

JOINT INVESTIGATION REPORT

INCIDENT NO: 1473411 JIV report S/N:

№: 0000363

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

A. GENERAL INFORMATION:

1. Spill incident Number: 1473411 2. Type of incident* OIL SPILL
3. Name of Location 6" SEIBOU BULKLINE - 4
4. Name of nearest community AZAGBENE 5. State: BAYELSA 6. LGA EKEREMOR
7. Type of Production facility/Installation FLOWLINE
8. Asset owner/District THE SHELL PETROLEUM DEVELOPMENT COMPANY OF

B. INCIDENT INFORMATION: NIGERIA LIMITED / SWAMP WEST

9. Details of incident

- a. Date of incident: 27TH AUGUST, 2015
b. Start date/time of investigation: 1ST SEPTEMBER, 2015 AT 1400HRS
c. Investigation End date: 26TH APRIL, 2016 Actual investigation duration, days: 2 DAYS
d. Description of spill point environment

- | | | |
|---|--|--|
| <input type="checkbox"/> Firm soil | <input type="checkbox"/> Loose soil | <input 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: UPON EXCAVATION, THE JOINT INVESTIGATION TEAM OBSERVED A HACK-SAW CUT (ABOUT 10CM LONG) ON SEIBOU BULKLINE - 4 AT 2 O' CLOCK POSITION.

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

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

f. Incident caused by:

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

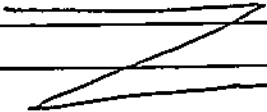
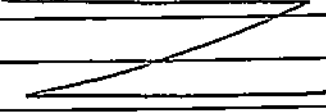
* This can be; a) Oil Spill b) Drilling fluid/Chemical c) Siltation d) construction e) Encroachment f) Fire.

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g. Spill point coordinates

h. Measuring unit WGS 84 (DECIMAL - DEGREE)

Northing:	Easting:
4.88888	5.85293
	

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]
[.m]
[.m]
[.m]
[.m]
[.m]

} NONE WITHIN
THE VICINITY

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:

NOT APPLICABLE

15. Was there any disruption to the investigation?

[Y] [N]

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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
1-	RAFFIA PALM	—	—	YES	WITHIN 0.13HA	STAINED WITH OIL

18. Fishing Nets/Fish Ponds

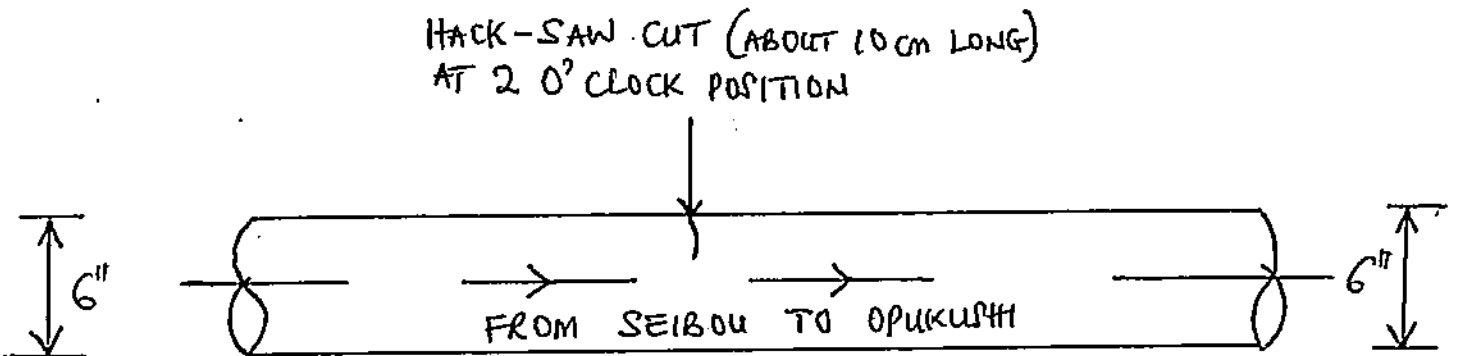
S/N	Nets/Ponds	Description	Quantity/Size	Comments
NONE WITHIN AREA OF IMPACT				

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)

A SECTION OF 6" SEIBOU BULKLINE - 4 AT AZAGBENE AXIS
SHOWING; POSITION OF HACK-SAW CUT (ABOUT 10CM LONG)



APPENDIX 2 (INCIDENT NUMBER: 1473411)

WGS84

EASTING	NORTHING	POINT	latitude	longitude
380855.626	97792.807	SPILL POINT	4.88388	5.85293
EASTING	NORTHING			
380852.626	97824.807	OIL SHEEN	4.88417	5.8529
380849.603	97822.307	OIL SHEEN	4.88414	5.85287
380830.907	97823.531	OIL SHEEN	4.88416	5.85271
380806.097	97830.954	OIL SHEEN	4.88422	5.85248
380800.381	97831.804	OIL SHEEN	4.88423	5.85243
380796.619	97832.569	OIL SHEEN	4.88424	5.8524
380796.619	97832.569	OIL SHEEN	4.88424	5.8524
380800.61	97837.412	OIL SHEEN	4.88428	5.85243
380809.877	97835.572	OIL SHEEN	4.88427	5.85252
380818.041	97833.658	OIL SHEEN	4.88425	5.85259
380826.538	97832.45	OIL SHEEN	4.88424	5.85267
380835.1	97830.002	OIL SHEEN	4.88421	5.85274
380843.626	97830.807	OIL SHEEN	4.88422	5.85282
380847.681	97827.903	OIL SHEEN	4.8842	5.85286
380852.626	97824.807	OIL SHEEN	4.88417	5.8529
EASTING	NORTHING			
380745.626	97796.807	HEAVY IMPACT	4.88392	5.85194
380755.074	97794.032	HEAVY IMPACT	4.88389	5.85202
380766.781	97797.005	HEAVY IMPACT	4.88392	5.85213
380778.837	97796.83	HEAVY IMPACT	4.88392	5.85224
380795.961	97799.978	HEAVY IMPACT	4.88394	5.85239
380806.794	97796.83	HEAVY IMPACT	4.88392	5.85249
380820.073	97797.53	HEAVY IMPACT	4.88392	5.85261
380837.896	97792.983	HEAVY IMPACT	4.88388	5.85277
380862.626	97787.807	HEAVY IMPACT	4.88383	5.85299
380862.626	97787.807	HEAVY IMPACT	4.88383	5.85299
380868.578	97782.316	HEAVY IMPACT	4.88378	5.85304
380876.266	97778.994	HEAVY IMPACT	4.88375	5.85311
380883.43	97773.923	HEAVY IMPACT	4.88371	5.85318
380892.341	97771.649	HEAVY IMPACT	4.88369	5.85326
380904.048	97765.879	HEAVY IMPACT	4.88363	5.85336
380911.626	97763.807	HEAVY IMPACT	4.88361	5.85343
380911.626	97763.807	HEAVY IMPACT	4.88361	5.85343
380919.664	97757.071	HEAVY IMPACT	4.88355	5.8535
380922.315	97755.26	HEAVY IMPACT	4.88354	5.85353
380926.606	97753.829	HEAVY IMPACT	4.88352	5.85357
380930.626	97753.807	HEAVY IMPACT	4.88352	5.8536
380933.842	97754.165	HEAVY IMPACT	4.88353	5.85363
380938.638	97758.502	HEAVY IMPACT	4.88357	5.85368
380942.34	97764.944	HEAVY IMPACT	4.88362	5.85371
380945.626	97770.807	HEAVY IMPACT	4.88368	5.85374
380945.626	97770.807	HEAVY IMPACT	4.88368	5.85374
380939.742	97772.103	HEAVY IMPACT	4.88369	5.85369

380930.534	97773.343	HEAVY IMPACT	4.8837	5.8536
380913.626	97777.807	HEAVY IMPACT	4.88374	5.85345
380904.148	97783.082	HEAVY IMPACT	4.88379	5.85336
380885.626	97794.807	HEAVY IMPACT	4.8839	5.8532
380880.065	97797.426	HEAVY IMPACT	4.88392	5.85315
380869.262	97807.166	HEAVY IMPACT	4.88401	5.85305
380852.626	97824.807	HEAVY IMPACT	4.88417	5.8529
380852.626	97824.807	HEAVY IMPACT	4.88417	5.8529
380849.603	97822.307	HEAVY IMPACT	4.88414	5.85287
380830.907	97823.531	HEAVY IMPACT	4.88416	5.85271
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380800.381	97831.804	HEAVY IMPACT	4.88423	5.85243
380796.619	97832.569	HEAVY IMPACT	4.88424	5.8524
380794.038	97831.051	HEAVY IMPACT	4.88423	5.85237
380788.626	97825.807	HEAVY IMPACT	4.88418	5.85232
380783.205	97825.105	HEAVY IMPACT	4.88417	5.85228
380775.626	97829.807	HEAVY IMPACT	4.88421	5.85221
380775.867	97832.625	HEAVY IMPACT	4.88424	5.85221
380773.916	97836.829	HEAVY IMPACT	4.88428	5.85219
380762.238	97830.701	HEAVY IMPACT	4.88422	5.85209
380753.626	97826.807	HEAVY IMPACT	4.88419	5.85201
380746.163	97808.667	HEAVY IMPACT	4.88402	5.85194
380745.626	97796.807	HEAVY IMPACT	4.88392	5.85194

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G. INCIDENT INFORMATION:

a. Impacted Area Details

- Total calculated area of impact 0.552 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} :	NIL	Barrels
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Controlled recovery/evacuation from source with no impact to environment:

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

<p style="font-size: 2em;">460.20 BBLs</p>	
<p>Estimated Reported Volume** V_{rep} (bbls) =</p> <p style="font-size: 1.5em;">461 BBLs</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 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 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 6c (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.

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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]:
- 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

