

**THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED.**

JOINT INVESTIGATION REPORT FOR INCIDENT NO: 1342819 JIV report S/N: 00841

(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: 1342819 2. Type of incident\* OIL SPILL  
 3. Name of Location BELEMA WELL 10 L/S WELL HEAD  
 4. Name of nearest community BELEMA 5. State: RIVERS 6. LGA AKUKU-TORU  
 7. Type of Production facility/Installation WELL HEAD 8. Asset owner/District SWAMP 2

**B. INCIDENT INFORMATION:**

9. Details of incident

- a. Date of incident: 20TH FEBRUARY, 2015  
 b. Start date/time of investigation: 24TH FEBRUARY, 2015/11:54 HOURS  
 c. Investigation End date: 24TH FEBRUARY, 2015 Actual investigation duration, days: ONE (1) 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               |

Additional observations around the spill point: GAS FUMES WERE OBSERVED FROM THE POSITION OF THE MISSING CAMERON CONTROL UNIT (C.C.U.) (REMOVED BY UNKNOWN PERSON(S)) ON THE WELL 10L ARM OF THE BELEMA WELL HEAD. SOME CRUDE OIL WAS ALSO NOTICED INTERNALLY WITHIN THE VOIDS CREATED BY THE MISSING CCUs ON BOTH WELL 10L AND 10S ARMS. IMPACTED SOIL IS SILTY CLAY WITH ORGANIC MATTER.

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 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 <sup>rd</sup> party equipment |
| impact <input type="checkbox"/> Valve Failure                       | <input type="checkbox"/> com unit failure  | <input type="checkbox"/> Cold vent                                  |
| <input type="checkbox"/> Relief valve failure                       | <input checked="" type="checkbox"/> Others (specify) <u>CAMERON CONTROL UNITS(c.c.u)</u> |   |
- REMOVED BY UNKNOWN PERSON(S).**

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.

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g. Spill point coordinates

Measuring unit		MINNA MID BEU	
Northing: <u>UM</u>			Easting: <u>UM</u>
<u>43371.56</u>		<u>468921.78</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

- Government reserved and designated protected area [        ,m]  
 Drinking water source [        ,m]  
 Built up area [        ,m]  
 Farmlands [        ,m]  
 Fish Farm/Pond [        ,m]  
 Fishing net [        ,m]

Others (specify) MANGROVE VEGETATION IMPACTED BY SPILL

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:

NOT APPLICABLE

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

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
NONE WITHIN AREA OF IMPACT					

17. Crops/Economic Trees

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
1.	MANGROVE			✓	WITHIN AN APPROXIMATE AREA OF 0.2 Ha.	WITHIN SPILL-IMPACTED REGION.

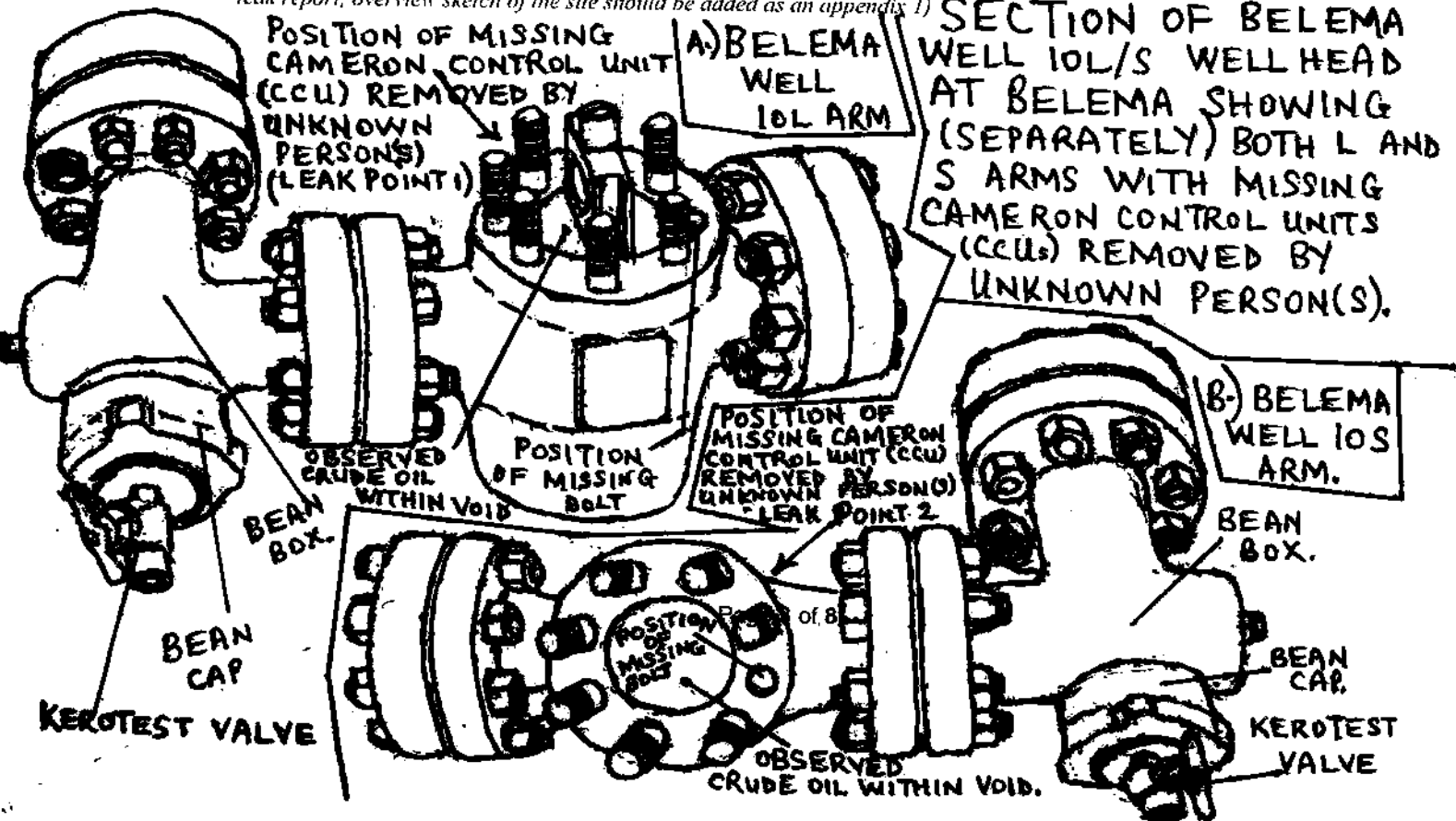
18. Fish/Nets/Ponds

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

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

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

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)





## **APPENDIX A**

### **IMPACTED AREA COORDINATES (MINNA MID-BELT)**

**BELEMA WELL 10L/S WELLHEAD SPILL @ BELEMA**

**INC.NO: 1342819**

<b>Points</b>	<b>East</b>	<b>North</b>	<b>Remarks</b>
111	463911.93	43135.00	Impacted Boundary
114	463829.34	43405.59	Impacted Boundary
115	463823.20	43417.90	Impacted Boundary
116	463848.54	43422.00	Impacted Boundary
118	463884.26	43407.44	Impacted Boundary
117	463894.05	43383.92	Impacted Boundary
119	464029.57	43309.84	Impacted Boundary
120	463913.37	43388.26	Impacted Boundary
121	463918.37	43395.54	Impacted Boundary
122	463923.29	43402.15	Impacted Boundary
123	464007.95	43357.17	Impacted Boundary
124	464043.67	43367.10	Impacted Boundary
125	464027.14	43361.80	Impacted Boundary
126	464054.92	43358.50	Impacted Boundary
127	464027.17	43296.40	Impacted Boundary
128	463980.83	43230.83	Impacted Boundary
129	463960.33	43163.37	Impacted Boundary
130	463954.38	43151.46	Impacted Boundary
131	463933.87	43127.65	Impacted Boundary
132	463926.59	43131.62	Impacted Boundary
133	463941.81	43154.77	Impacted Boundary
134	463951.76	43165.83	Impacted Boundary
135	463894.18	43149.48	Impacted Boundary
136	463967.61	43284.41	Impacted Boundary
137	463960.33	43307.56	Impacted Boundary
138	463896.83	43349.24	Impacted Boundary
139	463904.77	43377.70	Impacted Boundary
140	463940.78	43226.98	Impacted Boundary
141	464009.31	43360.69	Impacted Boundary
142	463984.70	43227.74	Impacted Boundary
143	463919.62	43132.89	Impacted Boundary
144	463960.05	43213.85	Impacted Boundary
145	464009.31	43297.59	Impacted Boundary
146	464029.95	43334.50	Impacted Boundary
147	464032.33	43355.93	Impacted Boundary

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**G. INCIDENT INFORMATION:**

20. Impacted Area Details

- Total calculated area of impact 1.95 Ha
- Impact within SPDC R.O.W YES
- Impact outside SPDC R.O.W YES

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

$c$ 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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<b>22. <u>Net Estimated Spilled Volume <math>V_{est}</math>(bbls)* =</u></b>	<u>14.85</u>
<b><u>Estimated Reported Volume** <math>V_{rep}</math>(bbls)=</u></b>	<u>15 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:

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

