



APPENDIX I. OIL SPILL JOINT INVESTIGATION REPORT FORM

THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED.

A. GENERAL INFORMATION:

- 1. Spill incident Number: 2008_00261
- 2. Name of Location 2 1/4 BOMU - BUNNY TIL AT BOODO WEST FIELD
- 3. Name of nearest community BOODO CITY
- 4. State RIVERS LGA GOKANA
- 5. Type of Production facility/Installation PIL Asset owner/District _____

B. INCIDENT INFORMATION:

- 6. Details of incident 9-12-2008 (INCIDENT DATE)
 - a. Date of incident (REPORTED) - 7TH DECEMBER 2008
 - b. Date/Period of investigation, 14TH - 21ST FEBRUARY 2009
 - c. Description of leak point (tick as applicable):
 - Drilled hole,
 - Hack saw cut,
 - Explosive tear,
 - Inward dent,
 - Failed Weld-on illegal hot tap valve,
 - Crude oil theft (illegal bunkering),
 - Third party tampering with Bolt/Nut,
 - Third party tampering with clamp,
 - Third party tampering with valve setting,
 - Third party tampering with flange Nuts/bolts,
 - Acid Induced corrosion,
 - Natural Corrosion,
 - Saver-pit over flow,
 - Surge vessel overflow,
 - Outward dent
 - Others (specify) EXTERNAL WALL LOSS

7. Description of damaged/spill point including geographical coordinates:
SPILL OCCURED AT 12 O'CLOCK POSITION WITHIN AN ALREADY
DECONATED SQUARE SECTION ON THE PIL. WITH TWO
HORSE SHOE MAGNETIC MARKERS PLACED ON THE PREVIOUSLY
DECONATED SQUARE SECTION.

8. Description of unusual activities/circumstances around the spill point.
THERE WAS NO EVIDENCE OF PREVIOUS EXCAVATION
AT LEAK POINT. A SURFACE MARKER POST WAS
OBSERVED AT LEAK POINT.

Doc. No. EHS	Version ###	Date: ###	Custodian: EPS-JISK	ECCN: Not subject to EAR No US content	Page Page 1 of 3
Org. Doc. No: EP2005-0###-PR-##			Printed copies are uncontrolled		

8. a) Limits of oil spread:
- Within SPDC ROW
 - Beyond SPDC ROW

b) Measured extent of spread (surveyors report) ----- 21.64 ----- (Hectares)

C. ESTIMATED QUANTITY OF OIL SPILLED.

9.0 (I) Land Area

1. Computation of volume of free phase oil on land.

- a. Area (m²) occupied by pool of free phase oil ----- 6800 -----
 b. Average Depth (m) of pool of free phase oil ----- 0.0524 -----
 c. Volume-1 (m³) of free phase oil (a*b): ----- 357.0 -----

2. Computation of volume of superficial (top soil) impact (V-2).

- a. Area (m²) covered or stained by the oil ----- 10,800 -----
 b. Average Depth (m) of the oil stain ----- 0.0007 -----
 c. Volume-2 (m³) of stained superficial soil (a*b): ----- 7 -----

3. Computation of volume of infiltrated oil in the soil (V-3).

- a. Area (m²) covered by the oil: ----- 50,000 -----
 b. Average Depth (m) below ground surface of infiltration of oil: ----- 0.00013 -----
 c. Volume-3 (m³) of stained superficial soil (a*b* Pe (effective porosity)): ----- 0.7 -----

Total Volume V_{TL} (m³) = V-1 + V-2 + V-3

9.0 (II) Water Body

1. Computation of volume of free phase oil on water.

- a. Area (m²) occupied by slick/pool of free phase oil: ----- 100,000 -----
 b. Average Depth (m) of slick/pool of free phase oil: ----- 0.00007 -----
 c. Volume-1 (m³) of free phase oil (a*b): ----- 7 -----

2. Computation of volume of oil sheen on water.

- a. Area (m²) occupied by sheen of oil: ----- 50,000 -----
 b. Type of oil sheen: ((Silvery /Orange/ Iridescent/Black-dark appearance.) from sheen index description, tick as appropriate)
 c. Volume-2 (m³) - (From sheen index sheet): ----- 1.36 x 10⁷ -----

Total Volume V_{TW} (m³) = V-1 + V-2

Total Volume V_T (m³) = $V_{TL} + V_{TW}$

*Conversion of m3 to barrels is Total volume V_T (m³) x 6.29
 *Emulsification factor for spill on water to be discounted is 60% of volume of oil.

Net volume: 2503.4 BBLs

Doc. No: 000	Version 000	Date: 000	Custodian: EPS-ISE	ECCN: Not subject to EAR No US content	Page Page 2 of 5
Doc. No: EP2003-0000-PR-00				Printed copies are uncontrolled	

D. RISK ASSESSMENT

10. Type of environment of spill point:

- Land
- Swamp
- Water

11. Type of environment to which oil has spread:

- Land
- Swamp
- Water

12. Type of properties/structures, if any, found within area of spread of oil.

- Crops
- Type of crops
- Fish Farm/Pond
- Fishing net
- Others (specify).

13. Containment measures put in place;

- Booms
- Trench
- Dyke

14. Any pictures or video coverage?

- Yes
- No.

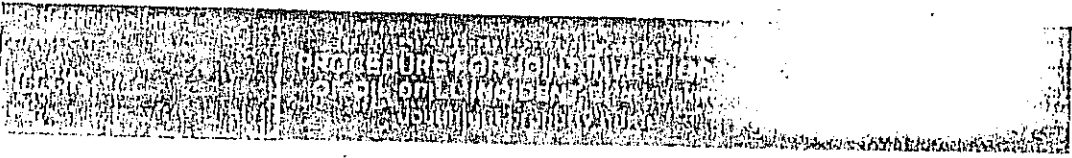
15. Was there any disruption to the investigation?

- Yes
- No.

If yes give brief description:

COMMUNITY WITH HELD THE SITE SIGNED JIT
FORM. DETAIL REPORTED IN FOUNTAIN ID 384561

Doc. No: R24	Version 000	Date: 000	Custodian: RPS-IISE	ECCN: Not subject to EAR No US content	Page Page 3 of 3
Org. Doc. No: EP2005-0000-PR-00			<i>Printed copies are uncontrolled</i>		



APPENDIX 1. OIL SPILL JOINT INVESTIGATION REPORT FORM

THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED.

- 1. Spill Incident Number: 2008 - 00217
- 2. Name of Location 24" TRIP BUMM - BOIN 4
- 3. Name of nearest community IE KURU (BODO)
- 4. State RIVERS LGA CROKANA
- 5. Type of Production facility/Installation TRUNK LINE Asset owner/District Bodo West

6. Details of incident

- a. Date of incident 05-10-2008
- b. Date/Period of investigation 7th Nov 2008
- c. Description of leak point (tick as applicable):

- Drilled hole,
- Hack saw cut,
- Explosive tear,
- Inward dent,
- Failed Weld-on illegal hot tap valve,
- Crude oil theft (illegal bunkering),
- Third party tampering with Bolt/Nut
- Third party tampering with clamp
- Third party tampering with valve setting,
- Third party tampering with flange Nuts/bolts,
- Acid induced corrosion
- Natural Corrosion,
- Saver-pit over flow,
- Surge vessel overflow,
- Weld defect
-
- Outward dent
- Others (specify): _____

7. Description of damaged/spill point including geographical coordinates

THERE WERE 2 NO'S OF PINHOLE OBSERVED ON THE P/L INCLD. SURVEY LINE. THE LEAK WERE SUSPECTED TO BE AS A RESULT OF FAILURE ON THE WELD JOINT

8. Description of unusual activities/circumstances around the spill point.

THERE WAS NO EVIDENCE OF PREVIOUS EXCAVATION AT THE CRACK SITE.

- 9.a) Limits of oil spread
 - Within SPDC ROW
 - Beyond SPDC ROW

Doc. No: <u>0000</u>	Version <u>000</u>	Date: <u>000</u>	Classification: <u>EPS-HSE</u>	FCCN: Not subject to EAR No US content	Page 1 of 1
Orig. Doc. No: CP2005-0000-TR-00				Printed copies are uncontrolled	

- Within SPDC ROW
- (*) Beyond SPDC ROW ✓

b) Measured extent of spread (surveyors report) (Hectares)

B. Estimated Quantity of Oil Spilled.

I. Land Area

1. Computation of volume of free phase oil on land.

- a. Area (m²) occupied by pool of free phase oil $(1.5 \times 10) \times 100 = 1500$
- b. Average Depth (m) of pool of free phase oil 0.05
- c. Volume-1 (m³) of free phase oil (a*b) $1500 \times 0.05 = 75$

2. Computation of volume of superficial (top soil) impact (V-2).

- a. Area (m²) covered or stained by the oil
- b. Average Depth (m) of the oil stain
- c. Volume-2 (m³) of stained superficial soil (a*b)

3. Computation of volume of infiltrated oil in the soil (V-3).

- a. Area (m²) covered by the oil $3000 \times 2.5 = 7500$
- b. Average Depth (m) below ground surface of infiltration of oil 0.05
- c. Volume-3 (m³) of stained superficial soil (a*b* Pe (effective porosity)) $7500 \times 0.05 \times 0.2 = 750$

Total Volume (m³) = V-1 + V-2 + V-3 $(75 + 0 + 750) = 825$

II. Water Body

1. Computation of volume of free phase oil on water.

- a. Area (m²) occupied by slick/pool of free phase oil --
- b. Average Depth (m) of slick/pool of free phase oil ---
- c. Volume-1 (m³) of free phase oil (a*b)

2. Computation of volume of oil sheen on water.

- a. Area (m²) occupied by sheen of oil
- b. Type of oil sheen (from sheen index description) --(Silvery /Orange/ Iridescent/Black-dark appearance).
- c. Volume-2 (m³) - From sheen index sheet?

Total Volume (m³) = V-1 + V-2

*Conversion of m³ to barrels is Total volume x 6.29
 *Emulsification factor for spill on water to be discounted is 60% of volume of oil.
 Net volume: _____

C. RISK ASSESSMENT

10. Type of environment of spill point:

- Land
- Swamp
- Water

11. Type of environment to which oil has spread:

- Land
- Swamp
- Water

Doc. No: ###	Version ###	Date: ###	Custodian: EPS-HSE	ECCN: Not subject to EAR No US content	Page 20 of 2
Org. Doc. No: EP2005-0###-P###					

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 EP2005-0###-P###-140-10-05-0001

14. Type of properties/structures, if any, found within area of spread of oil.

- Crops
- Type of crops
- Fish Farm/Pond
- Fishing net
- Others (specify).

15. Containment measures put in place;

- Booms
- Trench
- Dyke

16. Any pictures or video coverage?

- Yes
- No.

17. Was there any disruption to the investigation?

- Yes
- No.

If yes give brief description.

Names of Joint Investigation Team members

Name	Establishment/Community	Signature
1. C. AFENILLA	SPDC PPEM	[Signature]
2. MICHAEL SANDY	CAR	[Signature]
3. ALAZA T. YLA	WASA IDCF	[Signature]
4. [Name]	DPR	[Signature]
5. [Name]		
6. [Name]		
7. [Name]		
8. ARDOL K. N.	NOSDRA/FME	[Signature]
9. [Name]		
10. [Name]		
11. [Name]		
12. [Name]	SME	
13. [Name]		[Signature]

14. [Name] JTF
15. Bonye (Bello Youth Council Rep) MOST COMMUNITY
Hon. Victor Sylvester Councilor
Comrade Pajo Boniface

Doc. No: 11	Version: 1111	Date: 1111	Custodian: EPS-HSE	ECCN: Not subject to EAR No US content	Page 3 of 4
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CH. BENEDICT KOTTEE COORD. REP