

JOINT INVESTIGATION REPORT

INCIDENT NO: 215 74 30 JIV report S/N: 0092

(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: 215 74 30 2. Type of incident*: OIL SPILL
3. Name of Location 14th DKORDEA - KUMUEKPE PIPELINE
4. Name of nearest community AKARAMINI 5. State: RIVERS 6. LGA AHOADA WEST
7. Type of Production facility/Installation OIL PIPELINE
8. Asset owner/District THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED PIPELINE

B. INCIDENT INFORMATION:

9. Details of incident
a. Date of incident: 6th SEPTEMBER 2018
b. Start date/time of investigation: 7th SEPTEMBER 2018
c. Investigation End date: 8th SEPTEMBER 2018 Actual investigation duration, days: TWO (2) DAYS
d. Description of spill point environment

- | | | |
|---|--|--|
| <input type="checkbox"/> Firm soil | <input checked="" type="checkbox"/> Loose soil | <input 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 | |

Additional observations around the spill point: THE JOINT INVESTIGATION TEAM OBSERVED 3" NIPPLE INSTALLED AT 12 O'CLOCK POSITION BY UNKNOWN PERSON(S).

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

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

f. Incident caused by:

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

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g. Spill point coordinates

Measuring unit

WGS' 84

Northing:	Easting:
<u>05-119067</u>	<u>06-487147</u>
05-119067	06-487147
05-119067	06-487147

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 CASSANA
- Fish Farm/Pond
- Fishing net
- Others (specify): _____

Nil, m
 Nil, m
 100, m
 0, m
 100, m
 Nil, m
NONE

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:

CRUDE OIL RECOVERY AND REPAIR BY CLAMPING
ARE ON GOING.

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
1.	HOUSE	RESIDENTIAL		4	IMPACTED BY CRUDE
/					

17. Crops/Economic Trees

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
1.	CASSAVA	NOT APPLICABLE	YES		66 STEM	IMPACTED
2.	PLANTAIN	YES	YES	YES	46	IMPACTED
/						

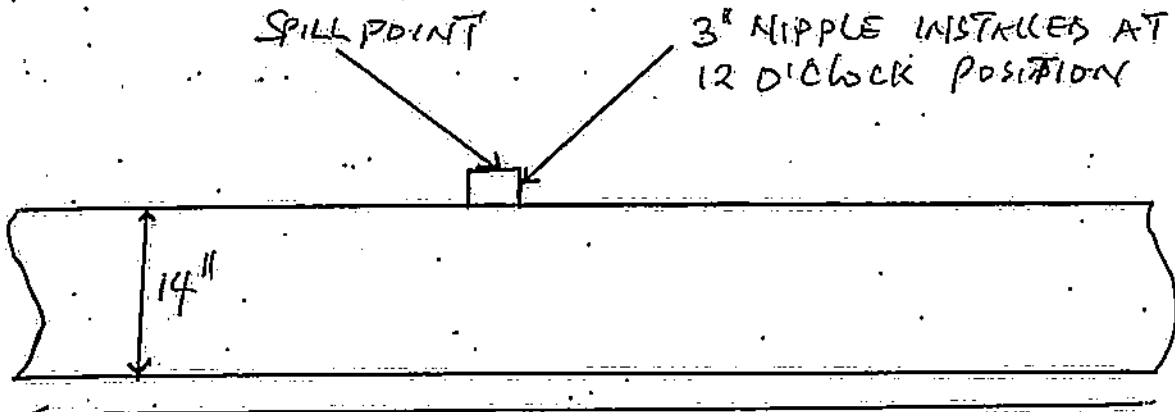
18. Fishing Nets/Fish Ponds

S/N	Nets/Ponds	Description	Quantity/Size	Comments
1.	PONDS	FISH. POND	20 SQUARE METER	NO DEAD FISH FOUND
/				

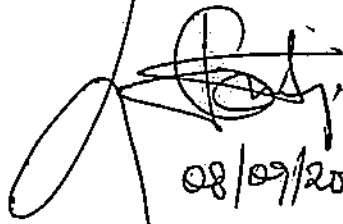
19. Others (Specify) i.e. Animal Traps

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

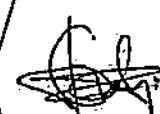
E. GRAPHIC DESCRIPTION OF LEAK POINT (while detailed report of the leak point should be contained in the leak report, overview sketch of the site should be added as an appendix 1) A SECTION OF 14" DIAMETER RUMUKPE PIPELINE AT AKARAMINI SHOWING 3" NIPPLE INSTALLED AT 12 O'CLOCK POSITION BY UNKNOWN PERSON(S).



pt	long	lat
Spill Point	6.487147	5.119067
1	6.957618	4.938143
2	6.957608	4.938123
3	6.957587	4.938133
4	6.957596	4.938152
5	6.957618	4.938143
6	6.48781	5.12024
7	6.4878	5.11899
8	6.4880088	5.1188968
9	6.4888911	5.1186522
10	6.4888937	5.1186507
11	6.488924	5.1187142
12	6.489042	5.1187755
13	6.4891875	5.1188138
14	6.4894035	5.1188597
15	6.4895168	5.1188046
16	6.4896945	5.1186437
17	6.4898263	5.1185717
18	6.4899641	5.1185028
19	6.4901274	5.1184587
20	6.4902892	5.1183802
21	6.49052	5.1182137
22	6.4906414	5.1181699
23	6.4908912	5.1181199
24	6.4911196	5.1181104
25	6.4914551	5.1181627
26	6.4916307	5.1181532
27	6.491783	5.1180652
28	6.492021	5.117901
29	6.4921971	5.1178296
30	6.4924207	5.1178367
31	6.4924826	5.117832
32	6.4925	5.11781
33	6.49263	5.11773
34	6.49279	5.11767
35	6.4930275	5.117487
36	6.4931895	5.1173394
37	6.4933014	5.1172205
38	6.4934489	5.1171205
39	6.4936416	5.1170563
40	6.4939367	5.1171181
41	6.4940247	5.1170872
42	6.494127	5.1170682
43	6.494334	5.1171848
44	6.4946267	5.1173252
45	6.4948314	5.1175655
46	6.4951576	5.1178058
47	6.4955764	5.1180557
48	6.495969	5.1183245


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49	6.49654	5.1185744
50	6.4970516	5.1188076
51	6.4971701	5.1188456
52	6.4972128	5.1188631
53	6.4973335	5.118653
54	6.4968686	5.1183536
55	6.4959544	5.1179753
56	6.4953318	5.1175892
57	6.4943231	5.1169666
58	6.4939212	5.1169508
59	6.493606	5.1168641
60	6.4933774	5.1169745
61	6.4931725	5.1171163
62	6.4930622	5.1172897
63	6.4928179	5.1174079
64	6.4925657	5.1175655
65	6.4924554	5.117668
66	6.4921244	5.1176522
67	6.4919668	5.1177862
68	6.4917777	5.117865
69	6.4916043	5.1179832
70	6.4911709	5.1179753
71	6.4906429	5.1179832
72	6.490367	5.1181644
73	6.4901858	5.1182511
74	6.4900676	5.1183615
75	6.4898784	5.1183457
76	6.4896499	5.1185427
77	6.489445	5.1187319
78	6.4893268	5.1187791
79	6.4890904	5.1187397
80	6.4889608	5.1186805
81	6.48893	5.11863
82	6.4888	5.11854
83	6.48876	5.11855
84	6.48868	5.11862
85	6.488	5.11878
86	6.48773	5.11874
87	6.48747	5.11877
88	6.48734	5.11854
89	6.48716	5.11849
90	6.48719	5.11871
91	6.48726	5.11884
92	6.4869305	5.1190507
93	6.48676	5.11892
94	6.4868802	5.1190646
95	6.4866	5.11916
96	6.48613	5.11927
97	6.48615	5.11933
98	6.486616	5.1192771


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99	6.48718	5.11907
100	6.48735	5.1191
101	6.48741	5.11924
102	6.487712	5.1192966
103	6.4877222	5.1200174
104	6.4877307	5.1200174
105	6.487722	5.1192985
106	6.48773	5.1193
107	6.48779	5.11916
108	6.4877922	5.1191227
109	6.4877997	5.1202407
110	6.48781	5.12024



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G. INCIDENT INFORMATION:

a. Impacted Area Details

- Total calculated area of impact 2.933 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:

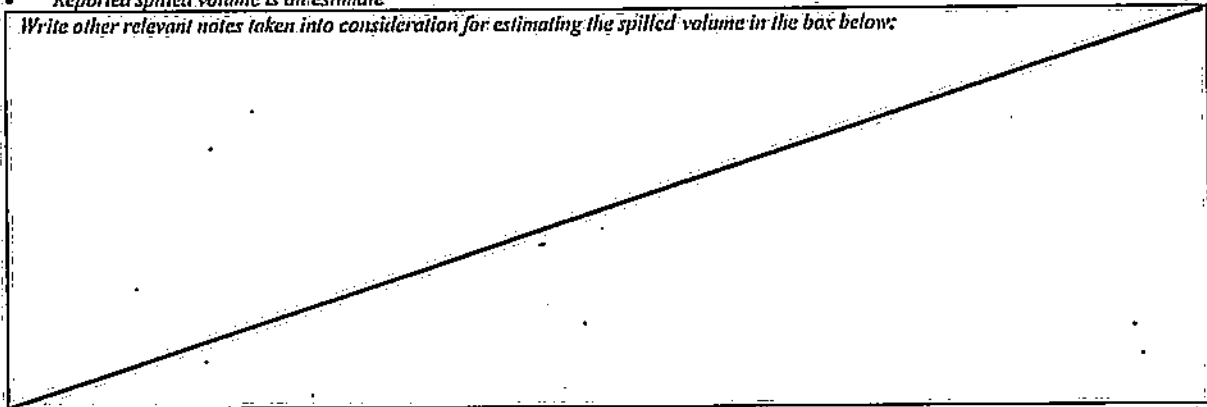
NIL	Barrels
-----	---------

c. Net Estimated Spilled Volume V_{est} (bbls)* =	80.51 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 estimating the spilled volume in the box below:



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 JIV 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:

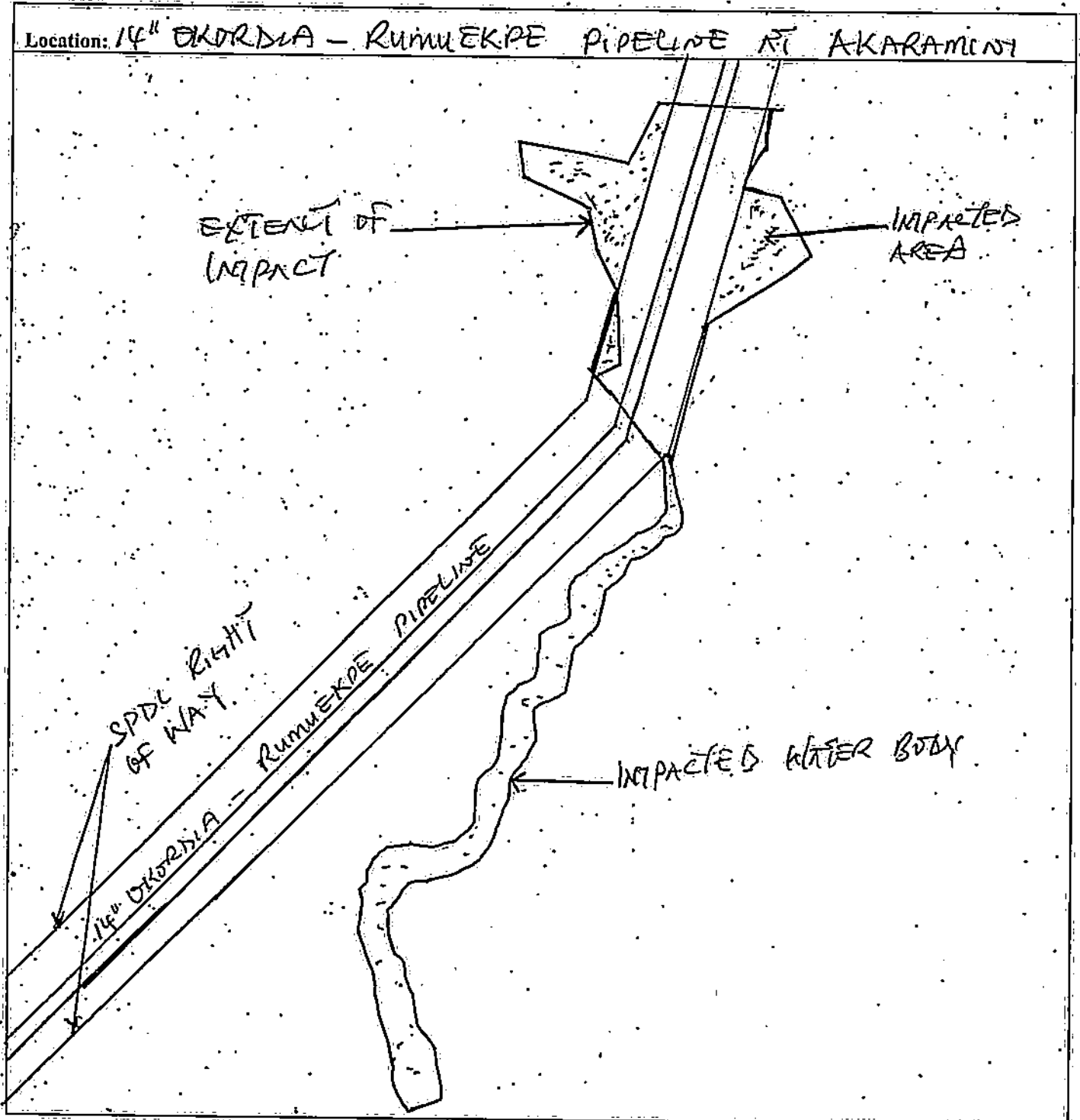
- Host Community:
- Department of Petroleum Resources (DPR):
- National Oil Spill Detection and Response Agency (NOSDRA):
- State Ministry of Environment (SME):
- Asset Owner:
- Signatories agree with reported findings:
- Separate DPR form has been filled out with same findings

Tick as applicable

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f. Appendix 1: Overview sketch of the site



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