

JOINT INVESTIGATION REPORT

INCIDENT NO: 2158670 JIV report S/N: 1143

(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: 2158670 2. Type of incident*: OIL SPILL
 3. Name of Location 20" OTUMARA - ESCRAVOS PIPELINE
 4. Name of nearest community UGBOEGUNGUM 5. State: DELTA 6. LGA WARRI SOUTH -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: 8TH SEPTEMBER 2018
 b. Start date/time of investigation: 9TH SEPTEMBER, 2018 AT 13:43HRS
 c. Investigation End date: 9TH SEPTEMBER, 2018 Actual investigation duration, days: ONE DAY
 d. Description of spill point environment
- | | | |
|---|--|---|
| <input type="checkbox"/> Firm soil | <input 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: 2" FLANGE ILLEGALLY ATTACHED TO THE 20" OTUMARA - ESCRAVOS PIPELINE AT 12 O'CLOCK POSITION WAS OBSERVED BY THE JOINT INVESTIGATION TEAM.

- c. 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 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: 2158670 JIV report S/N: 1143

g. Spill point coordinates

h. Measuring unit

WGS 84

Northing: (LATITUDE)	Easting: (LONGITUDE)
5.163119	5.627159
/	/
/	/
/	/

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

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

RECOVERY ACTIVITIES ARE ONGOING

15. Was there any disruption to the investigation?

[Y]

JOINT INVESTIGATION REPORT

INCIDENT NO: 2158670 JIV report S/N:1143

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

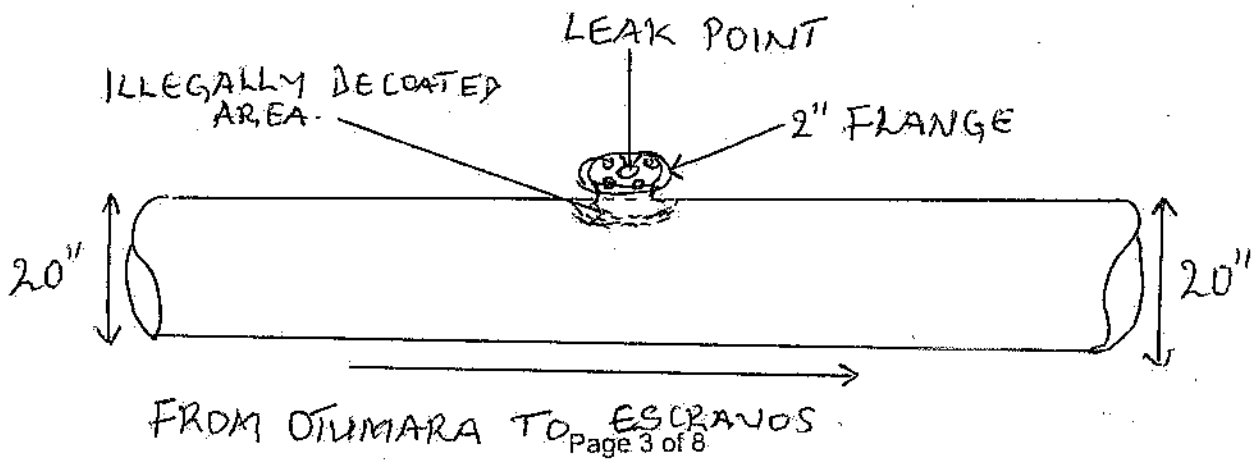
S/N	Nets/Ponds	Description	Quantity/Size	Comments
NONE WITHIN AREA OF IMPACT				

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 1)

SECTION OF 20" OJUMARA - ESCRAVOS PIPELINE AT UGBOEGUNGUN SHOWING CRUDE OIL THEFT POINT AT 12 O'CLOCK POSITION



INCIDENT NUMBER 2158670

FID	Long	Lat	P	REMARK
0	5.164293	5.626845	R4	FREE PHASE
1	5.164482	5.626881	R3	
2	5.164518	5.626755	R1	
3	5.164292	5.626692	R2	
4	5.164004	5.626828	R5	
5	5.163796	5.626964	P2	
6	5.163309	5.6271	L3	
7	5.16321	5.6271	L4	
8	5.163192	5.627109	D3	
9	5.163173	5.6271	D2	
10	5.163092	5.6271	SF	
11	5.162885	5.627173	P1	
12	5.161027	5.629318	P3	
13	5.161172	5.629463	P4	
14	5.162065	5.62844	P5	
15	5.163354	5.627281	P6	
16	5.163923	5.62709	R6	
17	5.164103	5.626954	R7	
18	5.164293	5.626845	R4	
19	5.163092	5.6271	SF	SUPER FICIAL
20	5.163173	5.6271	D2	
21	5.163191	5.627082	D1	
22	5.163146	5.627055	L1	
23	5.163092	5.6271	SF	
24	5.163191	5.627082	D1	EXCA AREA (SP)
25	5.163173	5.6271	D2	
26	5.163192	5.627109	D3	
27	5.16321	5.6271	L4	
28	5.163191	5.627082	D1	
29	5.163309	5.6271	L3	LIGHT IMPACT
30	5.163191	5.627	L2	
31	5.163146	5.627055	L1	
32	5.163191	5.627082	D1	
33	5.16321	5.6271	L4	
34	5.163309	5.6271	L3	
35	5.163119	5.627159	SP	SPILL POINT

J. 09/09/2018

JOINT INVESTIGATION REPORT

INCIDENT NO: 2158670 JIV report S/N: 1143

G. INCIDENT INFORMATION:

a. Impacted Area Details

- Total calculated area of impact 1.277443 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} :	30	Barrels
---------------------------	----	---------

Controlled recovery/evacuation from source with no impact to environment:

NIL	Barrels
-----	---------

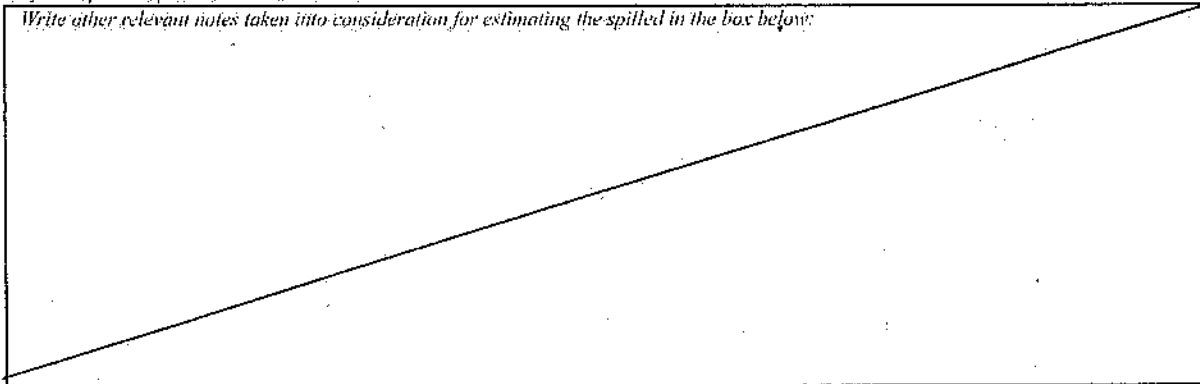
c. Net Estimated Spilled Volume V_{Est} (bbls)* =

	171.22 BARRELS
Estimated Reported Volume** V_{rep} (bbls) =	172 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:



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 m³ to barrels is Volume (m³) 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: 2158670 JIV report S/N: 1143

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

JOINT INVESTIGATION REPORT

INCIDENT NO: 2158670 JIV report S/N: 1143

f. Appendix 1: Overview sketch of the site

