

## Appendix D: Event Log for Laden Fatigue Data Collection and Emptying Tanker

### 1 Overview

The laden data collection exercise was carried out on Friday, 13 June 2014. In total, the laden data collection exercise comprised 10 separate tests (starting at Test 13 as a continuation from the unladen test and filling test numbering). In order to prevent strain gauge drift, before each test began, the strain gauges and accelerometers were zeroed. In this appendix, detailed descriptions of events and incidents that occurred during the test are recorded.

A summary of the key events are as follows:

- Number of recorded speed humps: 6
- Number of recorded pot hole events: 5
- Number of roundabout encounters: 94

Tables E1-E10 present the event logs for each of the ten laden tests. When applicable, each event is associated with a time from zero (start) time in both minutes and seconds as well as the clock time. The duration from start time can be used to analyse the strain and accelerometer data to identify the response of the tanker to the particular event.

Following the laden data collection exercise, the tanker was emptied on 16 June 2014 at PCL (Test 23). The compartments were emptied sequentially from compartment (pot) 1 to compartment (pot) 6, with compartment 1 at the back of the tanker and compartment 6 at the front of the tanker. The instrumentation on the tanker logged the strains associated with the emptying test, and the times for each compartment are shown in Table E11.

**Table D1** Event log for Test 13 – Pullman’s yard to Coryton

Date	13 June 2014		
Start time	11:33:00 AM		
Event/Incident	Duration from zero time (min)	Duration from zero time (s)	Clock time
Start Pullman’s Yard to Coryton	00:00:00	0.00	11:33:00 AM
Pot hole and turn left	00:02:58	178.00	11:35:58 AM
Speed hump	00:03:28	208.00	11:36:28 AM
Turn right	00:04:20	260.00	11:37:20 AM
Turn left	00:05:25	325.00	11:38:25 AM
Roundabout 3rd exit	00:07:00	420.00	11:40:00 AM
Roundabout 2nd exit	00:11:36	696.00	11:44:36 AM
Roundabout 3rd exit	00:13:35	815.00	11:46:35 AM
Onto A13	00:15:20	920.00	11:48:20 AM
Turn left	00:27:13	1633.00	12:00:13 PM
Speed hump	00:31:15	1875.00	12:04:15 PM
Roundabout 3rd exit	00:32:20	1940.00	12:05:20 PM
Speed hump	00:32:50	1970.00	12:05:50 PM
Turn right	00:33:07	1987.00	12:06:07 PM
Arrive at Coryton	00:34:00	2040.00	12:07:00 PM

**Table D2** Event log for Test 14 –

Date	13 June 2014		
Start time	12:07:00 PM		
Event/Incident	Duration from zero time (min)	Duration from zero time (s)	Clock time
Zero Gauges	00:00:00	0.00	12:07:00 AM
Figure 8 Test	00:04:00	360.00	12:11:00 AM

**Table D3** Event log for Test 15: Emergency stop tests

Date	13 June 2014		
Start time	12:12:00 PM		
Event/Incident	Duration from zero time (min)	Duration from zero time (s)	Clock time
Start	00:00:00	0.00	12:12:00 PM
Pot hole and turn left	00:01:30	90.00	12:13:30 PM
Emergency stop	00:03:14	194.00	12:15:14 PM
U-turn	00:04:30	270.00	12:16:30 PM
Emergency stop	00:05:55	355.00	12:17:55 PM
Roundabout 3rd exit	00:06:55	415.00	12:18:55 PM
Speed hump and turn left	00:07:30	450.00	12:19:30 PM
Stop at Coryton	00:08:00	460.00	12:20:00 PM

**Table D4** Event log for Test 16: Coryton to A130 exit/lay by

Date	13 June 2014		
Start time	12:23:00 PM		
Event/Incident	Duration from zero time (min)	Duration from zero time (s)	Clock time
Start	00:00:00	0.00	12:23:00 PM
Pot hole and turn left	00:01:20	80.00	12:24:20 PM
Roundabout1st exit	00:01:40	100.00	12:24:40 PM
Roundabout 3rd exit	00:07:20	440.00	12:30:20 PM
Roundabout 3rd exit	00:09:40	580.00	12:32:40 PM
Onto A13 (Turn left free bells)	00:13:50	830.00	12:36:50 PM
Roundabout1st exit, onto A176	00:14:20	860.00	12:37:20 PM
Roundabout (?) exit	00:15:55	955.00	12:38:55 PM
Turn left	00:16:44	1004.00	12:39:44 PM
Roundabout 2nd exit	00:17:55	1075.00	12:40:55 PM
Roundabout 360	00:19:20	1160.00	12:42:20 PM
Roundabout 3rd exit	00:20:35	1235.00	12:43:35 PM
Turn left	00:21:12	1272.00	12:44:12 PM
Roundabout 2nd exit onto A152	00:22:50	1370.00	12:45:50 PM
Roundabout 2nd exit	00:23:55	1435.00	12:46:55 PM
Turn left	00:25:47	1547.00	12:48:47 PM
Roundabout1st exit	00:27:16	1636.00	12:50:16 PM
Roundabout 2nd exit	00:27:50	1670.00	12:50:50 PM
Roundabout 2nd exit	00:29:00	1740.00	12:52:00 PM
Queuing traffic	00:31:25	1885.00	12:54:25 PM
Roundabout 2nd exit	00:33:17	1997.00	12:56:17 PM
Roundabout 2nd exit	00:34:40	2080.00	12:57:40 PM
Roundabout 2nd exit	00:35:55	2155.00	12:58:55 PM
Turn left onto 130	00:39:40	2380.00	01:02:40 PM
Stop on A130 lay by	00:40:00	2400.00	01:03:00 PM

**Table D5** Event log for Test 17: A130 to A120 exit

Date	13 June 2014		
Start time	1:07:00 PM		
Event/Incident	Duration from zero time (min)	Duration from zero time (s)	Clock time
Start on A130	00:00:00	0.00	01:07:00 PM
Roundabout 2nd exit	00:08:40	520.00	01:15:40 PM
Roundabout 3rd exit onto A12	00:09:25	565.00	01:16:25 PM
Turn left	00:12:50	770.00	01:19:50 PM
Roundabout 2nd exit	00:13:30	810.00	01:20:30 PM
Roundabout 3rd exit	00:15:35	935.00	01:22:35 PM
Roundabout 2nd exit	00:17:10	1030.00	01:24:10 PM
Roundabout 2nd exit	00:17:50	1070.00	01:24:50 PM
Roundabout 3rd exit	00:18:57	1137.00	01:25:57 PM
Roundabout 2nd exit	00:20:02	1202.00	01:27:02 PM
Roundabout 2nd exit	00:20:45	1245.00	01:27:45 PM
Roundabout 2nd exit	00:21:49	1309.00	01:28:49 PM
Roundabout 3rd exit	00:23:13	1393.00	01:30:13 PM
Roundabout 3rd exit onto A131	00:24:24	1464.00	01:31:24 PM
Roundabout 2nd exit	00:22:27	1347.00	01:29:27 PM
Roundabout 2nd exit	00:29:30	1770.00	01:36:30 PM
Roundabout 1st exit onto A131	00:31:08	1868.00	01:38:08 PM
Roundabout 2nd exit	00:32:30	1950.00	01:39:30 PM
Roundabout 2nd exit	00:33:45	2025.00	01:40:45 PM
Roundabout 2nd exit	00:34:40	2080.00	01:41:40 PM
Roundabout 3rd exit	00:35:35	2135.00	01:42:35 PM
Queuing traffic	00:38:38	2318.00	01:45:38 PM
Roundabout 360	00:41:56	2516.00	01:48:56 PM
Stop on A120 lay by	00:42:30	2550.00	01:49:30 PM

**Table D6** Event log for Test 18: A120 lay by to truck stop

Date	13 June 2014		
Start time	1:58:00 AM		
Event/Incident	Duration from zero time (min)	Duration from zero time (s)	Clock time
Start on A120 lay by	00:00:00	0.00	01:58:00 PM
Roundabout 2nd exit	00:02:43	163.00	02:00:43 PM
Roundabout 1st exit onto A131	00:03:40	220.00	02:01:40 PM
Roundabout 2nd exit	00:04:20	260.00	02:02:20 PM
Roundabout 2nd exit	00:05:50	350.00	02:03:50 PM
Roundabout 2nd exit	00:07:14	434.00	02:05:14 PM
Roundabout 2nd exit	00:08:53	533.00	02:06:53 PM
Roundabout 2nd exit	00:10:55	655.00	02:08:55 PM
Roundabout 1st exit onto A130	00:13:50	830.00	02:11:50 PM
Roundabout 2nd exit	00:15:45	945.00	02:13:45 PM
Roundabout 2nd exit	00:16:50	1010.00	02:14:50 PM
Roundabout 2nd exit	00:17:55	1075.00	02:15:55 PM
Roundabout 2nd exit	00:19:00	1140.00	02:17:00 PM
Roundabout 1st exit	00:20:00	1200.00	02:18:00 PM
Roundabout 2nd exit	00:21:00	1260.00	02:19:00 PM
Roundabout 2nd exit	00:21:40	1300.00	02:19:40 PM
Roundabout 1st exit	00:22:38	1358.00	02:20:38 PM
Roundabout 1st exit	00:23:50	1430.00	02:21:50 PM
Stop at truck stop	00:25:00	1500.00	02:23:00 PM

**Table D7** Event log for Test 19: Truck stop to Coryton

Date	13 June 2014		
Start time	2:57:00 PM		
Event/Incident	Duration from zero time (min)	Duration from zero time (s)	Clock time
Start at truck stop	00:00:00	0.00	02:57:00 PM
Roundabout 1st exit	00:01:20	80.00	02:58:20 PM
Roundabout 3rd exit onto A12	00:02:20	140.00	02:59:20 PM
Off A12 Roundabout 1st exit onto A130	00:08:10	490.00	03:05:10 PM
Off A130 Roundabout 1st exit onto A132	00:15:36	936.00	03:12:36 PM
Roundabout 1st exit	00:16:15	975.00	03:13:15 PM
Roundabout 1st exit	00:20:32	1232.00	03:17:32 PM
Queuing traffic	00:21:30	1290.00	03:18:30 PM
Roundabout 2nd exit	00:22:40	1360.00	03:19:40 PM
Roundabout 2nd exit	00:24:20	1460.00	03:21:20 PM
Roundabout 2nd exit	00:27:30	1650.00	03:24:30 PM
Roundabout 2nd exit	00:28:15	1695.00	03:25:15 PM
Roundabout 2nd exit	00:29:00	1740.00	03:26:00 PM
Roundabout 2nd exit	00:30:40	1840.00	03:27:40 PM
Roundabout 3rd exit	00:32:20	1940.00	03:29:20 PM
Roundabout 2nd exit	00:33:30	2010.00	03:30:30 PM
Roundabout 1st exit	00:37:00	2220.00	03:34:00 PM
Roundabout 2nd exit	00:37:20	2240.00	03:34:20 PM
Queuing traffic	00:38:10	2290.00	03:35:10 PM
Roundabout 2nd exit	00:41:15	2475.00	03:38:15 PM
Roundabout 2nd exit	00:43:00	2580.00	03:40:00 PM
Roundabout 3rd exit	00:43:45	2625.00	03:40:45 PM
Roundabout 3rd exit onto A13	00:44:05	2645.00	03:41:05 PM
Off A13	00:47:30	2850.00	03:44:30 PM
Roundabout 1st exit onto A1014	00:48:00	2880.00	03:45:00 PM

**Table D8** Event log for Test 19: Truck stop to Coryton continued

Turn left	00:50:00	3000.00	03:47:00 PM
Roundabout 3rd exit	00:54:48	3288.00	03:51:48 PM
Speed hump and turn right	00:55:20	3320.00	03:52:20 PM
Stop at Coryton	00:56:00	3360.00	03:53:00 PM

**Table D9** Event log for Test 20: Coryton to M25 excursion back to Coryton

Date	13 June 2014		
Start time	3:58:00 PM		
Event/Incident	Duration from zero time (min)	Duration from zero time (s)	Clock time
Start at Coryton	00:00:00	0.00	03:58:00 PM
Pot hole and turn left	00:01:20	80.00	03:59:20 PM
Roundabout 1st exit	00:01:40	100.00	03:59:40 PM
Turn left	00:06:25	385.00	04:04:25 PM
Roundabout 3rd exit	00:08:00	480.00	04:06:00 PM
Roundabout 1st exit onto A13	00:10:15	615.00	04:08:15 PM
Off A13	00:18:52	1132.00	04:16:52 PM
Roundabout 3rd exit onto M25	00:19:26	1166.00	04:17:26 PM
ACW J30 J29 360	00:27:40	1660.00	04:25:40 PM
Back onto M25 ACW J28 180	00:32:48	1968.00	04:30:48 PM
Back onto M25 CW J29 360	00:38:36	2316.00	04:36:36 PM
Back onto M25 CW J30 off M25 Roundabout 1st exit onto A13	00:52:47	3167.00	04:50:47 PM
Off A13 to Roundabout 3rd exit	01:02:02	-	05:00:02 PM
Turn left	01:05:00	-	05:03:00 PM
Onto A1014 Roundabout 2nd exit	01:09:00	-	05:07:00 PM
Speed hump and turn right	01:09:44	-	05:07:44 PM
Stop at Coryton	01:11:00	-	05:09:00 PM

**Table D10** Event log for Test 21: \_\_

Date	13 June 2014		
Start time	2:16:00 PM		
Event/Incident	Duration from zero time (min)	Duration from zero time (s)	Clock time
Test Cancelled			

**Table D11** Event log for Test 22: Coryton back to Pullman's yard

Date	13 June 2014		
Start time	5:10:00 PM		
Event/Incident	Duration from zero time (min)	Duration from zero time (s)	Clock time
Start at Coryton	00:00:00	0.00	05:10:00 PM
Pot hole and turn left	00:01:50	110.00	05:11:50 PM
Roundabout 1st exit	00:02:11	131.00	05:12:11 PM
Turn left onto A1014	00:06:34	394.00	05:16:34 PM
Roundabout 3rd exit	00:07:30	450.00	05:17:30 PM
Roundabout 1st exit onto A13	00:09:40	580.00	05:19:40 PM
Off A13	00:18:38	1118.00	05:28:38 PM
Roundabout 1st exit onto A1306	00:19:11	1151.00	05:29:11 PM
Queuing traffic	00:20:30	1230.00	05:30:30 PM
Roundabout 3rd exit	00:22:20	1340.00	05:32:20 PM
Roundabout 2nd exit	00:23:25	1405.00	05:33:25 PM
Roundabout 1st exit	00:24:35	1475.00	05:34:35 PM
Turn left	00:25:30	1530.00	05:35:30 PM
Turn left	00:26:44	1604.00	05:36:44 PM
Turn right	00:27:30	1650.00	05:37:30 PM
Turn right	00:28:00	1680.00	05:38:00 PM
Finish	00:29:00	1740.00	05:39:00 PM

**Table D12** Event log for Test 23: Emptying water at PCL

Date	16 June 2014		
Start time	11:52:00 PM		
Event/Incident	Duration from zero time (min)	Duration from zero time (s)	Clock time
Start emptying pot 1	00:00:00	0.00	11:52:00 AM
Finish emptying pot 1	00:17:50	1070.00	12:09:50 PM
Start emptying pot 2	00:17:50	1070.00	12:09:50 PM
Finish emptying pot 2	00:36:20	2180.00	12:28:20 PM
Start emptying pot 3	00:36:20	2180.00	12:28:20 PM
Finish emptying pot 3	00:54:40	3280.00	12:46:40 PM
Start emptying pot 4	00:54:40	3280.00	12:46:40 PM



**Table D13** Event log for Test 23: Emptying water at PCL continued

Finish emptying pot 4	01:13:20	800.00	01:05:20 PM
Start emptying pot 5	01:13:20	800.00	01:05:20 PM
Finish emptying pot 5	01:26:36	1596.00	01:18:36 PM
Start emptying pot 6	01:26:36	1596.00	01:18:36 PM
Finish emptying pot 6	01:44:32	2672.00	01:36:32 PM