

JOINT INVESTIGATION REPORT

INCIDENT NO: 2611196 JIV report S/N: 1030238

(Note: As practicable as possible the JIR report is to be signed in the field by all the participating parties)

A. GENERAL INFORMATION:

1. Fountain Incident Number: 2611196 2. Type of incident* OIL SPILL
3. Name of Location 2.8" NKPOKU - BOMU PIPELINE
4. Name of nearest community AKPAJO 5. State: RIVERS 6. LGA ELEME
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: 25TH MARCH 2020
b. Start date/time of investigation: 26TH MARCH 2020 / 1150 HRS.
c. Investigation End date: 26TH MARCH 2020 Actual investigation duration, days: ONE (1) DAY
d. Description of spill point environment

- | | | |
|--|--|---|
| <input type="checkbox"/> Firm soil | <input checked="" type="checkbox"/> Loose soil | <input checked="" 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:

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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g. Spill point coordinates

h. Measuring unit

(WGS 84)

Northing: <u>LATITUDE</u>	Easting: <u>LONGITUDE</u>
<u>4.832495</u>	<u>7.088647</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 [,m]
- Drinking water source [,m]
- Built up area [10 ,m]
- Farmlands [,m]
- Fish Farm/Pond [,m]
- Fishing net [,m]
- 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:

SPILL RECOVERY AND REPAIR BY CLAMPING

15. Was there any disruption to the investigation?

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If yes to item 15 give brief description:

NOT APPLICABLE

16. Was JIV delayed?

[X] []

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
1	FENCE	DWARF	---	ONE (1)	LIGHT IMPACT
 					

18. Crops/Economic Trees

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
1	PLANTAIN	YES	YES	NIL	THIRTEEN	LIGHT IMPACT
 						

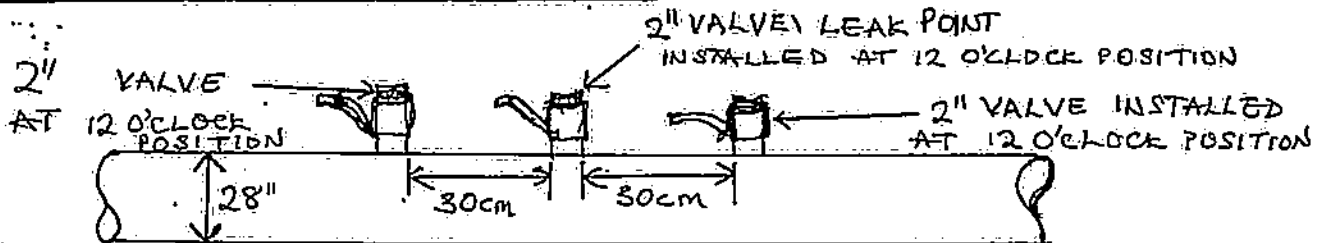
19. Fish/Nets/Ponds

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 28" NKPOKU - BOMU PIPELINE AT AKPAJO SHOWING 3 Nos. 2" VALVE CRUDE THEFT POINT INSTALLED 30CM FROM EACH AT 12 O'CLOCK POSITIONS BY UNKNOWN PERSONS.



NKPOKU TO BOMU

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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

Handwritten: SEE ATTACHED

Handwritten: 26/01/2010

Handwritten: [Signature]

JIV ALONG 28° NKPOKU - BOMU PIPELINE AT AKPAJO		
INCIDENT ID: 2020_2611196		
JIV DATE: 26/03/2020		
BOUNDARY COORDINATES OF IMPACTED AREA (WGS 84)		
PT_ID	LONGITUDE	LATITUDE
PL1	7.088794	4.832524
PL2	7.088803	4.832432
PL3	7.088735	4.832429
PL4	7.088810	4.832316
PL5	7.088847	4.832221
PL6	7.088839	4.832178
PL7	7.088817	4.832210
PL8	7.088801	4.832254
PL9	7.088744	4.832275
PL10	7.088626	4.832428
PL11	7.088546	4.832544
PL12	7.088508	4.832647
PL13	7.088474	4.832655
PL14	7.088420	4.832650
PL15	7.088428	4.832700
PL16	7.088502	4.832760
PL17	7.088578	4.832674
PL18	7.088611	4.832574
PL19	7.088646	4.832561
PL20	7.088685	4.832562
PL21	7.088803	4.832432
PL22	7.088794	4.832524
PL23	7.088865	4.832508
PL24	7.089078	4.832621
PL25	7.089203	4.832505
PL26	7.089128	4.832426
PL27	7.089024	4.832406
PL28	7.088872	4.832452

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G. INCIDENT INFORMATION:

a. Impacted Area Details

- Total calculated area of impact: 0.137 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>113</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>135.6 BARRELS</u>
Estimated Reported Volume** V_{Rep} (bbls) =	<u>136 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:

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 <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:

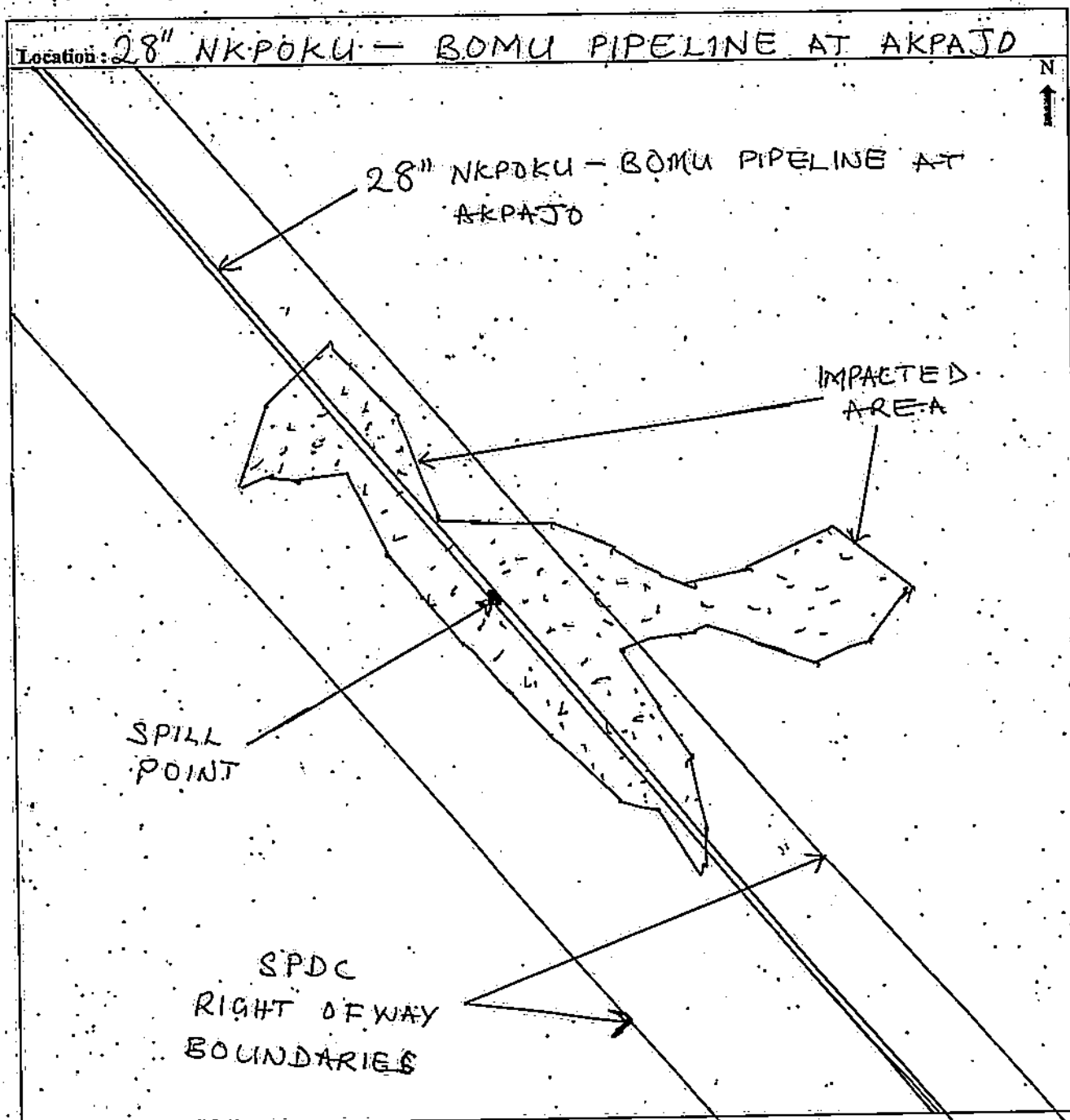
- Host Community:
- Department of Petroleum Resources [DPR]:
- National Oil Spill Detection and Response Agency [NOSDRA]:
- State Ministry of Environment [SME]:
- Shell Petroleum Development Company [SPDC]:
- *Separate DPR form has been filled out with same findings*

Tick as applicable

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f. Appendix I: Overview sketch of the site



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