

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Area SAB2 Machine Id SAB2 G15 Governor Component

Hydraulic System Fluid ESSO TERESSO ISO 46 (6160 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using IND 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.

Wear

Component wear rates appear to be normal (unconfirmed).

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



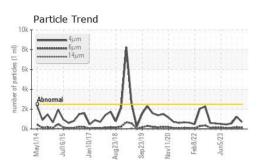


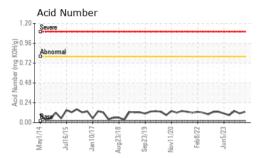
v2014 Ju2015 Jan2017 Aug2018 Sep2019 Nov2020 Feb2022 Jun2023

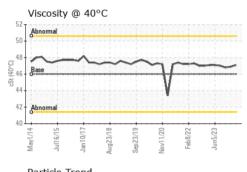
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0890838	WC0801577	WC0858070
Sample Date		Client Info		27 Mar 2024	07 Jan 2024	25 Oct 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	۷	method	limit/base	current	history1	history2
Water		WC Method	>0.05	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	<1	<1	<1
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>20	0	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	0	<1	0
Lead	ppm	ASTM D5185(m)	>20	0	<1	<1
Copper	ppm	ASTM D5185(m)	>20	0	<1	<1
Tin	ppm	ASTM D5185(m)	>20	0	0	0
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	<1	0	<1
Boron Barium	ppm ppm	ASTM D5185(m) ASTM D5185(m)	0	<1 0	0	<1 <1
		. /	0			
Barium	ppm	ASTM D5185(m)		0	0	<1
Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m)		0 0 0 <1	0 0 0 0	<1 0
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0	0 0 0	0 0 0	<1 0 0 0 <1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 2.4	0 0 0 <1	0 0 0 0 0 1	<1 0 0 0 <1 3
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 2.4	0 0 0 <1 0	0 0 0 0 1 <1	<1 0 0 0 <1 3 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 2.4	0 0 <1 0 2 1 1247	0 0 0 0 0 1	<1 0 0 <1 3 <1 1255
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 2.4	0 0 <1 0 2 1	0 0 0 0 1 <1	<1 0 0 0 <1 3 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 2.4 0 limit/base	0 0 <1 0 2 1 1247	0 0 0 0 1 <1 1331	<1 0 0 <1 3 <1 1255
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 2.4 0	0 0 <1 0 2 1 1247 <1	0 0 0 0 1 <1 1331 <1	<1 0 0 <1 3 <1 1255 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 2.4 0 limit/base	0 0 (1) 0 2 1 1247 <1 (urrent	0 0 0 0 1 <1 1331 <1 history1	<1 0 0 <1 3 <1 1255 <1 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m)	0 0 0 2.4 0 limit/base	0 0 2 1 1247 <1 current 0	0 0 0 0 1 <1 1331 <1 history1 0	<1 0 0 <1 3 <1 1255 <1 history2 0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 2.4 0 limit/base >15	0 0 <1 0 2 1 1247 <1 <1 0 0 0	0 0 0 0 1 <1 1331 <1 history1 0 0	<1 0 0 <1 3 <1 1255 <1 history2 0 0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	0 0 2.4 0 <u>limit/base</u> >15	0 0 2 1 22 1 1247 <1 current 0 0 0 <1	0 0 0 0 1 <1 1331 <1 history1 0 0 <1 history1 1233	<1 0 0 0 <1 3 <1 1255 <1 history2 0 0 0 0 0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	0 0 2.4 0 1 15 >20 1 1 1 1 5 20	0 0 2 1 22 1 1247 <1 2 1 2 1 2 2 1 2 2 1 2 2 1 2 2 2 1 2 2 2 1 2	0 0 0 0 1 <1 1331 <1 1331 <1 history1 0 0 <1 history1	<1 0 0 0 <1 3 <1 1255 <1 history2 0 0 0 0 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	0 0 2.4 0 2.4 0 1 1 1 1 5 2 0 1 1 1 1 5 2 0 1 1 1 1 1 1 2 2 0 1 1 1 1 1 1 2 2 0 1 1 1 1	0 0 2 1 22 1 1247 <1 current 0 0 0 <1 2 1 1247 <1 2 0 0 0 4 1 2 1 1247 5 1 1 1247 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 1 <1 1331 <1 history1 0 0 <1 history1 1233	<pre><1 0 0 0 0 </pre>
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	0 0 2.4 0 2.4 0 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 0 2 1 22 1 1247 <1 current 0 0 0 <1 2 1 2 2 1 1 247 <1 2 1 2 2 1 2 2 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 2 1 2 2 2 2 1 2 2 2 2 1 2 2 2 2 2 1 2	0 0 0 0 1 <1 1331 <1 history1 0 0 0 <1 history1 1233 181	<pre><1 0 0 0 0 </pre> <1 3 <1 3 <1 1255 <1 <pre>history2</pre> 0 0 0 0 <pre>history2</pre> 5559 1113
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647	0 0 2.4 0 2.4 0 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 0 2 1 22 1 1247 <1 current 0 0 0 <1 2 1 2 2 1 1 247 <1 2 2 1 2 2 1 2 2 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 1 2 4 7 2 1 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 2 1 2 2 2 2 1 2	0 0 0 0 1 1 <1 1331 <1 1331 <1 1331 <1 1331 <1 1331 <1 1 1233 181 9 3 3 0	<1 0 0 <1 3 <1 1255 <1 history2 0 0 0 history2 559 1113 4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4μm Particles >14μm Particles >21μm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 2.4 0 2.4 0 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 0 2 1 22 1 1247 <1 current 0 0 0 <1 current 708 152 8 3	0 0 0 0 1 <1 <1 1331 <1 history1 0 0 <1 history1 1233 181 9 3	<1 0 0 0 0 <1 3 <1 1255 <1 1255 <1 1255 <1 10 0 0 0 0 0 0 0 0 0 113 4 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4μm Particles >14μm Particles >21μm Particles >38μm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 2.4 0 2.4 0 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 0 2 1 1247 <1 2 1 1247 <1 2 0 0 0 <1 2 1 2 2 1 2 4 3 1 52 8 3 3 1	0 0 0 0 1 1 <1 1331 <1 1331 <1 1331 <1 1331 <1 1331 <1 1 0 0 0 <1 history1 1233 181 9 3 3 0	<1 0 0 0 0 <1 3 <1 1255 <1 1255 <1 1255 <1 0 0 0 0 0 0 0 0 0 0 0 113 4 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

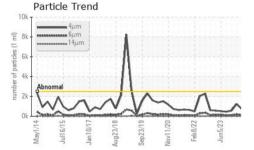


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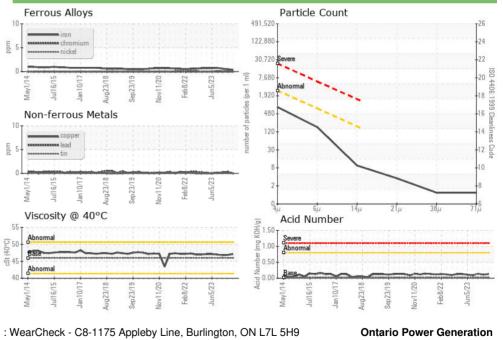




FLUID DEGRADATIONAcid Number (AN)mg K0VISUALVISUALWhite MetalscalYellow MetalscalPrecipitatescalSiltscal	DH/g ASTM D974* method lar Visual* lar Visual* lar Visual*	limit/base 0.02 limit/base NONE NONE NONE	current 0.13 current NONE NONE	history1 0.11 history1 NONE NONE	history2 0.14 history2 NONE NONE
VISUALWhite MetalscalYellow MetalscalPrecipitatescal	method lar Visual* lar Visual* lar Visual*	limit/base NONE NONE	current NONE NONE	history1 NONE NONE	history2 NONE
White MetalscalYellow MetalscalPrecipitatescal	lar Visual* lar Visual* lar Visual*	NONE NONE	NONE NONE	NONE NONE	NONE
Yellow Metal sca Precipitate sca	lar Visual* lar Visual*	NONE	NONE	NONE	
Precipitate sca	lar Visual*				NONE
		NONE			
Silt sca	lar Visual*		NONE	NONE	NONE
		NONE	NONE	NONE	NONE
Debris sca	lar Visual*	NONE	NONE	NONE	NONE
Sand/Dirt sca	lar Visual*	NONE	NONE	NONE	NONE
Appearance sca	lar Visual*	NORML	NORML	NORML	NORML
Odor sca	lar Visual*	NORML	NORML	NORML	NORML
Emulsified Water sca	lar Visual*	>0.05	NEG	NEG	NEG
Free Water scal	lar Visual*		NEG	NEG	NEG
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C cSt	ASTM D7279(m)	46	47.1	46.9	46.8
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				11	

GRAPHS

Bottom



Laboratory CALA Sample No. : WC0890838 Received : 28 Mar 2024 Lab Number : 02625209 Tested :01 Apr 2024 ISO 17025:2017 Accredited Unique Number : 5750328 Diagnosed : 01 Apr 2024 - Kevin Marson Laboratory Test Package : IND 2 (Additional Tests: TAN Man) 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.

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.

NIAGARA PLANT GROUP,, 14000 NIAGARA PKWY NIAGARA ON THE LAKE, ON CA LOS 1J0 Contact: Alex Courtemanche alex.courtemanche@opg.com T: (905)357-0322 F: (905)357-6558

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