

Existing Equipment Integrity Assessment Report

BPV-066728

Date July 2023

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Inspect Date: July 27, 2023	Client: Yoho Resource	s District:	Inga, BC	LSD: 10-19-087-23W6						
Facility:	C	lient Ref #	IRM Re	ef # P004						
Equipment #: BPV-066728	Description	n: Interstage Scrubber (2r	nd & 3rd) Jur# A067	71300 CRN: T1688.213						
MFR: Enerflex	Mfr S/N:	E002562014213 Mf	r Date: 2017	Status: Operating						
Fit for Service: Yes Online PSV Inspection has		Yes PSV meets C	ode: Yes PS\	√ set at or below MAWP: Yes						
PSV Capacity Verified:	N/A									
Repair / Alteration / PSV Ca	llibration Required	No								
	Curre	nt Inspection Resu	ılts	· · · · · · · · · · · · · · · · · · ·						
2023-07 VE UT completed by R. VE The Cat D nozzles have not UT No concerns noted	JC Integrity 2023-09 MPI co	ompleted by Altec Inspecti								
PSV No concerns noted MPI All the areas inspected did not exibit any relevant indications of defects/discontinuities at the time of inspection 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. MPI on Category D welds completed and areas inspected did not exhibit any relevant defects or indications at time of inspection.AJB VE reviewed; CONCERNS noted. AJB										
Past PSV Servicing Results										
SN 496603-16-A10 serviced 202 Valve Fort St John. No issues or		-	=	calculator. PSV serviced by Unified 3						
	Past Ins	pection History Re	sults							
No historical inspections										
	NEXT NO	DE & Inspection Me	thods							
	□ VI	□ UT	2028	⊠ BW 2028						
☐ WF	☐ LF	☐ ET		☐ HIC						
CREEP	□ BHN	☐ CDR		☐ MFL						
Other:										
	Prev	ious Inspection Pla	an							
No historical ITP										
	Ne	ext Inspection Plan								
Expected damage mechanisms a Primary Areas of degradation: Bound NDE examinations (type & exten Preparation for next inspection: NPSV: Last service September 20	ottom head and piping elbows t): VE on 5-year Interval – du None	s. e July 2028 ; UT on 5-yea	r DUE July 2028 ; MP	I on 5 year DUE September 2028						

Inspector: Aaron Bischoff Qual: IBPV#644

Final

Report date: 17-Nov-2023 status:

Signature:

Qualified



Report No.:

Client Yoho	Resources					Inspect	tor	Rya	n Cad	ieux				Date	Jul	ly 27,	2023
District Inga	, BC	Sı	ırface	LSD	10-1	.9-087-2	3W6			ı	Downh	nole	LSD				
						Vessel	Data							•			
_		66728	– Inte	rstage	Scruk	ober (2 nd								-			
Vessel Descript			Ι				R.	Γ	No	+	T	1 Ye		□ No	Pa	rtial [
	0671300		Seria	al#	E002!	5620142	13			+	N #		588.21				
Manufacturer	Enerflex		Skid	Т.					1		nway		Yes	⊠No	Siz		
	N/S	kid #05			I	OD	12"	I		Lengt		82"	1				
	Shell Tube	1000	psi		kPa				С	150		1	DMT		С	-20	F
	Shell Tube		psi		kPa	_			С	<u> </u>	F		DMT		С		F
Operating Pres	•	psi			kPa	Oper	ating	Tem			С	F		nge Ra	ting i	# (500
Process Condit			Sour						Inte	rnal	Coatin	g:	N/S				
Product: ⊠Gas □ Water □ Air □ Effluent □ Other:																	
PSV #1 Data																	
Owner ID/Tag 14 Yoho (2 nd Stage Scrubber) PSV Location Piping																	
Manufacturer	Farris						Mod			+	GA12-	120					
Serial #	496603-16 0G8442.50						Mfg Date 05/06										
CRN #		Cod				/NB											
Set Pressure635⊠psi□kPa							Serv	ice C	ompa	ny	Unifie	ed					
Capacity 620		<u> </u>	gpr			Other	Serv	ice D			/2020		Servic	e Tag ‡	‡ :	37348	BC .
Inlet Size 1.	NPS	Тур	e 🗆 TH	D⊠FL	G #	300	Outl	et Siz	ze	2.5"	NP:	S	Type	□THD	⊠ FL	G #	150
Inlet Block Valve	□Yes ⊠No	Lo	cked/S	ealed \Box	Yes	□ No	Outl	et Blo	ck Val	⁄e □	Yes ⊠	No	Locke	ed/Seale		Yes [□No
Seal Intact:			\boxtimes	Yes		No	Properly Supported 🗵 Yes 🗆 No					No					
Drainage (i.e. po	cketed, missing	tailpipe)	Sat	isfacto	ry												
Discharge Pipe					•		е										
PSV General Co	ondition/Con	nments	: N	o issue	s not	ted.											
						PSV #2	Data										
Owner ID/Tag	15 Yoho (3	rd Stage	Scrub	hor)		130 π2	1	Locat	tion	Dir	ing						
Manufacturer	Farris	Jugo	. Sci uk	, bei			Mod		LIOII	1	FA13-1	120					
Serial #	889107-6-	10/G						Date	ı	+	/17						
CRN #								e	'	+	/NB						
Set Pressure 800 ⊠psi □kPa Service Co							ompa	ny	Unifie	ed							
Capacity 522	0 scfm		gpr	i_		Other		ice D			/2020		Servic	e Tag #		40778	F
Inlet Size 1.	<u> </u>	Туре		D⊠FL	G#	600	Outl	et Siz	ze	2.0"	NP:	—		 □THDI		G #	150
Inlet Block Valve	□Yes ⊠No			ealed \Box		□ No	Outle	et Blo	ck Val	/e □	Yes ⊠	No	Locke	ed/Seale	ed 🗆	Yes [□No
Seal Intact:		I	\boxtimes	Yes		No	Prop	erly	Suppo	rted				\boxtimes	Yes		No
Drainage (i.e. po	cketed, missing	tailpipe)	Sat	isfacto				•						•			
Discharge Pipe	_			O, atmos	sphere	e): Flar	e										
PSV General Co	PSV General Condition/Comments: No issues noted																

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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	⊠ Yes	· □	No		Vessel/Skid Grounded	⊠ Yes		No	

^{*} Fair and Poor selections require comments

Comments:							
1. The Cat D nozzles have not had magnetic particle completed on them.							
⊠In Service □Idle □Blinded/Disconnected	Signature	Ryan Cadisux	Date	July 27, 2023			

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Vessel External Inspection PHOTOS

Report No.:





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Report No.:





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Report No.:





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Report No.:

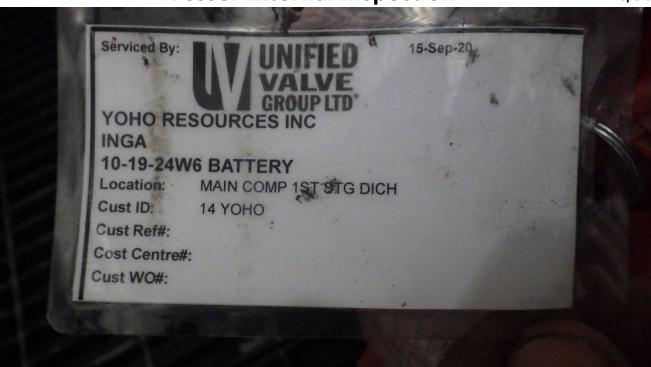




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Report No.:

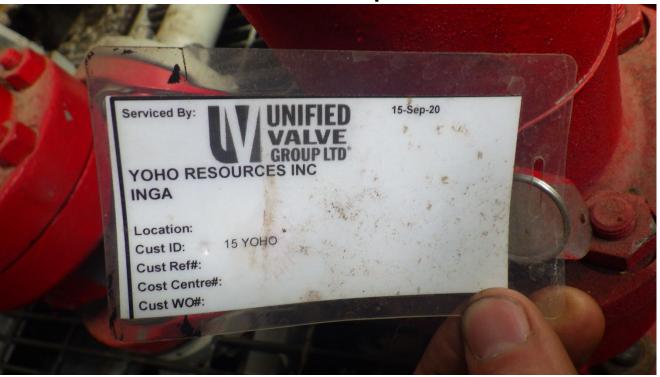




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Report No.:

QTI-VIN-001 Rev.1 Page **13** of **13**

Date: Thursday, July 27, 2023

Corrosion Survey Report

(780) 242-2204 RyanC@RJCIntegrity.com www.RJCIntegrity.com

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Client: Yoho Resources	A0671300 - UT - 001 - RC

Work Location: Inga, BC Scanning Surface: O.D. Job No.: 2023-0033

Examination Standard:ASME V Article 4 - 2021Material:Carbon SteelP.O. No.:Acceptance Standard:Client's Spec.Surface Condition:PaintedW.O. No.:RJC Procedure:RJCI-UT-001 Rev.0Temperature:AmbientOther:

Instrument: Olympus Couplant: UTX

Model: Epoch 600 Calibration Block: C.S. Step Wedge Serial No. 3886-20

Serial No.: 140708306 Calibration Block:

Cal Due Date: Monday, January 15, 2024 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: Interstage Scrubber (2nd & 3rd Stages)										
A No.:	0671300	Vessel ID:	N/S	Manufacturer:	Enerflex					
CRN No.:	T1688.213	Year Built:	2017	District:	Inga, BC					
Serial No.:	E002562014213	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:	1/11	Reg. No.:	18219	Sign:	Ryan Cadisux				
Client Represent	ative:										
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	SA516 - 70N	0.563	0.125	Year: Min: Avg:	2017 0.563		2023 0.585 0.620	0.00%	0.438	0.00	0.00	20	Acceptable
	Comments:	2nd Stage				1	ı							l	Acc
005	Mid Shell	T - B	SA106 - B	0.688	0.125	Year: Min: Avg:	2017 0.688		2023 0.694 0.720	0.00%	0.563	0.00	0.00	20	Acceptable
	Comments:	2nd Stage													Acı
010	Top Shell	E - W	SA106 - B	0.688	0.125	Year: Min: Avg:	2017 0.688		2023 0.699 0.703	0.00%	0.563	0.00	0.00	20	Acceptable
	Comments:	2nd Stage				1	ı								Acc
015	Btm Shell	E - W	SA106 - B	0.688	0.125	Year: Min: Avg:	2017 0.688		2023 0.681 0.682	1.02%	0.563	0.00	1.17	20	Acceptable
	Comments:	2nd Stage					ı				1			1	Acc
020	Boot Shell	T - B	SA106 - B	0.625	0.125	Year: Min: Avg:	2017 0.625		2023 0.622 0.631	0.48%	0.500	0.00	0.50	20	Acceptable
	Comments:	2nd Stage													Acc
025	Boot Head	T - B	SA106 - B	0.625	0.125	Year: Min: Avg:	2017 0.750		2023 0.749 0.757	0.00%	0.500	0.00	0.17	20	Acceptable
	Comments:	2nd Stage									1		1	I	Acc



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	
040	West Head	T - B	SA516 - 70N	0.563	0.125	Year: Min: Avg:	2017 0.563		2023 0.595 0.613	0.00%	0.438	0.00	0.00	20	Acceptable
	Comments:	3rd Stage				ı			·						Acc
045	Mid Shell	T - B	SA106 - B	0.688	0.125	Year: Min: Avg:	2017 0.688		2023 0.678 0.690	1.45%	0.563	0.00	1.67	20	Acceptable
	Comments:	3rd Stage													AC
050	Btm Shell	E - W	SA106 - B	0.688	0.125	Year: Min: Avg:	2017 0.688		2023 0.694 0.697	0.00%	0.563	0.00	0.00	20	Acceptable
	Comments:	3rd Stage													Acc
065	Boot Shell	T - B	SA106 - B	0.625	0.125	Year: Min: Avg:	2017 0.625		2023 0.612 0.625	2.08%	0.500	0.00	2.17	20	Acceptable
	Comments:	3rd Stage									ll.				Acc
070	Boot Head	T - B	SA106 - B	0.625	0.125	Year: Min: Avg:	2017 0.750		2023 0.750 0.781	0.00%	0.500	0.00	0.00	20	Acceptable
	Comments:	3rd Stage													Acc
						Year: Min: Avg:				#DIV/0!	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Comments:														#

Piping and Nozzle UT Data

Band ID	Location	Direction	Material	Nominal (in)	CA (in)		Baseline (in)	Previous (in)	Current (in)	% Wall Loss	Tmin (in)	STCR (mpy)	LTCR (mpy)	
030	4" XS 90° Oulet Elbow	Extrados Scrub	Carbon Steel	0.337	0.042	Year: Min: Avg:	2017 0.337		2023 0.301 0.309	10.68%	0.295	0.00	6.00	Acceptable
	Comments:	2nd Stage Pip	ing											Ac
035	3" XXS 90°Inlet Elbow	Extrados Scrub	Carbon Steel	0.600	0.075	Year: Min: Avg:	2017 0.600		2023 0.588 0.599	2.00%	0.525	0.00	2.00	Acceptable
	Comments:	3rd Stage Pipi	ing											Acc
055	3" XS 45° Outlet Elbow	Extrados Scrub	Carbon Steel	0.300	0.038	Year: Min: Avg:	2017 0.300		2023 0.309 0.312	0.00%	0.263	0.00	0.00	Acceptable
	Comments:	3rd Stage Pipi	ing											Acc
060	4" STD 90° Inlet Elbow	Extrados Scrub	Carbon Steel	0.237	0.030	Year: Min: Avg:	2017 0.237		2023 0.236 0.239	0.42%	0.207	0.00	0.17	Acceptable
	Comments:	2nd Stage Pip	ing											Acc
						Year: Min: Avg:				#DIV/0!	0.000	#DIV/0!	#DIV/0!	#DIV/0!
	Comments:													#
						Year: Min: Avg:				#DIV/0!	0.000	#DIV/0!	#DIV/0!	 #DIV/0!
	Comments:													#



Vessel Overview

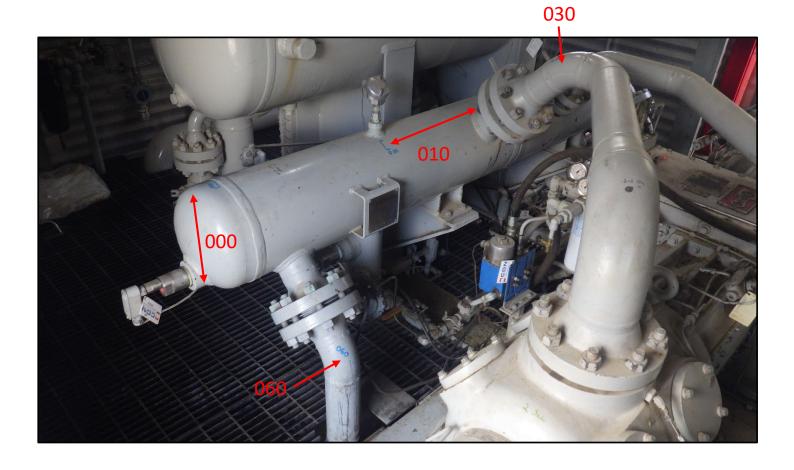




Nameplate



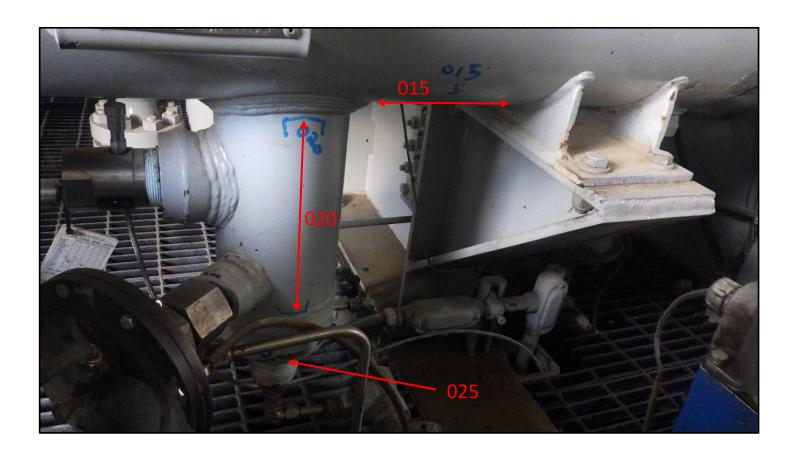








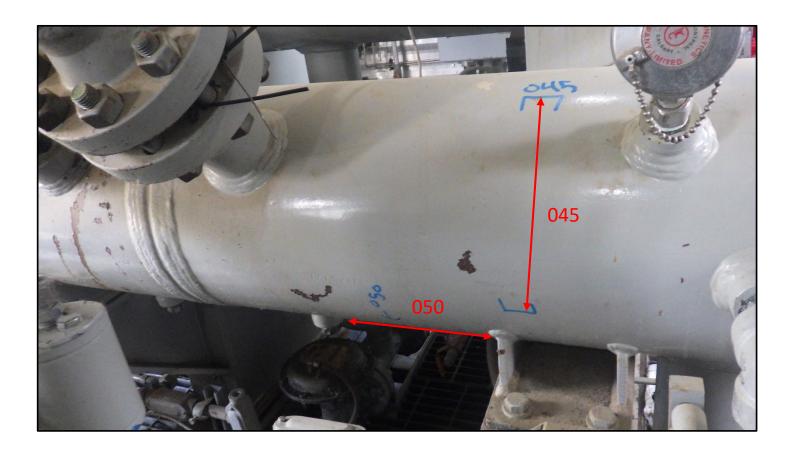








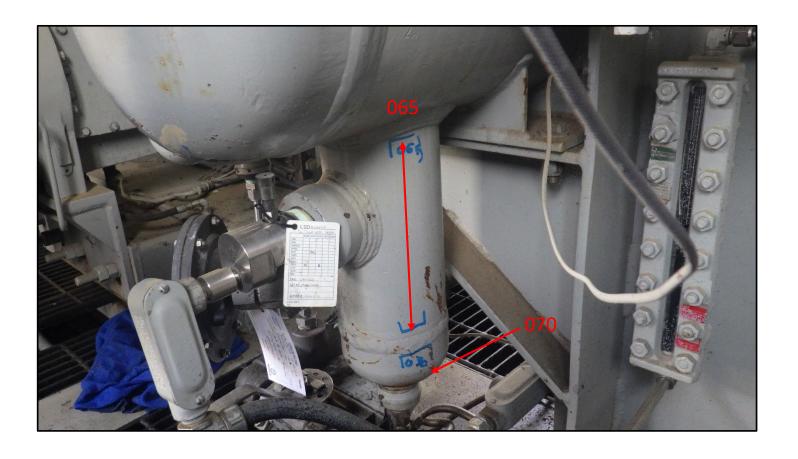












MPI on Category D welds completed and areas inspected did not exhibit any relevant defects or indications at time of inspection.AJB



WET VISIBLE BLACK ON WHITE MAGNETIC PARTICLE INSPECTION OF "D" CATEGORY WELDS

ASSOCIATED WITH COMPRESSOR C-100, C-200 & C-300 BOTLLES AT THE INGA LAKE 10-19-87-23

W6 SITE

September 20th, 2023

ALTEC INSPECTION LTD. FORT ST. JOHN, B.C.

Client:	Yoho Resources	Report Date:	September 27 th , 2023
Attn:	Jack Tarnowsky	Inspection Date:	September 20 th , 2023
CC:	-	Client P.O. No.	AFE # 2207007-9330
		Job No.	230965
		Report No.	NN200923-1

Subject: MPI on D category welds associated with C-100, C-200 & C-300 compressors.

Introduction:

An inspection was completed on September 20th, 2023 at the Inga Lake 10-19-87-23 W6 site. The subject of inspection were D category welds associated with compressors C-100, C-200 & C-300. Some other areas of interest were also inspected.

Equipment:

Reese Permanent Magnets, SN# R0365A-R0365B, 50lb lift test September 20th, 2023 Magnavis (Magnaflux) WCP-2 White Contrast Paint Magnavis (Magnaflux) 7HF Prepared Bath

Items Inspected: D category welds associated with C-100, C-200 & C-300 compressor bottles and gusset welds associated with the pressure release device.

Compressor C-100:





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Items Inspected Cont'd:







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Items Inspected Cont'd:



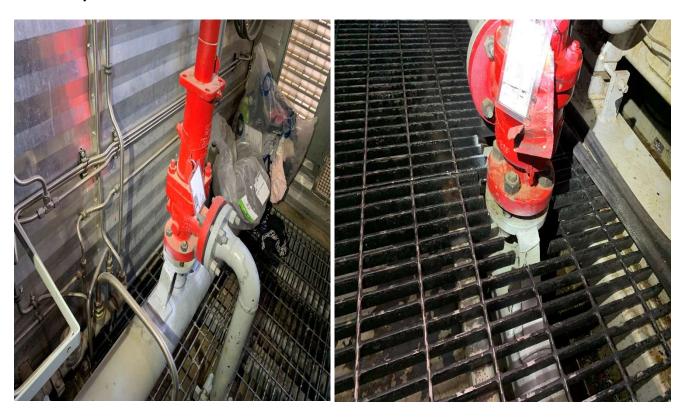






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Items Inspected Cont'd:

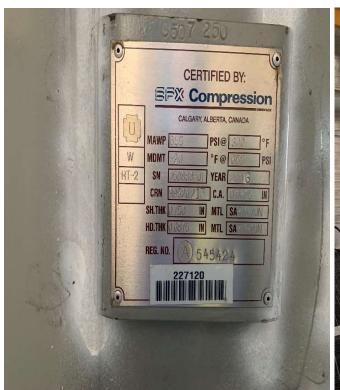


Compressor C-200:



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Items Inspected Cont'd:









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Items Inspected Cont'd:





Compressor C-300:

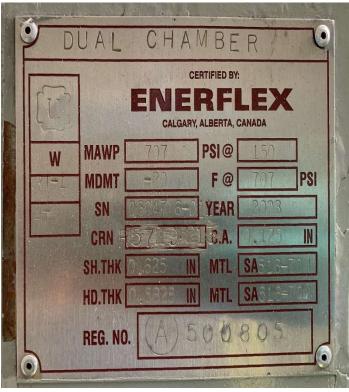




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Items Inspected Cont'd:









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Items Inspected Cont'd:





Inspection Procedure:

A wet visible black on white magnetic particle inspection with permanent magnets was used for the inspection.

Inspection Results:

All the areas inspected did not exhibit any relevant indications of defects/discontinuities at the time of inspection.

Yours Sincerely,



Nirmal Neupane, CGSB MTII (CGSB Reg. # 24478)

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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

PRV INSPECTION AND TEST REPORT

BRANCH: Fort St John **UVL ID#:** 37348C W16001404 Work Order: **Customer PO#:** Date: 09/03/2020 YOHO RESOURCES INC Customer LSD: 10-19-24W6 BATTERY PSV Location: MAIN COMP 1ST STG DICH **INGA** Facility: Cust Id: 14 YOHO Vessel SN: A#: Valve PO: PO LINE#: Cust. Ref.: Cust. WO#: Cost Centre#: Cust AFE#: **VALVE DATA FARRIS** Model: 26GA12-120 Serial: 496603-16-A10 Seat: HARD Man.: Flanged Inlet: 1.5" 300 RF Orifice: G Outlet: 2.5" 150 RF Conn. Vacuum: Set Press. 635 PSI Back Press.: N/A PSI CDTP: N/A PSI Cap: 6,270 SCFM Temp: N/A Lift Lever Cap Assembly: Closed RFID: Code Symbol: UV CRN#: 0G8442.5C **CUSTOMER INSTRUCTIONS** Full Service \square Instructions: Pretest Required? Reset Required? П **CONDITION AS RECEIVED** Fair 11/2017 Visual Condition: **Data Plate Condition:** Date of last service: Seal Condition: Intact Bottom: Intact Top: Insignia: Fittings Attached: Inlet: Outlet: Inlet: Inlet Plugged: Outlet: Outlet Plugged: ☐ Initial Insp. Signoff: K-anna Jobson PRETEST 1 FSJ9/10 Simmer: 624 PSI Set Press: 583 PSI Leakage: 10 BPM Test Gauge: 627 PSI Reseat: Tested By: Chance Pomeroy **Pretest Comments: PRETEST 2** FSJ9/10 Set Press: Test Gauge: Simmer: Reseat: Leakage: Tested By: **Pretest Comments: COMPONENTS INSPECTION** (0 Like New / 1 Minor /2 Medium / 3 Major) CORRODED GROOVED GOUGED PITTED CLEAN DENTED SCALE ITEM COMMENTS DISC \square \square \square NOZZLE П $\overline{\mathbf{V}}$ \checkmark $\sqrt{}$ CAP-LEVER ASSY П COMP SCREW and LC 1 AS FOUND: AS LEFT SPRING and BUTTONS SPINDLE / STEM 1 STEM RETAINER \square DISC HOLDER 1 GUIDE / UPPER RING LOWER RING 1 RING PIN(S) П **BELLOWS** 4KG26A21S GASKET / SEALS \square П CONNECTION ENDS 1 OTHER П П П .296 .312 4.234 ACT - 4.327 NOZZLE: MIN/MAX SPRING NUMBER: DISC: Min: ACT -Grant Attfield Grant Attfield Sean Moore Disassembly: Inspection: Reassembly: **FINAL TEST** Air **Test Medium** Simmer: 633 PSI Set Pressure: 635 PSI Reseat: 521 PSI B.P. Test: 60 PSI Vacuum: N/A ADJ. RING SETTING (NOTCHES): Upper: N/A Lower: Test Gauge: FSJ9/10 Set Press Def POP Dale Welsh Tested by: 09/16/2020 Date Final Tested: **FINAL INSPECTION:** Top: 🔽 Bottom: 🔽 End Protectors Installed: \square Ship Container: $\overline{\mathbf{Q}}$ Flex Gaskets Supplied: SEAL: Randy Rowsell Final Inspection: **Customer Inspection:** Comments: