

JOINT INVESTIGATION REPORT

INCIDENT NO: 2443266 JIV report S/N: 1030136

(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: 2443266 2. Type of incident* OIL SPILL
3. Name of Location 4" OBELLE - IBAA PIPELINE (DELIVERY LINE)
4. Name of nearest community IBAA 5. State: RIVERS 6. LGA EMOHUA
7. Type of Production facility/Installation OIL PIPELINE
8. Asset owner/District THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED / PIPELINE

B. INCIDENT INFORMATION:

9. Details of incident
a. Date Reported: 31ST AUGUST, 2019
b. Start date/time of investigation: 4TH SEPTEMBER 2019 / 1330HRS
c. Investigation End date: 4TH SEPTEMBER, 2019 Actual investigation duration, days: ONE (1) DAY
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:

- 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 3rd party equipment impact
 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) Situation d) construction e) Encroachment f) Fire, g) non leaking Theft point removal
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Distribution of copies: White (Asset Owner); Pink (DPR); Green (NOSDRA); Yellow (State Ministry of Environment); Blue (Host Community)

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g. Spill point coordinates

h. Measuring unit

210584

Northings: <u>LATITUDE</u>	Easting: <u>LONGITUDE</u>
<u>4.97168</u>	<u>6.80431</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 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] } 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:

CRUDE OIL RECOVERY AND REPAIR BY CLAMPING

15. Was there any disruption to the investigation?

[Y] [N]

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If yes to item 15 give brief description:

NOT APPLICABLE

16. Was JIV delayed? [Y] [N]

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
NONE WITHIN AREA OF IMPACT					

18. Crops/Economic Trees

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
1	PALM TREES	-	✓	✓	31 NOS	IMPACTED

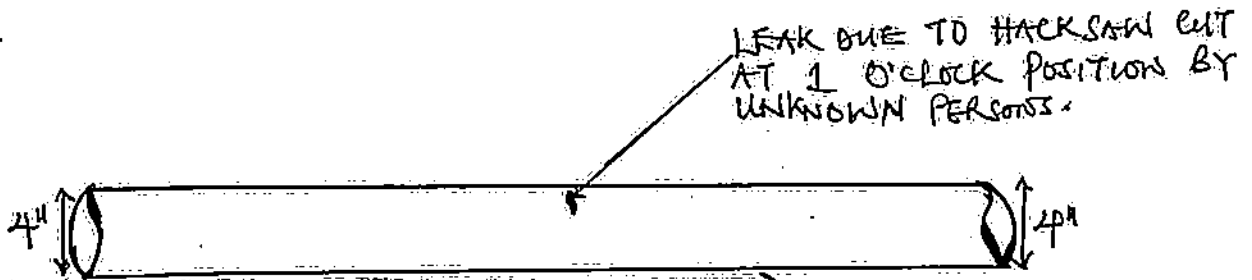
19. Fish/Nets/Ponds

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

20. 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) A SECTION OF 4" OBELE-IBAA PIPELINE AT IBAA SHOWING A HACKSAW CUT AT 1 O'CLOCK POSITION BY UNKNOWN PERSONS.



FROM OBELE TO IBAA PIPELINE

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APPENDIX A(2443266)-

20" RUM UEKPE - NKPOKU PIPELINE AT IBAA

POINT	EASTING	NORTHING
SPILL POINT	6.80431	4.97168
1	6.80436	4.97187
2	6.80436	4.97154
3	6.80435	4.97123
4	6.80431	4.97077
5	6.80422	4.97098
6	6.80413	4.97066
7	6.80402	4.97037
8	6.80428	4.97136
9	6.80431	4.97164
10	6.80429	4.97171
11	6.80433	4.97187
12	6.80427	4.97168
13	6.8045	4.97082
14	6.8046	4.97051
15	6.80461	4.96993
16	6.80399	4.97046
17	6.80308	4.97032
18	6.8039	4.97004
19	6.80063	4.97003
20	6.80101	4.97013
21	6.80146	4.97029
22	6.80253	4.97024
23	6.80442	4.96949
24	6.80393	4.96915
25	6.8037	4.96908
26	6.80252	4.96982
27	6.8023	4.96929
28	6.80157	4.96919
29	6.80059	4.96955
30	6.79982	4.97013
31	6.79972	4.96998
32	6.80024	4.97028
33	6.79976	4.96928
34	6.79873	4.96876
35	6.79811	4.96993
36	6.79829	4.96872
37	6.79729	4.96843
38	6.79683	4.96966

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G. INCIDENT INFORMATION:

a. Impacted Area Details

- Total calculated area of impact 9.1949
- 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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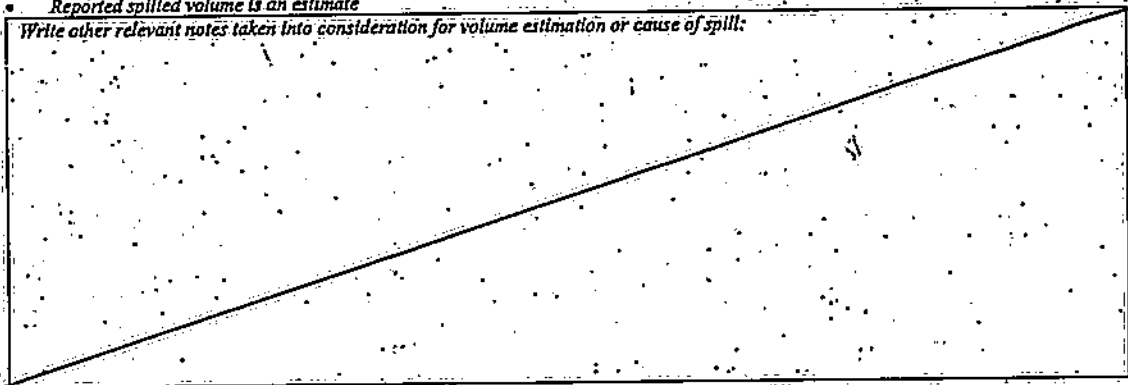
Controlled recovery/evacuation from source with no impact to environment:

<u>NIL</u>	Barrels
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<p>c. Net Estimated Spilled Volume V_{Est} (bbls)* = <u>433.72 BARRELS</u></p>
<p>Estimated Reported Volume** V_{rm} (bbls) = <u>434 BARRELS</u></p>

***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 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 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 <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]:
- Shell Petroleum Development Company [SPDC]:
- *Separate DPR form has been filled out with same findings*

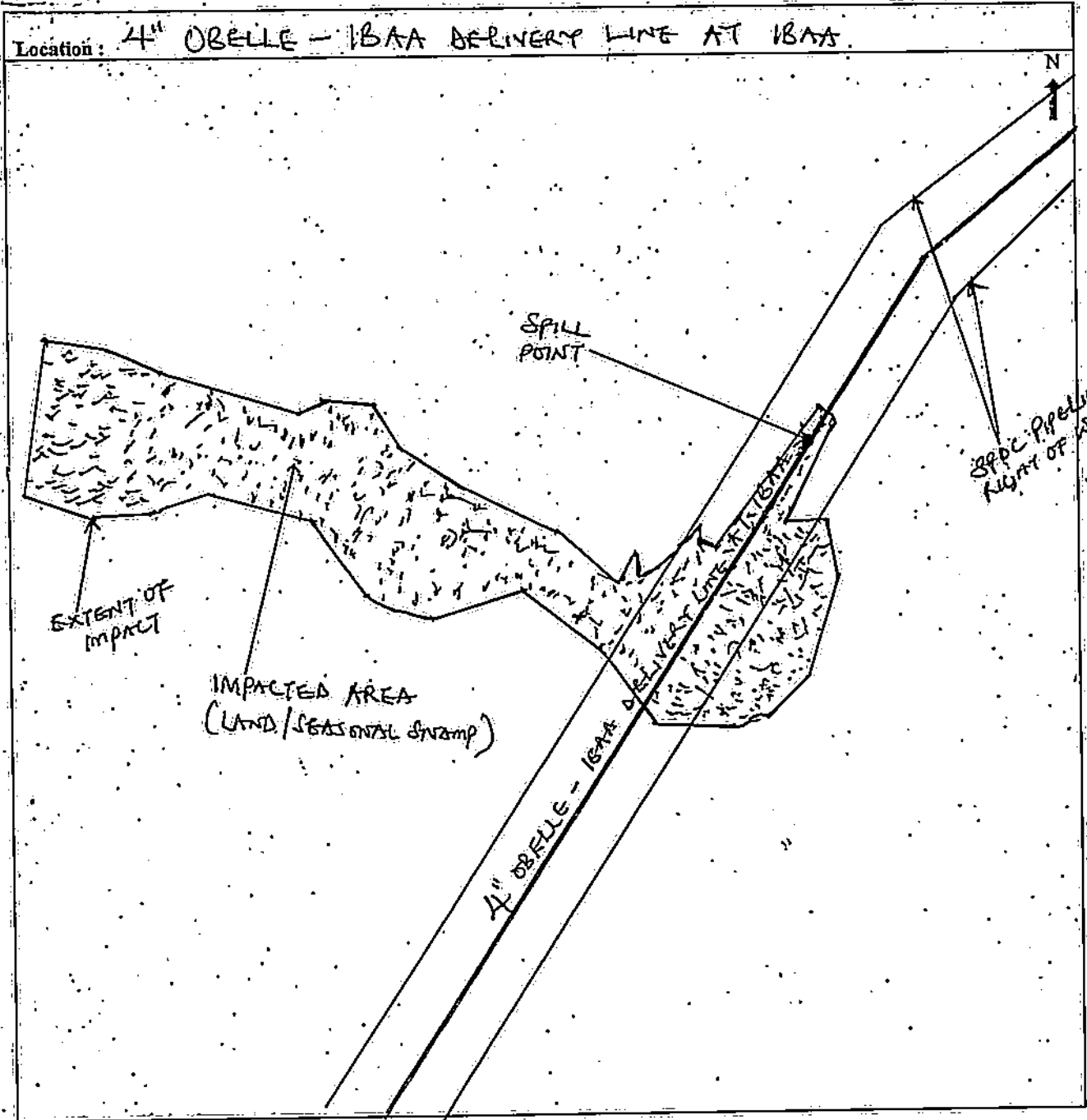
Tick as applicable

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f. Appendix 1: Overview sketch of the site



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