

JOINT INVESTIGATION REPORT

INCIDENT NO: 2550098 JIV report S/N: 1030227

(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: 2550098 2. Type of incident: OIL SPILL
3. Name of Location: 20" KOLD CREEK - RUMUEKPE PIPELINE
4. Name of nearest community: RUMUEKPE 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 LTD (SPDC) / PIPELINE

B. INCIDENT INFORMATION:

9. Details of incident

- a. Date Reported: 15TH JANUARY 2020
b. Start date/time of investigation: 17TH JANUARY 2020/1130HRS
c. Investigation End date: 17TH 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:

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

(WGS84)

Northing: <u>LATITUDE</u>	Easting: <u>LONGITUDE</u>
<u>4.98131N</u>	<u>6.68196E</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
 ~~SEASONAL~~ 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 [NIL ,m]
- Drinking water source [NIL ,m]
- Built up area [NIL ,m]
- Farmlands [NIL ,m]
- Fish Farm/Pond [NIL ,m]
- Fishing net [NIL ,m]
- Others (specify): [NIL ,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 RESPONSE

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	Date	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>						

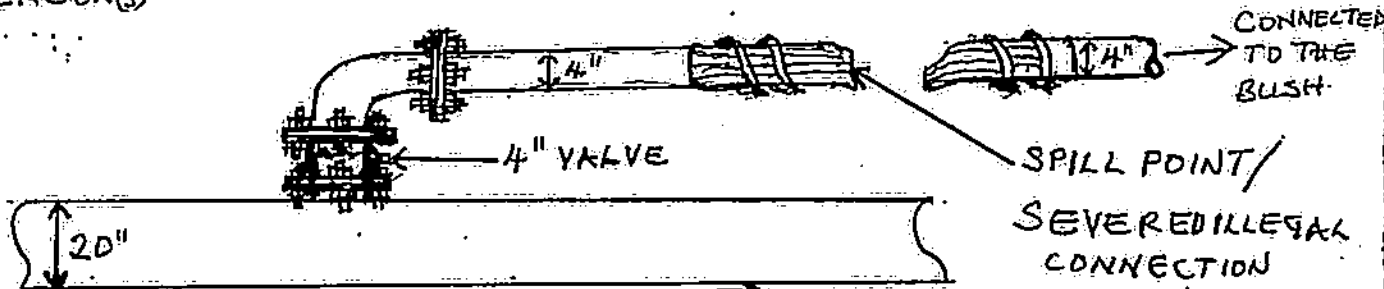
19. Fish/Nets/Ponds

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 an appendix 1) A SECTION OF 20" KOLOCREEK - RUMUEKPE PIPELINE AT RUMUEKPE SHOWING 4" VALVE ILLEGAL CONNECTION INSTALLED AT 12 O'CLOCK POSITION BY UNKNOWN PERSON(S)



**CO-ORDINATE LISTING FOR JIV DONE ALONG 20"
KOLOCREEK TO RUMUEKPE T/L AT RUMUEKPE**


INC. NO. : 2020_2550098 (WGS 84)

PT_ID	LONGITUDE	LATITUDE
89 SP	6.68196	4.98131
88	6.68211	4.98164
89	6.68206	4.98149
90	6.682	4.98134
91	6.68203	4.98132
92	6.68197	4.98105
93	6.68191	4.98095
94	6.68176	4.98089
95	6.68158	4.98094
96	6.68146	4.98087
97	6.68114	4.98087
98	6.68093	4.98086
99	6.68078	4.98078
100	6.68071	4.98058
101	6.68074	4.97982
102	6.68071	4.97924
103	6.68059	4.97877
104	6.68073	4.97877
105	6.68114	4.97937
106	6.68134	4.97962
107	6.68138	4.97958
108	6.68121	4.97933
109	6.68081	4.97866
110	6.68071	4.97841
111	6.68059	4.97824
112	6.68015	4.97795
113	6.68011	4.97778
114	6.67992	4.97782
115	6.68001	4.97809
116	6.6801	4.97851
117	6.68036	4.9791
118	6.68061	4.9794
119	6.68061	4.97982
120	6.68045	4.98021
121	6.68067	4.98069
122	6.68077	4.98091
123	6.68092	4.9809
124	6.68142	4.98092
125	6.68181	4.98114
126	6.68177	4.98129
127	6.68146	4.98133
128	6.68094	4.98113
129	6.68067	4.98089
130	6.68082	4.98121
131	6.68136	4.98142
132	6.68132	4.98154

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17-02-2020

CO-ORDINATE LISTING FOR JIV DONE ALONG 20"
KOLOCREEK TO RUMUEKPE T/L AT RUMUEKPE
INC. NO. : 2020_2550098 (WGS 84) CONTD.

133	6.68123	4.98155
134	6.68124	4.98166
135	6.6814	4.98171
136,	6.68142	4.98162
137	6.68134	4.98154
138	6.68136	4.98146
139	6.68178	4.98161
140	6.68209	4.98172
141	6.68179	4.97996
142	6.68171	4.98004
143	6.68182	4.9801
144	6.68201	4.98011
145	6.68214	4.98024
146	6.68219	4.98016
147	6.68208	4.98001
148	6.68193	4.97996
149	6.68193	4.97962
150	6.68213	4.97951
151	6.68216	4.97927
152	6.68189	4.9792
153	6.68172	4.97943
154	6.68186	4.97967


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G. INCIDENT INFORMATION:

a. Impacted Area Details

- Total calculated area of impact: 1.88 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>6</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>181.00 BARRELS</u>
Estimated Reported Volume** V_{rm} (bbls) =	<u>181 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) 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*

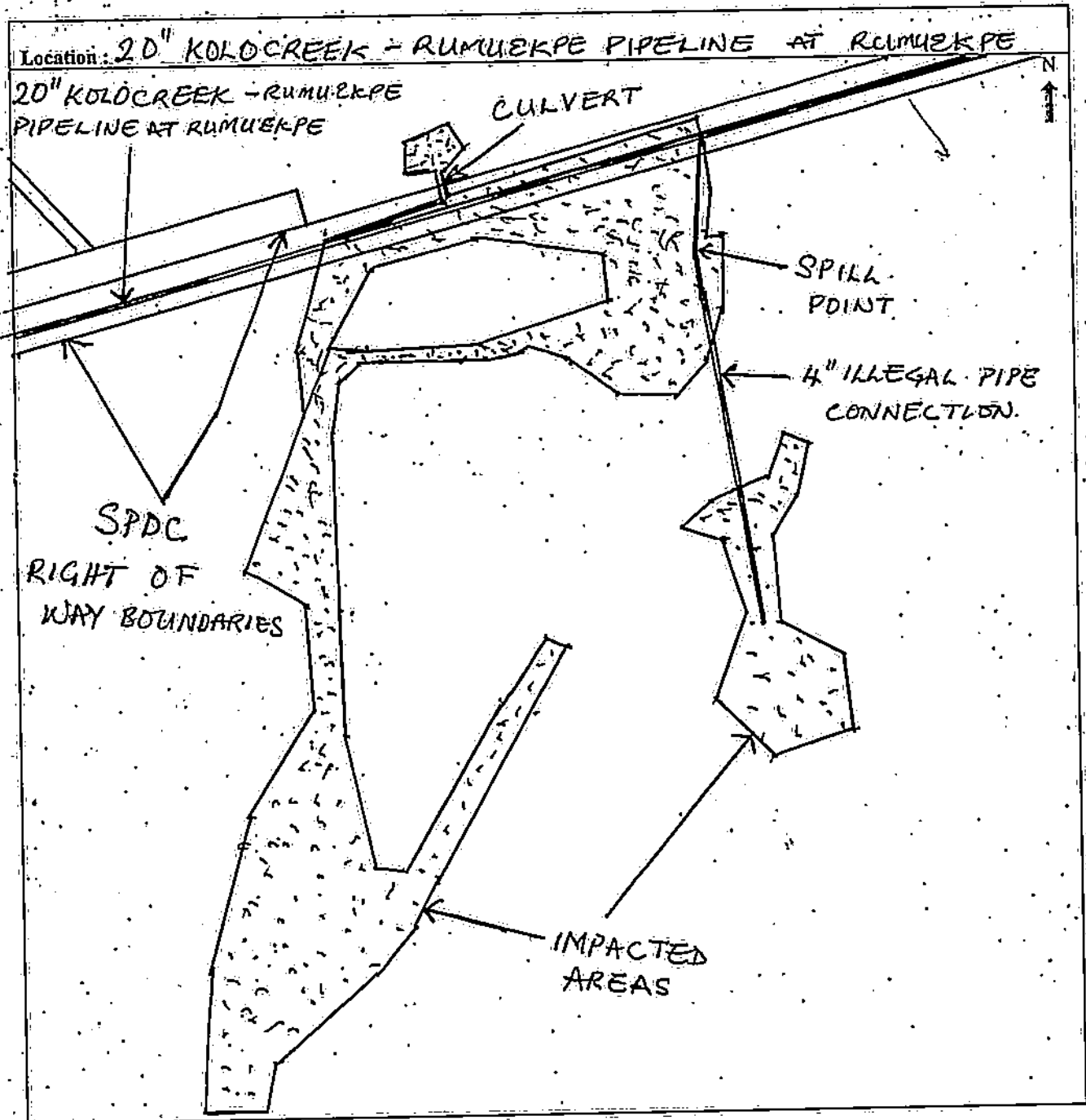
Tick as applicable

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f. Appendix d: Overview sketch of the site



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