

JOINT INVESTIGATION REPORT

INCIDENT NO: 2067472 JIV report S/N: 1052

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

A. GENERAL INFORMATION:

1. Spill incident Number: 2067472 2. Type of incident* OIL SPILL
3. Name of Location 14" OKORDIA - RUMUEKPE (TRUNKLINE) PIPELINE
4. Name of nearest community UKPELEDE 5. State: RIVERS 6. LGA ATHOADA WEST
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 of incident: 28TH APRIL, 2018
b. Start date/time of investigation: 5TH MAY, 2018
c. Investigation End date: 6TH MAY, 2018 Actual investigation duration, days: TWO(2) DAYS

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 checked="" type="checkbox"/> Swampy | <input type="checkbox"/> Exposed pipe surface |
| <input type="checkbox"/> Well Platform (on Water) | <input type="checkbox"/> Drill Rig | |

Additional observations around the spill point:

NOT APPLICABLE

e. Description of leak point (tick as applicable);

- | | | |
|---|--|--|
| <input checked="" 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 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"/> Corrosion | <input type="checkbox"/> Others(specify) _____ | |

f. Incident caused by:

- Third party interference (Sabotage ; crude theft ; Line theft ; Accidental 3rd party damage
 Operational Mystery spills Others(specify) _____

*This can be: a) Oil Spill b) Drilling fluid/Chemical c) Siltation d) construction e) Encroachment f) Fire.

JOINT INVESTIGATION REPORT

INCIDENT NO: 2067472 JIV report S/N: 1052

g. Spill point coordinates

h. Measuring unit

WGS 84

Northing: LATITUDE	Easting: LONGITUDE
05-08900	006-53350

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 from the nearest sensitive habitat

- 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:

RECOVERY AND REPAIR WORK BY CLAMPING
ARE ON-GOING

15. Was there any disruption to the investigation?

[Y] [N]

JOINT INVESTIGATION REPORT

INCIDENT NO: 2067472 JIV report S/N: 1052

If yes to item 15 give brief description:

NOT APPLICABLE

D. TYPE/NUMBERS OF PROPERTIES, IF ANY, FOUND WITHIN THE AREA OF SPREAD OF OIL

16. Structures / Properties

S/N	Type of Structures	Description	Size	Number	Comments
NONE WITHIN AREA OF IMPACT					

17. Crops/Economic Trees

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
NONE WITHIN AREA OF IMPACT						

18. Fishing Nets/Fish Ponds

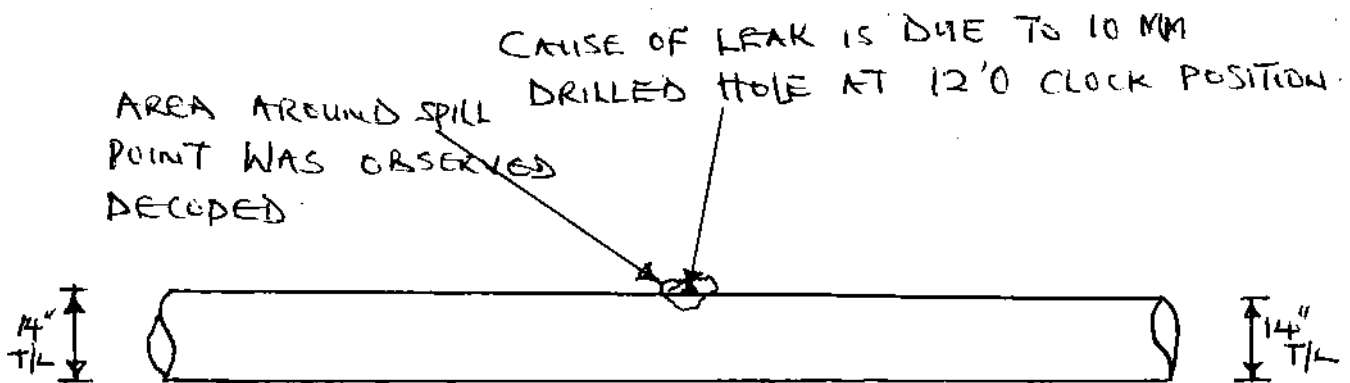
S/N	Nets/Ponds	Description	Quantity/Size	Comments
NONE WITHIN AREA OF IMPACT				

19. 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 I)

SECTIONAL VIEW OF 14" OKORDIA - RUMUEKPE (TRUNKLINE) PIPELINE AT UKPELEDE SHOWING! - LEAK DUE TO 10MM DRILLED HOLE



OKORDIA - RUMUEKPE PIPELINE.

INC NO.: 2018_2067472

PT_ID	LAT_Y	LONG_X
SP	5.089	6.5335
66	5.08887	6.53371
67	5.0889	6.53365
68	5.08898	6.53361
69	5.08904	6.53354
70	5.08908	6.53349
71	5.08886	6.53358
72	5.08883	6.53355
73	5.08884	6.53353
74	5.08885	6.53354
75	5.08887	6.53356
76	5.0889	6.53355
77	5.08893	6.53344
78	5.08893	6.53332
79	5.08893	6.5333
80	5.08896	6.53328
81	5.08901	6.53325
82	5.08901	6.53328
83	5.08901	6.5333
84	5.08901	6.53335
85	5.08898	6.5334
86	5.08896	6.53344
87	5.08898	6.53346
88	5.08902	6.53342
89	5.08906	6.53336
90	5.0891	6.53329
91	5.08917	6.53318
92	5.08928	6.53302
93	5.08933	6.533
94	5.08948	6.53278
95	5.0895	6.53279
96	5.08948	6.53284
97	5.08947	6.53291
98	5.08945	6.53297
99	5.08949	6.53296
100	5.0895	6.53299
101	5.08948	6.53299
102	5.08944	6.53299
103	5.08943	6.53302
104	5.08933	6.53312
105	5.08928	6.53323
106	5.08928	6.53325
107	5.08931	6.53328
108	5.08931	6.53329
109	5.08929	6.5333
110	5.08927	6.53327
111	5.08925	6.53327
112	5.08914	6.5334

PT_ID	LAT_Y	LONG_X
113	5.0891	6.53349
115	5.08886	6.5337
116	5.08898	6.53335
117	5.08898	6.53336
118	5.089	6.53325
119	5.089	6.5333
120	5.08896	6.53333
121	5.08896	6.53331
122	5.08886	6.53353
123	5.08885	6.53352
124	5.08888	6.53364
125	5.0889	6.53356

JOINT INVESTIGATION REPORT

INCIDENT NO: 2067472 JIV report S/N: 1052

G. INCIDENT INFORMATION:

a. Impacted Area Details

- Total calculated area of impact 0.1328 HA
- Impact within R.O.W YES
- Impact outside 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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c. Net Estimated Spilled Volume V_{Est} (bbls)* =

399.60 BARRELS

Estimated Reported Volume V_{rep} (bbls)=** 400 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 estimating the spilled in the box below:

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) 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 6e (Deviations) of the JIV procedure to use appropriate steps for volume estimation: record the calculation in a plain sheet of paper and attach to the JIV report.

JOINT INVESTIGATION REPORT

INCIDENT NO: 2067472 JIV report S/N: 1052

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
- ii. Investigation of the incident site showed that there is residual impact on site requiring further works

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]:
- Asset Owner:
- Signatories agree with reported findings:
- 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

