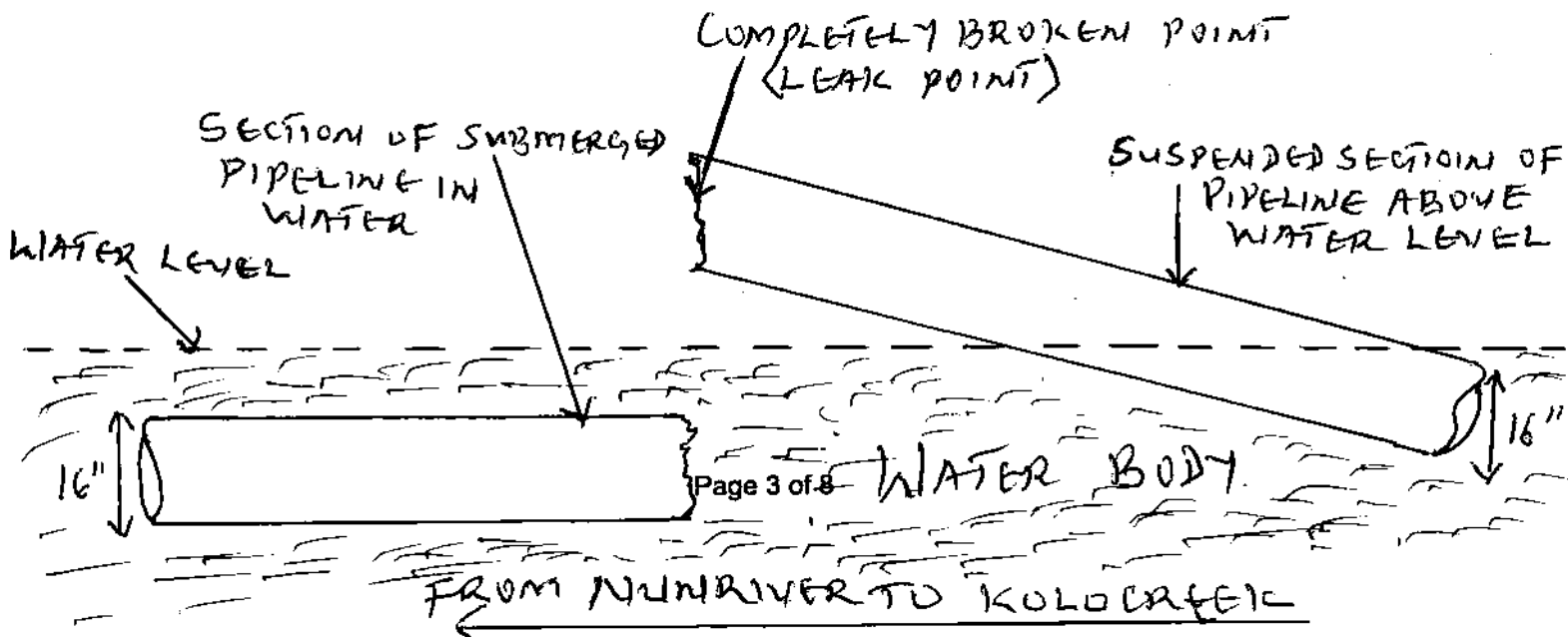
S/N	Nets/Ponds	Description	Quantity/Size	Comments
AGBURA	OTUOKPOT	COMMUNITIES INFORMED THAT NETS, TRAPS, PONDS WERE IMPACTED BUT THIS WAS NOT SIGHTED DURING THE 1ST AND 2ND VISITS OF 19TH & 20TH DECEMBER 2016, THOUGH SEEN DURING THE 3RD VISIT OF 9TH FEBRUARY 2018 WHEN THE PIPE WAS EXHUMED.		

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

S/N	Others	Description	Quantity/Size	Comments
AGBURA	OTUOKPOT	COMMUNITIES INFORMED THAT VARIOUS ANIMAL TRAPS WERE IMPACTED BUT THIS WAS NOT SIGHTED DURING THE 1ST AND 2ND VISITS OF 19TH & 20TH DECEMBER 2016, THOUGH SEEN DURING THE 3RD VISIT OF 9TH FEBRUARY 2018 WHEN THE PIPE WAS EXHUMED.		

## 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 16" MUNRIVER - KOLOCREEK PIPELINE AT AGBURA / OTUOKPOT SHOWING POSITION OF COMPLETELY BROKEN POINT.



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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)

S/N	Northing	Easting


SEE ATTACHED FOR  
COORDINATE LISTINGS

18-01-2018

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2ND ASSESSMENT

FID	POINT_X	POINT_Y		FID	POINT_X	POINT_Y
SP	6.26407	4.86338		53	6.26924	4.8402
1	6.26317	4.85003		54	6.26941	4.83951
2	6.2686	4.83208		55	6.26961	4.834
4	6.26491	4.86247		56	6.27007	4.83746
6	6.26976	4.83463		57	6.26841	4.83348
7	6.26892	4.83275		58	6.26741	4.83134
9	6.27006	4.83636		59	6.26564	4.82991
10	6.26912	4.83602		60	6.26453	4.86302
11	6.26983	4.83852		61	6.26472	4.82912
12	6.26867	4.83833		62	6.26398	4.82849
13	6.26812	4.84065		63	6.26808	4.83253
14	6.26898	4.84127		64	6.26881	4.83456
15	6.26719	4.84335		65	6.26898	4.8373
16	6.26695	4.8425		66	6.2685	4.83949
17	6.26498	4.84407		67	6.26781	4.84144
18	6.26492	4.84572		68	6.26457	4.85633
19	6.26358	4.84598		69	6.26515	4.85874
20	6.26329	4.84908		boom	6.26406	4.8634
21	6.26382	4.84761		boom	6.26407	4.86337
22	6.26689	4.83049		boom	6.26408	4.86338
23	6.2635	4.85178		boom	6.26407	4.8634
24	6.26513	4.86136				
25	6.26521	4.86002				
26	6.26493	4.85751				
27	6.2641	4.8552				
28	6.26324	4.85271				
29	6.26264	4.85054				
30	6.26273	4.8481				
32	6.26578	4.8296				
33	6.26461	4.82826				
34	6.26833	4.83119				
35	6.2662	4.85995				
36	6.26634	4.85922				
37	6.26557	4.86366				
38	6.26318	4.85061				
39	6.2639	4.86342				
41	6.26441	4.86368				
42	6.26416	4.8538				
43	6.26523	4.85583				
44	6.26605	4.85849				
45	6.26633	4.85939				
46	6.2661	4.86128				
47	6.26599	4.86235				
48	6.26586	4.8629				
49	6.26604	4.84454				
50	6.26561	4.85682				
51	6.26461	4.85482				
52	6.26835	4.84254				

  
 Obasanjo Justice  
 16-02-2018

INC. NO: 1749924 FIRST ASSESSMENT 19-20/12/2016						
PT_ID	LONG_X	LAT_Y		PT_ID	LONG_X	LAT_Y
74	6.26335	4.86324		109	6.26201	4.85489
75	6.26509	4.86397		110	6.26117	4.85566
76	6.2662	4.85761		111	6.26132	4.85559
77	6.2662	4.85758		112	6.26076	4.85582
78	6.26624	4.85759		113	6.26068	4.85586
79	6.26719	4.85851		114	6.26043	4.85175
80	6.26722	4.8585		115	6.26051	4.85177
81	6.26717	4.85857		116	6.26056	4.85176
82	6.26721	4.85855		OA	6.26064	4.85176
83	6.26683	4.85927		OA	6.26054	4.85182
84	6.26676	4.8592		OA	6.26044	4.85179
86	6.26673	4.85954		OA	6.26035	4.85175
87	6.26666	4.8596		OA	6.26029	4.8517
88	6.26651	4.85949		OA	6.26029	4.85166
89	6.26718	4.84473		OA	6.26038	4.85171
90	6.26722	4.84476		117	6.26868	4.83123
wf	6.26721	4.8448		118	6.26875	4.83118
wf	6.26716	4.84481		119	6.26899	4.83109
wf	6.26711	4.84478		adaki	6.26875	4.83147
wf	6.26712	4.84473		adaki	6.26909	4.83126
91	6.26725	4.84461		adaki	6.26929	4.8311
92	6.26721	4.84464		adaki	6.26919	4.83103
93	6.26712	4.8446				
94	6.26719	4.84466				
Agbura WF	6.26724	4.84466				
Agbura WF	6.26727	4.84463				
95	6.26724	4.84455				
96	6.26722	4.84458				
97	6.26719	4.84452				
98	6.26393	4.85177				
99	6.26389	4.85185				
100	6.26384	4.85186				
101	6.26387	4.85173				
103	6.2638	4.85169				
104	6.26377	4.85178				
105	6.26376	4.85175				
106	6.2638	4.85181				
Abanife	6.26205	4.85481				
Abanife	6.26191	4.85492				
Abanife	6.26189	4.85502				
Abanife	6.26133	4.85546				
Abanife	6.26106	4.85558				
Abanife	6.26067	4.85571				
Abanife	6.26036	4.85575				
Abanife	6.26042	4.85601				
Abanife	6.26202	4.85501				
107	6.26207	4.85485				
108	6.26202	4.85493				

*Abanife Jonathan*  
16.02.2018

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**G. INCIDENT INFORMATION:**

**a. Impacted Area Details**

- Total calculated area of impact 40.47 HA (YET TO BE DETERMINED)
- 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>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)\* =**

315.96 BARRELS

**Estimated Reported Volume\*\*  $V_{rep}$  (bbls) =** 316 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 estimating the spilled in the box below:*

THE ESTIMATED SPILLED VOLUME WAS BASED ON THE FACT THAT ENTIRE CONTENT BETWEEN THE TWO BALL VALVE STATION (RISERS) MIGHT HAVE COMPLETELY EMPTIED INTO THE ENVIRONMENT DUE TO THE STATUS OF THE LEAK POINT.

*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.*

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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
- ii. Investigation of the incident site showed that there is residual impact on site requiring further works

## 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

