

JOINT INVESTIGATION REPORT

INCIDENT NO: 2488941 JIV report S/N: 1030150

(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: 2488941 2. Type of incident* OIL SPILL/FIRE
3. Name of Location 14th OKORDIA - RUMUEKPE PIPELINE
4. Name of nearest community OSHIE 5. State: RIVERS 6. LGA AHOADA WEST
7. Type of Production facility/Installation OIL PIPELINE
8. Asset owner/District THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LTD (SPDC)/PIPELINE

B. INCIDENT INFORMATION:

9. Details of incident

- a. Date Reported: 24th OCTOBER 2019
b. Start date/time of investigation: 26th OCTOBER 2019/1015HRS
c. Investigation End date: 26th OCTOBER 2019 Actual investigation duration, days: ONE (1) 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 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 checked="" 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 rd party equipment impact |
| <input type="checkbox"/> Others(specify) _____ | | |

f. Incident caused by:

- Third party interference (Sabotage ; crude theft ; Line theft ; Accidental 3rd 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: 2488941 JIV report S/N: 1030150

g. Spill point coordinates

h. Measuring unit

WGS 84

Northing:	Easting:
LATITUDE	LONGITUDE
6.509 5.10479	6.50974
/	/

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

- | | | | | |
|--|---|-----|---|---------------------------------|
| <input type="checkbox"/> Government reserved and designated protected area | [| ,m] | } | NONE SEEN
WITHIN
VICINITY |
| <input type="checkbox"/> Drinking water source | [| ,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). | [| ,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? [N]

If yes to item 14, give brief description:

LEAK REPAIR BY CLAMPING

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

Version 2019/01

JOINT INVESTIGATION REPORT

INCIDENT NO: 2488941 JIV report S/N: 1030150

If yes to item 15 give brief description:

NOT APPLICABLE

16. Was JIV delayed?

[Y] [N]

If yes to item 16 give brief description: ACCESS (FLOODED TERRAIN)

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	of	Comments
<u>NONE WITHIN AREA OF IMPACT</u>						

18. Crops/Economic Trees

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
1	<u>PALM TREES</u>	<u>YES</u>	<u>YES</u>	<u>YES</u>	<u>MANY</u>	<u>IMPACTED/BURNT</u>
<i>(Remaining rows in table are crossed out with diagonal lines)</i>						

19. Fish/Nets/Ponds

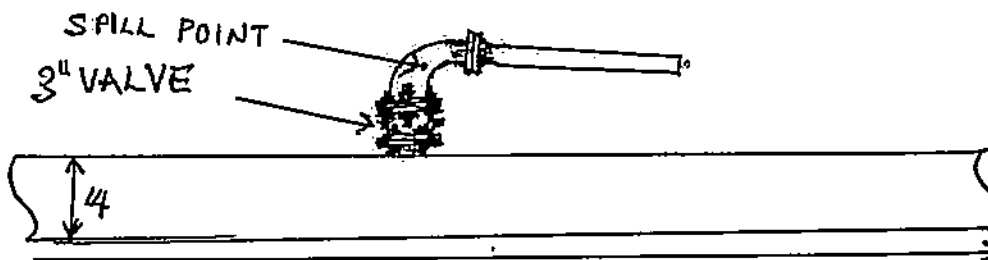
S/N	Fish/Nets/Ponds	Description	Quantity/Size	Comments
<u>NONE WITHIN AREA OF IMPACT</u>				

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 14" OKORDIA - RUMUEKPE PIPELINE AT OSHIE SHOWING CRUDE THEFT 3" VALVE INSTALLED AT 12 O'CLOCK POSITION AND A 10MM DRILL HOLE LEAK POINT ON THE ILLEGAL CONNECTION BY UNKNOWN PERSONS



D. S T A

JIV_2488941_OSHIE		
PT_ID	LAT_Y	LONG_X
SP	5.10479	6.50974
43	5.1046	6.50999
44	5.10466	6.51003
45	5.10472	6.50999
46	5.10474	6.50995
47	5.10482	6.50985
48	5.10479	6.50998
49	5.10504	6.51009
50	5.10456	6.50996
51	5.10461	6.50985
52	5.10462	6.5098
53	5.10451	6.50993
54	5.1044	6.50985
57	5.1032	6.50912
58	5.10315	6.50913
59	5.1031	6.50909
60	5.10324	6.50834
61	5.10325	6.50814
62	5.10319	6.50778
63	5.10321	6.5075
64	5.10326	6.50734
65	5.10322	6.50734
66	5.10515	6.51008
67	5.10489	6.50906
68	5.10312	6.50836
69	5.10405	6.50865
70	5.10397	6.50878
71	5.10466	6.5092
72	5.10461	6.5093
73	5.10427	6.50973
74	5.10539	6.50961
75	5.10528	6.51004
76	5.10512	6.50917

 26.10.2019

JOINT INVESTIGATION REPORT

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G. INCIDENT INFORMATION:

a. Impacted Area Details

- Total calculated area of impact 1.37 HA
- Impact within SPDC R.O.W. YES
- Impact outside SPDC 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)* =

<u>106.24 BARRELS</u>
Estimated Reported Volume** V_{rm} (bbls) = <u>107 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 volume estimation or cause of spill:

THE SITE WAS A SPILL INCIDENT, BUT THE SPILL WAS ACCOMPANIED BY FIRE.

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 m³ to barrels is Volume (m³) 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.

JOINT INVESTIGATION REPORT

INCIDENT NO: 2488941 JIV report S/N: 1030150

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"/>

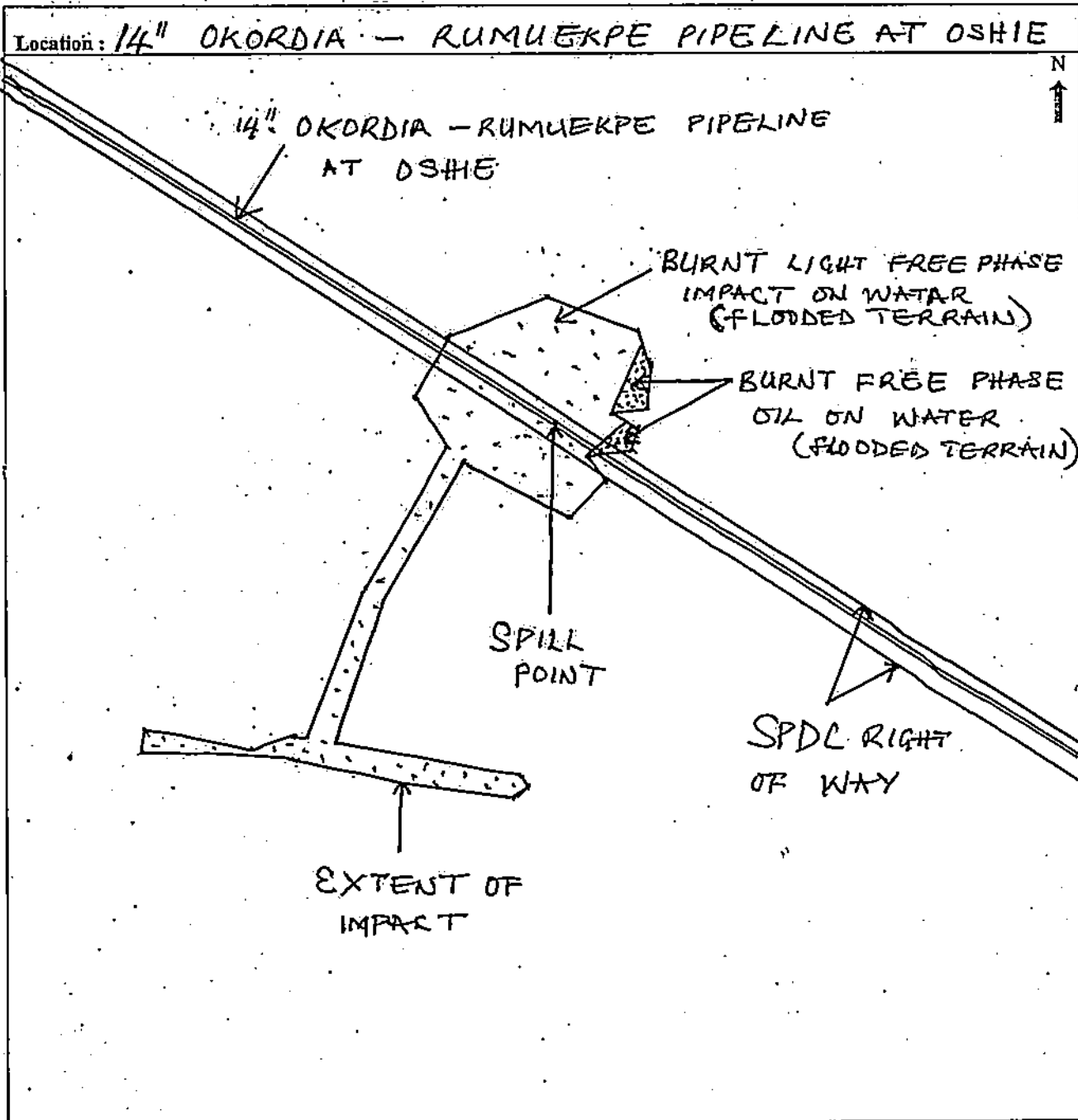
e. Representatives

<p>This report was <u>filled</u>, <u>agreed</u> and <u>signed</u> by the following joint investigation team representatives:</p> <ul style="list-style-type: none">• 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"/>• Shell Petroleum Development Company [SPDC]: <input checked="" type="checkbox"/>• <i>Separate DPR form has been filled out with same findings</i> <input type="checkbox"/> <p style="text-align: right;"><i>Tick as applicable</i></p>

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f. Appendix f: Overview sketch of the site



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Page 7 of 8