No. 00982

| A.       | GENER       | AL INFORMA                         | ΓΙΟΝ:   | ( -1)              | 11/0            |          |   |
|----------|-------------|------------------------------------|---|--------------------|-----------------|----------|---|
| 1. 3     | Spill incid | dent Number:                       |   |                    | 1162            | 00       |   |
| <b>.</b> | Name of     | Location 36                        | " RUMUE                                       | KPE - 1            | 1KPOKU          | PIPE     | LINE                                    |
|          |             |                                    |   | <b>^</b>           | Luu             |          |   |
| 3.       | Name of     | nearest commun                     | ity   |                    |                 | 1        | *************************************** |
| 1        | State       | RIVE                               | -RS   | LG                 | ·               | IKME     | RRE                                     |
| 4.       | Statt       |                                    | Din   |                    |                 | MIG      | P/NESP                                  |
| 5.       | Type of I   | Production facilit                 | y/Installation IIP                            | ELINE Asset        | owner /District | ******** |   |
|          |             |                                    | ÷   |                    |                 |          |   |
| В.       | INCIDI      | ENT INFORMA                        | ATION:  |                    |                 |          |   |
| 6.       |             | of incident                        | , <del>-1</del> 1 1                           | TUNE               | 2611            |          |   |
|          |             | ate of incident                    | 17TH  | 19 TH Ju           | NF 201          | 11       |   |
|          | 6. D        | ate/Period of invescription of sni | ll point environmen                           | ISTIN SIM          | 146 1 40        | • •      |   |
|          | C. D        | ☐ Firmed s                         |   | [Y]/[              | N ]             |          |   |
|          |             | □ Loose so                         |   |                    | N1              |          |   |
|          |             | ☐ Previous                         | ly excavated area                             |                    | NĴ              |          |   |
|          |             | ☐ Under wa                         |   |                    | N I             |          |   |
|          |             | □ Swampy                           |   |                    | NI              |          |   |
| d.       | _           |                                    | pipe surface<br>k point (tick as app          |                    |                 |          |   |
| u.       | L           | Description of lead h              |   | incabic),          | [Y]             | [N]      | Arte Tro                                |
|          |             | ☐ Hack say                         |   |                    | [ Y]            | [N]      | AFTER JOINT                             |
|          |             | □ Explosiv                         |   |                    | [Y]             | [N]      | INVESTIGATION                           |
|          |             | □ Complet                          |   |                    | [ Y]            | [N]      |   |
|          |             | ☐ Inward o                         | ·   |                    | [Y]             | [N]      | OF THE                                  |
|          |             |                                    | d tampering                                   |                    | [ Y]<br>[ Y]    | [N]      | INCIDENT,                               |
|          |             |                                    | eld-on illegal hot ta                         | ap vaive,          | [Ŷ]             | [N]      | •                                       |
|          |             | □ Missing                          | pipeline (flowline)<br>il theft (illegal bunk | cering) point.     | [Y]             | [N] /    | CRUDE OIL THEFT.                        |
|          |             | ☐ Third pa                         | rty tampering with                            | Clamp Bolt/Nut,    | [ Y]            | [N]      | (ILLEGIAL BUNKERING                     |
|          |             | ☐ Third pa                         | rty tampering with                            | valve setting,     | [Y]             | [N]      | HON-LEAKING VALVE                       |
|          |             |                                    | rty tampering with                            | flange Nuts/bolts, | [ Y]<br>[ Y]    | [N]      |   |
|          |             | ☐ Corrosio                         | m,  | NOT APPL           |                 | LINE     | WERE DESERVED                           |
|          |             | D Sarran -i                        | ·   | AO LATEL           | [Y]             | [N]      | INSTALLED ON                            |
|          |             |                                    | t over flow,<br>essel overflow,               |                    | [ Y]            | [ N.]    | PIPELINE ARISING                        |
|          |             |                                    |   | innia              | [Y]             | [ N.]    | FROM                                    |
|          |             | □ Others (                         | dent<br>specify). No.I                        | APPLIC             | ABLE            |          | Tuna k                                  |
|          |             |                                    |   |                    |                 |          | THIRD                                   |
|          |             |                                    | . I MINI                                      | NA MID             | -KEIT)          |          | PARTY                                   |
|          | e.          | Spill point coord                  | inates  | TH AT HE STATES    | الر ١١٠٠٠٠٠٠٠٠  | (MEIRES) | 11101                                   |
|          |             |                                    | g: (METRES)                                   | )                  | Easting         | 9*       | INTERFERENCE.                           |
|          |             | 104                                | 424.82  |                    | 497989          | 8.44     |   |

#### C. RISK/DAMAGE ASSESSMENT

No. 0982

| 7.               |  | vironment of spil                                   |                |                         |                      |            |                           |  |      |
|------------------|--|---|----------------|-------------------------|----------------------|------------|---------------------------|--|------|
|                  | Land<br>Swamp<br>water   | POINTS  | AKING<br>WERE  | CRUDE<br>DBSE           | rved                 | THEF<br>]. | T(ILLEG                   | gal Eunke  | RING |
|                  | Type of en   | vironment of wh                                     | ich oil has sp | read:                   |                      |            |                           |  |      |
| 8.<br>0 0 1      | Government reso<br>Drinking water s<br>Built up area<br>Farmlands<br>Fish Farm/Pond<br>Fishing net<br>Others (specify) | POINTS, THE EN om the nearest served and designates | FREE INTRONME  | PHFIE C<br>NT. NO<br>at | RUDE                 | OIL W      | ns best<br>Could<br>THE S | LEAKING T<br>RVED SALT<br>BE ESTABLE<br>PILL IMPAN<br>THEFT<br>PEINTS. | ıshe |
| o 7<br>o 1       | Booms<br>French<br>Dyke<br>Others:   | OLIE  |                |                         | [ Y]<br>[ Y]<br>[ Y] | [N]<br>[N] |                           |  |      |
|                  | y pictures or vid  |   |                |                         | [¥]                  | [N]        |                           |  |      |
| 11. Wa           | s there any disr   | aption to the inve                                  | estigation?    |                         | [Y]                  | [N]        |                           |  |      |
| If yes give brid | ef description:  |   |                | <del>A</del> PI         |                      | 101        | VBL                       |  |      |

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

#### A. Structures / Properties

| S/N | Type of Struc | tures       | Description | Size   | Number  | Comments |
|-----|---------------|-------------|-------------|--------|---------|----------|
|     |               | 71          |             |        |         |          |
|     |               | $-\sqrt{1}$ |             | AKE    | ADE     | MPACT    |
| 1 1 |               | - Y ' N     | 1 1 1 1 4   | 7 (100 | 71 01 1 |          |



## 

0982 No.

#### B. Crops/Economic Trees

| S/N | Types of crops | Young     | Medium | Matured   | Quantity | Comments |
|-----|----------------|-----------|--------|-----------|----------|----------|
| 11  | NNII           | 1211 1111 | 1 1    | ) F X - 1 | T INT    | DNAT     |
| 口   | DIAF           | AATLAIR   | T FT   | CA (      |          | TIC.     |

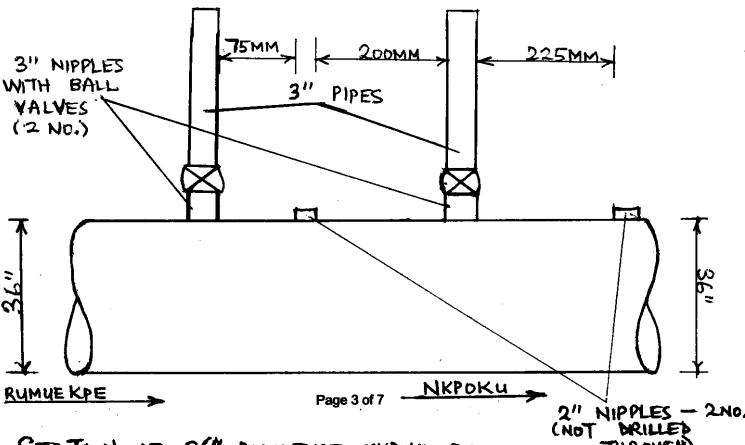
#### C. Fish/Nets/Ponds

| S/N           | Fish/Nets/Ponds |            | Description |                                | Quantity/Size  | Comments |
|---------------|-----------------|------------|-------------|--------------------------------|----------------|----------|
| 1             |                 |            |             |                                |                |          |
| $\Box Z \Box$ |                 | ABB        | 11110       | $-\mathbf{y} \circ \mathbf{z}$ | 7              | TOACLA   |
|               |                 | $\Delta M$ |             | MKH                            |                | INVIVAL  |
|               |                 |            |             | , ,,                           | _ <del> </del> |          |

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

| S/N | Others | 1.6 · 2. | Descripti | on Qi | uantity/Size | Comments |
|-----|--------|----------|-----------|-------|--------------|----------|
| +10 | 11     | 1111     | TIME      | Anta  | ΛF           | TADA CE  |
| 170 |        | MI       | HIN       | AKUA  | Ut           | MIPAL    |
| ,   | •      |          | · _       |       |              | <u> </u> |

E. GRAPHIC DESCRIPTION OF LEAK POINT (Details should be contained in leak repair report)



RUMUEKPE - NKPOKU PIPELINE CRUDE OIL THEFT LOCATIONS INSTALLED AT 120' CLOCK (NON-LEAKING ILLEGAL BUNKERING) POSITIONS.

### THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED JOINT INVESTIGATION REPORT FOR INCIDENT NO: 474162

No 00932

F: TABLE SHOWING SOME OF COORDINATES TAKEN DURING JIV FOR AREA CALCULATION E. Coordinates (IMPACTED AREA BOUNDARY COORDINATES - MINNA MID-BELT)

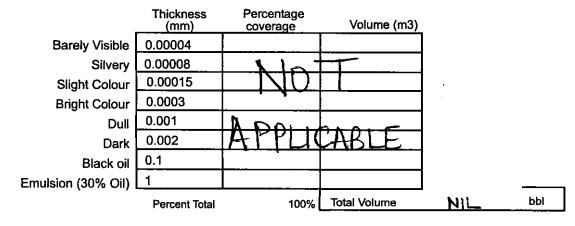
| S/N | Northing (METRET) | Easting (ME TRES)                     |
|-----|-------------------|---------------------------------------|
| 40  | 104690.71         | 497274.24                             |
| 41  | 104709.23         | 497234-23                             |
| 42  | 104739.98         | 497225-06                             |
| 47  | 104721-45         | 497265.07                             |
| 39  | 104696.85         | 497274.25                             |
|     |                   |                                       |
|     |                   |                                       |
|     |                   |                                       |
| !   |                   |                                       |
|     |                   | 1                                     |
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|     |                   |                                       |
|     |                   |                                       |
| Z   |                   |                                       |
| B   |                   | · · · · · · · · · · · · · · · · · · · |

|      | No. 0932   |              |
|------|--|--------------|
| G. I | INCIDENT INFORMATION:  |              |
| 17   | Impacted Area Details  |              |
|      | a. Total calculated area of impact   |              |
|      | • Impact within SPDC R.O.W O. 1 Ha   |              |
|      | Impact outside R.O.W   |              |
| 18   | Volume of oil recovered before completion of JIV (V <sub>rec.</sub> ):   |              |
| 10   | Recovered oil V <sub>recj</sub> : NIL barrels  |              |
| 19.  | Computation of the residual volume on site (BASED ON SPILL IMPACT FOUND 500M A ROM-LEAKING CRUDE DIL THEFT PARTIES (m²) occupied by pool of free phase oil | i <b>W</b> i |
|      | ii. Average Depth (m) of pool of free phase oil  |              |
|      | iii.   |              |
|      | Volume of pooled of free phase oil. V <sub>pool</sub> : 5-66 barrels   |              |
|      | iv.  |              |
|      | b. Computation of volume of infiltrated oil in the soil (V-3).   |              |
|      | 1 Area (m²) covered by the oil:  |              |
|      | ii Average Depth (m) below ground surface of infiltration of oil:  |              |
|      | iii Soil type: CAY 0   |              |
|      | iv. $p_e$ (effective porosity of the soil:   |              |
|      | V  |              |

0.29

barrels

20. Computation of volume of oil on open water based on standard coloration.



Volume of infiltrated oil. V in:

Spill Factors from USCG FOG (2000 Edition)



# THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED JOINT INVESTIGATION REPORT FOR INCIDENT NO: 6714167

No.

Tick as applicable

|   | Volume  | of oil on open wa                        | ater V:                            | $M$ $\vdash$         | barrels      |  |  |  |  |
|---|---|--|------------------------------------|----------------------|--------------|--|--|--|--|
| 21. Calculation of e  | vaporated volu  | me:                                      |                                    |                      |              |  |  |  |  |
| i. Oil  | type: <b>Ronn</b>   | Y_ MEDIL                                 | ιM                                 |                      |              |  |  |  |  |
| ii. E-Fa  | actor: 15   |  |                                    |                      |              |  |  |  |  |
| iii.  |   |  |                                    |                      |              |  |  |  |  |
|   | Vok   | ıme of evaporate                         | ioli Vvoi                          | - 85                 | barrels      |  |  |  |  |
| Oil Type  |   | Bonny Light                              | Bonny<br>Medium                    |                      |              |  |  |  |  |
| <u> </u>  |   | E-Factor                                 | E-Factor                           | ,                    |              |  |  |  |  |
| Period Since Oil<br>Spill   | <1 day  | 10%                                      | 5%                                 |                      |              |  |  |  |  |
| · · · · · · · · · · · · · · · · · · ·                                       | 1-7 days  | 25%                                      | 15%                                |                      |              |  |  |  |  |
|   | >7 days   | 40%                                      | 25%                                |                      |              |  |  |  |  |
| V <sub>Est</sub> (bbls)=  10. Net Total Estimate (bbls) + VrecJ (bb         | ed Spilled Volumels)  | RRELS  ne VEst(bbls) =  T NU + 0         | V vap (bbls) + 0.6** - 29 - † 5-66 | Vwat (bbls) + Vinf ( | bbls) +Vpool |  |  |  |  |
| *Calculation of the res<br>*Conversion of m3 to l<br>*Emulsification factor | parrel is Total vo<br>for spill on wate   | olume VT (m3) x6<br>er to consider is 66 | 0.29<br>0% of volume of oil        |                      |              |  |  |  |  |
| investigation repre   | This report was filled and signed on the \( \frac{19}{0} \) at incident site by joint investigation representative from  • Host Community \( \subseteq \) |  |                                    |                      |              |  |  |  |  |
| Department of Petroleum Resources [DPR]:□                                   |   |  |                                    |                      |              |  |  |  |  |
| • National Oi   | • National Oil Spill Detection and Response Agency [NOSDRA]:  |  |                                    |                      |              |  |  |  |  |
| State Minis   | try of Enviror  | ment [SME]:                              | <b>I</b>                           |                      |              |  |  |  |  |
| Nigeria Pol   | ice Force [NP   | F]: 🖳                                    |                                    |                      |              |  |  |  |  |
| • Shall Petroleum Development Company [SPDC]: [3]                           |   |  |                                    |                      |              |  |  |  |  |