

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2604155 JIV report S/N: 1030131

(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: 2604155 2. Type of incident\* OIL SPILL  
3. Name of Location 4" ETELEBODU WELL I S FLOWLINE  
4. Name of nearest community OGBOLOMA 5. State: BAYELSA 6. LGA YENAGOA  
7. Type of Production facility/Installation OIL FLOWLINE  
8. Asset owner/District THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LTD (SPDC) / CENTRAL HUB

## B. INCIDENT INFORMATION:

### 9. Details of incident

- a. Date Reported: 16TH MARCH 2020  
b. Start date/time of investigation: 18TH MARCH 2020 / 1330HRS  
c. Investigation End date: 18TH MARCH 2020 Actual investigation duration, days: ONE (1) DAY  
d. Description of spill point environment

- |   |                                     |  |
|---|-------------------------------------|--|
| <input checked="" 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  |  |

Additional observations around the spill point:

### 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"/> 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 |
- Others (specify) ROUGH EDGED PEN SIZE HOLE

### 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) Siltation d) construction e) Encroachment f) Fire, g) non leaking Theft point removal  
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# JOINT INVESTIGATION REPORT

INCIDENT NO: 2604155 JIV report S/N: 1030131

g. Spill point coordinates

h. Measuring unit

Northing:	Easting:
5.025895	6.353372
/	/
/	/

## 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 to Sensitive habitat within 100m radius

- Government reserved and designated protected area
- Drinking water source
- Built up area
- Farmlands
- Fish Farm/Pond
- Fishing net
- Others (specify): \_\_\_\_\_

[     ,m] }  
 [     ,m] } NONE SEEN  
 [     ,m] } WITHIN  
 [     ,m] } VICINITY  
 [     ,m] }  
 [     ,m] }

12. Containment measures put in place;

- Booms    
  Trench    
  Dyke    
 Natural depression    
 Pit    
 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:

SPILL RECOVERY

15. Was there any disruption to the investigation?

[Y]     [N]

# JOINT INVESTIGATION REPORT

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If yes to item 15 give brief description:

NOT APPLICABLE

16. Was JIV delayed?

[X] ~~NY~~

If yes to item 16 give brief description: NOT APPLICABLE

**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>						

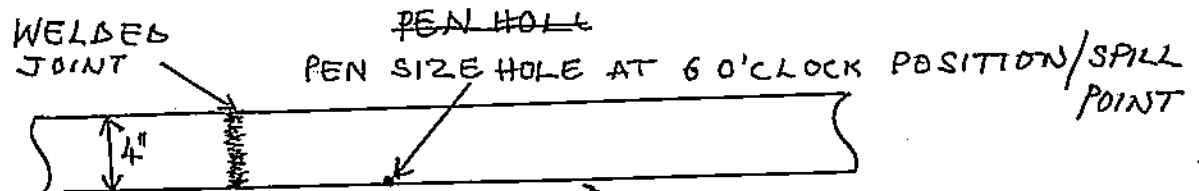
**19. Fish/Nets/Ponds**

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

**20. Others (Specify) 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 1) A SECTION OF 4" ETELEBOU WELL IS FLOWLINE AT OGBOLOMA SHOWING A PEN SIZE HOLE SPILL POINT AT SIX O'CLOCK POSITION DUE TO EQUIPMENT FAILURE.



# JOINT INVESTIGATION REPORT

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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 an appendix)

S/N	Northing	Easting

SEE ATTACHED

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4" ETELEBOU WELL 1S FLOWLINE @ OGBOLOMA  
2020\_2604155

PT_ID	LONG_X	LAT_Y		PT_ID	LONG_X	LAT_Y	
SP	6.353372	5.025895		dr1	6.353315	5.026047	DRAINAGE
0	6.353563	5.025746		dr2	6.353387	5.025963	DRAINAGE
2	6.353582	5.025732		dr3	6.353319	5.02605	DRAINAGE
1	6.35355	5.025748		dr4	6.353391	5.025966	DRAINAGE
3	6.353511	5.025661		44	6.353558	5.025668	
4	6.35351	5.025665		45	6.353556	5.025676	
5	6.353521	5.02566		46	6.353576	5.025696	
6	6.353516	5.025675		47	6.353595	5.025706	
7	6.353369	5.025842		48	6.353605	5.025729	
8	6.353364	5.025851		49	6.353602	5.025735	
9	6.353392	5.025848		53	6.353194	5.026053	
10	6.353379	5.02584		54	6.353506	5.025656	
11	6.353358	5.025853		55	6.353376	5.025823	
12	6.353317	5.025901		56	6.353307	5.025901	
13	6.353307	5.025908		57	6.353258	5.025949	
14	6.353262	5.025952		58	6.353189	5.026051	
15	6.353298	5.025969					
16	6.353326	5.025946					
17	6.352979	5.026305					
18	6.352995	5.026317					
19	6.35306	5.026245					
20	6.353097	5.026218					
21	6.353099	5.026191					
22	6.353159	5.026128					
23	6.35317	5.026123					
24	6.353209	5.026098					
25	6.353239	5.026062					
26	6.353251	5.026037					
27	6.353271	5.026006					
28	6.353273	5.026003					
29	6.353301	5.026037					
30	6.353331	5.02603					
31	6.353356	5.02599					
32	6.353369	5.025967					
33	6.353395	5.025929					
34	6.353516	5.025673					
35	6.353501	5.025703					
36	6.353436	5.02579					
37	6.353446	5.025803					
38	6.353371	5.025882					
40	6.35335	5.025931					
41	6.353304	5.025972					

18.03.2020

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## G. INCIDENT INFORMATION:

### a. Impacted Area Details

- Total calculated area of impact 0.059Ha
- Impact within SPDC R.O.W. YES
- Impact outside SPDC R.O.W. N/O

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

Recovered oil $V_{rec}$ :	<u>NIL</u>	Barrels
---------------------------	------------	---------

Controlled recovery/evacuation from source with no impact to environment:

<u>NIL</u>	Barrels
------------	---------

### c. Net Estimated Spilled Volume $V_{Ej}$ (bbls)\* =

12.00 BARRELS

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

12 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:

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 ( $m^3$ )  $\times$  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 column 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]:
- Shell Petroleum Development Company [SPDC]:
- *Separate DPR form has been filled out with same findings*

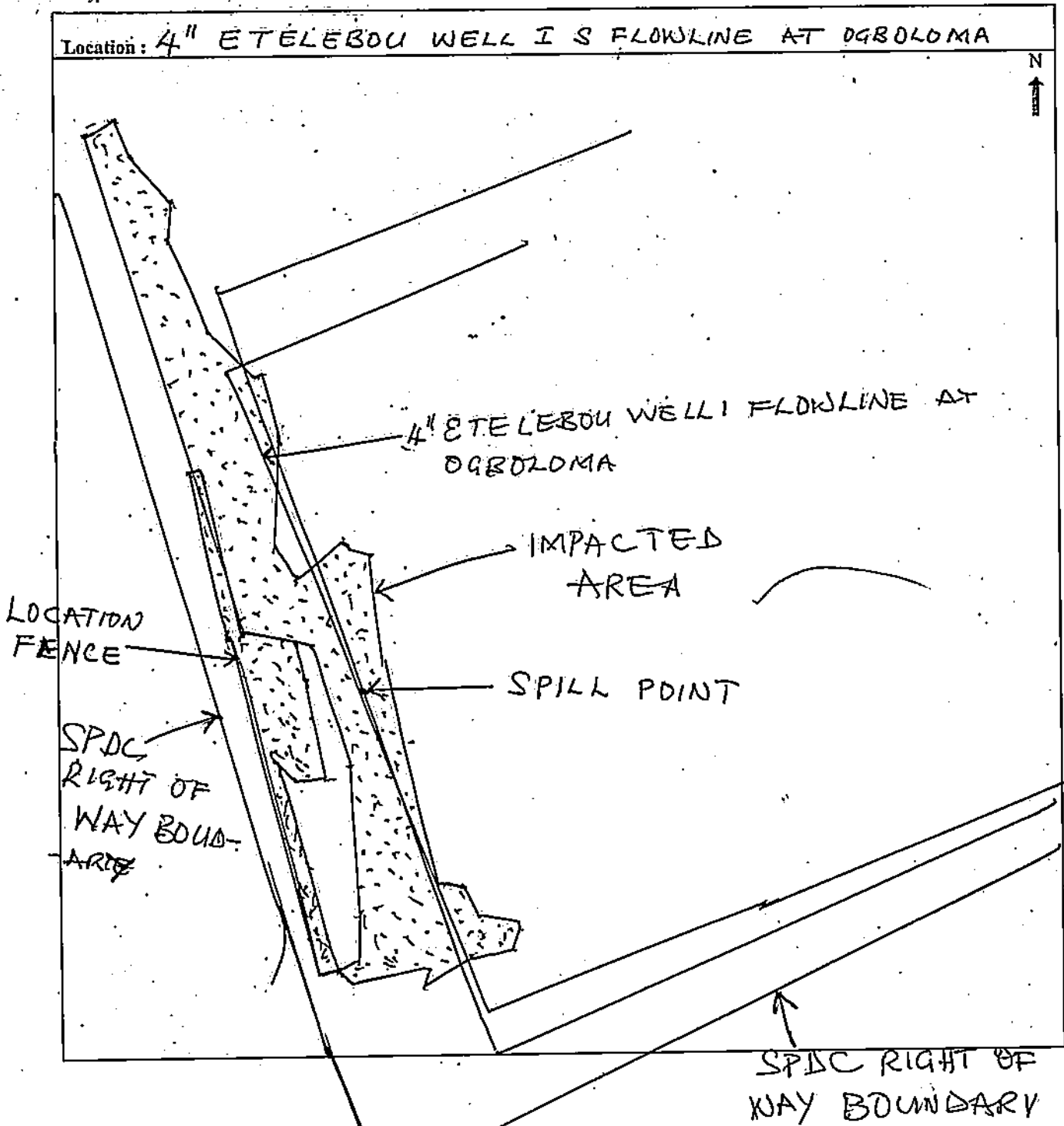
*Tick as applicable*

Version 2019/01

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2604155 JIV report S/N: 1030131

f. Appendix 1: Overview sketch of the site



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