WEAR CONTAMINATION **FLUID CONDITION** **ABNORMAL NORMAL NORMAL**

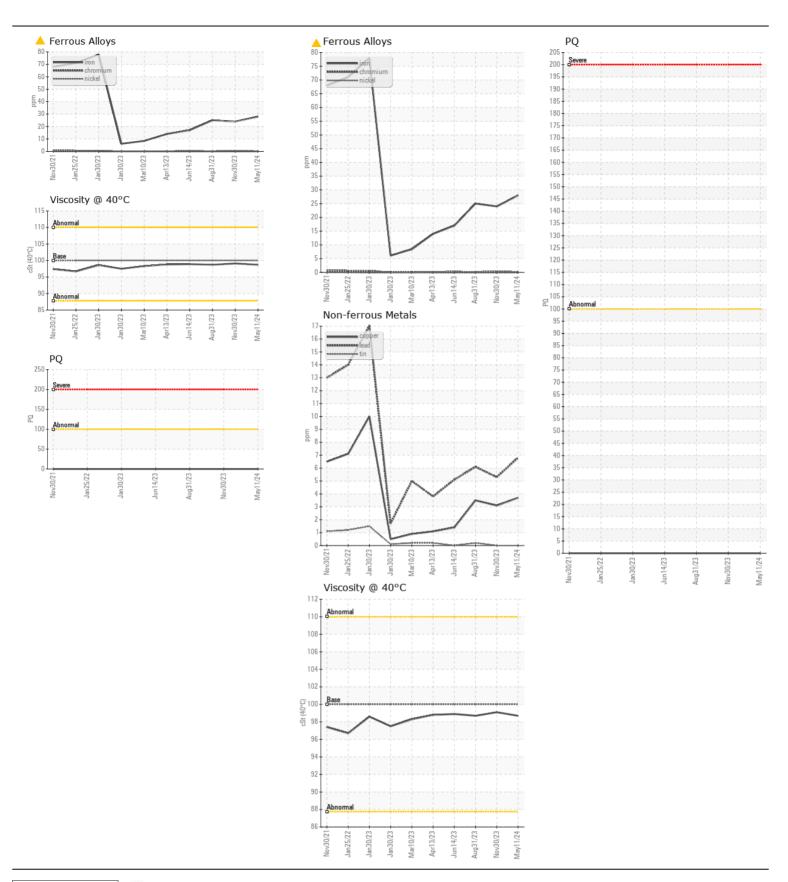
Machine Id

PORT STERNTUBE

Port Sterntube

CASTROL ALPHA SP100 (800 LTR)							
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
We recommend an early resample to monitor this condition. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MAR 2 test kits, this testkit includes AN to determine the suitability of the oil for continued use. this testkit includes Particle Count to determine the ISO cleanliness of the fluid.	Sample Number		Client Info		WC0787233	WC0787212	WC0787209
	Sample Date		Client Info		11 May 2024	30 Nov 2023	31 Aug 2023
	Machine Age	hrs	Client Info		46490	46278	46278
	Oil Age	hrs	Client Info		0	43207	0
	Filter Age	hrs	Client Info		0	43207	0
	Oil Changed		Client Info		Not Changd	N/A	N/A
	Filter Changed		Client Info		None	N/A	N/A
	Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
WEAR	PQ		ASTM D8184*		0	0	0
Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.	Iron	ppm	ASTM D5185(m)	>15	<u>^</u> 28	<u> </u>	<u>\$\text{\scale}\$</u> 25
	Chromium	ppm	ASTM D5185(m)	>2	0	0	0
	Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
	Titanium	ppm	ASTM D5185(m)	>8	0	0	0
	Silver	ppm	ASTM D5185(m)		0	0	<1
	Aluminum	ppm	ASTM D5185(m)	>4	<1	<1	<1
	Lead	ppm	ASTM D5185(m)	>15	7	5	6
	Copper	ppm	ASTM D5185(m)	>25	4	3	4
	Tin	ppm	ASTM D5185(m)	>10	0	0	<1
	Vanadium	ppm	ASTM D5185(m)		0	0	0
	White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
CONTAMINATION There is no indication of any contamination in the component(unconfirmed).	Silicon	ppm	ASTM D5185(m)	>25	2	3	3
	Potassium	ppm	ASTM D5185(m)	>20	<1	<1	<1
	Water		WC Method	>0.1	NEG	NEG	NEG
	Silt	scalar	Visual*	NONE	VLITE	VLITE	NONE
	Debris	scalar	Visual*	NONE	VLITE	NONE	VLITE
	Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
	Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
	Odor	scalar	Visual*	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	NEG
FLUID CONDITION	Sodium	ppm	ASTM D5185(m)		2	3	3
The condition of the oil is acceptable for the time in service (unconfirmed).	Boron	ppm	ASTM D5185(m)		7	10	12
	Barium	ppm	ASTM D5185(m)		0	0	<1
	Molybdenum	ppm	ASTM D5185(m)		0	0	0
	Manganese	ppm	ASTM D5185(m)		<1	0	0
	Magnesium	ppm	ASTM D5185(m)		1 -	1	<1
	Calcium	ppm	ASTM D5185(m)		7	7	7
	Phosphorus	ppm	ASTM D5185(m)		201	207	205
	Zinc	ppm	ASTM D5185(m)		7	7	8
	Sulfur	ppm	ASTM D5185(m)	100	7954	8498	8210
Depart Id. LICELTONI/ IC BACANICI 0000477 (Canavatad. 05/01/0004 07/07/19) Days 1	Visc @ 40°C	cSt	ASTM D7279(m)	100	98.7	99.1	98.7

Submitted By: Chief engineer





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

Lab Number : 02638477 Unique Number : 5787639

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : WC0787233

Received **Tested** Diagnosed Test Package: MAR 1 (Additional Tests: PQ)

: 29 May 2024 : 30 May 2024

: 31 May 2024 - Kevin Marson

Horizon Maritime Services Ltd. - K.J. Gardner 101 Research Drive, Main Floor Dartmouth, NS CA B2Y 4T6

Contact: Chief engineer cheng.kjgardner@kotugcanada.ca T: (250)208-7255

To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

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