

JOINT INVESTIGATION REPORT

INCIDENT NO: 2709278 JIV report S/N:

0675

(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: 2709278 2. Type of incident* OIL SPILL
3. Name of Location: 12" IMO RIVER 1 - OGALE PIPELINE
4. Name of nearest community: OKOHA 5. State: ABIA 6. LGA UKWA WEST
7. Production Facility/Installation CRUDE OIL PIPELINE
8. Asset Owner/Hub THE SHELL PETROLEUM DEVELOPMENT COMPANY
OF NIGERIA LIMITED / PIPELINE

B. INCIDENT INFORMATION:

9. Details of incident
a. Date Reported: 15TH AUGUST 2020
b. Start date/time of Investigation: 17TH AUGUST, 2020 / 10:50 HRS
c. Investigation End date: 17TH AUGUST, 2020 Day(s) on site: ONE (1) DAY
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 type="checkbox"/> Swampy | <input type="checkbox"/> Exposed pipe surface |
| <input type="checkbox"/> Well Platform (on water) | <input type="checkbox"/> Drill Rig | <input type="checkbox"/> Sand bag(s) |

Additional observations around the spill point:

NOT APPLICABLE

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

- | | | |
|--|---|--|
| <input type="checkbox"/> Smooth round-edge hole | <input type="checkbox"/> Rough-edge hole | <input type="checkbox"/> Hack saw cut |
| <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"/> Tear (_____) | | |
| <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) Water Leak (e) Fire (f) Non-leaking theft point removal

Distribution of copies: White (Asset Owner); Pink (DPR); Green (NOSDRA); Yellow (State Ministry of Environment); Blue (Host Community) Version 2020/01

JOINT INVESTIGATION REPORT

INCIDENT NO: 2709278 JIV report S/N:

0675

g. Spill Point Coordinates (*Incidents $\leq 100m$ apart to be aggregated into one Joint Investigation Report)

h. Measuring unit

Northing:	Easting:
4. 93220	007.18475

C. RISK ASSESSMENT

10. Details of Environment

i. Type of environment where spill occurred (select one):

- Land
 Swamp
 Water
 Seasonal swamp
 Shoreline/Waterfront

ii. Type of environment to which oil has spread:

- Land
 Swamp
 Waterbody (specify) _____

iii. Weather condition

- Dry
 Wet
 Windy
 Hot

11. Distance to Sensitive habitat within 100m radius

- Government reserved and designated protected area [,m]
- Drinking water source [,m]
 - Surface water
 - Borehole
- Built up Area [,m]
 - Residential Area
 - Commercial/Industrial Area
- Farmlands (IMPACTED) [,m]
- Fish Farm/Pond [,m]
- Fishing net [,m]
- Others (specify) _____ [,m]

NONE SEEN
 WITHIN
 VICINITY
 EXCEPT
 FARMLAND

12. Containment measures put in place:

- Booms
 Trench
 Dyke
 Pit
 Natural depression
 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 WORK BY CLAMPING COMPLETED, CRUDE OIL RECOVERY ACTIVITIES ONGOING.

JOINT INVESTIGATION REPORT

INCIDENT NO: 2709278 JIV report S/N: 0675

15. Was there any disruption to the investigation? [Y] [N]

If yes to item 15 give brief description:

NOT APPLICABLE

16. Was JIV delayed? [Y] [N]

Reason(s):

- Delayed Community Access Approval
 Security Challenges
 Access constraint due to terrain
 Others (specify) 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>1</u>	<u>TAM PLANT</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>16</u>	<u>IMPACTED BY SPILL</u>

19. Fish/Nets/Ponds

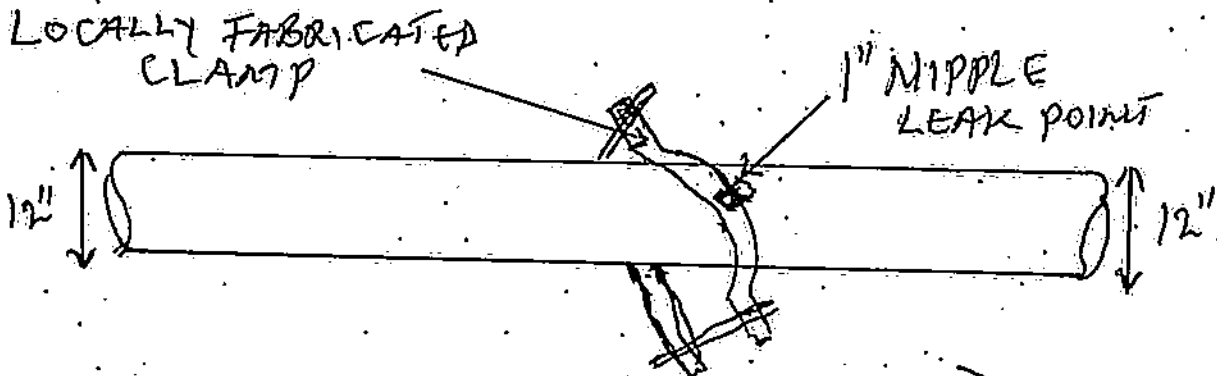
S/N	Fish/Nets/Ponds	Description	Quantity/Size	Comments
<u>NONE WITHIN AREA OF IMPACT</u>				

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

S/N	Others	Description	Quantity/Size	Comments
<u>NONE WITHIN AREA OF IMPACT</u>				

E. GRAPHIC DESCRIPTION OF LEAK POINT (while detailed description of the leak point should be contained in the leak report, overview sketch of the site should be added as appendix 1)

SECTION OF 12" MOTORER 1 - OGALE PIPELINE AT OKDAMA SHOWING CRUDE OIL TIGHT POINT INSTALLED AT 12 O'CLOCK POSITION BY UNKNOWN PERSON(S)



FROM MOTORER 1 TO OGALE →

JIV ALONG 12" IMO RIVER TO OGALE TRUNK LINE AT OKOHIA

PNT_JSD	LAT	LONG
412	4.93203	7.18483
413	4.93205	7.18479
414	4.93207	7.18478
415	4.93208	7.18474
416	4.93213	7.18474
417	4.93274	7.18471
418	4.93315	7.18475
419	4.93316	7.18478
420	4.93324	7.18476
421	4.93339	7.18476
422	4.93353	7.18477
423	4.93364	7.18478
424	4.93368	7.18477
425	4.93384	7.18477
426	4.93384	7.18476
427	4.93388	7.18476
428	4.9339	7.18469
429	4.93388	7.18456
430	4.9339	7.18452
431	4.93388	7.18439
432	4.9339	7.18443
433	4.93391	7.18451
434	4.93391	7.18454
435	4.9339	7.18467
436	4.93389	7.18468
437	4.9339	7.18475
438	4.93388	7.18477
439	4.93392	7.18479
440	4.93392	7.18484
441	4.93388	7.18486
442	4.93386	7.1848
443	4.93368	7.1848
444	4.93364	7.18482
445	4.93363	7.18481
446	4.93364	7.18477
447	4.93355	7.1848
448	4.9335	7.1848
449	4.93349	7.18483
450	4.93334	7.18484
451	4.93333	7.18482
452	4.93317	7.18479
453	4.93306	7.18477
454	4.93307	7.18479
455	4.93302	7.18478
456	4.933	7.18477
457	4.93297	7.18483
458	4.93296	7.18487
459	4.93289	7.18496

460	4.93288	7.18505
461	4.93288	7.1851
462	4.93286	7.18514
463	4.93285	7.18516
464	4.93286	7.18512
465	4.93286	7.18508
466	4.93285	7.18504
467	4.93286	7.18499
468	4.9329	7.18493
469	4.93293	7.18489
470	4.93294	7.18486
471	4.93293	7.18477
472	4.93287	7.18477
473	4.93288	7.18479
474	4.93268	7.18477
475	4.9326	7.18477
476	4.93259	7.18479
477	4.93252	7.1848
478	4.93249	7.1848
479	4.93249	7.18479
480	4.93239	7.18479
481	4.93236	7.18478
482	4.93227	7.18477
483	4.93227	7.18483
SP 1	4.9322	7.18475

John L

JOINT INVESTIGATION REPORT

INCIDENT NO: 2709278 JIV report S/N: 0675

G. INCIDENT INFORMATION:

a. Impacted Area Details *

- Total calculated area of impact (Ha) 0.144 HA
- Impact within SPDC R.O.W YES
- Impact outside SPDC R.O.W YES

* Round off to 2 decimal places if area is $\geq 100 \text{ m}^2$ or to 4 decimal places if area is $< 100 \text{ m}^2$ (e.g. 14.55, 0.0051, 0.0009)

* Express in Hectares (Ha)

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

Recovered oil V_{rec} :	<u>62</u>	Barrels
----------------------------------	-----------	---------

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

<u>NIL</u>	Barrels
------------	---------

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

80.99 BARRELS

Estimated Reported Volume** V_{rep} (bbls) =

81 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 $\text{Volume (m}^3) \times 6.29$; **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.

Version 2020/01

Distribution of copies: White (Asset Owner); Pink (DPR); Green (NOSDRA); Yellow (State Ministry of Environment); Blue (Host Community)

JOINT INVESTIGATION REPORT

INCIDENT NO: 2709278 JIV report S/N:0675

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]:
- The Shell Petroleum Development Company [SPDC]:
- *Separate DPR form has been filled out with same findings*
- *Separate NOSDRA form has been filled out with same findings*
- *Separate SME form has been filled out with same findings*

Tick as applicable

JOINT INVESTIGATION REPORT

INCIDENT NO: 2709278 JIV report S/N: 675

f. Appendix 1: Overview sketch of the site

