

Pressure Vessel Inspection Report - EXTERNAL

PIM Sales Order #:	133- 03	Date:	June 06 ,2024
PIM Work Order #:	IS- 01	Equipment #:	Flash Separator A193907

Client: Gunning Services						
Facility: Gunning Beiseker Yard, AB		Vessel Name: Flash Separator				
Location (LSD): Beiseker, AB		Equipment Number: V-520				
Status: In-Service Inspection on Operating Equipment <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Number: Orientation: Vertical				
In-Service Inspection on Non-Operating Equipment <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Remains In-Service: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Type of Inspection: <input checked="" type="checkbox"/> Baseline <input type="checkbox"/> Interval <input type="checkbox"/> Repair/Alteration						
1.0 NAMEPLATE DATA						
Jurisdictional Registration Number: A193907		CRN: F8805.2				
Manufacturer: Thermo Design Engineering Ltd.		Year Built: 1986				
Vessel Serial Number: 332		Size (diameter x length-estimate): 24" x 130"				
Shell Thickness: 0.500 " (12.7 mm)		Shell material: SA-516-70				
Head Thickness: 0.490 " (12.44 mm)		Head material: SA-516-70				
Tube Wall Thickness: n/a "		Tube Material: n/a				
Tube diameter: n/a "		Tube length: n/a				
Channel Thickness: n/a "		Channel material: n/a				
Design Pressure:	Shell: 420 psi (2896 kPa)	Operating Pressure:	Shell: 0 psi			
MAWP psi	Tubes: n/a		Tubes: n/a			
Design Temperature:	Shell: 100 °F (38°C)	Operating Temperature:	Shell: n/a °F			
MDMT -45 °C	Tubes: n/a		Tubes: n/a			
X-ray: Spot RT3		Heat treatment: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Code Parameters: ASME, SEC VIII, DIV I		Code Case:	Joint efficiency (if on nameplate): 85%			
Corrosion Allowance: 0.0625" (1.59 mm)		Manway: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
2.0 PRESSURE SAFETY VALVE NAME PLATE DATA						
Manufacturer / Model/ Serial # & Code Stamp	Size (Inlet x Outlet)	Set Pressure (psi)	Capacity (scfm)	CRN	Tag Number (s)	Set Date
Manufacturer: NO PSV						
Model:						
Serial #:						
Code Stamp:						
Location of PRV:	<input type="checkbox"/> On Vessel	<input type="checkbox"/> In System	<input type="checkbox"/> Tube Side	<input type="checkbox"/> Open to Atmosphere	<input type="checkbox"/> Non Code	<input type="checkbox"/> Vent to Relief System
Inlet Isolation Valve:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If Yes - Is there a procedure documented for control of lock out?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are the Valves Locked Out?	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	Comments:			
Is PSV capacity verified to design condition?	<input type="checkbox"/> Yes	<input type="checkbox"/> No				

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3.0 SERVICE CONDITIONS INDICATE ALL THAT APPLY					
<input type="checkbox"/> Sweet	<input type="checkbox"/> Sour	<input type="checkbox"/> Process Oil	<input type="checkbox"/> Gas	<input type="checkbox"/> Water	<input type="checkbox"/> Low Temp
<input type="checkbox"/> Amine	<input type="checkbox"/> LPG	<input type="checkbox"/> Condensate	<input type="checkbox"/> Air	<input type="checkbox"/> Glycol	<input type="checkbox"/> Thermal Fluid
Other (Describe): Unknown					
4.0 PIPING DATA					
Primary Flange Rating: 300		ASME B31.1 <input type="checkbox"/> B31.3 <input checked="" type="checkbox"/> B31.5 <input type="checkbox"/> Other Normal			
Piping Design Pressure: <input checked="" type="checkbox"/> psi <input type="checkbox"/> kpa		Piping Operation Pressure: 0 <input checked="" type="checkbox"/> psi <input type="checkbox"/> kpa			
Nearest Vessel Design Pressure: <input checked="" type="checkbox"/> psi <input type="checkbox"/> kpa		Diameters Welded:			
Comments: No Piping with vessel		Diameters Threaded: No Piping.			

Fill out all forms as completely as possible. All information is important!

Use back of sheets to record additional information or sketch if required.

	G - Good	F - Fair	P = Poor	N/A = Not Applicable	
External Inspection Items	G	F	P	N/A	COMMENTS
NDE methods UT/MPI report done on vessel Chief Inspection to review methods	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See UT Report Attached
External Condition Assess paint, record location, size and depth of corrosion or damage.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Tell Tale Drilled <input checked="" type="checkbox"/> Not Tell Tale Drilled
Nozzle Assess and record paint look for leakage, and stud engagement and corrosion, verify / inspect gussets. Record any damage, deflection, etc.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2 Flange faces have minor rust on them.
Leakage Record Report leakage at flanges, threaded joints, weep holes on repads, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Threaded threads have some rust. Threads look ok.
Saddle Record corrosion, buckling, dents, etc. Look at vessel surface area near supports and attachment welds. Verify no signs of leakage at attachment to vessel and ground wire attached.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Saddle looks good.
Anchor Bolts Hammer tap to ensure secure. Record corrosion, cracking in threads or signs of deformation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Concrete Foundation Record cracks, spalling, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Gauges Verify gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
External Piping Verify pipe is supported. (Clamps, supports, shoes, etc. in place). Record any structural overload, deflection, verify paint condition, external corrosion, studs and nuts, etc.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Only attachment threaded and two flanges.

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External Inspection Items	G	F	P	N/A	COMMENTS
Valving Verify/record visible leaks properly supported and CSO/CSC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
PSV Verify set is at or below vessel MAWP. Discharge piping is greater to or equal to valve outlet and is properly supported / routed. Verify PSV seals/ tags. Status of block valves, check car seal log.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
PSV Verify properly installed and is supported adequately for the discharge loads.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Insulation/Cladding Verify condition around appurtenances no damage present, and there is no ingress of moisture.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Ladder/Platform Describe condition, supports Hazards and compliance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Recommendations or corrective actions: Vessel is Fit for Service OR Describe Corrective Actions (Operations to, discuss with Chief Inspector where necessary, and get remedial action implemented)					
Observations and Findings: Internal Rust extent unknown.					
Recommendations: <input type="checkbox"/> Replace PSV <input type="checkbox"/> Add PSV <input type="checkbox"/> Add Autodrain <input type="checkbox"/> Replace PI <input type="checkbox"/> Add PI <input type="checkbox"/> Other - Specify					
Summary: Appears to be in service used condition. Inspection Interval <u>1</u> # years PSV Service Interval <u>1</u> # years (Determined by Chief Inspection guidelines of Peregrine Integrity Management Owner-User Inspection Program)					
Vessel Scrapped - All three conditions below must be satisfied Vessel has been removed from service and there is no intention to return it to pressure service. The nameplate has been removed and all other identification has been removed. The vessel is in a condition that it cannot be pressurized. i.e. A hole has been cut in the vessel, or a nozzle has been removed, or a head has been cut off. <input type="checkbox"/> Yes <input type="checkbox"/> No Date: _____ (yyyy-mm-dd) Vessel sold and transferred the registration of the vessel to: TO: _____ Date: _____ (yyyy-mm-dd)					

Inspected By:	Patrick McLean API-510 # 116881, CGSB 13209	Date:	2024-06-06 yyyy-mm-dd
Verified By Chief Inspector:	Paul Frederick ABSA ISI # A-82133 (Cert # 000357); API-510 # 51039 TSASK Class I # 80543, National Board # 1654533	Date:	2024-06-13 yyyy-mm-dd

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ACTION ITEMS LIST

Action Item	Responsible Party	Date Resolved

Report #: Pressure Vessel Inspection Report - External
Date: 2024-06-06
Client: Gunning Services
SO #: 133- 03



EXTERNAL - Flash Separator
A193907

Equipment Photos



Photo 1: Nameplate - Flash Separator



Photo 2: Nameplate - Flash Separator



Photo 3: Vessel Overview



Photo 4: Flange



Photo 5: Surface Corrosion on Flange Face



Photo 6: Threaded Connection

Report #: Pressure Vessel Inspection Report - External
Date: 2024-06-06
Client: Gunning Services
SO #: 133- 03



EXTERNAL - Flash Separator
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Equipment Photos



Photo 7: Drain



Photo 8: Internal Rust



Photo 9: Internal Rust



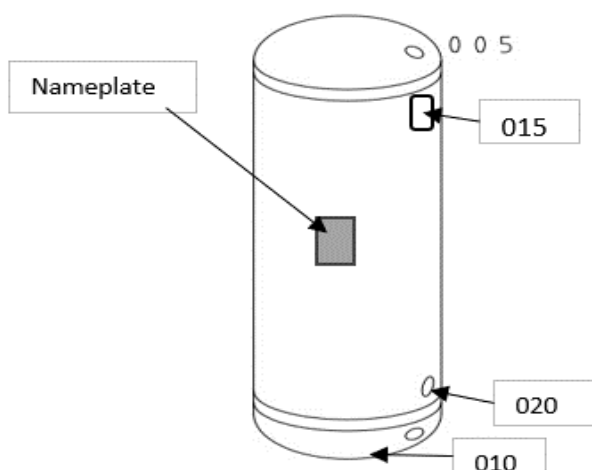
Photo 10: Skirt

Ultrasonic Thickness External Report

PIM Sales Order #	133- 03	Manufacturer:	Date:	June 06 ,2024
PIM Sales Order #	TE-01	Thermo Design Engineering Ltd.	Report #:	PIM-UT- 133-03-20240606-002

Client:	Gunning Services	Tag #:	Flash Separator
Facility:	Gunning Beiseker Yard, AB	Serial #:	332
Location:	Beiseker, AB	Provincial	A193907
Equipment Description:	Flash Separator	Registration #:	

CONDITION MONITORING LOCATIONS (TML's)



INFORMATION - UT EQUIPMENT DETAILS

METHOD		<input checked="" type="checkbox"/> Thickness	<input type="checkbox"/> Flaw Detection		<input type="checkbox"/> Contact		<input type="checkbox"/> Immersion	
INSTRUMENT	Olympus	MODEL	EPOCH-600	S/N	130573012	DATE	2024-08-15	
CAL. BLOCK	Step Wedge	S/N	21-2552	CABLE-TYPE	Coaxial	LENGTH	48"	
CAL. BLOCK		S/N		COUPLANT	UT-Ultra-GEL			
CAL. BLOCK		S/N		SPECIAL EQUIP				

INFORMATION - TRANSDUCERS AND CALIBRATIONS

	TEST ANGLE	PROBE TYPE		FREQ (MHZ)	SER NO.	PROBE DIA.	TRANSFER VALUE	TEST FROM		REFERENCE REFLECTOR	REFERENCE		SCAN SENSITIVITY	RANGE
		Single	Dual					FRONT	BACK		dB	% FSH		
1	<input checked="" type="checkbox"/> 0°	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5	813564	0.500"		<input checked="" type="checkbox"/>	<input type="checkbox"/>	1st BW	Various	80	Various	2"
2	<input type="checkbox"/> 45°	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>					
3	<input type="checkbox"/> 60°	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>					
4	<input type="checkbox"/> 70°	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>					
5	<input type="checkbox"/> —°	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>					

Peregrine UT Technician

Inspector Name:	Patrick McLean	Qualifications:	CGSB 13209: UT2, MT2, PT2
			SNT: UT2, MT3, PT3

Ultrasonic Thickness External Report

PIM Sales Order #	133- 03	Manufacturer: Thermo Design Engineering Ltd.	Date:	June 06 ,2024
PIM Work Order #	TE- 01		Report #:	Flash Separator
			REG #:	A193907

TEST SURFACE AND THICKNESS READINGS

Surface Condition:	<input checked="" type="checkbox"/> Painted	<input type="checkbox"/> As Welded	<input type="checkbox"/> Machined	<input type="checkbox"/> Shot Blasted	<input type="checkbox"/> Clean Bare Metal
Surface Temperature:	<input type="checkbox"/> <0°C (32°F)	<input checked="" type="checkbox"/> 0° (32°F) to 120°C (250°F)	<input type="checkbox"/> 120°C (250°F) to 260°C (500°F)	<input type="checkbox"/> >260°C (500°F)	

DATA RESULTS - UT DATA

[illegible]**Comments:**

1)	
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Ultrasonic Thickness External Report

PIM Sales Order #	133- 03	Manufacturer:	Date:	June 06 ,2024
PIM Work Order #	TE- 01	Thermo Design Engineering Ltd.	Report #:	Flash Separator
			REG #:	A193907

2) TML Number	040	045	050	055	060	065	070
TML Description							
Direction:							
Flange Rating:							
Pipe Schedule:							
Nominal Thickness:	"	"	"	"	"	"	"
Mill Tolerance:	"	"	"	"	"	"	"
Corr. Allowance:	"	"	"	"	"	"	"
Minimum Thickness:	0.000 "	0.000 "	0.000 "	0.000 "	0.000 "	0.000 "	0.000 "

Readings							
Jun 06, 2024	1)	"	"	"	"	"	"
Jun 06, 2024	2)	"	"	"	"	"	"
	3)						
	4)						
	5)						
	6)						
	7)						
	8)						
	9)						
	10)						
	11)						
	12)						
	13)						
	14)						
	15)						
	16)						

Comments:

2)