



C38332_Name Plate_18March2013



Field Inspection Report

Client	CNRL		Date of Inspection	March 18,2013			
Prov. Reg.#	C38332		Inspection Type	VE, UT			
Equipment	Flare Knock Out Drum		Location				
Tag/Equip. #			LSD	04-01-013-13W4M			
Vessel Status	Out of Service		Comp./Unit #				
Manufacturer	Tornado Technologies		MAWP / Temp				
Serial #	8024B	CRN #	MDMT@ Pressure				
Corrosion Allowance		Shell Material		Shell Thickness			
Year Built	2006	Head Material		Head Thickness			
Diameter	5' OD	Length	10'	Height		RT	HT
Service	Sour	Next Inspection		Next Insp. Type			
ASME Stamp	No	Next Inspection		Next Insp. Type			
PSV Tag #		CRN#		Set Pressure			
Manufacturer				NB#		ASME Stamp	
Type/Model		Serial #		Inlet Size			
Capacity		Service Company		Outlet Size			
Service Date			Next Service Date				
Valve Location	On Vessel On Piping Vents to Flare Vents to Atmosphere	Valve Connection	Threaded Flanged Welded	ABSA CODE TYPE			
				Plant		Process	
				Vessel		Special	
PSV Tag #		CRN#		Set Pressure			
Manufacturer		NB#		NB#		ASME Stamp	
Type/Model		Serial #		Inlet Size			
Capacity		Service Company		Outlet Size			
Service Date			Next Service Date				
Valve Location	On Vessel On Piping Vents to Flare Vents to Atmosphere	Valve Connection	Threaded Flanged Welded				

Manway: Yes, Manway was open for inspection. The covers and gasket services were in good working condition.

Background: Vessel was out of service at Location LSD 8-7-012-13W4M and is being moved to location LSD 04-01-013-13W4M. External Visual and Internal Inspection as well as UT Corrosion Survey was conducted to check the integrity for continued service.

PSV:



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Ladders, Stairs, Platforms & Walkways

Corroded or Broken Parts-
Condition of Coating-
Wear of Ladder Rungs & Stair Treads-
Handrails Secure-
Condition of Flooring on Walkways-
Check Tightness of Bolts-
Check for Corrosion-
Additional comments:

Concrete Supports and Foundations

Steel Supports (Skirts, Bracing)
Check for Corrosion-
Check for Buckling & deflection-
Check Vessel Supports for Tightness-
Check Insulation for Deterioration-
Additional Comments:

Nozzles

Check for Distortion-
If Found; Check Surrounding Shell and Seams for cracks-
Check Condition of Connected Piping and Supports-
Check Condition of Weep Holes in re-pads-
Additional comments:

Electrical, Instrumentation & Grounding Equipment

Sept./06 Check General Condition of Associated Electrical Equipment-
Check General Condition of Associated Instrumentation-
Check Grounding Connections-
Additional comments:

Auxiliary Equipment

Check Gauges and Sensor connections for Defects, Damage, Cracks & Vibration-
Check Sight Glasses for defects, Damage, Cracks & Vibration-
Check Condition and Operation of Associated Valves-
Additional comments:

Metal Surfaces

Check for Corroded Areas-
Check for Cracks at Weld Seams and Nozzles-
Check for Blistering at and below liquid Level-

Internals

Inspection conducted -
Check bubble or step trays for condition
Check vane packing for plugging or mechanical damage
Check down-comers, overflow lines.
Check weirs, baffles, mist pads and coils-
Additional Comments:



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Protective: Coatings / Insulation / Cathodic

Check for External Coating Failure-

Check for internal coating –

General Comment's: Flare Knock Out Drum was found to be in good general condition.

External Inspection:

- Name plate was attached and readable.
- External paint was in good condition with no external corrosion present.
- Vessel is supported on saddles; saddles welded securely to the floor and welded to the repads welded to the vessel shell no areas of concern found.
- All external nozzles were in good condition, no previous signs of leaking flanged connections.
- All bolting hardware and associated piping was intact and secure.
- Pressure gauge will have to be replaced as it was showing pressure with the vessel open and out of service.
- Liquid level sight glass was intact and secure, with no cracks or leaks.
- No deflection or deformation of the shell, heads or nozzles.
- UT survey carried out found no areas of concern.

Internal inspection:

- Found no deflection or deformation to the shell, nozzles, or heads.
- Internal coating on the nozzles, shell, and heads was intact, no coating holidays were found at the time of inspection.
- No internal pitting or corrosion was found.
- Inlet and outlet deflector plates were intact and secure.
- Manway nozzle and cover were in good working condition no areas of concern found.

Recommendations:

Replace the pressure gauge located on the bridle.

C38332 Flare knockout drum is fit for continued service.

X

Blair Verge
Verge's Inspection Services Ltd.

Inspector(s) Blair Verge API 510 Certification #24212

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C38332_North end Head and 6" Inlet Nozzle_18March2013



C38332_Side view_18March2013



C38332_Top Shell and Bridle associated piping_18March2013

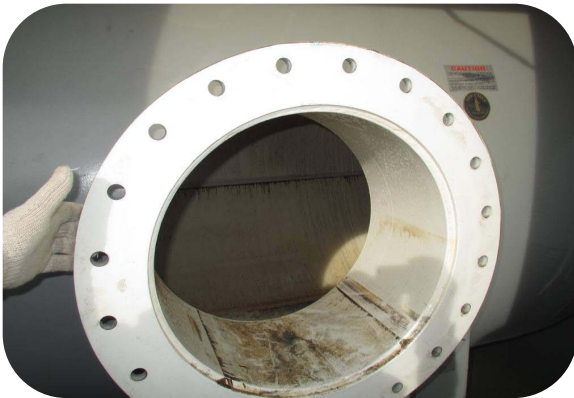
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C38332_Bottom 2" Outlet Piping
intact_18March2013



C38332_Saddles welded securely to floor and
shell_18March2013



C38332_Manway Nozzle and gasket surface
internal coating intact_18March2013

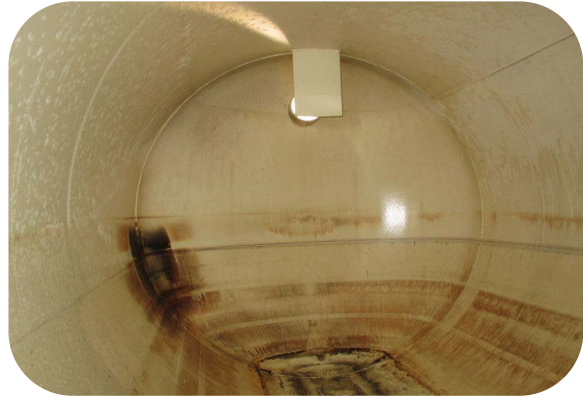


C38332_Manway cover_18March2013

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C38332_Internal view of south shell , head and internal coating intact_ 18March2013



C38332_South end 6"Outlet Nozzle deflector Plate intact_18March2013



C38332_North End shell and head coating intact_18March2013



C38332_North End 6" Inlet Nozzle and deflector plate intact_18March2013

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C38332_Saddles welded securely to floor and shell_18March2013



C38332_Saddles welded securely to floor and shell_18March2013



C38332_South End 6"Outlet Nozzle and south head_18March2013



C38332_6" Bridle intact secure and Liquid level sight glass intact_18March2013

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C38332_Pressure gauge not working properly
_18March2013



C38332_UT TML locations_18March2013



C38332_North End 6" Inlet nozzle coating and
gasket surface intact_18March2013



C38332_South End 6" Inlet nozzle coating and
gasket surface intact_18March2013