

JOINT INVESTIGATION REPORT

INCIDENT NO: 1907852 JIV report S/N: N^o 0000327

(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: 1907852 2. Type of incident* OIL SPILL
3. Name of Location ADIBAWA NORTH EAST 1 WELL HEAD
4. Name of nearest community BISENI 5. State: BAYELSA LGA TENAGOA
7. Type of Production facility/Installation WELL HEAD
8. Asset owner/District SPDC / CENTRAL HUB

B. INCIDENT INFORMATION:

9. Details of incident
a. Date of incident: 11th AUGUST, 2017.
b. Start date/time of investigation: 13th AUGUST, 2017 / 1355 HRS
c. Investigation End date: 17th AUGUST, 2017 Actual investigation duration, days: FIVE (5) DAYS
d. Description of spill point environment

- | | | |
|---|-------------------------------------|--|
| <input checked="" type="checkbox"/> Firm soil | <input 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: JOINT INVESTIGATION TEAM OBSERVED THAT ADIBAWA NORTH EAST 1 WELL WAS PREVIOUSLY VANDALIZED BY UNKNOWN PERSONS. LOOSED NUTS WAS ALSO NOTICED AROUND THE WELL HEAD.

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 checked="" 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) Situation d) construction e) Encroachment f) Fire.

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g. Spill point coordinates

h. Measuring unit

WLAS84

Northing: LATITUDE	Easting: LONGITUDE
5.25748	6.52137

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 SEASONAL
 Water CREEK
 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 [,m]
- Drinking water source [,m]
- Built up area [,m]
- Farmlands [,m]
- Fish Farm/Pond [,m]
- Fishing net [NIL ,m] IMPACTED BY SPILL OIL
- Others (specify) [,m]

12. Containment measures put in place:

- Booms
 Trench
 Dyke
 Natural depression
 Pit
 None
- Others: _____

13. Any pictures or video coverage?

[N]

14. Further response/repair initiated as at the time of JIV?

[N]

If yes to item 14, give brief description:

RECOVERY ACTIVITIES ONGOING. LEAK REPAIRED.

15. Was there any disruption to the investigation?

[N]

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If yes to item 15 give brief description:

COMMUNITY ISSUE

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	GUAYANA TREES	—	—	✓	14	IMPACTED BY SPILLED OIL

18. Fishing Nets/Fish Ponds

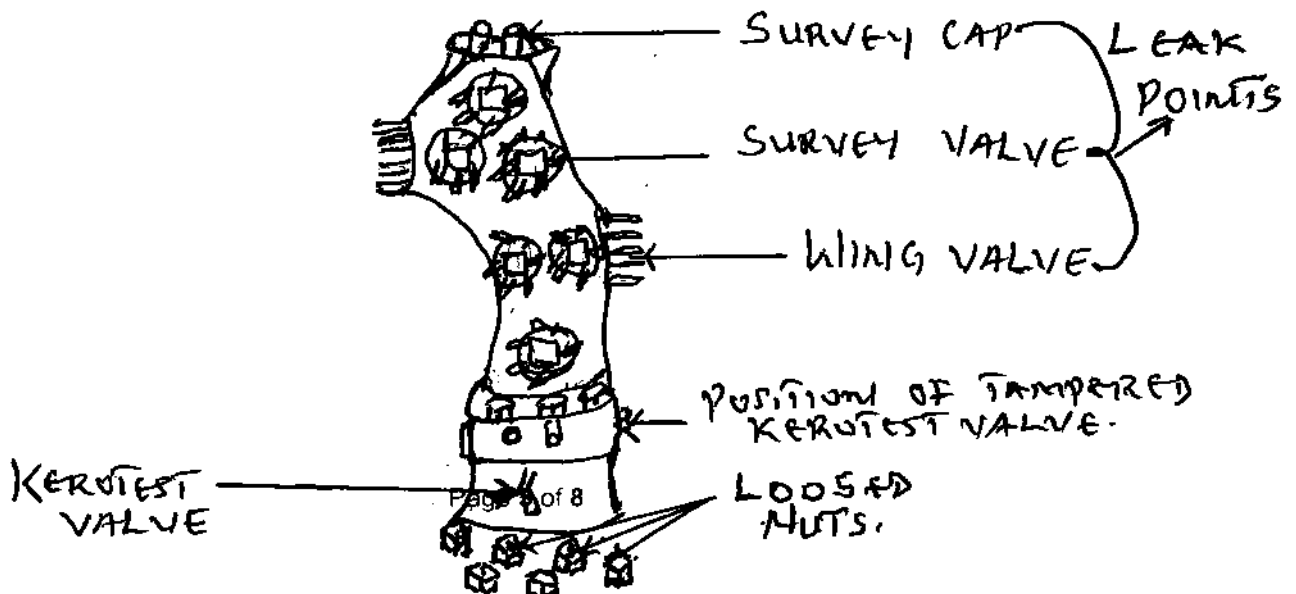
S/N	Nets/Ponds	Description	Quantity/Size	Comments
1	FISHING NETS	FISHING NETS	4 / SMALL	IMPACTED BY SPILLED OIL.

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

S/N	Others	Description	Quantity/Size	Comments
1	TRAPS	FISH TRAPS	4 / SMALL	IMPACTED BY SPILLED OIL

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 ADIBAWIA NORTH EAST WELL HEAD AT BISEMI SHOWING POSITION OF TAMPERED KEROTEST VALVE



APPENDIX(A)		
ADIBAWA NORTH EAST 001 WELLHEAD SPILL AT BISENI		
INCIDENT NUMBER:1907852		
WGS84 COORDINATE		
Point	LATITUDE(E)	LONGITUDE(N)
1	5.25722	6.52167
2	5.25727	6.52164
3	5.25724	6.52161
4	5.25718	6.52161
5	5.25698	6.52124
6	5.25665	6.52066
7	5.2567	6.52062
8	5.2566	6.52023
9	5.25649	6.51975
10	5.25631	6.51928
11	5.25624	6.51899
12	5.25622	6.51902
13	5.25619	6.51898
14	5.25622	6.51895
15	5.25622	6.51888
16	5.25622	6.51883
17	5.25625	6.51883
18	5.2563	6.51882
19	5.25624	6.51874
20	5.25612	6.5181
21	5.25612	6.51839
22	5.25621	6.51806
23	5.25626	6.51832
24	5.25627	6.51839
25	5.25633	6.51853
26	5.25636	6.51859
27	5.25636	6.51862
28	5.25639	6.51874
29	5.2564	6.51885
30	5.25641	6.51896
31	5.25646	6.5191
32	5.2565	6.51922
33	5.25653	6.51939
34	5.25658	6.51962
35	5.25664	6.51974
36	5.25671	6.51996
37	5.25672	6.52006
38	5.25675	6.52018
39	5.2568	6.52038
40	5.25683	6.52054
41	5.25687	6.52079
42	5.25686	6.5208
43	5.25687	6.52084

44	5.2569	6.52083
45	5.25694	6.52085
46	5.25699	6.52088
47	5.25701	6.52086
48	5.25701	6.52083
49	5.25699	6.52082
50	5.25697	6.52096
51	5.25691	6.521
52	5.25686	6.52089
53	5.25701	6.52096
54	5.25725	6.52086
55	5.25727	6.52089
56	5.25718	6.52093
57	5.25716	6.521
58	5.25714	6.52102
59	5.25717	6.52109
60	5.2572	6.5211
61	5.25731	6.52111
62	5.25742	6.52116
63	5.2575	6.52112
64	5.25755	6.5211
65	5.25756	6.52107
66	5.25751	6.52095
67	5.25758	6.52093
68	5.25755	6.52092
69	5.25765	6.52108
70	5.25769	6.52113
71	5.25772	6.52123
72	5.25768	6.52127
73	5.25761	6.52124
74	5.25758	6.52116
75	5.25755	6.52117
SP	5.25748	6.52137
77	5.2575	6.52185
78	5.25759	6.52188
79	5.25776	6.52175
80	5.25782	6.52142
81	5.25771	6.52134
82	5.25738	6.52125
83	5.25725	6.52139
84	5.25668	6.52067
85	5.25667	6.52065
86	5.25657	6.52067
87	5.25649	6.52057
88	5.25647	6.52058
89	5.25645	6.52061
90	5.25645	6.52064
91	5.25647	6.52069
92	5.25652	6.52074
93	5.25657	6.52074

94	5.25661	6.5207
95	5.25653	6.52076
96	5.25653	6.52077
97	5.25649	6.52073
98	5.25646	6.52071
99	5.25644	6.52074
100	5.25651	6.52073
101	5.25652	6.52074
102	5.25651	6.52079
103	5.25654	6.52088
104	5.25657	6.52093
105	5.25662	6.52089
106	5.25662	6.52084
107	5.25656	6.52079
108	5.25654	6.52072
109	5.2562	6.519
110	5.25613	6.51899
111	5.2561	6.51903
112	5.25611	6.51905
113	5.25606	6.51907
114	5.25613	6.51897
115	5.25619	6.51896
116	5.256	6.51871
117	5.25598	6.51869
118	5.2553	6.51803
119	5.25524	6.51797
120	5.25512	6.51786
121	5.25504	6.51783
122	5.25498	6.51786
123	5.25502	6.51778
124	5.25501	6.51776
125	5.25495	6.51768
126	5.25488	6.51763
127	5.25487	6.51761
128	5.25494	6.51755
129	5.25495	6.51748
130	5.25492	6.51749
131	5.25487	6.5175
132	5.25479	6.5175
133	5.25537	6.51812
134	5.25542	6.51828
135	5.25546	6.5184
136	5.25557	6.51844
137	5.25565	6.51848
138	5.25579	6.51852
139	5.25583	6.51859
140	5.253	6.51605
141	5.25465	6.51734
142	5.25455	6.51734
143	5.25435	6.51731

144	5.2543	6.51733
145	5.25426	6.51734
146	5.25425	6.51726
147	5.25424	6.51725
148	5.25423	6.51712
149	5.25417	6.51705
150	5.25409	6.517
151	5.25405	6.51699
152	5.25401	6.51695
153	5.25399	6.51692
154	5.2538	6.51673
155	5.25371	6.51671
156	5.25376	6.5166
157	5.25376	6.51658
158	5.25364	6.51654
159	5.25364	6.51657
160	5.25356	6.51655
161	5.25356	6.51654
162	5.25341	6.51645
163	5.25325	6.51623
164	5.2532	6.51615
165	5.25283	6.516
166	5.25278	6.51591
167	5.25269	6.5158
168	5.25249	6.51572
169	5.2524	6.51561
170	5.25237	6.51565
171	5.25228	6.51561
172	5.25225	6.51558
173	5.25205	6.51549
174	5.252	6.51539
175	5.25197	6.5154
176	5.25189	6.51528
177	5.25181	6.51526
178	5.25173	6.5152
179	5.25164	6.51519
180	5.25161	6.51516
181	5.25154	6.51513
182	5.25143	6.51508
183	5.25127	6.51503
184	5.25108	6.515
185	5.251	6.51496
186	5.25097	6.51491
187	5.25086	6.51491
188	5.2508	6.51489
189	5.25068	6.51484
190	5.25054	6.51486
191	5.25048	6.5149
192	5.2504	6.51492
193	5.25047	6.51508

194	5.25038	6.51497
195	5.25048	6.5151
196	5.25051	6.51511
197	5.25057	6.51515
198	5.2507	6.51522
199	5.25071	6.51523
200	5.25082	6.51525
201	5.25103	6.51531
202	5.25104	6.51537
203	5.25106	6.51537
204	5.25108	6.5154
205	5.25114	6.5154
206	5.25119	6.51544
207	5.25129	6.51545
208	5.25133	6.51548
209	5.25153	6.51559
210	5.25161	6.51565
211	5.25166	6.51566
212	5.25175	6.51573
213	5.25185	6.51579
214	5.2519	6.51581
215	5.252	6.51584
216	5.25205	6.51588
217	5.25591	6.51871
218	5.25595	6.51869
219	5.25601	6.51874
220	5.256	6.51877
221	5.2561	6.51899
222	5.25216	6.51591
223	5.25227	6.51597
224	5.25235	6.51603
225	5.25245	6.51605
226	5.25249	6.51605
227	5.25246	6.51606
228	5.25251	6.51606
229	5.25254	6.51607
230	5.25269	6.51617
231	5.2528	6.51622
232	5.25284	6.5162
233	5.25287	6.51627
234	5.25289	6.5163
235	5.25291	6.51632
236	5.25292	6.51634
237	5.25294	6.51639
238	5.25298	6.51638
239	5.25304	6.51644
240	5.25302	6.51646
241	5.25303	6.51648
242	5.25305	6.51648
243	5.25309	6.51647

244	5.25313	6.5165
245	5.25315	6.51653
246	5.25317	6.51658
247	5.25319	6.51661
248	5.25322	6.51669
249	5.25329	6.51675
250	5.25335	6.51683
251	5.25341	6.51689
252	5.25352	6.51696
253	5.25355	6.517
254	5.25361	6.51701
255	5.25368	6.51703
256	5.25379	6.5171
257	5.2538	6.51725
258	5.25383	6.51726
259	5.25393	6.51739
260	5.25399	6.51746
261	5.25403	6.51744
262	5.25407	6.51744
263	5.25411	6.51744
264	5.25414	6.5175
265	5.25417	6.51757
266	5.25419	6.51758
267	5.25422	6.51759
268	5.25425	6.51762
269	5.25427	6.51763
270	5.2543	6.51762
271	5.2543	6.51756
272	5.25434	6.51753
273	5.25438	6.51755
274	5.25444	6.51761
275	5.2545	6.51761
276	5.25448	6.51766
277	5.25446	6.5177
278	5.25446	6.51774
279	5.2545	6.51776
280	5.25449	6.51782
281	5.2545	6.51783
282	5.2546	6.51778
283	5.25461	6.51779
284	5.25464	6.51783
285	5.25464	6.51786
286	5.25471	6.51786
287	5.25472	6.51788
288	5.25469	6.51791
289	5.2547	6.51792
290	5.25474	6.51789
291	5.25474	6.51796
292	5.25478	6.51797
293	5.2548	6.518

294	5.25483	6.51802
295	5.25489	6.51805
296	5.25492	6.51807
297	5.25492	6.51808
298	5.25495	6.51813
299	5.25498	6.5182
300	5.25502	6.51817
301	5.25509	6.51817
302	5.25509	6.51819
303	5.2551	6.5182
304	5.25511	6.51822
305	5.25515	6.51827
306	5.25516	6.51826
307	5.25517	6.51828
308	5.2552	6.51836
309	5.25522	6.51836
310	5.25523	6.5184
311	5.25523	6.51841
312	5.25528	6.51845
313	5.25531	6.51848
314	5.25535	6.51854
315	5.25536	6.51857
316	5.25545	6.51866
317	5.25552	6.51871
318	5.25555	6.51872
319	5.25557	6.51875
320	5.2556	6.51877
321	5.25559	6.51878
322	5.2556	6.51879
323	5.25563	6.51878
324	5.25569	6.51882
325	5.25574	6.51885
326	5.25578	6.51884
327	5.256	6.51908
328	5.256	6.51909
329	5.25604	6.51911
330	5.25605	6.51911
331	5.25607	6.51897
332	5.25605	6.51894
333	5.25586	6.51887
334	5.25593	6.51894
335	5.25597	6.51902

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G. INCIDENT INFORMATION:

a. Impacted Area Details

- Total calculated area of impact 3.92 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} :	<u>825</u>	Barrels
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Controlled recovery/evacuation from source with no impact to environment:

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

1668.12 BARRELS

Estimated Reported Volume V_{rsp} (bbls)=**

1669 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 into consideration for estimating the spilled 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 6. (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
- ii. Investigation of the incident site showed that there is residual impact on site requiring further works

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

