

Existing Equipment Integrity Assessment Report

Date July 27, 2023

Page 1 of 1

Inspect Date: July 27, 2023	Client: Yoho Resources	District: Inga, BC	LSD: 10-19-087-23W6
Facility:	Client Ref #	IRM Ref #	P004
Equipment #:	Description: Accumulator	Jur# N/A	CRN: 0H15682.213
MFR: Enerflex	Mfr S/N: E00224402920	Mfr Date: 2016	Status: Operating

Fit for Service: Yes Suitable for Service: Yes PSV meets Code: Yes PSV set at or below MAWP: Yes
 Online PSV Inspection has been completed: Yes
 PSV Capacity Verified: N/A
 Repair / Alteration / PSV Calibration Required: No

Current Inspection Results

2023-07 VE UT completed by RJC Integrity
 VE | no issues noted
 UT | No concerns noted
 PSV | No issues noted

Assessment completed by Aaron Bischoff | UT readings above Nom-C.A and MIL tolerance Tmin (12.5%),. No issues on concerns noted. 5 year / 60 month acceptable. AJB.
 VE reviewed; no major concerns noted. AJB

Past PSV Servicing Results

SN 889107-6-A10/G serviced 2020-09 by Unified Valve. PSV Service report reviewed using PSV assessment calculator. PSV serviced by Unified Valve Fort St John. No issues or concerns at time of servicing, suggested interval of 5 years / 60 months. AJB

Past Inspection History Results

No historical inspections

NEXT NDE & Inspection Methods

<input checked="" type="checkbox"/> VE 2028	<input type="checkbox"/> VI	<input checked="" type="checkbox"/> UT 2028	<input type="checkbox"/> BW
<input type="checkbox"/> WF	<input type="checkbox"/> LF	<input type="checkbox"/> ET	<input type="checkbox"/> HIC
<input type="checkbox"/> CREEP	<input type="checkbox"/> BHN	<input type="checkbox"/> CDR	<input type="checkbox"/> MFL
Other:			

Previous Inspection Plan

No historical ITP

Next Inspection Plan

Expected damage mechanisms and locations: General Erosion / Corrosion. Localized pitting possible.
 Primary Areas of degradation: Bottom head and piping elbows.
 NDE examinations (type & extent): VE on 5-year Interval – due July 2028
 UT on 5-year DUE July 2028
 Preparation for next inspection: None
 PSV: Last service September 2020, report reviewed. Next PSV service due September 2025

Qualified Inspector: Aaron Bischoff Qual: IBPV#644 Signature:  Report date: 20-Nov-2023 Report status: Final



Vessel External Inspection

Report No.:


Client	Yoho Resources				Inspector	Ryan Cadieux				Date	July 27, 2023				
District	Inga, BC		Surface LSD	10-19-087-23W6				Downhole LSD							
Vessel Data															
Vessel Description	Accumulator				RT	No		PWHT	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Partial	<input type="checkbox"/>			
A# / NB#	N/A		Serial #	E00224402920				CRN #	0H15682.213						
Manufacturer	Enerflex				Manway	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Size:							
Owner Tag	N/S		Skid	Comp Skid #050903				OD	4"		Length	12"			
MAWP 1	<input checked="" type="checkbox"/> Shell <input type="checkbox"/> Tube	1440	psi	9928	kPa	MAWT	260	C		F	MDMT	-45	C		F
MAWP 2	<input type="checkbox"/> Shell <input type="checkbox"/> Tube		psi		kPa	MAWT		C		F	MDMT		C		F
Operating Pressure			psi		kPa	Operating Temp		C		F	Flange Rating #	N/A			
Process Conditions:	<input checked="" type="checkbox"/> Sweet <input type="checkbox"/> Sour				Internal Coating:				N/S						
Product:	<input checked="" type="checkbox"/> Gas <input type="checkbox"/> Water <input type="checkbox"/> Air <input type="checkbox"/> Effluent <input type="checkbox"/> Other:														
PSV #1 Data															
Owner ID/Tag	15 Yoho				PSV Location	Piping									
Manufacturer	Farris				Model #	26FA13-120									
Serial #	889107-6-A10/G				Mfg Date	10/17									
CRN #	0G8442.5R2CL				Code	UV/NB									
Set Pressure	800		<input checked="" type="checkbox"/> psi <input type="checkbox"/> kPa		Service Company	Unified									
Capacity	5220	scfm		gpm		Other	Service Date	09/2020	Service Tag #	40778F					
Inlet Size	1.5"	NPS	Type	<input type="checkbox"/> THD <input checked="" type="checkbox"/> FLG #	600	Outlet Size	2.0"	NPS	Type	<input type="checkbox"/> THD <input checked="" type="checkbox"/> FLG #	150				
Inlet Block Valve	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Locked/Sealed		<input type="checkbox"/> Yes <input type="checkbox"/> No	Outlet Block Valve	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Locked/Sealed		<input type="checkbox"/> Yes <input type="checkbox"/> No				
Seal Intact:			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Properly Supported			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
Drainage (i.e. pocketed, missing tailpipe):	Satisfactory														
Discharge Piped to (i.e. flare line, pop tank, FKO, atmosphere):	Flare														
PSV General Condition/Comments:	No issues noted.														
PSV #2 Data															
Owner ID/Tag					PSV Location										
Manufacturer					Model #										
Serial #					Mfg Date										
CRN #					Code										
Set Pressure			<input type="checkbox"/> psi <input type="checkbox"/> kPa		Service Company										
Capacity		scfm		gpm		Other	Service Date		Service Tag #						
Inlet Size		NPS	Type	<input type="checkbox"/> THD <input type="checkbox"/> FLG #		Outlet Size		NPS	Type	<input type="checkbox"/> THD <input type="checkbox"/> FLG #					
Inlet Block Valve	<input type="checkbox"/> Yes <input type="checkbox"/> No		Locked/Sealed		<input type="checkbox"/> Yes <input type="checkbox"/> No	Outlet Block Valve	<input type="checkbox"/> Yes <input type="checkbox"/> No		Locked/Sealed		<input type="checkbox"/> Yes <input type="checkbox"/> No				
Seal Intact:			<input type="checkbox"/> Yes <input type="checkbox"/> No		Properly Supported			<input type="checkbox"/> Yes <input type="checkbox"/> No							
Drainage (i.e. pocketed, missing tailpipe):															
Discharge Piped to (i.e. flare line, pop tank, FKO, atmosphere):															
PSV General Condition/Comments:															

Vessel External Inspection

Report No.:

External Inspection	Good	Fair*	Poor*	N/A	External Inspection	Good	Fair*	Poor*	N/A
Skid Foundation/Supports	X				Ladder(s)/Platforms				X
Insulation/Cladding				X	Gauges				X
Vessel Nameplate	X				Valves	X			
Vessel Saddle/Skirt/Supports/Bolts	X				Piping	X			
Vessel Paint/Coating	X				Flanges/Bolting (per Code)				X
Vessel Shell	X				Piping Support	X			
Vessel Head	X				Catadyne Heaters (zip ties)				X
Nozzles	X				Surface Staining of Ground	X			
Pig Traps (ie evidence of hammering)				X	Signage (i.e. stand alone)				X
Regulators Vented	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Vessel/Skid Grounded	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			

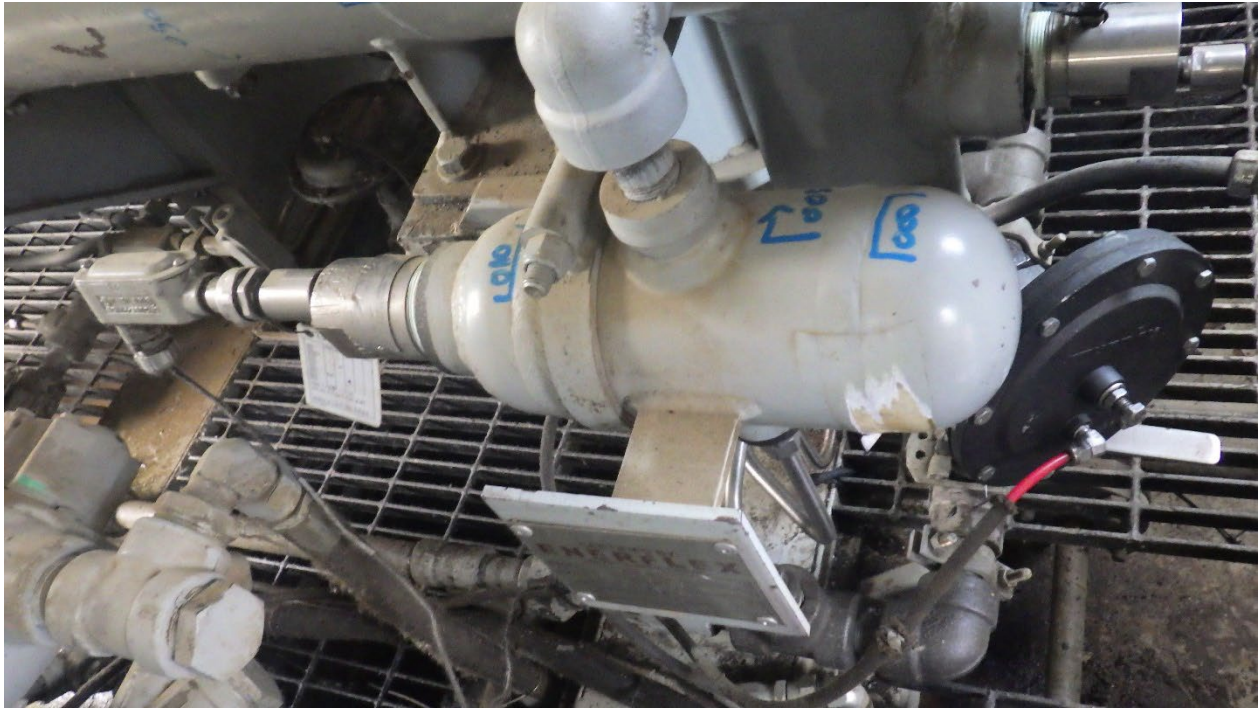
* Fair and Poor selections require comments

Comments:				
1. No issues noted.				
<input checked="" type="checkbox"/> In Service <input type="checkbox"/> Idle <input type="checkbox"/> Blinded/Disconnected	Signature		Date	July 27, 2023

Vessel External Inspection

PHOTOS

Report No.:





Vessel External Inspection

Report No.:



Vessel External Inspection

Report No.:



Vessel External Inspection

Report No.:





RyanC@RJCIntegrity.com

www.RJIntegrity.com

Client: Yoho Resources

Date: Thursday, July 27, 2023

SN.E00224402920 - UT - 001 - RC

Work Location: Inga, BC

Examination Standard: ASME V Article 4 - 2021

Acceptance Standard: Client's Spec.

RJC Procedure: RJCI-UT-001 Rev.0

Scanning Surface: O.D.

Material: Carbon Steel

Surface Condition: Painted

Temperature: Ambient

Job No.: 2023-0033

P.O. No.:

W.O. No.:

Other:

Instrument: Olympus

Model: Epoch 600

Serial No.: 140708306

Cal Due Date: Monday, January 15, 2024

Couplant: UTX

Calibration Block: C.S. Step Wedge Serial No. 3886-20

Calibration Block:

Scanning Limitation: See comments below

Probe	Ser. No.	Angle	MHz	Crystal Size / Type	Primary Ref. Reflector / Amp. / Distance / dB	Scan Sens.	Calibrated Range
V-110	180002	0°	5 MHz	0.500" / Single	1st Back wall	As required	0.100" - 1.000"

Purpose: To perform an ultrasonic thickness survey.

Results: Refer to attached pages for recorded data.

Notes:

1. Thickness readings do NOT include paint thickness.
2. * = Assumed nominal thickness
3. Piping wall loss between 12.6% - 30% = Caution
4. Piping wall loss greater then 30% = Urgent

VESSEL DATA

Vessel Description: Accumulator

A No.:	N/A	Vessel ID:	N/S	Manufacturer:	Enerflex
RN No.:	0H15682.213	Year Built:	2016	District:	Inga, BC
erial No.:	E00224402920	C.A.:	0.125"	LSD:	10-19-087-23W6

Interpretation is in accordance with the above mentioned standards, to the best of my professional ability.

Print: Ryan Cadieux

CGSB/SNT Level: II/II

Reg. No.: 18219

Sign:

Ryan Cadieux

Client Representative:

Print:

Date:

Sign:

Band ID	Location	Direction	Material	Nominal (in)	CA (in)		Baseline (in)	Previous (in)	Current (in)	% Wall Loss	Tmin (in)	STCR (mpy)	LTCR (mpy)	Years Remaining	
000*	East Head	T - B	Carbon Steel	0.337	0.125	Year:	2016		2023						Acceptable
						Min:	0.337		0.308	8.61%	0.212	0.00	4.14	20	
						Avg:			0.312						
Comments:															
005*	Shell	360° Circ	Carbon Steel	0.337	0.125	Year:	2016		2023						Acceptable
						Min:	0.337		0.333	1.19%	0.212	0.00	0.57	20	
						Avg:			0.343						
Comments:															
010*	West Head	T - B	Carbon Steel	0.337	0.125	Year:	2016		2023						Acceptable
						Min:	0.337		0.348	0.00%	0.212	0.00	0.00	20	
						Avg:			0.356						
Comments:															
						Year:									#DIV/0!
						Min:				#DIV/0!	0.000	#DIV/0!	#DIV/0!	#DIV/0!	
						Avg:									
Comments:															
						Year:									#DIV/0!
						Min:				#DIV/0!	0.000	#DIV/0!	#DIV/0!	#DIV/0!	
						Avg:									
Comments:															
						Year:									#DIV/0!
						Min:				#DIV/0!	0.000	#DIV/0!	#DIV/0!	#DIV/0!	
						Avg:									
Comments:															

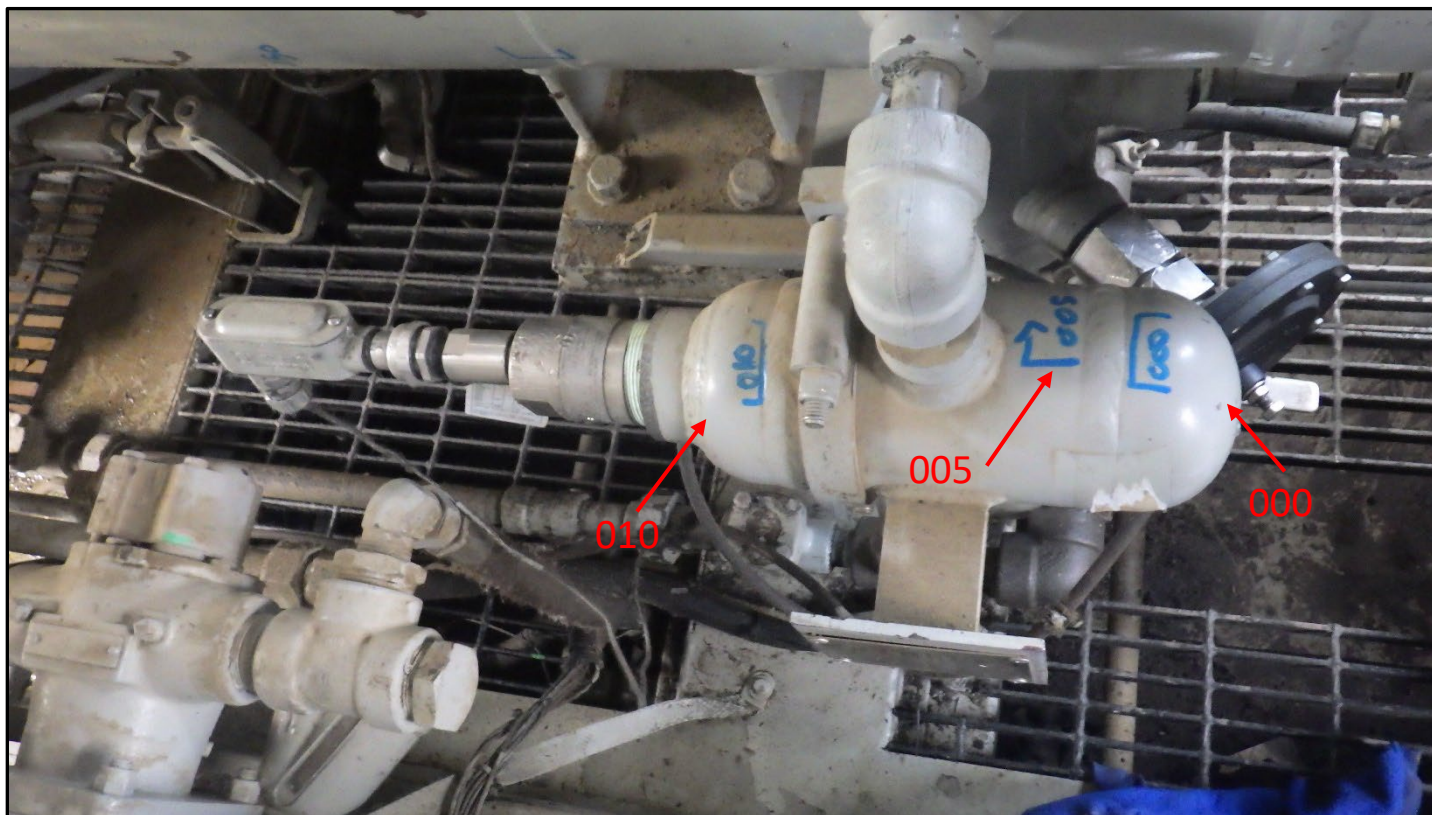
Vessel Overview



Nameplate



TML Locations





PRV INSPECTION AND TEST REPORT

BRANCH: Fort St John

UVL ID#: 40778F

Work Order: W16001404

Customer PO#:

Customer: YOHO RESOURCES INC

Date: 09/03/2020

Facility: INGA

LSD:

PSV Location:

A#:

Vessel SN:

Cust Id: 15 YOHO

Cust. Ref.:

Valve PO:

PO LINE#:

Cust. WO#:

Cust AFE#:

Cost Centre#:

VALVE DATA

Man.: FARRIS Model: 26FA13-120 Serial: 889107-6-A10/G Seat: HARD
 Conn. Flanged Inlet: 1.5" 600 Orifice: F Outlet: 2" 150 Vacuum:
 Set Press. 800 PSI Back Press.: N/A PSI CDT: N/A PSI Temp: N/A F Cap: 5,220 SCFM
 Lift Lever ☐ Cap Assembly: Closed RFID: Code Symbol: UV CRN#: 0G8442.5R2CI

CUSTOMER INSTRUCTIONS

Instructions: Full Service Pretest Required? ☒ Reset Required? ☐

CONDITION AS RECEIVED

Visual Condition: Fair Data Plate Condition: OK Date of last service: /
 Seal Condition: Top: Intact Bottom: N/A Insignia: Fittings Attached: Inlet: ☐ Outlet: ☐
 Inlet: Inlet Plugged: ☐ Outlet: Outlet Plugged: ☐ Initial Insp. Signoff: K-anna Jobson

PRETEST 1

Simmer: 830 PSI Set Press: 831 PSI Reseat: 710 PSI Leakage: 20 BPM Test Gauge: FSJ9/10
 Tested By: Sean Moore Pretest Comments:

PRETEST 2

Simmer: Set Press: Reseat: Leakage: Test Gauge: FSJ9/10
 Tested By: Pretest Comments:

COMPONENTS INSPECTION

(0 Like New / 1 Minor / 2 Medium / 3 Major)

ITEM	CLEAN	OLY	RUSTY	CARBON	PITTED	CORRODED	SCALE	VIBRATION	GROOVED	DENTED	GALLING	GOUNDED	OTHER	Machined	Lapped	Polished	Replaced	Replace Next Service	COMMENTS
DISC		1												<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NOZZLE		1												<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CAP-LEVER ASSY		1												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COMP SCREW and LC		1												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AS FOUND:		AS LEFT:																	
SPRING and BUTTONS		1												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SPINDLE / STEM		1												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
STEM RETAINER		1												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DISC HOLDER		1												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
GUIDE / UPPER RING		1												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LOWER RING		1												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RING PIN(S)		1												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BELLOWS														<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
GASKET / SEALS		1												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4KG26A2S
CONNECTION ENDS		1												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
OTHER														<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

DISC: Min: .265 ACT - .318 NOZZLE: MIN / MAX 4.375 ACT - 4.384 SPRING NUMBER:
 Disassembly: Randy Rowsell Inspection: Reassembly: Randy Rowsell

FINAL TEST

Test Medium Air Simmer: 798 PSI Set Pressure: 800 PSI
 Reseat: 710 PSI Leakage Acceptable: ☒ B.P. Test: 60 PSI Vacuum: N/A
 ADJ. RING SETTING (NOTCHES): Upper: N/A Lower: -9 Test Gauge: FSJ9/10 Set Press Def POP
 Tested by: Dale Welsh Date Final Tested: 09/16/2020

FINAL INSPECTION:

SEAL: Top: ☒ Bottom: ☒ End Protectors Installed: ☐ Painted: ☒ Palletized: ☒ Ship Container: ☐ Flex Gaskets Supplied: ☒

Final Inspection: K-anna Jobson

Customer Inspection:

Comments: