

# JOINT INVESTIGATION REPORT

INCIDENT NO: 2554231 JIV report S/N: 1030221

(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: 2554231 2. Type of incident\* OIL SPILL  
3. Name of Location: 20" KOLOCREEK - RUMUKEPE PIPELINE (OLD)  
4. Name of nearest community: ODAU (KM10) 5. State: RIVERS 6. LGA: ABUA/ODUAL  
7. Type of Production facility/Installation: OIL PIPELINE  
8. Asset owner/District: THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED (SPDC)/PIPELINE

## B. INCIDENT INFORMATION:

### 9. Details of incident

- a. Date Reported: 21<sup>st</sup> JANUARY, 2020  
b. Start date/time of investigation: 24<sup>th</sup> JANUARY, 2020/1300HRS  
c. Investigation End date: 24<sup>th</sup> JANUARY, 2020 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:

NOT APPLICABLE

### 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 checked="" 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 <sup>rd</sup> party equipment impact |
| <input type="checkbox"/> Others(specify) _____                                 |   |  |

### 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) Situation 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:	Easting:
4.92979	6.44671

## 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 | [ NIL ,m]          |
| <input type="checkbox"/> Drinking water source                             | [ NIL ,m]          |
| <input type="checkbox"/> Built up area                                     | [ NIL ,m]          |
| <input type="checkbox"/> Farmlands   | [ NIL ,m]          |
| <input type="checkbox"/> Fish Farm/Pond                                    | [ NIL ,m] IMPACTED |
| <input type="checkbox"/> Fishing net                                       | [ NIL ,m]          |
| <input type="checkbox"/> Others (specify).                                 | NONE               |

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:

REPAIR AND CRUDE OIL RECOVERY ACTIVITIES

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?

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
1.	<u>PALM TREE</u>	<u>—</u>	<u>✓</u>	<u>✓</u>	<u>2 NOS</u>	<u>IMPACTED</u>

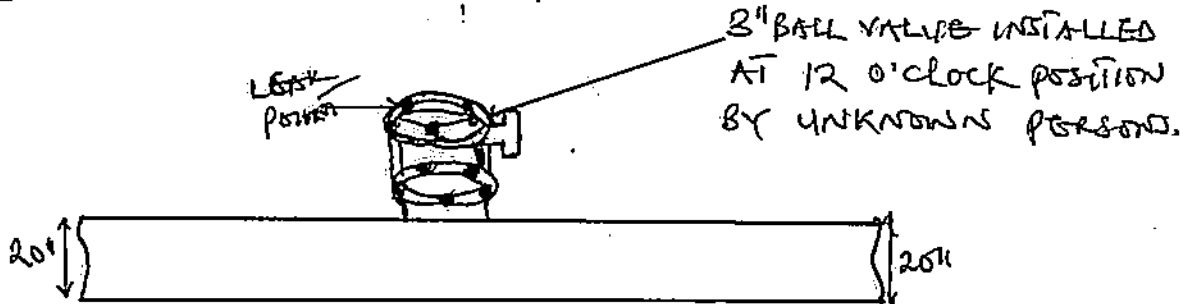
**19. Fish/Nets/Ponds**

S/N	Fish/Nets/Ponds	Description	Quantity/Size	Comments
1.	<u>PONDS</u>	<u>—</u>	<u>2 NOS</u>	<u>IMPACTED BY SPILL</u>
2.	<u>FISH</u>	<u>DEAD FISHES</u>	<u>4 NOS</u>	<u>IMPACTED BY SPILL</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 20" KOLOCREEK-RUMUEKE PIPELINE (OLD) AT ODAU (KMO) SHOWING A 3" BALL VALVE INSTALLED AT 12 O'CLOCK POSITION BY UNKNOWN PERSONS.



FROM KOLOCREEK TO RUMUEKE PIPELINE Version 2019/01

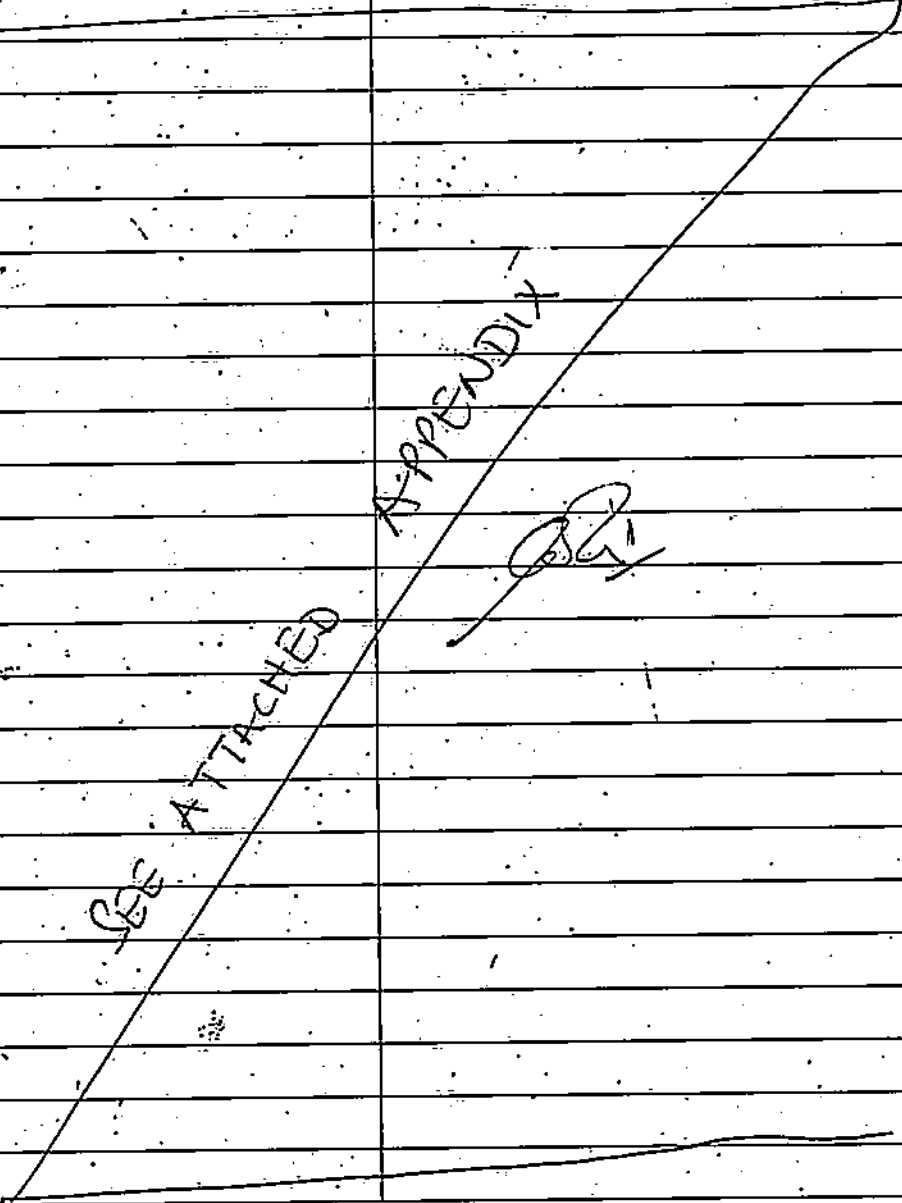
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F: TABLE SHOWING SOME OF COORDINATES TAKEN DURING JIV FOR AREA CALCULATION

21. Impacted area boundary Coordinates *(If more, Print and attach as an appendix)*

WGS 84

S/N	Northing	Easting
	 SEE ATTACHED APPENDIX [Signature]	

Coordinate list for 20" Kolo creek- Rumuekpe Pipeline at Odau(Inc.no=2554231)

WGS 84

PTS X(Eastings) Y(Northings)

80	6.44671	4.92979
81	6.44674	4.92976
82	6.44672	4.92986
83	6.44616	4.92978
84	6.44609	4.9297
85	6.44548	4.92962
86	6.4449	4.92955
87	6.44479	4.92952
88	6.4448	4.92949
89	6.44625	4.92988
90	6.4462	4.92992
94	6.44644	4.92993
96	6.44681	4.9299
97	6.44687	4.92989
98	6.44733	4.92995
99	6.44691	4.93052
100	6.44681	4.93051
101	6.44673	4.9304
102	6.44656	4.93015
103	6.44634	4.93003
104	6.44626	4.93001
105	6.44608	4.92988
106	6.4459	4.92985
107	6.44609	4.92983
108	6.44588	4.92981
109	6.44713	4.93059
110	6.44729	4.93073
111	6.44735	4.93094
112	6.44742	4.93105
113	6.4474	4.93112
114	6.44731	4.93109
115	6.44728	4.93108
116	6.44722	4.93108
117	6.44723	4.93103
118	6.44729	4.93102
119	6.44758	4.93107
120	6.44768	4.93107
121	6.44766	4.93114
122	6.44758	4.93114
123	6.447404	4.931105
124	6.44786	4.93119
125	6.44783	4.93123
126	6.44799	4.93113
127	6.44812	4.9312
128	6.44817	4.93115
129	6.44812	4.93104
130	6.44801	4.93104
131	6.44764	4.92998
132	6.44768	4.92995
133	6.44768	4.92995
134	6.44681	4.92982
135	6.44681	4.92979
136	6.44673	4.92996
138	6.447438	4.93105
139	6.44731	4.930719
140	6.44714	4.930568
141	6.446823	4.930493
142	6.446578	4.930137
143	6.446278	4.929994
144	6.447668	4.931123
145	6.44729	4.93106
146	6.447392	4.931094
147	6.447579	4.931123

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**G. INCIDENT INFORMATION:**

**a. Impacted Area Details**

- Total calculated area of impact 0.4311 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 $V_{rec}$ :	25	Barrels
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Controlled recovery/evacuation from source with no impact to environment:

NIL	Barrels
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<p><b>c. Net Estimated Spilled Volume <math>V_{Est}</math> (bbls)* = 246.75 BARRELS</b></p>
<p><b>Estimated Reported Volume** <math>V_{rep}</math> (bbls) = 247 BARRELS</b></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 m<sup>3</sup> to barrels is Volume (m<sup>3</sup>) 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*

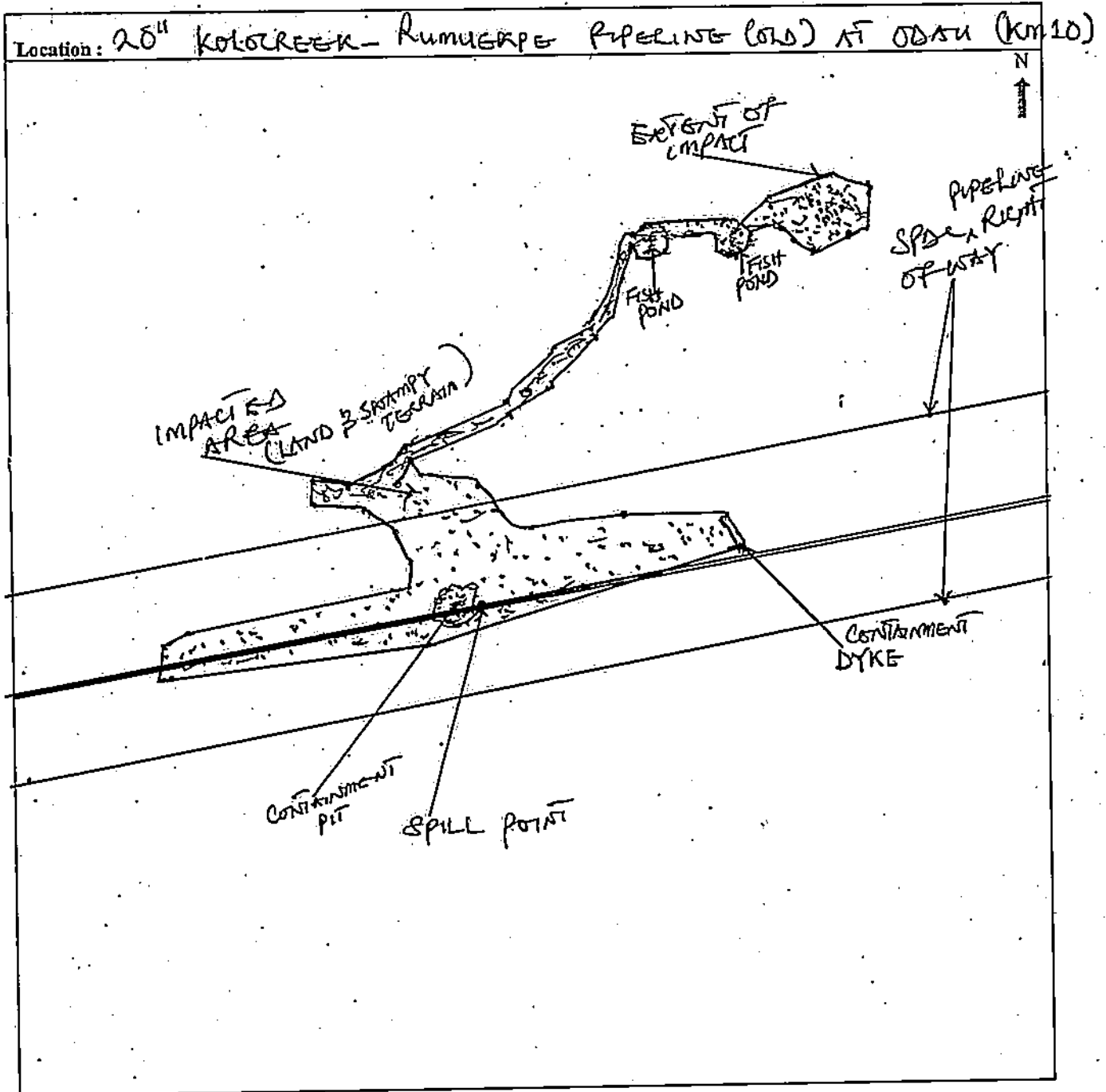
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f. Appendix d: Overview sketch of the site



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