

JOINT INVESTIGATION REPORT

INCIDENT NO: 2413843 JIV report S/N: 1030086

(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: 2413843 2. Type of incident* OIL SPILL
3. Name of Location IMO RIVER WELL 33
4. Name of nearest community IPU-WEST (OWAZA) 5. State: ABIA 6. LGA UKWA-WEST
7. Type of Production facility/Installation WELL HEAD
8. Asset owner/District THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED/LAND EAST HUB

B. INCIDENT INFORMATION:

9. Details of incident
a. Date Reported: 30TH JULY 2019
b. Start date/time of investigation: 31ST JULY 2019/15:28
c. Investigation End date: 31ST JULY 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 LAND Water) Drill Rig

Additional observations around the spill point: FOUR (4) NO. ACTUATOR GATE VALVE NUTS WERE NOTICED TO HAVE BEEN LOOSENED BY UNKNOWN PERSON(S).

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) 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>4.97927</u>	<u>7.25050</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

- | | | | | |
|--|--|-----------------|--|-------|
| <input type="checkbox"/> Government reserved and designated protected area | | | | [,m] |
| <input type="checkbox"/> Drinking water source | | <u>NONE</u> | | [,m] |
| <input type="checkbox"/> Built up area | | <u>OBSERVED</u> | | [,m] |
| <input type="checkbox"/> Farmlands | | <u>WITHIN</u> | | [,m] |
| <input type="checkbox"/> Fish Farm/Pond | | <u>VICINITY</u> | | [,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: CELLAR PIT

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]

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If yes to item 15 give brief description:

NOT APPLICABLE

16. Was JIV delayed? [X] [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
<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>				

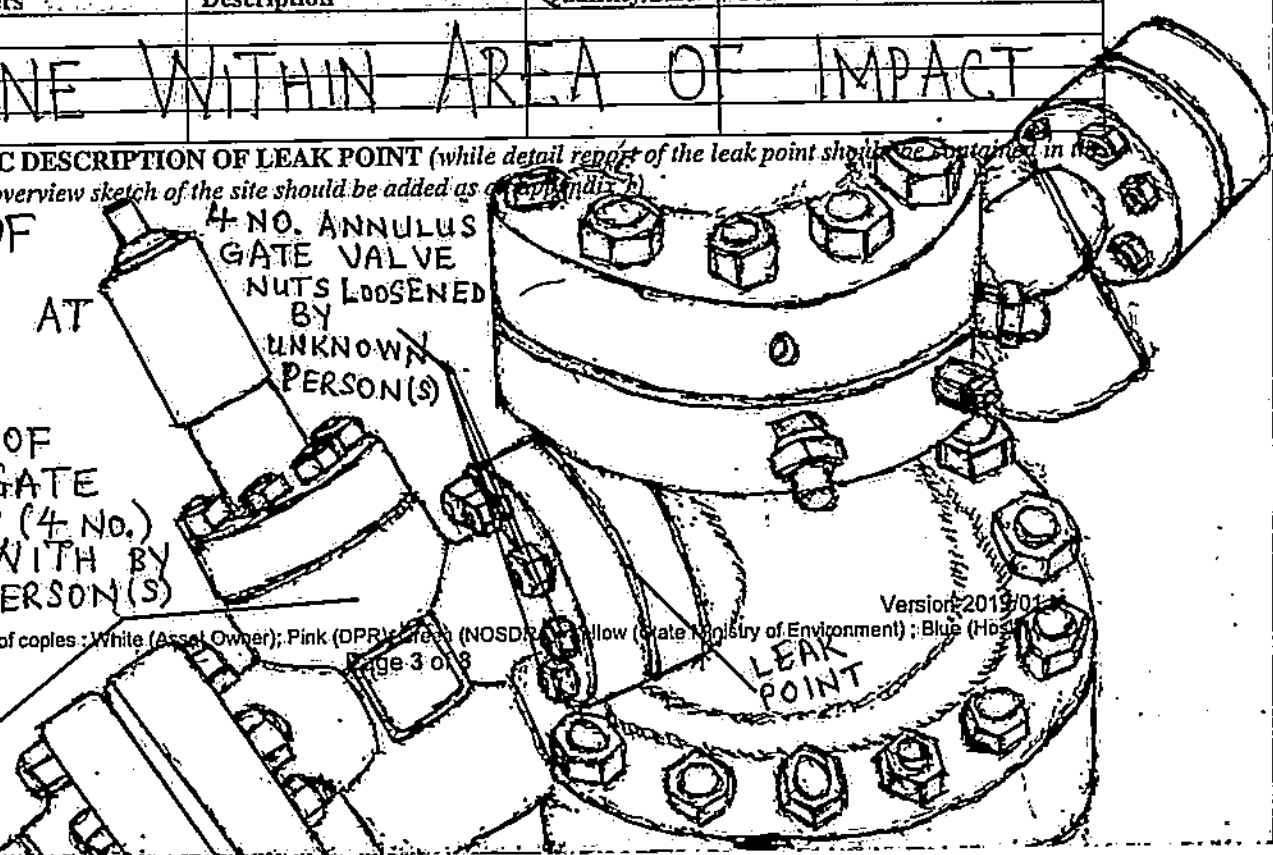
20. Others (Specify) i.e. Animal Traps

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 Appendix B)

SECTION OF IMO RIVER WELL 33 AT IPU-WEST SHOWING EVIDENCE OF ANNULUS GATE VALVE NUTS (4 No.) TAMPERED WITH BY UNKNOWN PERSON(S)

4 NO. ANNULUS GATE VALVE NUTS LOOSENED BY UNKNOWN PERSON(S)



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ANNULUS GATE VALVE

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G. INCIDENT INFORMATION:

a. Impacted Area Details

- Total calculated area of impact 0.06 Ha
- Impact within SPDC R.O.W. YES
- Impact outside SPDC R.O.W. NO

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

Recovered oil V_{rec} :	NIL	Barrels
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Controlled recovery/evacuation from source with no impact to environment:

NIL	Barrels
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c. Net Estimated Spilled Volume V_{est} (bbls)* = 8.25

Estimated Reported Volume V_{rm} (bbls) = 9 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:

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) \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

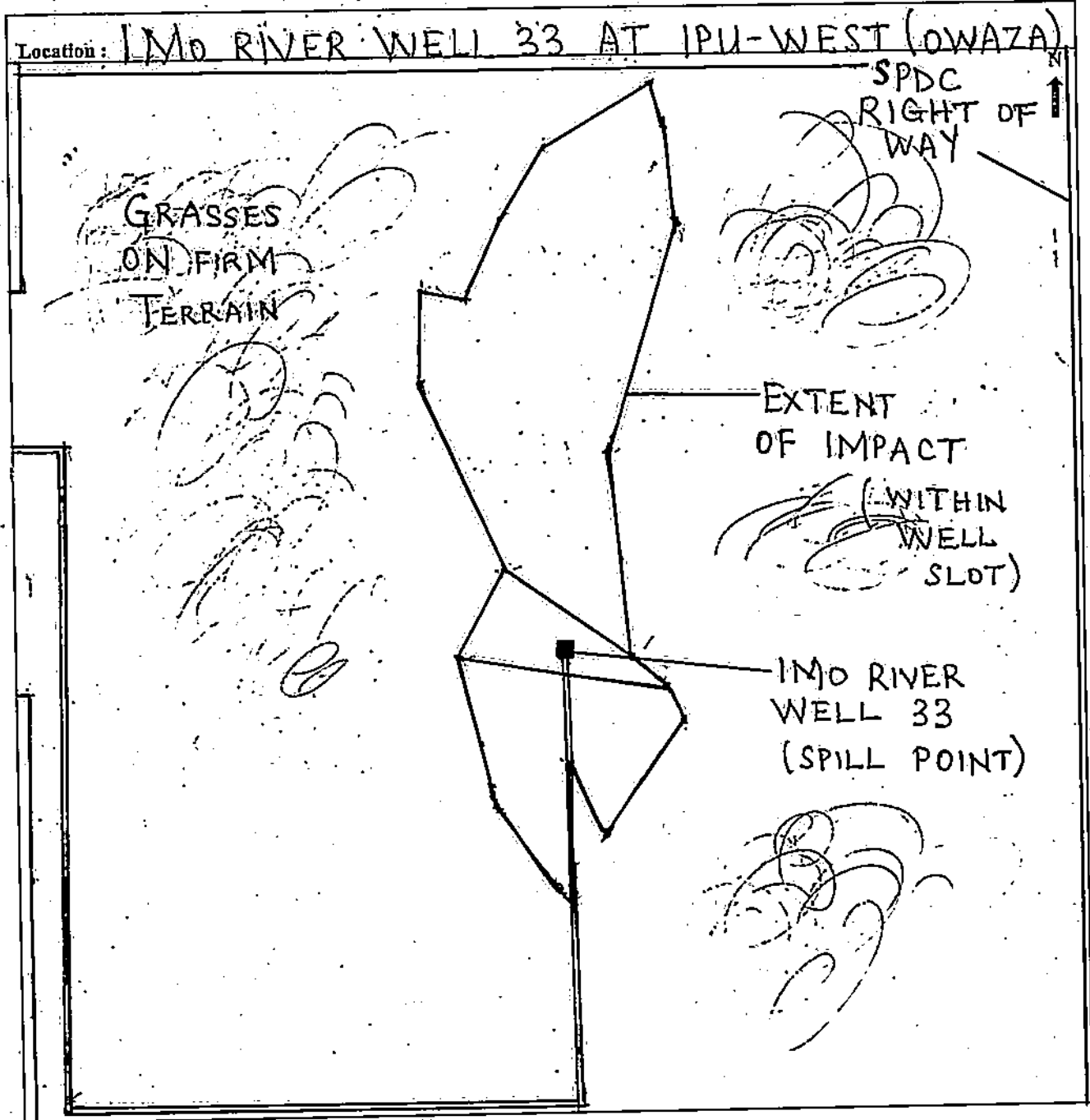
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f. Appendix I: Overview sketch of the site



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