

# Exhibit B

## Tank Truck & Tank Trailer Inspection Process

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### 1 Summary

This is the inspection process by which Chevron will verify that all Tank Trucks & Tank Trailers comply with Chevron's Tank Truck and Tank Trailer Requirements (Exhibit A). Chevron will perform unscheduled spot checks of each separate tank vehicle and use Exhibit C form to record results of all verifications. In this document, "tank truck" or "vehicle" refers to every type of cargo tank motor vehicle including straight tank trucks, tank semi-trailers and full tank trailers that may be bottom loaded at a terminal.

***NOTE: Safety considerations are NOT addressed in this Exhibit B which only describes functional testing process and requirements. Other reviews and/or processes must be performed to safely accomplish these tasks, i.e., Safe Work Practices, Job Safety Analysis, etc.***

### 2 Equipment

- Appropriate Personal Protective Equipment (PPE)
  - Scully Universal Truck Tester or other equivalent overfill prevention system truck tester
  - Wheel chocks
  - Inspection ladder or other acceptable Fall Prevention equipment
  - Non-metallic Intrinsically-safe Flashlight (listed for Class 1, Division 1 Group D locations) and/or non-metallic mirror
  - Non-metallic Measuring stick – wooden stick at least 12 inches long with a square cross section and at least 1/4 inch increments; with a hand strap to avoid dropping it into tank compartment
  - Non-metallic probe wet testing device – a dedicated dark plastic cup with a handle
  - API bottom loading coupler – with probe or poppet removed
  - Vapor recovery hose coupler – with probe or poppet removed
- Refer to Equipment Information (Appendix A) for equipment photos and more details.

### 3 Process

#### 3.1 General Aspects of Tank Truck and Trailer Inspection

1. Each tank truck and tank trailer shall be inspected by the Carrier, Marketer and / or third party vehicle owners prior to first loading and annually thereafter. To ensure ongoing compliance with Exhibit A requirements, personnel performing the inspections must be competent in all aspects of the inspection process, knowledgeable about the types of risks associated, and experienced in mitigating safety risks to ensure safe inspection.
2. Two personnel are required for this inspection. One (Inspector A) to perform the necessary checks and the other (Inspector B) to document the checks and observe the test equipment as tests are being conducted.
3. Verify that the tank truck has no full or partial retains in any tank compartments.
4. Verify that the tank calibration charts provided are for this specific tank truck (10) – by confirming that the vehicle number listed at the top of the charts matches this vehicle's number on the nameplate and/or specification plate– see example below:

Beall Corporation  
CALIBRATION CHART  
FOR: 31137 (31137)  
10/4/2005

Job Number 31137 Compartment 1 of 4

Level	Gal	Level	Gal	Level	Gal	Level	Gal	Level	Gal	Level	Gal	Level	Gal	Level	Gal
0	0	8.25	356	16.5	812	24.75	1364	33	1942	41.25	2519	49.5	3065	57.75	3493
0.25	0	8.5	360	16.75	836	25	1380	33.25	1959	41.5	2542	49.75	3073	58	3504
0.5	0	8.75	377	17	850	25.25	1394	33.5	1984	41.75	2548	50	3090	58.25	3516
0.75	0	9	382	17.25	862	25.5	1417	33.75	1992	42	2570	50.25	3107	58.5	3528

BEALL TRAILERS OF OREGON CT/CTMV MFR.  
PORTLAND, OREGON  
MODEL: BAST-95-4-SB CTMV CERT.DATE: 10/2005 SERIAL: ST31137-06  
DOT: 406-AL ORIG. TEST DATE: 10/2005 MAWP: 3.3

VIN: 1BN2T442X6P031137 TYPE: TRAILER  
MODEL: BAST-95-4-DC SERIAL: ST31137-06

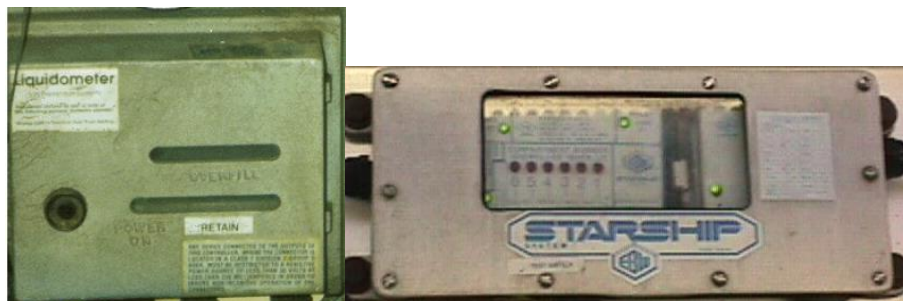
5. Results of the inspection shall be documented on [Exhibit C: Tank Truck & Tank Trailer Inspection Form](#). Specific **numbered items** are correlated to deficiencies (Appendix B).
6. Start at the top of the form and document all the General information in section A:
  - Vehicle Owner / Operator company and equipment information (company, unit #, tank manufacturer and year built)
  - Document whether all the required Owner's information (current [Exhibit C](#) form (9), vapor certification and tank calibration charts) are available.
  - Tank Vehicle Type, including detailed vehicle type information and DOT Spec. (8 and 5)
    - a. Determine how many (if any) double bulkheads the tank truck has by looking underneath the tank for any threadolet fittings welded into the center bottom of the tank. These threadolets must not be plugged. Record where the double bulk heads are located, such as between compartments 3 and 4; and if plugged.



- b. Record the brand and type of Overfill Prevention on-board controller (if any) installed on the tank truck. Several examples of acceptable units are shown here (there are others):



The following two types of Overfill Prevention on-board controllers are Not acceptable, due to known and fairly common unsafe failure modes (Liquidometer TABS and EBW Starship with horizontal LEDs). If a tank truck has either of these two types, do Not allow it to load (11):



## 3.2 Bottom Inspections

1. Test each of the brake interlocks – for all products loading and all vapor recovery adaptors ([2a](#), [2b](#)). This testing must be performed where the tank truck is parked on a flat and level surface (avoid doing so on a sloped area of the terminal yard). For a Semi-trailer, the Tractor brakes need to remain fully engaged and wheels chocked during all these Semi-trailer brake interlock tests. For a Truck & Trailer unit, test only one vehicle at a time and make sure that the other vehicle's brakes remain fully engaged and its wheels are chocked. This is done by attaching a special API bottom loading coupler test fitting to each tank truck loading adaptor (header). The coupler must engage the interlock button on the trailer air system. This special loading coupler test fitting must be configured such that when it is attached, no liquid can be discharged from the compartment piping - typically this means all the internal operating components (poppets and/or probes) of the coupler have been removed. These internal components on the product loading and vapor recovery coupler test fitting must be removed to prevent a possible product spill when connecting the coupler to the vehicle adaptor (for both product loading and vapor recovery).



Once the coupler test fitting is attached, the truck's brakes should activate (*you should hear the air being released from the spring brakes*), which will not allow the tank truck to move. Repeat this process for each loading header. Once you have completed all of the loading headers on the truck, complete the same process for each vapor recovery adaptor using a special vapor hose coupler test fitting with the plunger or poppet removed. If any of the brake interlocks fail, the tank truck cannot load at any Chevron terminal until repairs are made. The tank truck will be locked out from loading by Chevron until the vehicle owner can show documented repairs. The tank truck loading header or vapor recovery adaptor which failed must be re-inspected by Chevron personnel.


If the tank truck is equipped with a Drop Bar that covers all the product loading adaptors and all the vapor recovery adaptors, then simply test that it properly activates the vehicle's brake system when it is raised (allowing access to all these vehicle connections). Note that some vehicles which have such a common drop bar also have a separate vapor recovery adaptor near the rear of the vehicle – not located under the drop bar – which has to be individually tested (as described immediately above).





After all brake interlock testing is complete, make sure that all vehicle brakes are again fully engaged – to prevent possible vehicle movement during the Top Inspections.



2. Note how many and the type of overfill sockets the vehicle has

O=Optic (color coded Blue)	
T=Thermistor (color coded Green)	
F=Float (color coded Red)	
SP=Special setup (like two sockets wired in series or SFPPL racks on West Coast)	

3. Connect the overfill system truck tester plug to the vehicle's overfill socket and gently wiggle or shake the plug. If the tester's light(s) cycle from Green (good) to Red (bad) back and forth, there is an issue with the overfill socket; record this on the [Exhibit C](#) form.

Check the socket for wear – often the J-slots in the tank truck socket have become gouged out by the steel pins in the terminal overfill plug, and therefore the socket needs to be replaced (like old socket shown below at right). Some sockets only need a simple cleaning of their electrical contacts to work properly (1c).



Newer, good socket J-slot	Older, very worn socket J-slots
	

4. Test the Remote Emergency Switch (7). This is done by opening a tank compartment internal valve on the tank truck and then activating the Emergency Switch; the tank truck compartment internal valve should close. Some tank trucks have individual compartment valve switches – others have one switch which controls all the compartments. If the internal valves are air-operated, you should be able to see the internal valve close and you certainly can hear the air bleed off as the valve closes. If the internal valves are mechanical, you should be able to see the internal valve close. Regardless of whether the internal valves are air or mechanically operated, you may have to repeat this test to individually observe that

every internal valve is closing. When complete, ensure that Remote Emergency Switch is returned to its normal position.



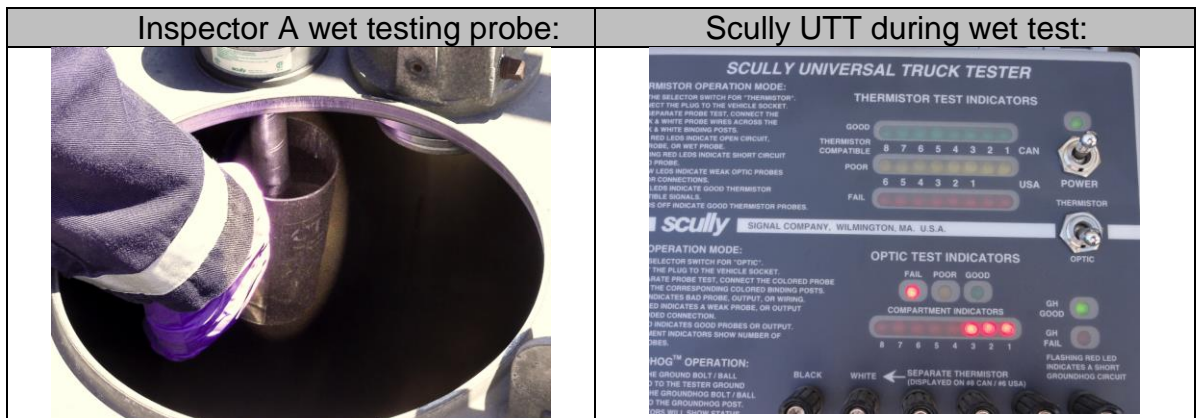
***WARNING: Do not stand close to the mechanical lever arms (and warn others) when performing this task, since the arms move quickly and could injure someone standing too close.***



### 3.3 Top Inspections

1. One personnel (Inspector A) conducting inspection shall make sure that the vehicle's drive axle wheels are chocked prior to the other accessing the top of the tank truck – to ensure that the vehicle cannot be moved while personnel are on the top.
2. Position an inspection ladder so that it is centered over first tank truck compartment to be tested to ensure inspectors can safely access the dome lid area and remain within the fall prevention system's safe area. Follow the inspection ladder manufacturer's operating instructions for proper use of this unit – including lowering the adjustable supports to properly secure and stabilize the unit prior to anyone climbing up. Adjust ladder height to provide effective fall prevention.
3. Remove any loose objects from his/her clothing (*such as items in shirt pockets*), which could easily fall into the opening of the tank truck compartment when reaching through the dome lid opening to perform the top inspection.
4. Climb the correctly positioned inspection ladder. Have several pieces of the inspection equipment available on top of the tank truck (Intrinsically safe flashlight and/or mirror, Measuring stick, Dark plastic cup and a sealed container of water). These items either have to be carefully carried up on top of the tank truck (using a proper three point stance) or they can be stored on top of the Fall Prevention unit inside a toolbox securely fastened to the unit.
5. Record the type of probe used (brand of manufacture and tip color). Be careful to check the actual probe – do not rely upon the brand of the probe housing since the actual probe is often replaced (sometimes by another brand) - without changing out the probe housing.
6. Wet test each probe using the dedicated dark cup partially filled with water. The other personnel (Inspector B) plugs in the overfill prevention system truck tester to the tank truck overfill socket with the appropriate plug and cable (do not use the lights on the tank truck's "On Board Monitor," if it has one). The test is performed by Inspector A reaching through the compartment's open dome with the plastic cup of liquid and briefly immersing (dip testing) each probe. The probe passes the test if the truck tester correctly indicates when the probe was wetted. Inspector B will observe the truck tester device and record the results on the line labelled **(1a) "Probe Passed 'Wet' Test? (Y/N)"** line of the [Exhibit C](#) form. If any probe fails this wet test then the tank truck must be locked out from loading in the TAS until repairs can be made and that probe is re-checked by terminal personnel.





Since wet testing all the overfill prevention probes is one of the most important aspects of an inspection, a brief explanation of all the possible truck probe conditions vs the rack Scully (or truck tester) light status follows:

### Truck Probe Condition vs Rack Scully Light

		Tank Truck Probe Condition:	
		Dry	Wet
Loading Rack Scully Light Status:	Green (Truck Can Load)	<b>A - <u>SAFE</u></b>  - <u>Normal</u> loading condition	<b>B - <u>UNSAFE</u> - Failure</b>  - Very rare " <u>Faulty</u> " probe; or probe was bypassed
	Red (Truck Can <u>NOT</u> Load)	<b>C - <u>SAFE</u></b>  - A " <u>Bad</u> " probe - which won't allow the truck to load	<b>D - <u>SAFE</u></b>  - A " <u>Wet Probe</u> " - the probe properly detected high liquid level

At any one time, a truck overfill prevention probe will either be 'Dry' or 'Wet,' and the bottom loading rack Scully light (or the Overfill Prevention System Truck Tester – when performing an inspection ) will either be Green or Red. This chart shows the critical relationships between all the different possible combinations of these two variables (listed in order of how frequently they occur):

- **Condition "A"** - a Dry probe with a **Green light** - is what most commonly happens during normal tank truck loading operations and is **safe**.
- **Condition "D"** – a Wet probe with a **Red light** – is what happens during loading when too much liquid is loaded into a compartment such that the liquid touches the sensing element of the probe, causing a "Wet Probe" event – which shuts down loading and is



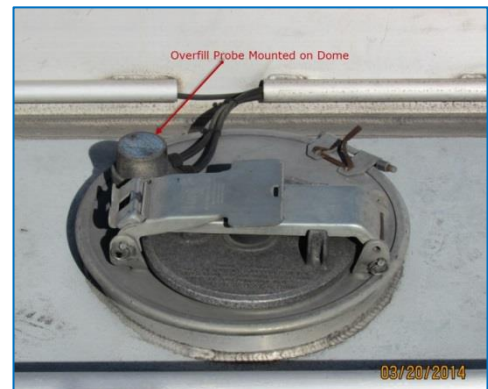
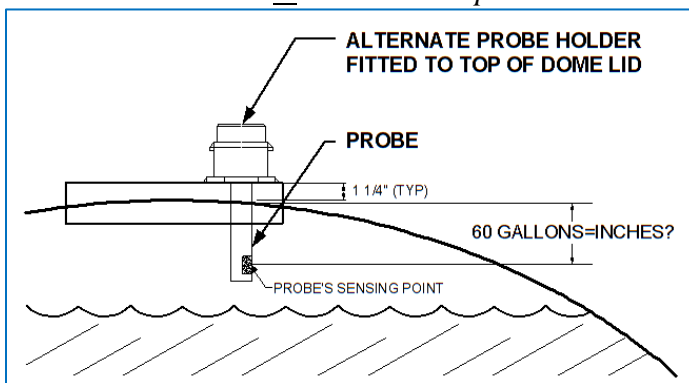
therefore also **safe**. This is exactly what we are testing for during the “Wet Test” – verifying that this happens.

- **Condition “C”** – a Dry probe with a **Red light** – is what rarely happens when a Driver attempts to load and cannot, due to the intended “fail safe” design of the probe. Drivers often call this a “bad” probe because it prevents them from loading; however, it is still a safe condition.
- **Condition “B”** – a Wet probe with a **Green light** – is a very rare event and is **very Unsafe**, since tank truck loading will continue after the probe is wetted by the rising liquid level - almost certainly resulting in a truck overfill incident. This can happen in one of two ways – either by a very rare unsafe “faulty” probe, or by a probe being bypassed. This is exactly what we are testing for during the “Wet Test” – to proactively find such an unsafe failure before a truck overfill incident happens due to this case.

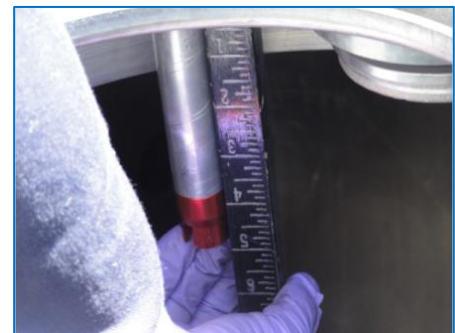
7. Record whether the probe is mounted directly into the tank shell (**T**) or mounted into the dome or manhole assembly (**D**). If mounted in the dome, measure the vertical distance or offset. This is the measured height above the top of the tank shell at which the probe holder is set in the dome cover. This height typically ranges from 1-2 inches. Record this measurement on line [II] of the Exhibit C form.

**NOTE - This measurement is not needed for tank trucks manufactured by Beall (with an original Beall chart), since they are the only U.S. tank truck manufacturer whose tank calibration chart capacities extend all the way up to the top of the dome opening. If a Beall manufactured tank truck has a tank calibration chart provided by anyone other than Beall, than treat the tank truck like every other manufacturer and measure the vertical offset.**

*Illustrated below is a Dome mounted probe.*



8. Inspector A will measure each probe’s ‘Gross’ installed length. Perform this by reaching through the compartment’s open dome and measuring the total length of each probe. It is important to be as exact as possible (a tolerance of +/- 1/4 inch is adequate). Use a square measuring stick, such as a service station stick (with a chain or strap connected to the stick and secured on the Inspector’s forearm), to measure the total length of the probe. While measuring the Gross probe installed length, confirm that the probe is securely mounted and not loose or



dangling by its wiring. Inspector B will record this 'Gross' length measurement of the probe on line [I] of the [Exhibit C](#) form.

9. Converting the above 'Gross' measured probe length to the Actual 'Net' probe installed length involves two steps:
  - a. First, if the probe is installed in the Dome, (unless tank truck was manufactured by Beall) subtract the vertical distance or offset measured above in step # 7 from the Gross inches. If the probe is mounted directly in the Tank shell, there is no vertical offset to account for.
  - b. Second, after noting the type of probe (in step #5 above), subtract one of the following amounts from the Gross inches to account for the length of the probe tip's sensing level (record this probe tip sensing length on line [III] of the [Exhibit C](#) form):

Probe Tip Sensing Lengths (not all possible probes are shown here, but the same concepts apply to all types of probes)	
Scully Optic probe (with Prism Protector) - black plastic angle cut oversized tip	1½"
Scully Optic probe (without Prism Protector) – green/gray tip w/ raised prism protruding from side of tip or newer teardrop style	¾"
Civacon, FloTech or EBW Optic probes	½"
Scully Thermistor probe – silver, red or green metal tip w/ side holes (not shown below)	¾"

#### Overfill Probes



- c. After making the above two subtractions from the measured 'Gross' probe installed length, you now have the Actual 'Net' probe installed length. Record this number on line [IV] of the [Exhibit C](#) form.

For example, if you have a Civacon optic probe that has a 5.75 inch 'Gross' measured length that is mounted in the dome of a Heil trailer, with a 2 inch vertical offset, your calculation is  $(5.75 - 2 - 0.5 = 3.25)$ , resulting in an Actual 'Net' probe installed length of 3.25".

10. Refer to the tank truck calibration charts to determine the Calculated Minimum Probe Length. To get this Calculated Minimum Probe Length, take the GSF of the compartment and "move down" in gallons ("up" on the chart) the listed gallon capacity by at least 60 gallons (go to the entry that is at least 60 gallons less than the GSF gallons). Subtract the inches corresponding to this Minimum Probe Depth gallon capacity from the inches corresponding to the GSF capacity – this is the Calculated Minimum Probe Length in inches. Record this number of inches on line [V] of the [Exhibit C](#) form.

An example top inspection using an excerpt of [Exhibit C](#) for two tank truck compartments is shown below.

(C) Top Inspections:		Comp. 1	Comp. 2
Probe Mounted in <u>D</u> ome or <u>T</u> ank?:		<u>D</u>	<u>D</u>
Probe Manufacturer (Brand / Tip Color):		<u>Flg / Red</u>	<u>Civ / Blk</u>
<b>1a</b>	<b>Probe Passed 'Wet' Test? (Y/N)</b>	<u>Y</u>	<u>Y</u>
	[I] Record measured 'Gross' probe installed Length (Inches)	<u>5.0</u>	<u>7.0</u>
	[II] If <u>D</u> ome, record Vertical 'Offset' (Inches) - except Beall	<u>—</u>	<u>—</u>
	[III] Record probe tip sensing length (Inches)	<u>0.5</u>	<u>0.5</u>
	[IV] Actual 'Net' probe installed Length (Inches) [IV = I - II - III]:	<u>4.5</u>	<u>6.5</u>
	[V] Calculated from Charts, Min. probe Length (Inches)	<u>6.0</u>	<u>6.0</u>
<b>1b</b>	<b>Actual 'Net' probe Equal/Exceed Calc. Min. probe length? (Y/N)</b>	<u>N</u>	<u>Y</u>
	[VI] If Yes, leave Blank; If No, Additional probe length needed (Inches)	<u>1.5</u>	
	Max. compartment capacity (" <u>GSF</u> ") [top gallon on chart]	<u>3,611</u>	<u>2,500</u>
	Min. probe depth capacity [GSF gallons minus 60 gallons]	<u>3,551</u>	<u>2,440</u>
	Actual 'Net' probe capacity [gallons at Actual probe depth]	<u>3,599</u>	<u>2,428</u>
<b>TAS</b>	Load Capacity (" <u>Safe Fill</u> ") gallons [Enter into TAS]	<u>3,300</u>	<u>2,200</u>
	[VII] From Charts, Actual 'Net' total height (Inches)	<u>60.75</u>	<u>65.25</u>
	[VIII] From Charts, "Safe Fill" total height (Inches)	<u>53.75</u>	<u>58.25</u>
	[IX] Actual 'Net' Exceeds "Safe Fill" by 1/2 Inch [VII > VIII + 0.5]? (Y/N)	<u>Y</u>	<u>Y</u>

The first chart, for compartment 2, shows that the Actual probe depth exceeds the Minimum probe depth, so the 60 gallon outage has been met.

Job Number 31137 Compartment 2 of 4															
Level	Gal	Level	Gal	Level	Gal	Level	Gal	Level	Gal	Level	Gal	Level	Gal	Level	Gal
0	0	9.25	185	18.5	490	27.75	869	37	1282	46.25	1702	55.5	2100	64.75	2418
0.25	0	9.5	194	18.75	503	28	882	37.25	1292	46.5	1708	55.75	2105	65	2423
0.5	0	9.75	199	19	511	28.25	893	37.5	1308	46.75	1725	56	2117	65.25	2428
0.75									1317	47	1735	56.25	2127	65.5	2438
1									1329	47.25	1744	56.5	2131	65.75	2440
1.25									1341	47.5	1760	56.75	2147	66	2448
1.5									1348	47.75	1768	57	2155	66.25	2455
1.75									1361	48	1780	57.25	2162	66.5	2458
2									1372	48.25	1792	57.5	2178	66.75	2465
2.25									1383	48.5	1799	57.75	2183	67	2471
2.5									1399	48.75	1812	58	2195	67.25	2477
2.75									1403	49	1821	58.25	2205	67.5	2482
3									1417	49.25	1831	58.5	2209	67.75	2485
3.25									1431	49.5	1847	58.75	2223	68	2491
3.5									1436	49.75	1853	59	2232	68.25	2496
3.75									1453	50	1865	59.25	2239	68.5	2496
4									1463	50.25	1878	59.5	2251	68.75	2497
4.25									1474	50.5	1885	59.75	2256	69	2497
4.5									1490	50.75	1901	60	2267	69.25	2498
4.75									1493	51	1911	60.25	2278	69.5	2498
5									1508	51.25	1920	60.5	2283	69.75	2498
5.25									1523	51.5	1933	60.75	2294	70	2498
5.5									1528	51.75	1938	61	2302	70.25	2499
5.75									1545	52	1950	61.25	2309	70.5	2499
6									1556	52.25	1964	61.5	2322	70.75	2499
6.25									1565	52.5	1971	61.75	2327	71	2499
6.5									1579	52.75	1985	62	2335	71.25	2500
6.75									1586	53	1993	62.25	2344	71.5	2500
7									1600	53.25	2001	62.5	2348	71.75	2500
7.25									1614	53.5	2017	62.75	2359	FULL	2500
7.5									1620	53.75	2024	63	2366		
7.75	144	17	437	26.25	807	35.5	1218	44.75	1637	54	2035	63.25	2372		
8	152	17.25	445	26.5	810	35.75	1223	45	1646	54.25	2046	63.5	2383		
8.25	159	17.5	460	26.75	827	36	1237	45.25	1655	54.5	2052	63.75	2388		
8.5	162	17.75	464	27	838	36.25	1250	45.5	1672	54.75	2068	64	2397		
8.75	173	18	475	27.25	847	36.5	1257	45.75	1678	55	2077	64.25	2406		
9	180	18.25	486	27.5	862	36.75	1273	46	1690	55.25	2085	64.5	2409		



The second chart, for compartment 1, shows that the Actual probe depth is less than the Minimum probe depth, so the 60 gallon outage requirement has Not been met.

Beall Corporation CALIBRATION CHART (31137) 10/4/2005											
Job Number 31137 <b>Compartment 1 of 4</b>											
Level	Gal	Level	Gal	Level	Gal	Level	Gal	Level	Gal	Level	Gal
0	0					41.25	2519	49.5	3065	57.75	3493
0.25	0					41.5	2542	49.75	3073	58	3504
0.5	0					41.75	2548	50	3090	58.25	3516
0.75	0					42	2570	50.25	3107	58.5	3522
1	0					42.25	2593	50.5	3116	58.75	3534
1.25	0					42.5	2601	50.75	3139	59	3540
1.5	0					42.75	2625	51	3151	59.25	3547
1.75	0					43	2640	51.25	3162	59.5	3561
2	0					43.25	2654	51.5	3183	59.75	3566
2.25	0					43.5	2678	51.75	3188	60	3576
2.5	0					43.75	2686	52	3206	60.25	3585
2.75	0					44	2707	52.25	3224	60.5	3590
3	0					44.25	2728	52.5	3231	60.75	3599
3.25	139					44.5	2736	52.75	3252	61	3605
3.5	151	[V]	6.0"	Calculated Min. Probe Length		44.75	2760	53	3263	61.25	3607
3.75	156					45	2775	53.25	3273	61.5	3607
4	166					45.25	2789	53.5	3295	61.75	3608
4.25	177					45.5	2811	53.75	3300	62	3608
4.5	182					45.75	2819	54	3315	62.25	3608
4.75	196	[IV]	- 4.5"	Actual 'Net' Probe Installed length		46	2838	54.25	3331	62.5	3608
5	205	[VII]	60.75"	Actual 'Net' Probe total height		46.25	2857	54.5	3338	62.75	3609
5.25	214					46.5	2865	54.75	3357	63	3609
5.5	227					46.75	2889	55	3368	63.25	3609
5.75	233					47	2904	55.25	3379	63.5	3609
6	247					47.25	2918	55.5	3397	63.75	3610
6.25	260					47.5	2940	55.75	3403	64	3610
6.5	264					47.75	2950	56	3417	64.25	3610
6.75	281					48	2968	56.25	3430	64.5	3610
7	293					48.25	2986	56.5	3434	64.75	3610
7.25	303					48.5	2995	56.75	3451	65	3611
7.5	317					48.75	3014	57	3461	65.25	3611
7.75	326					49	3027	57.25	3472	FULL	3611
8	342					49.25	3041	57.5	3488		
Comp. #1 (Original)											
3,611 gal. (GSF)											
- 60 gal.											
3,551 gal. (Min. Probe)											
65.25" (GSF)											
- 59.25" (Min. Probe; using 3,547 gal)											
[V] 6.0" Calculated Min. Probe Length											
65.25" (GSF)											
[IV] - 4.5" Actual 'Net' Probe Installed length											
[VII] 60.75" Actual 'Net' Probe total height											
3,599 gal. Actual 'Net' probe capacity											
Comp. #1 (Final)											
65.25" (GSF)											
[IV] - 7.5" Actual 'Net' Probe Installed length											
[VII] 57.75" Actual 'Net' Probe total height											
3,493 gal. Actual 'Net' probe capacity											

Since Compartment 1 in this example did not meet the 60 gallon outage requirement, the tank truck had to be repaired to have a longer probe. After this repair, only this aspect of was re-inspected and the result is shown here:

(C) Top Inspections:		Comp. 1
Probe Mounted in <u>D</u> ome or <u>T</u> ank?:		<u>D</u>
Probe Manufacturer (Brand / Tip Color):		<u>Civ / Blk</u>
<b>1a</b>	Probe Passed 'Wet' Test? (Y/N)	<u>Y</u>
	[I] Record measured 'Gross' probe installed Length (Inches)	<u>8.0</u>
	[II] If <u>D</u> ome, record Vertical 'Offset' (Inches) - except Beall	<u>—</u>
	[III] Record probe tip sensing length (Inches)	<u>0.5</u>
	[IV] Actual 'Net' probe installed Length (Inches) [IV = I - II - III]:	<u>7.5</u>
	[V] Calculated from Charts, Min. probe Length (Inches)	<u>6.0</u>
<b>1b</b>	Actual 'Net' probe Equal/Exceed Calc. Min. probe length? (Y/N)	<u>Y</u>
	[VI] If Yes, leave Blank; If No, Additional probe length needed (Inches)	
	Max. compartment capacity ("GSF") [top gallon on chart]	<u>3,611</u>
	Min. probe depth capacity [GSF gallons minus 60 gallons]	<u>3,551</u>
	Actual 'Net' probe capacity [gallons at Actual probe depth]	<u>3,493</u>
<b>TAS</b>	Load Capacity ("Safe Fill" gallons) [Enter into TAS]	<u>3,300</u>
	[VII] From Charts, Actual 'Net' total height (Inches)	<u>57.75</u>
	[VIII] From Charts, "Safe Fill" total height (Inches)	<u>53.75</u>
	[IX] Actual 'Net' Exceeds "Safe Fill" by 1/2 Inch [VII > VIII + 0.5]? (Y/N)	<u>Y</u>

*Note - If the tank truck owner does not have a specific set of tank calibration charts for their vehicle, then we have to use a generic Probe Depth Guidance table which was developed by averaging about 100 differently sized and shaped tank trucks' calibration charts. Since this table is 'conservative,' in that it will always require longer overfill prevention probes than if the tank truck's specific calibration chart was used, most owner's will make a concerted effort to obtain such specific calibration charts for their tank trucks. Most major tank truck manufacturers can provide a specific tank calibration chart for a specific tank truck if they are provided the VIN or other unique identifying number for the vehicle. Alternatively, there are 3rd party companies that can create a specific set of tank calibration charts for a tank truck, if the vehicle manufacturer cannot do so. It is the vehicle owner's responsibility to obtain and then provide these specific tank calibration charts.*

*Here is the generic Probe Depth Guidance table:*

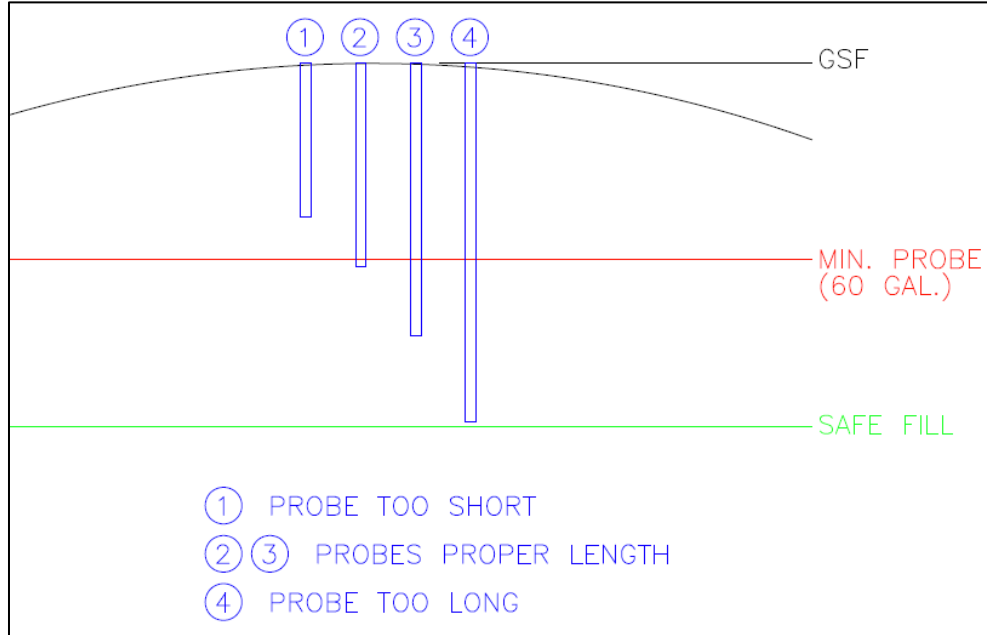
Nominal Tank Compartment Capacity	Nominal Tank Compartment Capacity	Range	Minimum Probe Depth to have 60 gal.
"Low" end (gal.):	"High" end (gal.):	(gal.):	(inches):
0	499	499	10.0
500	749	249	9.5
750	999	249	9.0
1,000	1,249	249	8.5
1,250	1,499	249	8.0
1,500	1,999	499	7.5
2,000	2,499	499	6.5
2,500	2,999	499	6.0
3,000	3,499	499	5.5
3,500	3,999	499	5.0
4,000	Larger	--	4.0

11. Now you have all the information you need to determine if the minimum 60 gallon outage requirement is met for this tank compartment – simply compare the Actual ‘Net’ Probe Installed Length from step # 9c to the Calculated Minimum Probe Length from step # 10; if the Actual ‘Net’ equals or exceeds the Calculated Minimum (within an allowable tolerance of  $\frac{1}{4}$ ” for measurement errors), then the outage requirement is met. Record this result on the line labelled **(1b)** *“Actual ‘Net’ probe Exceed Calc. Min. probe length? (Y/N)”* of the [Exhibit C](#) form.
12. If any tank compartment probe’s Actual ‘Net’ length does **Not** equal or exceed the Calculated Min. probe length, then the minimum 60 gallon outage requirement has **Not** been met and the tank truck must be locked out from loading in the TAS until repairs can be made and that probe is re-checked by terminal personnel. Subtract the Actual ‘Net’ probe inches from the Calculated Min. probe inches to determine how much additional probe length is required; record this on line [VI] of the [Exhibit C](#) form. This is the minimum recommended additional amount that a probe must be installed deeper in a compartment to ensure that the 60 gallon outage requirement is met.
13. Record the following four “gallon capacity” numbers for each tank compartment in the spaces provided on the [Exhibit C](#) form:
- Maximum Compartment Capacity. This is also known as “Gross Shell Full” or “Gallons Shell Full” (GSF). This is the maximum liquid carrying capacity of the tank truck compartment without any liquid going out the top of the dome. This number is the largest gallon number on the tank calibration chart.
  - Minimum Probe Depth Capacity. This is the GSF gallons minus 60 gallons – to clearly document that the required minimum 60 gallon outage has been met in each tank truck compartment.
  - Actual ‘Net’ Probe Capacity. This gallon capacity number is determined by using the tank calibration chart – *after* the Actual ‘Net’ probe installed length has been determined in step 9c. Subtract the number of inches recorded on line IV of the [Exhibit C](#) form from the GSF inches on the tank calibration chart – this corresponds to the Actual ‘Net’ probe gallon capacity. This Actual ‘Net’ probe capacity needs to be equal to or less than the Minimum Probe Depth Capacity.
  - Load Capacity. This is also known as the “Safe Fill,” normal fill, or maximum carrying capacity (in gallons) of each tank truck compartment. This number is determined by the tank truck owner. It is typically established by weighing the “fully” loaded tank truck on truck scales to get close to, but not over, the legal total vehicle weight limits imposed by government regulations. The individual tank compartment capacities are then typically rounded down to the nearest even 50 or 100 gallon increments. This gallon capacity number is often clearly marked on the tank vehicle (with decals on the rollover rail and/or labelled near the product loading adaptors) since it is the largest quantity that the Driver will typically use for loading gasoline (the lightest weight petroleum product). This gallon capacity is what gets entered into the Terminal Automation System (TAS), which then limits the maximum loading rack preset quantity that is allowable for each tank truck compartment.

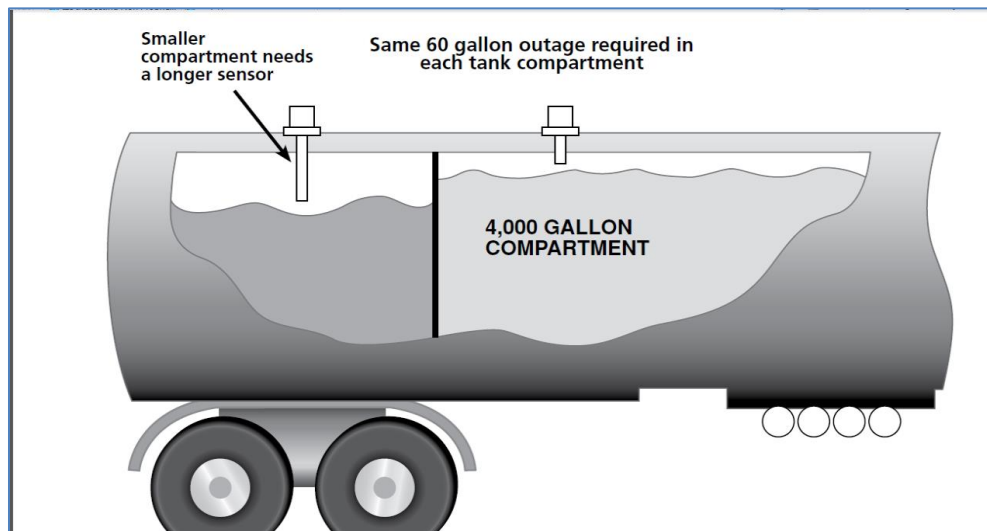
14. The last step involving tank compartment capacities and levels is to verify that the “Safe Fill” capacity established by the vehicle owner is acceptable. Each of the “Safe Fill” settings must be a ½ inch or more below the Actual ‘Net’ Probe depth – to avoid possible nuisance tripping of the loading rack Possible Overfill Device (POD) system if the liquid level contacts the probe tip as the tank truck settles while being loaded, sloshing the liquid inside a tank compartment, or if the vehicle’s cargo tank is not totally level. To verify this, perform the following three tasks:
- a. First record the total height (the distance from the bottom of the tank) from the tank calibration chart at the Actual ‘Net’ level on line VII of the [Exhibit C](#) form.
  - b. Then record the total height from the tank calibration chart at the “Safe Fill” level on line VIII of the [Exhibit C](#) form.
  - c. Finally, compare these two heights, verifying that the Actual ‘Net’ height exceeds the “Safe Fill” height by ½ inch or more; record this result on (12) line IX of the [Exhibit C](#) form. If the Actual ‘Net’ height is not ½ inch or more higher than the “Safe Fill” height, then this is not acceptable and must be addressed in one of the following two ways:
    - i. The probe must be shortened enough to provide at least ½ inch space above the “Safe Fill” level (but not shortened enough to compromise the minimum 60 gallon outage), or
    - ii. The “Safe Fill” level must be lowered enough to provide ½ inch or more space below the probe level. If this approach is taken, then this new and lesser Load Capacity (“Safe Fill”) gallon must be entered into the TAS by Chevron terminal personnel.
15. Annually, for each tank truck, vehicle owners should send self-inspection [Exhibit C](#) forms and vapor tightness certificates to the local Chevron terminal. These do not always come in at the same time. When Chevron reviews the [Exhibit C](#) forms, they will verify that the vehicle fully meets all of Chevron’s requirements. For example, if the form states for compartment one, the GSF is 1,038 gallons and the Load capacity is 950 gallons, then there is 88 gallons of total outage, which meets the minimum 60 gallon outage. Chevron will enter the Load capacity (“Safe Fill”) for each tank compartment into the TAS; this will limit the maximum amount that can preset to be loaded into this tank compartment. The original version of the [Exhibit C](#) form did not have a space to specifically list this quantity (the new form does); so care must be taken with interpreting exactly what gallon quantity to enter into the TAS for this purpose. Less than 60 gallons of outage will not be recorded. If there is less than 60 gallons of outage, Chevron will contact the vehicle owner.



A simple diagram of these important “gallon capacity” levels follows – with four different scenarios of Actual probe depths being shown in blue:

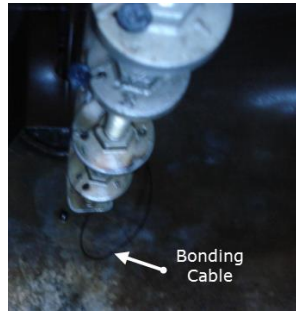


**NOTE:** None of the above four “gallon capacity” numbers are the “Nominal” Capacity gallons that are listed by the tank vehicle’s manufacturer on the metal Nameplate. These “Nominal” capacities are typically approximately 3% less than the GSF number and have No Use for program.

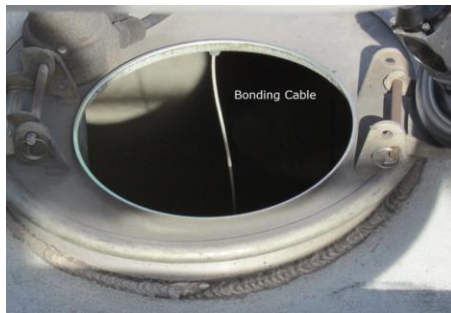


A minimum of 60 gallons of outage per tank truck compartment is required to ensure that the terminal loading rack equipment has adequate time to shut down if liquid hits the overfill probe installed in each tank truck compartment – this requires longer probes to be installed in the smaller tank truck compartments.

16. Record if there are marker rods for the compartment; if so, do they have a bonding cable that is connected at both top and bottom? (4)



17. Record if there is a bonding cable that is attached at both top and bottom for the compartment. (4)



18. Record if there is a spray deflector in the compartment (3). Photos of two typical types of spray deflectors are shown below. You may not be able to see if there is a spray deflector in the tank compartment because the top dome lid opening that you are looking through may be located on the other side of an internal tank baffle from where the bottom internal valve is located – if this is the case, instead of recording “N” for No spray deflector, record “U” for Unknown.



19. Look for any loose objects inside the compartment (6). This is sometimes difficult to observe due to the darkness inside a tank compartment, so a mirror or intrinsically-safe flashlight may be needed to see if there are any loose objects. Also, you may not be able to see the entire length of a large tank compartment that has several baffles in it – just look where you can safely see and record what you see.
20. After inspecting the compartment, fully close the dome lid.
21. Repeat this process for each compartment.

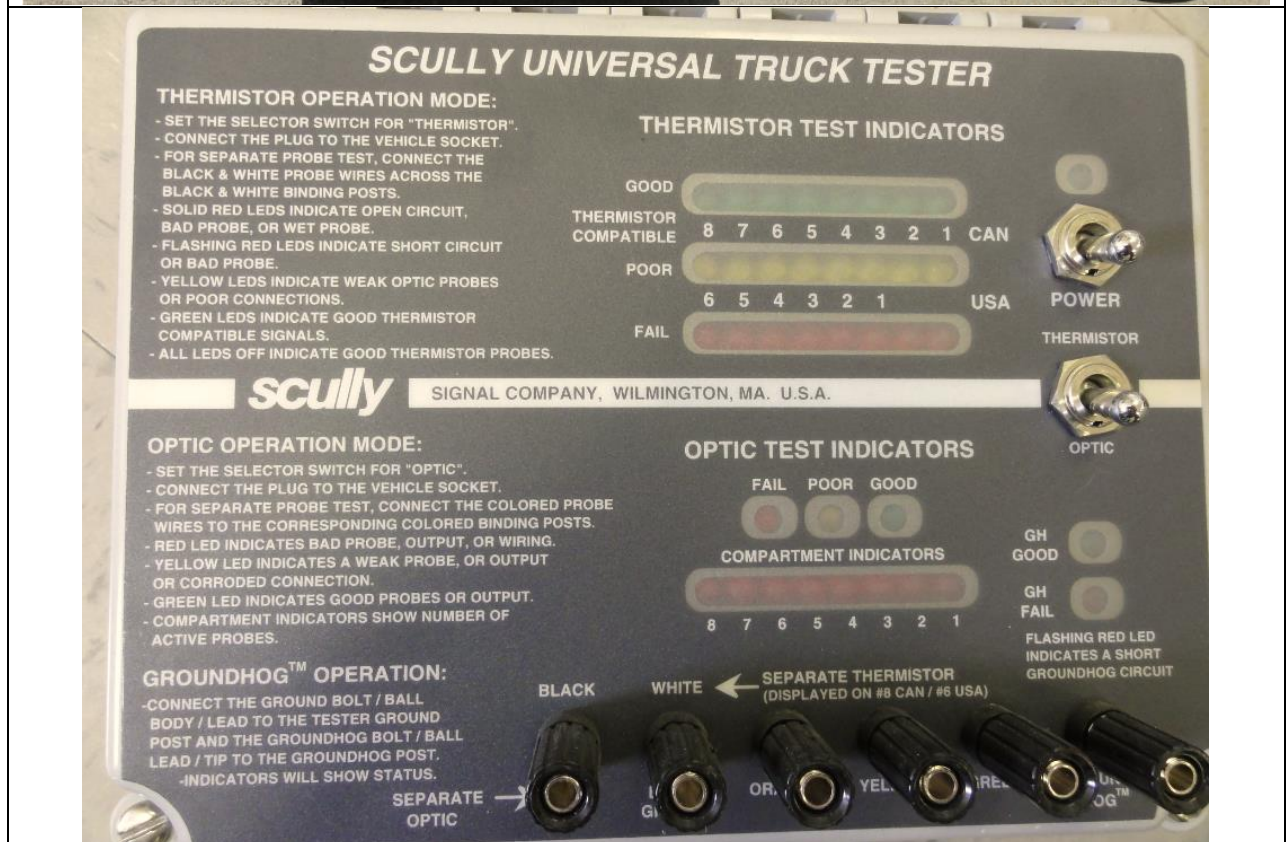
### **3.4 Documenting Inspections**

1. Document all Inspection results on the [Exhibit C](#) form (2014 version).
2. If all requirements are met, complete section F of the [Exhibit C](#) and retain the completed form.
3. If any Deficiencies (correlated to specific [numbered items](#) on the [Exhibit C](#)) are observed, these items need to be repaired and the adjustment/repair documentation (typically a tank repair shop work order or invoice) should be retained. Re-inspect the deficient item(s), and then complete section F of [Exhibit C](#).
4. The completed documentation shall be retained and made available on the truck for review by Chevron whenever the vehicle is loading.
5. When Chevron is performing Spot Inspections, they will use their “CTIP Inspection Deficiency Report” (Appendix B) to clearly document any items not meeting the requirements.

## 4 Appendix: A

### Equipment Information (All Photographs are **NOT To Scale**)

#### Scully Universal Truck Tester (UTT)





**Blue Optic plug – used in western USA**



**Green Thermistor plug – used in eastern USA**



**Civacon Truck Tester**



**Wheel Chocks**



## Inspection Ladder

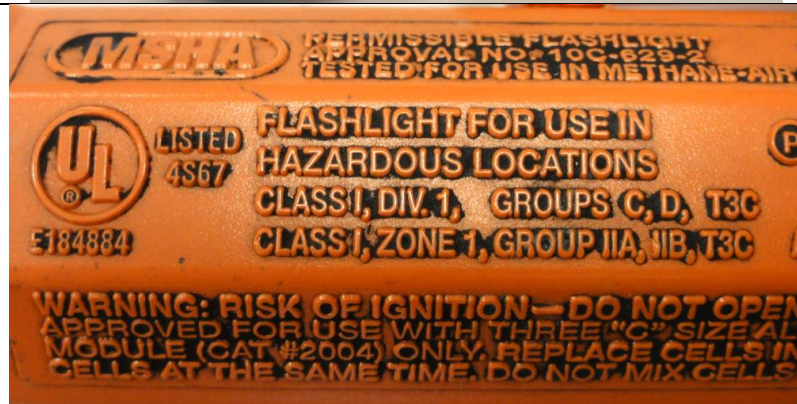


## Other Acceptable Fall Prevention Equipment





**Intrinsically-safe Flashlight (listed for Class 1, Division 1 Group D locations)**



**Measuring Stick – wooden with a square cross section, at least ¼” increments and with a hand strap to avoid dropping it into tank truck compartment**



**Dark Cup – with “Not for drinking” warning – to use for Wet Testing the overfill probes**



**API Bottom Loading Coupler**



**Vapor Recovery Hose Coupler**





## 5 Appendix: B

### CTIP Inspection Deficiency Report

An inspection of the following tank truck or tank trailer was found to have defects that do not comply with the Chevron Truck Inspection Process (CTIP) safety standards. Please review the item(s) checked below and make the necessary adjustments/repairs to the equipment to be in accordance with Chevron's Truck Loading Agreement "Exhibit A." The tank truck or tank trailer will not be permitted to load at any Chevron terminal until the adjustments/repairs have been made to Chevron's satisfaction.

Company Name: \_\_\_\_\_ Inspection Date: \_\_\_\_\_

Tank Truck / Tank Trailer Equipment Number: \_\_\_\_\_

1. Overfill Prevention System NOT fully operable with minimum 60 gallon outage probes:

☐

- a. One or more probes Fails Wet Test:

Compartment #: 1\_\_\_\_ 2\_\_\_\_ 3\_\_\_\_ 4\_\_\_\_ 5\_\_\_\_ 6\_\_\_\_

☐

- b. One or more probes Not installed deep enough:

Compartment #: 1\_\_\_\_ 2\_\_\_\_ 3\_\_\_\_ 4\_\_\_\_ 5\_\_\_\_ 6\_\_\_\_

☐

- c. Overfill Socket very worn.

2. Brake Interlocks NOT fully operable:

☐

- a. One or more Product loading adaptors Not interlocked:

Compartment #: 1\_\_\_\_ 2\_\_\_\_ 3\_\_\_\_ 4\_\_\_\_ 5\_\_\_\_ 6\_\_\_\_

☐

- b. One or more Vapor recovery adaptor Not interlocked:

Front\_\_\_\_ Middle\_\_\_\_ Rear\_\_\_\_

☐

3. No Spray Deflector over each emergency internal valve:

Compartment #: 1\_\_\_\_ 2\_\_\_\_ 3\_\_\_\_ 4\_\_\_\_ 5\_\_\_\_ 6\_\_\_\_

☐

4. Marker/Gauge rods (if present) are not bonded, otherwise a Bonding cable not attached:

Compartment #: 1\_\_\_\_ 2\_\_\_\_ 3\_\_\_\_ 4\_\_\_\_ 5\_\_\_\_ 6\_\_\_\_

☐

5. Plugged drain between Double Bulkheads (if present). Between Comp. #s:\_\_\_\_\_

- ☐ 6. Tank compartments contain Loose Objects:
- Compartment #:                      1\_\_\_\_\_ 2\_\_\_\_\_ 3\_\_\_\_\_ 4\_\_\_\_\_ 5\_\_\_\_\_ 6\_\_\_\_\_
- ☐ 7. Remote Control Switch for emergency internal valves does not function properly.
- ☐ 8. No Nameplate designating Specification MC-306, DOT-406 or higher integrity.
- ☐ 9. No current (within the last 365 days) CTIP Exhibit C form available on tank truck.
- ☐ 10. Tank Vehicle Calibration/Capacity Chart for *this* tank vehicle is Not available.
- ☐ 11. Liquidometer TABS or EBW Starship with Horizontal LEDs On-board Controller is present.
- ☐ 12. Load Capacity ("Safe Fill") is Not at least 1/2 inch lower than the Actual "Net" probe depth.
- ☐

Inspected by: \_\_\_\_\_ Phone: \_\_\_\_\_  
(Print Name)

Attach a Copy of the Chevron-performed Exhibit C Tank Truck and Tank Trailer Inspection Form (2014 version) along with the annotated tank calibration charts.

I have re-inspected the tank truck / tank trailer and confirm the deficiencies documented herein have been repaired and now meet Chevron equipment requirements.

Post Repair Re-Inspection by: \_\_\_\_\_ Date: \_\_\_\_\_  
(Print Name)