

(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: 858503 2. Type of incident * OIL SPILL
 3. Name of Location 12" AFIESERE - ERIEMU DELIVERY LINE
 4. Name of nearest community EMERAGHA 5. State: DELTA 6. LGA UGHELLI NORTH
 7. Type of Production facility/Installation PIPELINE 8. Asset owner/ District NPW

B. INCIDENT INFORMATION:

9. Details of incident

- a. Date of incident: 26 AUGUST 2012 03:30PM
 b. Start date/time of investigation: 28/08/2012 \$ 29/08/2012 @ 1615 HRS
 c. Investigation End date: _____
 d. Description of spill point environment
 Firmed soil Loose soil Previously excavated area
 Under water Swampy Exposed pipe surface
 Well Platform (on Water) Rig
 e. Description of leak point (tick as applicable);
 Drilled hole Hack saw cut Explosive tear,
 Complete Rupture Inward dent, Well head tampering
 Failed Weld-on illegal hot tap valve, Missing Pipeline/Flowline)
 Crude oil theft (illegal) bunkering) point, Third party tampering with Clamp
 Third party tampering with valve setting, Third party tampering with flange,
 Corrosion Saver-pit over flow, Surge vessel overflow
 Outward dent Flare System/Bund wall failure
 Valve Failure com unit failure Cold vent
 Relief valve failure Others (specify) _____
 f. Incident caused by:
 Third party interference Operational Mystery _____

g. Spill point coordinates

Measuring unit	
Northing: <u>170230MM</u>	Easting: <u>40061ME</u>

*This can be a) Oil spill b) Drilling fluid/Chemical c) siltation d) construction e) Encroachment f) Fire,

C. RISK ASSESSMENT

10. Type of environment:

- Land Swamp Water Seasonal swamp

i. Type of environment to which oil has spread:

- Land Swamp Water River (identify) _____

ii. Weather condition

- Raining Sunny

11. Distance from the nearest sensitive habitat

- Government reserved and designated protected area [NIL ,m]
- Drinking water source [NIL ,m]
- Built up area [NIL ,m]
- Farmlands [5 ,m]
- Fish Farm/Pond [0 ,m]
- Fishing net [0 ,m]
- Others (specify).

12. Containment measures put in place;

- Booms Trench Dyke

Others: _____

13. Any pictures or video coverage? [N]

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

If yes give brief description:

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

15. Structures / Properties

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

16. Crops/Economic Trees

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
1	MANGROVES	YES	YES	YES	LOT	---
2	RUBBER TREES	YES	YES	YES	LOT	---
	/	/	/	/	/	/

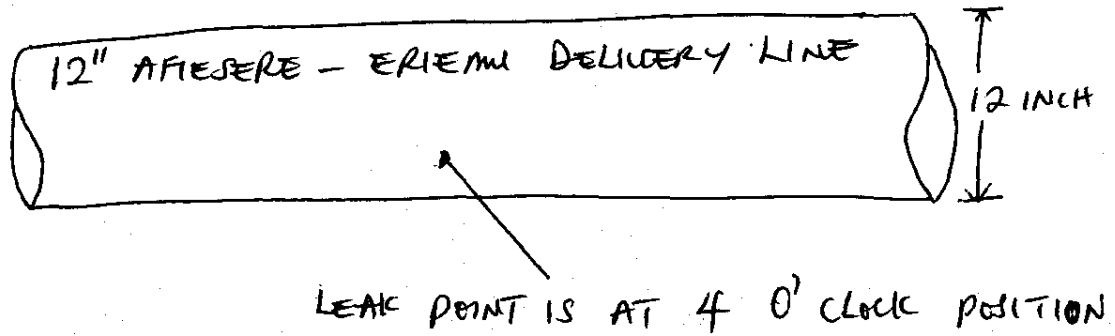
17. Fish/Nets/Ponds

S/N	Fish/Nets/Ponds	Description	Quantity/Size	Comments
1	FISH PONDS	/	LOT	---
2	FISH NET	/	LOT	---
3	/	/	/	/

18. Others (Specify) i.e. Animal Traps

S/N	Others	Description	Quantity/Size	Comments
1.	ANIMAL TRAP	/	LOT	---
/	/	/	/	/

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)



F: TABLE SHOWING SOME OF COORDINATES TAKEN DURING JIV FOR AREA CALCULATION

19. Impacted area boundary Coordinates (If more than 12 points, Attach as an appendix 2)

S/N	Northing	Easting
	169680	400161
	169635	400144
	169607	400131
	169530	400117
	169464	400052
	169404	399950
	169400	399892
	169369	399840
	169350	399788
	169349	399725
	169346	399694
	169341	399644
	169116	399623

G. INCIDENT INFORMATION:

20. Impacted Area Details

- Total calculated area of impact 43,023 m²
- Impact within SPDC R.O.W 197 m²
- Impact outside R.O.W 42,826 m²

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

Recovered oil V _{rec}	<u>NIL</u>	barrels
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20. Computation of the residual volume on site

- a. Computation of volume of pool of free phase oil (on land or confined water body).
- Area (m²) occupied by pool of free phase oil 42,944.2 m²
 - Average Depth (m) of pool of free phase oil 0.003 m

iii. Emulsification factor: 60%

iv.

Volume of pool of free phase oil, V_{pool} :	32411 barrels
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b. Computation of volume of infiltrated oil in the soil (V_{inf}):

- i Area *(m²) covered by the oil: 78.8 m²
- ii Area of the pool of free phase oil in touch with soil: NIL
- iii Average Depth (m) below ground surface of infiltration of oil: 0.1m
- iv Soil type: CLAY
- v P_e (effective porosity of the soil): 8%

iv.

Volume of infiltrated oil, V_{inf} :	3.96 barrels
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21. Computation of volume of oil on open water based on standard coloration.

- i. Total area of oil on open water: NIL
- ii. Table of average depth of oil on water based on coloration**

	Thickness (mm)	Percentage coverage	Volume (m ³)
Barely Visible	0.00004		
Silvery	0.00008		
Slight Color	0.00015		
Bright Color	0.0003		
Dull	0.001		
Dark	0.002		
Black oil	0.1		
Emulsion (30% Oil)	1		
Percent Total		100%	Total Volume <u>NIL m³</u>

NOT APPLICABLE

iii.

Volume of oil on open water, V_{wat} :	NIL barrels
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22. Calculation of evaporated volume:

- i. Oil type: BONNY MEDIUM
- ii. E-Factor: 15%

iii.

Volume of evaporated oil, V_{evap} :	57.9 barrels
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Evaporation Factors (E-Factor) for SPDC Crude oil			
Oil Type	Days on site	Bonny Light	Bonny Medium
Period Since Oil Spill	< 1 day	10%	5%
	1-7 days	25%	15%
	> 7 days	40%	25%

*If area is not same as the total area of impact, please indicate in the overview sketch
 ** Spill Factor from USCG FOG (2000 Edition)

<p>23. Gross Total Estimated Spilled Volume</p> <p>$V_{Est}(bbls) = V_{evap}(bbls) + V_{wat}(bbls) + V_{inf}(bbls) + V_{pool}(bbls) + V_{recj}(bbls)$</p> <p>$V_{Est}(bbls) =$ <u>386 BBLs</u></p>
<p>24. Net Total Estimated Spilled Volume</p> <p>$V_{Est}(bbls) = V_{evap}(bbls) + 0.6 * V_{wat}(bbls) + V_{inf}(bbls) + V_{pool}(bbls) + V_{recj}(bbls)$</p> <p>$V_{Est}(bbls) =$ <u>386 BBLs</u></p>

*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 Total volume VT (m3) x 6.29

*Emulsification factor for spill on water to consider is 60% of volume of oil.

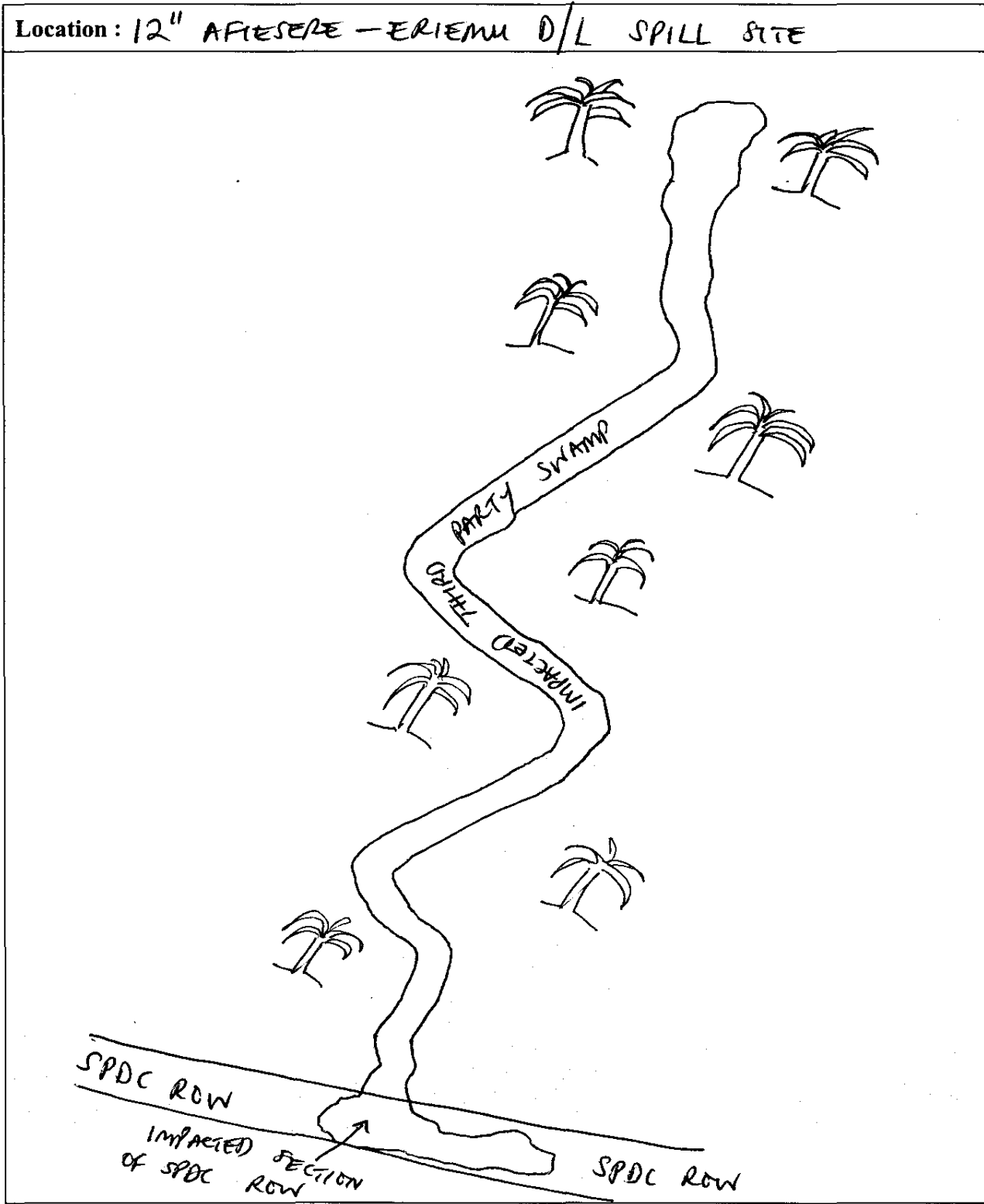
25. GENERAL STATUS OF THE SITE

<p>A. Joint investigation of the incident site found that there is no residual impact after the initial response and therefore recommend that the site be closed out <input type="checkbox"/></p>
<p>B. Investigation of the incident site showed that there is residual impact on site requiring further works <input checked="" type="checkbox"/></p>

26 REPRESENTATIVES

<p>This report was filled and signed on the <u>29 / 08 / 2012</u> at incident site by joint investigation representatives from</p> <ul style="list-style-type: none"> • Host Community <input checked="" type="checkbox"/> • Department of Petroleum Resources [DPR]: <input type="checkbox"/> • National Oil Spill Detection and Response Agency [NOSDRA]: <input checked="" type="checkbox"/> • State Ministry of Environment [SME]: <input type="checkbox"/> • Nigeria Police Force [NPF]: <input checked="" type="checkbox"/> • Shell Petroleum Development Company [SPDC]: <input checked="" type="checkbox"/> <p style="text-align: right;"><i>Tick as applicable</i></p>

27. Appendix 1: Overview sketch of the site



21. Appendix 2: TABLE SHOWING ADDITIONAL COORDINATES TAKEN DURING JIV FOR AREA CALCULATION

S/N	Northing	Easting
1	170235	400149
2	170225	400170
3	170231	400173
4	170211	400175
5	170186	400165
6	170163	400168
7	170116	400169
8	170062	400167
9	170027	400181
10	169977	400216
11	169890	400206
12	169865	400193
13	169846	400165
14	169834	400133
15	169831	400111
16	169792	400096
17	169753	400112
18	169710	400132