

JOINT INVESTIGATION REPORT

INCIDENT NO: 1413753 JIV report S/N: Nº 0000026

(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: 1413753 2. Type of incident* OIL SPILL
3. Name of Location 20" KOLOCREEK - RUMUEKPE PIPELINE
4. Name of nearest community ODAU 5. State: RIVERS 6. LGA ABUJA/CDUAL
7. Type of Production facility/Installation OIL PIPELINE
8. Asset owner/District SPDC / PIPELINE

B. INCIDENT INFORMATION:

9. Details of incident
a. Date of incident: 2ND JUNE, 2015
b. Start date/time of investigation: 24TH JUNE, 2015 / 11:00 AM
c. Investigation End date: 25TH JUNE, 2015 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 checked="" type="checkbox"/> Recently excavated area |
| <input type="checkbox"/> Under water | <input checked="" 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 TWO VALVES ON ILLEGAL ATTACHMENT WERE FOUND TO BE HOLDING AND NOT LEAKING ON THE FIRST DAY OF INVESTIGATION. THE ATTACHMENT ON THE LINE WAS FOUND REMOVED BY UNKNOWN PERSON(S) ON THE 2ND DAY OF INVESTIGATION, LEAVING ONLY THE WELDED VALVE ON THE LINE. JIT NOTICED SOME FRESH ACTIVITIES INCLUDING CHANNELLING BY UNKNOWN PERSONS TO APPARENTLY AID THE SPREAD OF OIL. PLANKS WERE ALSO FOUND ON SITE.

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"/> 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

Northing: <u>CLAUDE</u>	Easting: <u>CLONGITWE</u>
<u>4-92787</u>	<u>6-43441</u>
SE	SE

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 [,m]
- Drinking water source [,m]
- Built up area NONE SEEN [,m]
- Farmlands WITHIN VICINITY [,m]
- Fish Farm/Pond [,m]
- Fishing net [,m]
- Others (specify):

12. Containment measures put in place:

- Booms
 Trench
 Dyke
 Natural depression
 Pit
 None
- Others: EXCAVATED PIT AROUND BUNKERING FITTING

13. Any pictures or video coverage?

NY [N]

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

NY [N]

If yes to item 14, give brief description:

RECOVERY ACTIVITIES ONGOING - REPAIR WORK WAS DONE BY CLAMPING.

15. Was there any disruption to the investigation?

[Y] NY

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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
NONE WITHIN AREA OF IMPACT					

17. Crops/Economic Trees

S/N	Type of crops	Young	Medium	Matured	Quantity	Comments
1	KAPPA PALM	✓	✓	✓	Nearly	IMPACTED BY SPILL

18. Fishing Nets/Fish Ponds

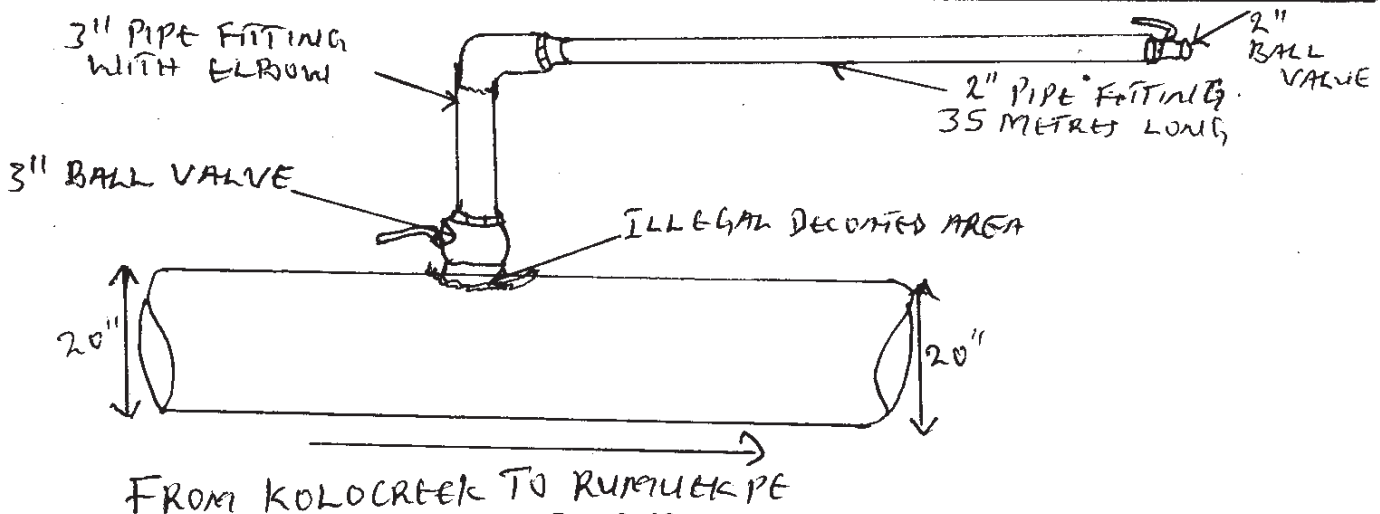
S/N	Nets/Ponds	Description	Quantity/Size	Comments
NONE WITHIN AREA OF IMPACT				

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 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)

SECTION OF 20" KOLOCREEK - RUMUKPE PIPELINE AT ODAU SHOWING CRUDE OIL THEFT POINT AT 12 O'CLOCK POSITION.



20" KOLO CREEK- RUMUEKPE TRUNKLINE SPILL @ ODAU			
INC.NO: 1413753			INC.DATE:02-06-2016
POINT	EAST	NORTH	REMARKS
SP	6.43441	4.92787	SPILL POINT
829	6.43442	4.92781	IMPACTED AREA
830	6.43442	4.92778	IMPACTED AREA
831	6.43438	4.92769	IMPACTED AREA
832	6.43455	4.92764	IMPACTED AREA
833	6.43472	4.92762	IMPACTED AREA
834	6.43489	4.92755	IMPACTED AREA
835	6.43503	4.92755	IMPACTED AREA
836	6.43503	4.92747	IMPACTED AREA
837	6.43538	4.92728	IMPACTED AREA
838	6.43557	4.92724	IMPACTED AREA
839	6.43567	4.92728	IMPACTED AREA
840	6.4357	4.92711	IMPACTED AREA
841	6.43584	4.92703	IMPACTED AREA
842	6.43615	4.92683	IMPACTED AREA
843	6.43638	4.92672	IMPACTED AREA
844	6.43661	4.92656	IMPACTED AREA
845	6.43674	4.92677	IMPACTED AREA
846	6.4367	4.92694	IMPACTED AREA
847	6.43654	4.92714	IMPACTED AREA
848	6.43637	4.9272	IMPACTED AREA
849	6.43617	4.92718	IMPACTED AREA
850	6.43602	4.92729	IMPACTED AREA
851	6.43584	4.92734	IMPACTED AREA
852	6.43563	4.92749	IMPACTED AREA
853	6.43538	4.92765	IMPACTED AREA
854	6.4352	4.92771	IMPACTED AREA
855	6.43484	4.92772	IMPACTED AREA
856	6.43465	4.92771	IMPACTED AREA
857	6.43447	4.92773	IMPACTED AREA
858	6.43436	4.92779	IMPACTED AREA
859	6.43427	4.92778	IMPACTED AREA
860	6.43416	4.92777	IMPACTED AREA
861	6.43414	4.92786	IMPACTED AREA
862	6.43419	4.92786	IMPACTED AREA
863	6.43428	4.92792	IMPACTED AREA
864	6.4343	4.92805	IMPACTED AREA
865	6.43425	4.92813	IMPACTED AREA
866	6.43405	4.92803	IMPACTED AREA
867	6.43397	4.928	IMPACTED AREA
868	6.43379	4.92798	IMPACTED AREA
869	6.43346	4.92802	IMPACTED AREA
870	6.43327	4.92806	IMPACTED AREA
871	6.433	4.92813	IMPACTED AREA
872	6.4326	4.92813	IMPACTED AREA
873	6.43406	4.92792	IMPACTED AREA
874	6.43378	4.92789	IMPACTED AREA

875	6.43369	4.92789	IMPACTED AREA
876	6.4335	4.92792	IMPACTED AREA
877	6.43335	4.92795	IMPACTED AREA
878	6.433	4.928	IMPACTED AREA
879	6.43261	4.92801	IMPACTED AREA
880	6.43221	4.92797	IMPACTED AREA
881	6.43221	4.92806	IMPACTED AREA
882	6.43158	4.92825	IMPACTED AREA
883	6.43179	4.92796	IMPACTED AREA
884	6.43119	4.92797	IMPACTED AREA
885	6.43147	4.92772	IMPACTED AREA
886	6.43092	4.92776	IMPACTED AREA
887	6.43056	4.92798	IMPACTED AREA
888	6.43052	4.92834	IMPACTED AREA
889	6.43022	4.92831	IMPACTED AREA
890	6.43016	4.92867	IMPACTED AREA
891	6.42999	4.92861	IMPACTED AREA
892	6.42952	4.92845	IMPACTED AREA
893	6.42936	4.92881	IMPACTED AREA
894	6.42858	4.92839	IMPACTED AREA
895	6.4285	4.92824	IMPACTED AREA
896	6.42869	4.92802	IMPACTED AREA
897	6.42878	4.92784	IMPACTED AREA
898	6.42862	4.92779	IMPACTED AREA
899	6.42875	4.92742	IMPACTED AREA
900	6.42892	4.92733	IMPACTED AREA
901	6.42874	4.92719	IMPACTED AREA
902	6.42864	4.92731	IMPACTED AREA
903	6.4285	4.92725	IMPACTED AREA
904	6.42831	4.92758	IMPACTED AREA
905	6.4282	4.92763	IMPACTED AREA
906	6.42849	4.92782	IMPACTED AREA
907	6.42798	4.92784	IMPACTED AREA
908	6.42808	4.92814	IMPACTED AREA
909	6.42779	4.92811	IMPACTED AREA
910	6.42756	4.92802	IMPACTED AREA
911	6.42756	4.92796	IMPACTED AREA
912	6.42737	4.9276	IMPACTED AREA
913	6.42743	4.92746	IMPACTED AREA
914	6.42756	4.92734	IMPACTED AREA
915	6.42772	4.92712	IMPACTED AREA
916	6.42769	4.92692	IMPACTED AREA
917	6.42772	4.92687	IMPACTED AREA
918	6.4277	4.92679	IMPACTED AREA
919	6.42774	4.92676	IMPACTED AREA
920	6.42776	4.92666	IMPACTED AREA
921	6.42781	4.92664	IMPACTED AREA
922	6.42782	4.92649	IMPACTED AREA
923	6.42793	4.92627	IMPACTED AREA
924	6.42776	4.92601	IMPACTED AREA

925	6.42813	4.92599	IMPACTED AREA
926	6.42842	4.92545	IMPACTED AREA
927	6.42849	4.9255	IMPACTED AREA
928	6.43441	4.92792	IMPACTED AREA
929	6.42996	4.92876	IMPACTED AREA
931	6.42748	4.92759	IMPACTED AREA
930	6.43422	4.92808	ILLEGAL CONNECTION PIPE
828	6.43441	4.92787	SPILL POINT

Don
26 06 2015

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G. INCIDENT INFORMATION:

a. Impacted Area Details

- Total calculated area of impact 3.61Ha
- Impact within R.O.W YES
- Impact outside R.O.W YES

b. Volume of oil recovered before completion of JIV (V_{recj}):

Recovered oil V_{recj} :	<u>NIL</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 $V_{Est}(bbls)^* =$

305.14 BARRELS

Estimated Reported Volume** $V_{rep}(bbls) =$

306 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 in the box below:

- NO CLEAR LINK WAS FOUND BETWEEN THE SPILL POINT AND THE VOLUME OF OIL IN THE SWAMPY FOREST.
- SOME HOOPS WERE SIGHTED AROUND THE ILLEGAL ATTACHMENT WHICH JIV MEMBERS SUSPECTED TO HAVE BEEN USED TO DELIBERATELY DISCHARGE OIL TO THE ENVIRONMENT.
- PART OF THE ILLEGAL ATTACHMENT (3" PIPE FITTING WITH ELBOW/VALVE) WAS FOUND TO HAVE BEEN REMOVED BY UNKNOWN PERSON(S) ON THE 2ND DAY OF JIV

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 m^3 to barrels is Volume (m^3) 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 = 0.04 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 JIT 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

