

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. NOTE: An increase in the particle count is noted.

Fluid Condition

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



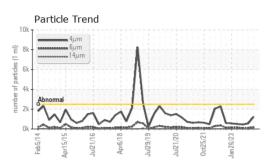


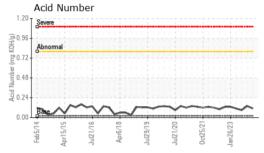
2014 Apr/2015 Jul/2016 Apr/2018 Jul/2019 Jul/2020 Oct/2021 Jan/2023

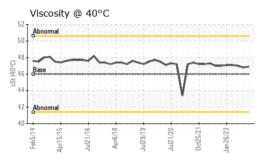
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0801577	WC0858070	WC0830370
Sample Date		Client Info		07 Jan 2024	25 Oct 2023	31 Jul 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	N	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	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	<1	0	0
Lead	ppm	ASTM D5185(m)	>20	<1	<1	<1
Copper	ppm	ASTM D5185(m)	>20	<1	<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)	limit/base	0	history1 <1	history2 <1
Boron Barium	ppm ppm			0 0	<1 <1	<1 0
Boron Barium Molybdenum		ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		0 0 0	<1 <1 0	<1 0 0
Boron Barium Molybdenum Manganese	ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0	0 0 0 0	<1 <1 0 0	<1 0 0 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0	0 0 0 0 0	<1 <1 0 0 0	<1 0 0 0 <1
Boron 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)	0 0 0 0	0 0 0 0 0 0	<1 <1 0 0 0 <1	<1 0 0 0 <1 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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 0 2.4	0 0 0 0 0 0 1	<1 <1 0 0 0 <1 3	<1 0 0 <1 <1 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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 0 2.4	0 0 0 0 0 1 <1	<1 <1 0 0 0 <1 3 <1	<1 0 0 <1 <1 2 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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)	0 0 0 0 2.4	0 0 0 0 0 0 1 <1 <1 1331	<1 <1 0 0 <1 3 <1 1255	<1 0 0 <1 <1 2 2 1371
Boron 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)	0 0 0 0 2.4	0 0 0 0 0 1 <1	<1 <1 0 0 0 <1 3 <1	<1 0 0 <1 <1 2 2
Boron 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 0 2.4 0	0 0 0 0 0 1 1 331 <1 2 1 2 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2	<1 <1 0 0 <1 3 <1 1255 <1 history1	<1 0 0 <1 <1 2 2 1371 <1 history2
Boron 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) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 2.4 0	0 0 0 0 0 1 1 <1 1331 <1 2 1 0	<1 <1 0 0 0 <1 3 <1 1255 <1 history1 0	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	0 0 0 2.4 0 limit/base	0 0 0 0 0 1 <1 1331 <1 2 1 0 0 0	<1 <1 0 0 0 <1 3 <1 1255 <1 history1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<1 0 0 <1 <1 2 2 1371 <1 history2 0 0
Boron 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 0 0 2.4 0 1 <u>limit/base</u> >15	0 0 0 0 0 1 1 <1 1331 <1 2 1 0	<1 <1 0 0 0 <1 3 <1 1255 <1 history1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<1 0 0 <1 <1 2 2 1371 <1 history2 0 0 <1
Boron 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 0 2.4 0 imit/base >15 >20 imit/base	0 0 0 0 0 1 1 <1 1331 <1 current 0 0 <1 current	<1 <1 0 0 <1 3 <1 1255 <1 history1 0 0 0 history1 	<1 0 0 (0 <1 (1) 2 2 1371 <1 2 1371 <1 history2 0 0 0 <1 history2
Boron 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 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 0 0 0 1 1 <1 1331 <1 current 0 0 <1 current 1233	<1 <1 0 0 0 <1 3 <1 1255 <1 history1 0 0 0 history1 	<1 0 0 1 <1 2 2 1371 <1 history2 0 0 0 <1 history2 454
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	0 0 0 2.4 0 2.4 0 3 1 1 1 5 2 0 1 1 1 1 5 2 0 1 1 1 1 1 2 2 0 1 1 1 1 2 2 0 1 1 1 1	0 0 0 0 0 1 <1 1331 <1	<1 <1 0 0 0 <1 3 <1 1255 <1 1255 <1 history1 0 0 0 0 history1 559 113	<1 0 0 0 <1 <1 2 2 1371 <1 history2 0 0 0 <1 history2 454 103
Boron 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 D76477 ASTM D7647	0 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 0 0 1 1 <1 1331 <1 0 0 0 <1 0 1 2 3 1 1233 181 9	<1 <1 0 0 <1 3 <1 1255 <1 history1 0 0 0 history1 559 113 4 	<1 0 0 0 <1 <1 2 2 1371 <1 history2 0 0 0 <1 history2 454 103 7
Boron 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	0 0 0 0 2.4 0 0 1 1 1 1 5 2 0 1 5 2 0 1 1 1 1 5 2 0 1 1 1 1 5 2 0 1 1 1 1 5 2 0 1 1 1 1 5 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 1 <1 <1 1331 <1 current 0 0 0 <1 current 1233 181 9 3	<1 <1 0 0 0 <1 3 <1 1255 <1 history1 0 0 0 history1 559 113 4 2 	<1 0 0 0 <1 <1 2 2 1371 <1 history2 0 0 0 <1 history2 454 103 7 3
Boron 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	0 0 0 0 2.4 0 3 3 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	0 0 0 0 1 <1 <1 1331 <1 Current 0 0 <1 0 <1 2 3 181 9 3 3 0	<1 <1 <1 0 0 <1 3 <1 1255 <1 history1 0 0 0 history1 559 113 4 2 0 0 	<1 0 0 0 <1 <1 2 2 1371 <1 history2 0 0 0 <1 history2 454 103 7 3 0 0 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >4µm Particles >21µm Particles >38µm Particles >71µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 2.4 0 2.4 0 1 1 5 2 1 5 2 1 1 5 2 0 1 1 5 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 1 1 <1 1331 <1 Current 0 0 <1 Current 1233 181 9 3 0 0 0 0 <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<1 <1 0 0 0 <1 3 <1 1255 <1 history1 0 0 history1 559 113 4 2 0 0 0 	<1 0 0 0 <1 <1 2 2 1371 <1 history2 0 0 0 <1 history2 454 103 7 3 0 0 0 0 0 0 0 0 0 0 0 0 0
Boron 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	0 0 0 0 2.4 0 3 3 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	0 0 0 0 1 <1 <1 1331 <1 Current 0 0 <1 0 <1 2 3 181 9 3 3 0	<1 <1 <1 0 0 <1 3 <1 1255 <1 history1 0 0 0 history1 559 113 4 2 0 0 	<1 0 0 0 <1 <1 2 2 1371 <1 history2 0 0 0 <1 history2 454 103 7 3 0 0 0



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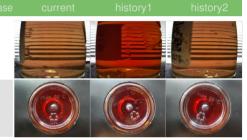
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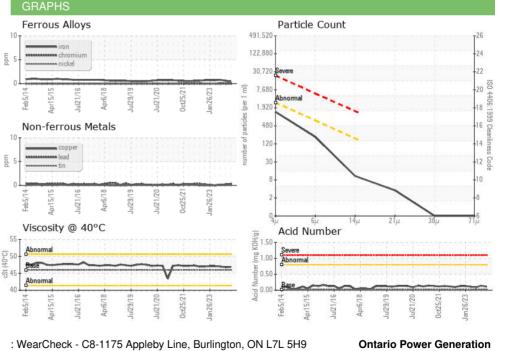
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FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.02	0.11	0.14	0.09
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
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*	>0.05	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	46	46.9	46.8	47.0
SAMPLE IMAGES		method	limit/base	current	history1	history2
						-

Color

Bottom





Laboratory CALA Sample No. : WC0801577 Recieved : 08 Jan 2024 Lab Number : 02607060 Diagnosed : 09 Jan 2024 ISO 17025:2017 Accredited Laboratory Unique Number : 5708146 Diagnostician : Kevin Marson 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.

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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