

Form: QR-19.7e Rev: 0, Date 12/13

SHELL & TUBE INSPECTION REPORT

LSD: 02-20-050-18W5M Date: May 7, 2015 SAP Equipment ID: 66038572

SHELL & TUBE STATIC DATA										
Plant Raver	n Creek Comp S	tn	Op Uni	t			S	ystem		
Prov. Insp. # n/a C				CRN				Equip Tag #		
DescriptionGlycol ExchangerSerial #							541870			
Manufacturer							V	Vessel Class		
Internal Access NO Description							Y	ear Built		
				BOILER P	ROP	ER				
MAWP				@		°C	N	IDMT	°C	
CODE :		Fluid S	ervice				Р	WHT:		
Diameter		Length	(T/T)	mm	O	\L m	ım V	ertical / Horizo	ntal	
Shell Mat			Thickn	ess		mm	С	orr Allowance	mm	
Head Mat	:'I		Thickn	ess		mm	С	orr Allowance	mm	
Internal Coat	ing:		Interna	l Clad :			С	apacity	m ³	
Manway:			Inspect	tion Port :			S	kirt / Legs / Sa	ddle	
Nozzle Rating	g	lb ANSI	Painted	d:	YES	3	lr	nsulated	NO	
Operating Pr	essure		kPa			perating Te	mpera	ture	°C	
				E/CHANNE	L SID					
MAWP				@		°С		IDMT	°C	
CODE :		Fluid S						WHT:		
Diameter		Length		mm	O	\L m		ertical / Horizo	ntal	
Shell Mat			Thickn			mm		orr Allowance	mm	
Head Mat			Thickn			mm		orr Allowance	mm	
Internal Coat	ing:			l Clad :				Capacity m ³		
Manway:				Inspection Port :				Skirt / Legs / Saddle		
Nozzle Rating Ib ANSI Painted :				YES Insulated NO						
		lb ANSI								
Operating Pr		lb ANSI	kPa	a	0	perating Te			NO °C	
	essure		kPa	a PSV STATI	O C DA	perating Te	mpera	ture	°C	
		S	kPa	a	O C DA	perating Te	mpera			
Operating Pr	Location glycol	S Pres	kPa et	PSV STATI Capacit	O C DA	perating Te	empera	Model / Type 19357MC-1-	Service Date / Company Wizard 16-May-	
Operating Property Serial No.	essure Location	S Pres	kPa et ssure	PSV STATI Capacit SCFM 2800	O C DA	perating Te I <i>TA</i> Manufactur Consolida	empera	ture Model / Type	°C Service Date / Company	
Operating Prospersion Serial No. B136607-3-	Location glycol contactor shell	Si Pres 141	et sure 5psi	PSV STATI Capacit SCFM	O C DA Y	perating Te TA Manufactur Consolida	rer M	Model / Type 19357MC-1- DA-FT-GS	Service Date / Company Wizard 16-May- 14	
Operating Property Serial No. B136607-3-3	Location glycol contactor shell	S Pres	et sure 5psi	PSV STATI Capacit SCFM 2800	O C DA Y	perating Te I <i>TA</i> Manufactur Consolida	rer M	Model / Type 19357MC-1- DA-FT-GS	Service Date / Company Wizard 16-May-	
Serial No. B136607-3-3	Location glycol contactor shell Type (T	Si Pres 141	et sure 5psi	PSV STATI Capacit SCFM 2800	O C DA Y	perating Te TA Manufactur Consolida	rer M	Model / Type 19357MC-1- DA-FT-GS	Service Date / Company Wizard 16-May- 14	
Operating Property Serial No. B136607-3-3	Location glycol contactor shell	Si Pres 141	et sure 5psi ange)	PSV STATI Capacit SCFM 2800	O DA	Manufactur Consolida	rer M	Model / Type 19357MC-1- DA-FT-GS Si: 1.5"	Service Date / Company Wizard 16-May- 14	
Serial No. B136607-3-3	Location glycol contactor shell Type (T	S Pres 141	et sure 5psi ange)	PSV DET	TAIL:	Manufactur Consolida	rer M	Model / Type 19357MC-1- DA-FT-GS Si: 1.5"	Service Date / Company Wizard 16-May- 14	
Serial No. B136607-3-3 PRD Inlet PRD Outlet	Location glycol contactor shell Type (T Threaded Threaded	S Pres 141	et sure 5psi ange)	PSV DET	TAIL:	Manufacture Consolida ANSI Rating	rer M	Model / Type 19357MC-1- DA-FT-GS Si: 1.5" 2"	Service Date / Company Wizard 16-May- 14 ze (inches)	
Operating Procedure#	Location glycol contactor shell Type (T Threaded Threaded Description	S Pres 141 hread/FI	et sure 5psi ange)	PSV STATI Capacit SCFM 2800 PSV DET EEquipme er	TAIL:	Manufacture Consolida ANSI Rating ecords odel#	rer M	Model / Type 19357MC-1- DA-FT-GS Si: 1.5" 2" Serial#	Service Date / Company Wizard 16-May- 14 ze (inches)	
Operating Procedure# Operating Procedure#	Location glycol contactor shell Type (T Threaded Threaded Description	S Pres 141 Thread/FI Mai	et sure 5psi nufactur	PSV STATI Capacit SCFM 2800 PSV DET EEquipme er INSPECTION und. No acces	TAIL:	Manufacture Consolida Consolida ANSI Rating cords odel#	rer N	Model / Type 19357MC-1- DA-FT-GS Si: 1.5" 2" Serial#	Service Date / Company Wizard 16-May- 14 ze (inches) Due Date	
Operating Procedure# Unsafe access at Exchanger on tra accessible. PSV	Location glycol contactor shell Type (T Threaded Threaded Description Description Dove roof. Visual ins in 1 glycol contactor off of contactor shell	S Pres 141 Thread/FI Mai	et ssure 5psi ND nufactur	PSV STATI Capacit SCFM 2800 PSV DET E Equipme er INSPECTION und. No acces hanger in good	TAIL:	Manufacture Consolida Cons	rer N ted	Model / Type 19357MC-1- DA-FT-GS Si: 1.5" 2" Serial#	Service Date / Company Wizard 16-May- 14 ze (inches) Due Date	
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LSD: 02-20-050-18W5M SAP Equipment ID: 66038572 Date: May 7, 2015

The signatures below certify that inspect the specified equipment is considered fit	•			ed inspection st	rategy and that
			1		
Inspected by	Ed Tymensen			Date	May 7, 2015
Company	Streamline Inspection Ltd	PESL#	000711	API #	27479
Reviewed and Approved by				Date	
		PESL#		API #	
Criticality Assessment Rerun		Inspection Pla	anning Rerun		
Assessed Next Inspection Date					



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DETAILED INSPECTION VISUAL EXTERNAL

ID	Description	Condition	Location	NCR / IDR	Comments
V1	General Other (Please Explain)	Good			Overall no significant concerns observed
V2	General Corrosion	N/A			No corrosion concerns noted
V3	General Leaks	N/A			No active leaks present
V4	Vibration	N/A			
V5	Dissimilar Flange Rating	N/A			no access
V6	Ladder/Stairway	N/A			
V7	Heads	Good			no concerns noted
V9	Electrical Ground	Good			ground cable securely attached to skid
V10	Painted Inactive Corrosion	N/A			
V11	Coating/Painting	Good			no deterioration noted
V12	Expansion Joint or Bellows	N/A			
V13	Gauge/Site Glass	N/A			
V14	Shell	Good			no concerns noted
V15	Jacket	N/A			
V21	Support Other (Please explain)	Good	threaded piping		well supported
V22	Foundation	Good			steel skid on steel piles
V23	Anchor Bolts	N/A			
V24	Saddle/Skirt	N/A			
V25	Davit	N/A			
V26	Fireproofing	N/A			
V31	Connections Other (Please	N/A			
	explain)				
V32	Small Branches	N/A			
V33	Nozzles	Good			no concerns noted
V34	Manways	N/A			
V35	Reinforcing Pads	N/A			
V36	Inadequate Thread Engagement	N/A			
V37	Bolting	N/A			
V38	Flanges	N/A			
V39	Leak Clamps	N/A			
V41	Insulation Other (Please explain)	N/A			
V42	Damage	N/A			
V43	Penetrations	N/A			
V44	Insulation Jacket	N/A			
V45	Banding	N/A			
V46	Seals/Joints	N/A			
V51	Relief Devices Other (Please explain)	N/A			Serviced and sealed
V52	Corrosion	N/A			
V53	Leaks	N/A			
V54	Restricted Inlet/Outlet	N/A			
V55	Manual Operation Lever	N/A			



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DETAILED INSPECTION VISUAL INTERNAL

ID	Description	Condition	Location	NCR	Comments
V1	General Other (Please Explain)				
V2	Corrosion (depth, length, width)				
V3	Erosion				
V4	Distortion				
V5	Blisters				
V6	Deposits				
V7	Heads				
V8	Welds				
V9	Nozzles				
V10	Shell				
V11	Gasket Surfaces				
V21	Internals Other (Please explain)				
V22	Demister				
V23	Baffle/Wier				
V24	Sparger				
V25	Thermowells				
V26	Metallic Linings				
V27	Nonmetallic Linings				
V30	Other Welded Attachments				
V31	Tubes				
V32	Tube sheet				



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DETAILED INSPECTION OTHER TECHNIQUES

ID	Location	Observation/Measurement	Acceptance Criteria	NCR	Comments
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

DETAILED INSPECTION TUBE INSPECTION

Tube #	Flaw Type	Flaw Length	Location on Tube	Wall Loss	NCR / IDR	Comments

DETAILED INSPECTION UT THICKNESS

CML	Nom. Thk	Current Reading	Short Term Corr Rate	Long Term Corr Rate	Remaining Life	Comments



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SHELL & TUBE INSPECTION REPORT

PHOTOS



LSD: 02-20-050-18W5M

LSD SIGN



SAP Equipment ID: 66038572

VESSEL OVERVIEW



PSV SERVICE TAG



PSV ALTERATION DATAPLATE



PSV DATAPLATE



PSV OVERVIEW