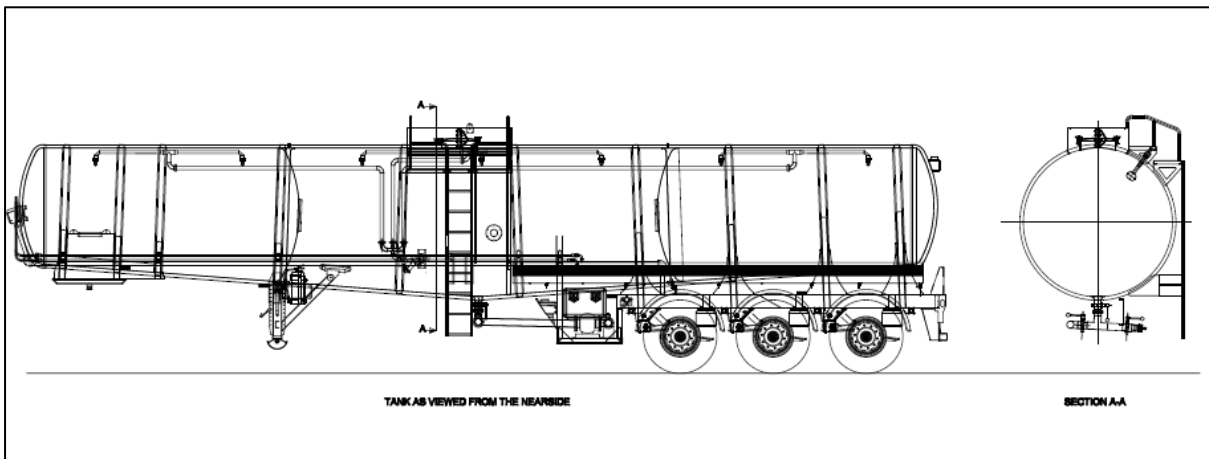
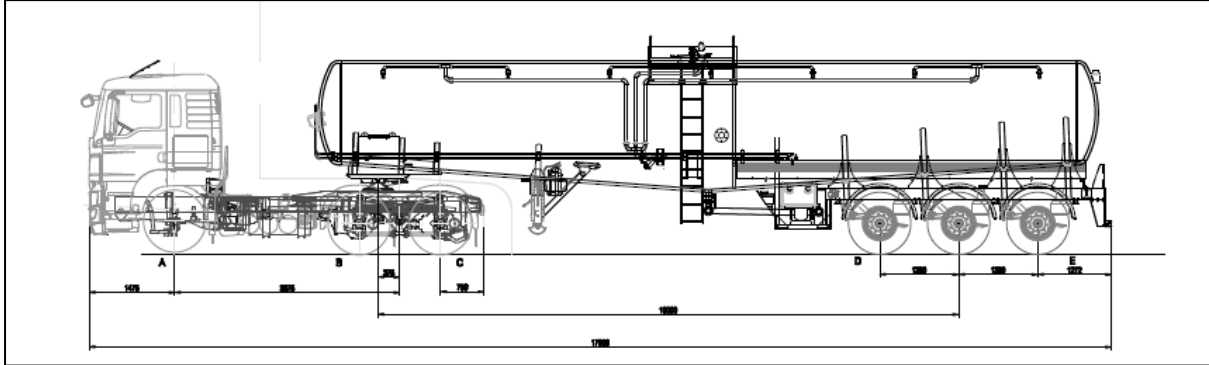
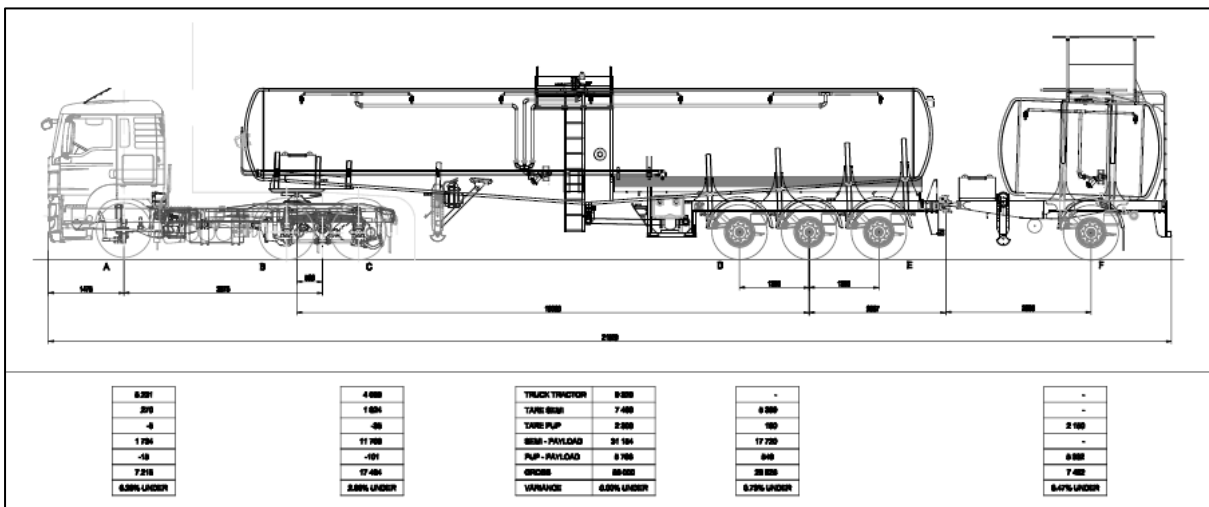




General Assembly



(Optional for Pup Tanker – not included in this build)

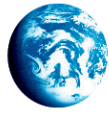


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1 Specification

General – Trailing Equipment	
Type	Tridem Semi-trailer
Capacity	38,000 litre
Compartments	1 (One)
Material	304 (S/Steel)
Shape	Double Conical
Payload (Food grade oils)	33,500 kg
Positive Displacement Pump	R43 Rotoflo (316 Stainless Steel)
Product flow rate	50 m ³ /hr
Hydraulic flow rate	60 l/min
“Pup ready”	Yes
Tanker – Trailing Equipment	
Chassis Colour	Barloworld Blue
Tanker external colour	White
Internal finish	Food Grade Finish
External finish (tank)	Cladded
Manhole	
Stainless Steel (500 mm)	Yes
Food grade gasket	Yes
Breather (Stainless Steel)	Yes
Insulation – Shells	5mm Rockwool 45mm Polyurethane
Insulation – Dish	50 mm Glasswool
Steam Heating	Yes
CIP (Chained filter and clamps)	Yes
Outlet piping and Valves	
Gravity discharge line	4” S/Steel
Gravity Line coupling	Camlock
Pump Discharge Line	4” S/Steel
Securement of all fittings, couplings, etc	S/Steel Chains
Valve Balls	Loctite
Chassis/Suspension – Trailing Equipment	
Suspension	BPW Air – ALM
Brakes	Disc
Rims	Aluminium (11.75x22.5)
King pin	50 mm

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Fire Extinguisher 9 kg	1 (In s/steel holder)
General – Truck Tractor	
MAN 26-440 TGS (Truck Tractor)	
Coupling Height	1,320 mm
Hydraulics	
Hydraulic cooler	Yes
PTO and pump	Yes
Flow rate	60 l/min
Pressure	140 bar
PTO speed 1	700 rpm
PTO speed 2	1,000 rpm
Bumper	Blue RAL5002
Branding	Standard
Standard Equipment	
Stopper block	2
Drive cam	Yes
Tracking	Yes
Tri angles	2
RTMS Board	Yes
Reverse Alarm	Yes

Branding

TBC

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Customer requirement

Best Practice Hygienic Design	Fully drainable tank, outlet pipework and pump housing (if fitted) Valve type crevice free i.e. use of butterfly valves. (Ball valves or hand operated screw-down foot valves are not acceptable) Minimise gap between man way seal and recess. Minimise build-up of food product. Potential stagnant water pockets All working parts and tank internals that are in contact with food product in carriage MUST be contactable within the cleaning process (e.g. check 360° cleaning with no obstructions so all round cleaning of valve heads & seatings, tank walls and baffles/partitions) Hygienic design of pressure relief valve(s) and instrument connections (e.g. use of thermo well pockets with temperature sensors) – no exposed screw threads within the tank Filter unit on air compressor line (recommended 5 micron or lower). Filter element must be stainless steel. Paper or other degradable substance is NOT acceptable
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<u>Food Contact Parts</u>	
Metal Surfaces	Stainless steel 304/ 316 fabrication only - smooth surface finish, crevice free welds. Strictly no brass, copper alloys, gun metal or ferrous metals.
Manway/valve seals and sealings	Mandatory white food grade; must be inert for the carriage of liquid foodstuffs. Recommend tank internal valves with pneumatic operation, or actuated via external spindle provided the actuation shaft does not intrude or be exposed within the tanker shell – i.e. the shaft sits outside the tank.
Lubricants	NSF Registered lubricants authorised for incidental food contact (H1) must be used in locations in which there is a potential exposure of the lubricated part to food product
Flexible Hoses	All flexible hoses used to connect pipelines during loading and unloading must be of inert material, be suitably reinforced and be of such a length to make cleaning easy. Exposed ends should be capped when not in use. Couplings should be of stainless steel or other inert materials.
Sieves/ strainers	All tankers to be fitted with 2mm stainless strainers/ sieves at all discharge ports

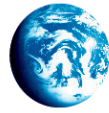
Fleet make-up

4 x MAN 26-440 TGS truck tractors

5 x GRW Tankers

Fleet#	VIN	Lic#	Description	Contract	note
D684	1		MAN 26-440	SD Hudson & Knight	Hydraulic pump with Hydrapak

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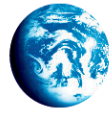


Fleet Equipment - Specification – Sime Darby Hudson & Knight

D685	2		MAN 26-440	SD Hudson & Knight	Hydraulic pump with Hydrapak
D686	3		MAN 26-440	SD Hudson & Knight	Hydraulic pump with Hydrapak
D687	4		MAN 26-440	SD Hudson & Knight	Hydraulic pump with Hydrapak
D688					

Fleet#	VIN	Lic#	Description	Contract	note
DT78	1		GRW - 38000l Semi Tanker	Hudson & Knight	Positive displacement pumps, heating
DT79	2		GRW - 38000l Semi Tanker	Hudson & Knight	Positive displacement pumps, heating
DT80	3		GRW - 38000l Semi Tanker	Hudson & Knight	Positive displacement pumps, heating
DT81	4		GRW - 38000l Semi Tanker	Hudson & Knight	Positive displacement pumps, heating
DT82	5		GRW - 38000l Semi Tanker	Hudson & Knight	Positive displacement pumps, heating

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Cleaning

Cleaning-In-Place (CIP)

Cleaning is achieved by clean, hot water being injected through the CIP system. The recommended time for cleaning is 15 minutes @ 75°C for optimum effectiveness. A safety factor has been built into the current procedures. The current procedures are set at 20 minutes @ 80°C. This is also a total-loss system (Water is used once only). Water is pumped into the CIP system by pressure pump.

The weld finish in the tanker build is certified as “Crevice free - Food grade” and performed by CNC.

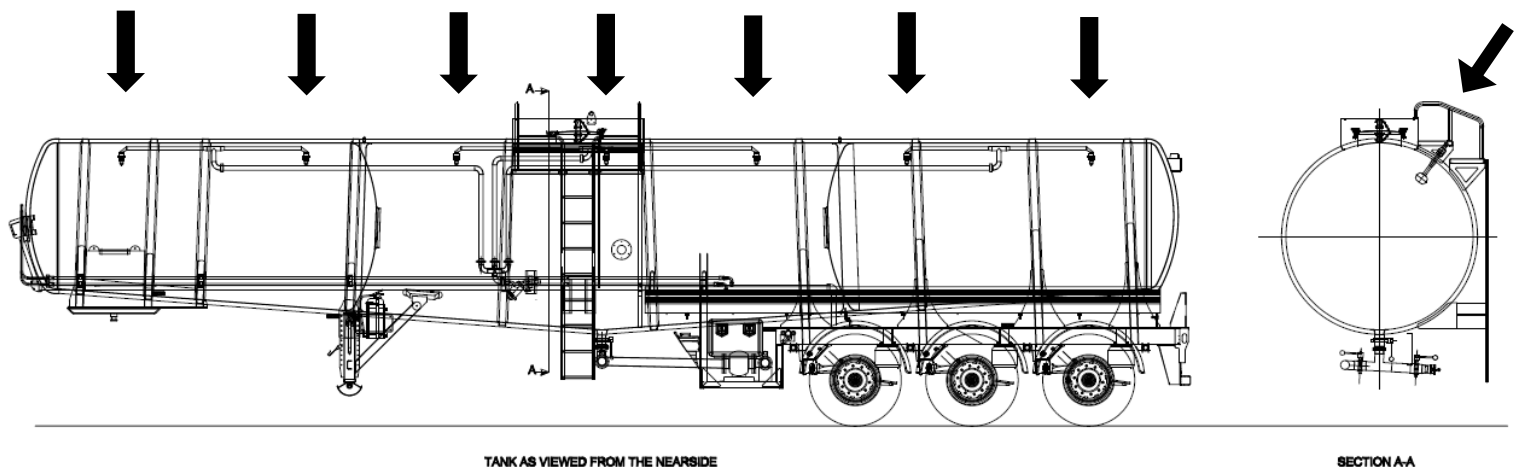


Figure 1 CIP Rotary Ball locations



Figure 2 Spray Ball

CLEANING RANGE GRAPH FOR ROTATING BALLS

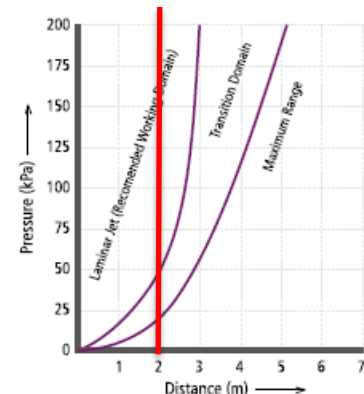


Figure 3 Cleaning Range

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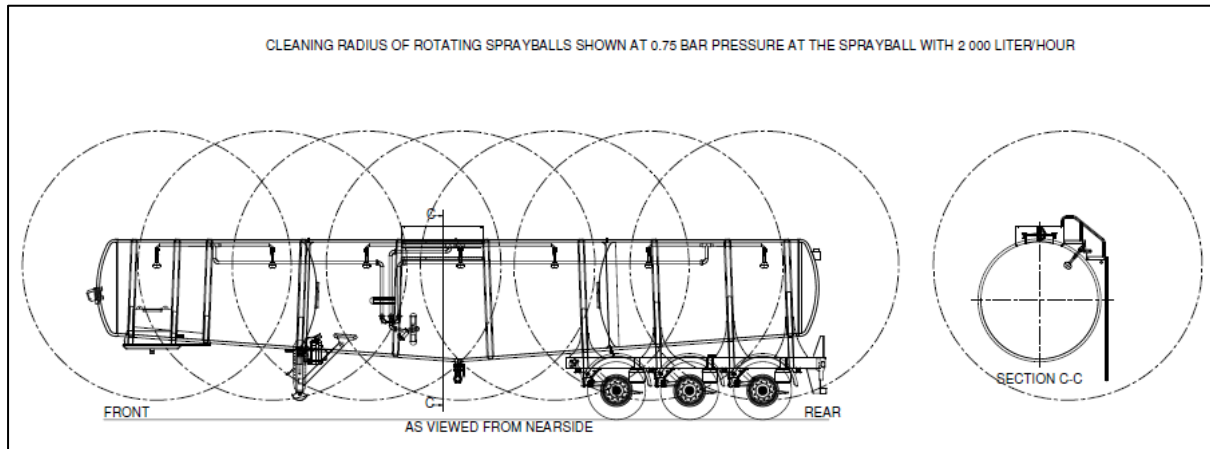
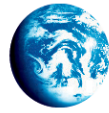


Figure 4 - Effective Cleaning Reach of CIP System

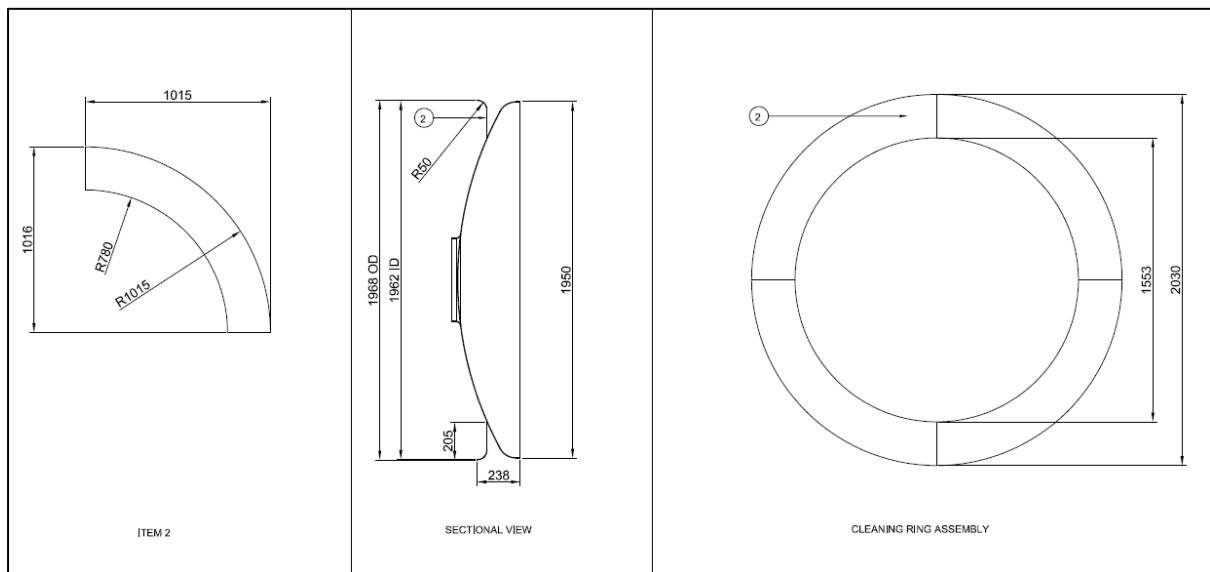


Figure 5 - Cleaning Ring Assembly – Baffles – Designed to ensure CIP efficacy

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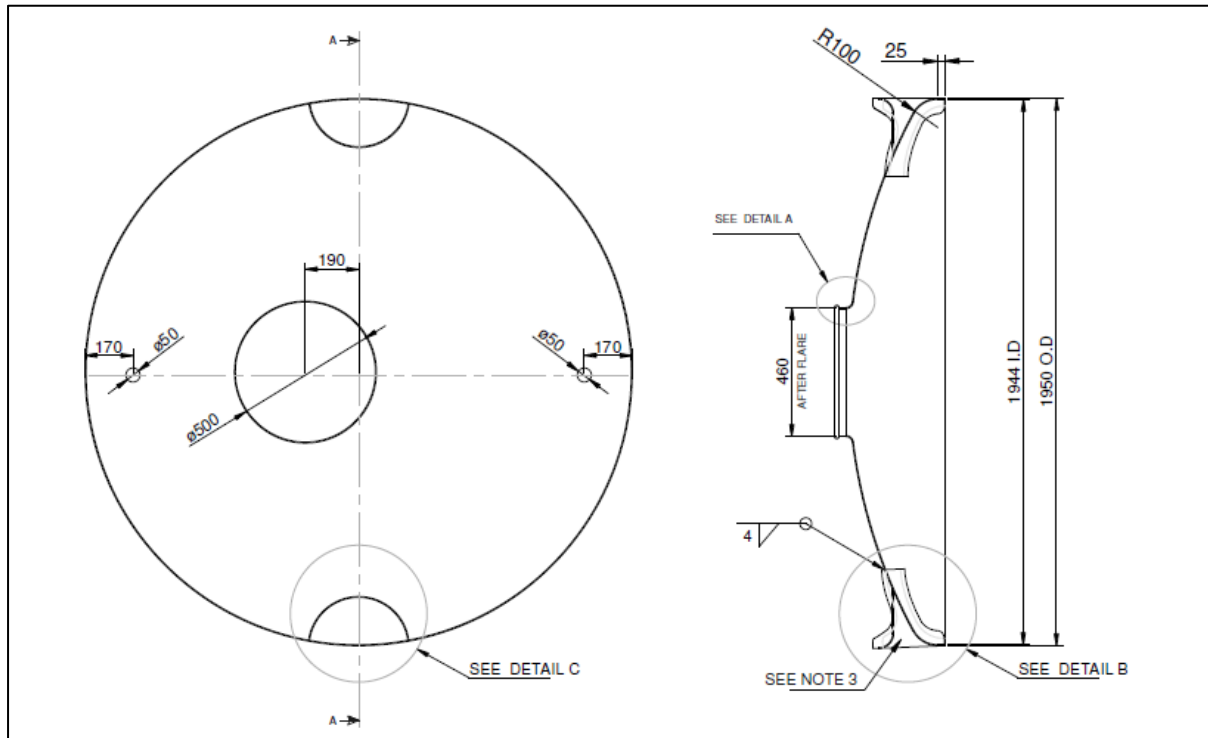
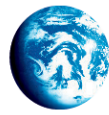


Figure 6 - Baffle Design

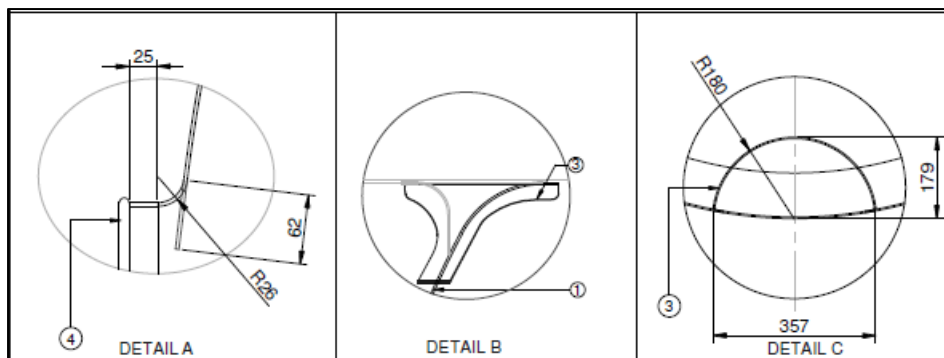


Figure 7 - Baffle Detail – Enlargements

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COMMISSIONING CHECK LIST		
Truck Fleet Number -	Tanker Fleet Number –	
Inspection Date		
General – Trailing Equipment		
Positive Displacement Pump	R43 Rotoflo (316 Stainless Steel)	
Pump Commissioned by Supplier (Cyclone Industries)		
“Pup ready”	Yes	
Tanker – Trailing Equipment		
Chassis Colour	Barloworld Blue	
Tanker external colour	White	
Internal finish	Food Grade Finish	
External finish (tank)	Cladded	
Manhole		
Stainless Steel (500 mm)	Yes	
Food grade gasket	Yes	
Breather (Stainless Steel)	Yes	
Steam Heating	Yes	
CIP (Chained filter and clamps)	Yes	
Outlet piping and Valves		
Gravity discharge line	4” S/Steel	
Gravity Line coupling	Camlock	
Pump Discharge Line	4” S/Steel	
Securement of all fittings, couplings, etc	S/Steel Chains	
Valve Balls	Locktite	
Off-loading hose	Food Grade	
Chassis/Suspension – Trailing Equipment		
Brakes	Disc	
Rims	Aluminium (11.75x22.5)	
King pin	50 mm	
Fire Extinguisher 9 kg	1 (In s/steel holder)	
General – Truck Tractor		
MAN 26-440 TGS (Truck Tractor)		
Coupling Height	1,320 mm	

Hydraulics		
Hydraulic cooler	Yes	
PTO and pump	Yes	
Pressure	140 bar	
PTO speed 1	700 rpm	
PTO speed 2	1,000 rpm	
Truck PTO Commissioned by MAN		
Hydraulic pump and Cooler Commissioned by Flowsafe		
Bumper	Blue RAL5002	
Branding	Standard	
Standard Equipment		
Stopper block	2	
Drive cam	Yes	
Tracking	Yes	
Tri angles	2	
RTMS Board	Yes	
Reverse Alarm	Yes	
Commissioning Sign off		
Operations		
Technical		
Quality Assurance		



Contractor Commissioning Inspection		
Truck Fleet Number -	Tanker Fleet Number -	
Inspection Date		
General - Truck		
Certificate of Road worthiness (COR)		
General – Trailing Equipment		
Certificate of Road worthiness (COR)		
Positive Displacement Pump – if fitted	Stainless Steel	
Tanker – Trailing Equipment		
Tanker external finish	Clean/ No damage	
Internal finish (OEM Letter)	Food Grade Finish	
Manhole		
Stainless Steel	Yes	
Food grade gasket	Yes	
Breather (Stainless Steel)	Yes	
Steam Heating – If long distance operation	Yes	
CIP (Chained filter and clamps) operational	Yes	
Outlet piping and Valves		
Gravity discharge line	4" S/Steel	
Gravity Line coupling	Camlock	
Pump Discharge Line	4" S/Steel	
Securement of all fittings, couplings, etc	S/Steel Chains/ welded rings	
Valve Balls	in place	
Off-loading hose - Certificate	Food Grade	
Fire Extinguisher 9 kg	2 per combination	
Standard Equipment		
Stopper block	2	
Tracking	Yes	
Tri angles (one per vehicle)	2 (3 in case of pup)	
Reverse Alarm	Yes	
Commissioning Sign off		



Barloworld
Transport

Fleet Equipment - Specification – Sime Darby Hudson & Knight

Operations	
Technical	
Quality Assurance	

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