

OIL ANALYSIS REPORT

Sample Rating Trend

Area SAB2 **SAB2 G21** Component **Thrust Bearing** ESSO TERESSO ISO 46 (3182 LTR)

DIAGNOSIS

Fluid

Recommendation

We recommend you service the filters on this component. 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 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

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.



Report Id: ONTQUE [WCAMIS] 02625253 (Generated: 04/01/2024 09:19:26) Rev: 1



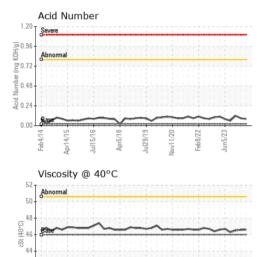
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0890864	WC0801613	WC0858094
Sample Date		Client Info		27 Mar 2024	07 Jan 2024	25 Oct 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>2	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>85	9	10	9
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)	>40	0	<1	0
Lead	ppm	ASTM D5185(m)	>60	0	<1	<1
Copper	ppm	ASTM D5185(m)	>7	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>40	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	le le	method	limit/base	-	-	history2
				CUITENT	nistory i	
	nnm			current	history1	
Boron	ppm	ASTM D5185(m)	0	0	0	<1
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	0	0 0	0	<1 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		0 0 0	0 0 0	<1 <1 0
Boron Barium Molybdenum Manganese	ppm ppm ppm	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
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0	0 0 0 <1	0 0 0 0 0	<1 <1 0 0 0
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 <1 0	0 0 0 0 0 <1	<1 <1 0 0 0 <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 <1 0 0	0 0 0 0 <1 0	<1 <1 0 0 0 <1 1
Boron 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 0 2.4	0 0 0 <1 0 0 <1	0 0 0 0 <1 0 <1	<1 <1 0 0 0 <1 1 1 <1
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 <1 0 0 <1 1 1740	0 0 0 0 0 <1 0 <1 1863	<1 <1 0 0 0 <1 1 1 <1 1788
Boron 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 0 2.4	0 0 0 <1 0 0 <1	0 0 0 0 <1 0 <1	<1 <1 0 0 0 <1 1 1 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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)	0 0 0 0 2.4	0 0 0 <1 0 0 <1 1 1740	0 0 0 0 0 <1 0 <1 1863	<1 <1 0 0 0 <1 1 1 <1 1788
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) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 2.4 0	0 0 0 <1 0 0 <1 1740 <1	0 0 0 0 <1 0 <1 1863 <1	<1 <1 0 0 0 <1 1 <1 1788 <1
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 limit/base	0 0 0 <1 0 0 <1 1740 <1 1740 <1	0 0 0 0 <1 0 <1 1863 <1 1863 <1 history1	<1 <1 0 0 <1 1 1788 <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)	0 0 0 0 2.4 0 limit/base	0 0 0 <1 0 0 <1 1740 <1 1740 <1 1	0 0 0 0 <1 0 <1 1863 <1 1863 <1 <u>history1</u> 2	<1 <1 0 0 0 <1 1 1 <1 1788 <1 history2 2
Boron 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)	0 0 0 0 2.4 0 imit/base	0 0 0 <1 0 0 <1 1740 <1 1740 <1 1 0	0 0 0 0 <1 0 <1 1863 <1 <u>history1</u> 2 0	<1 <1 0 0 (1 1 <1 1788 <1 1788 <1 history2 2 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 2.4 0 <u>limit/base</u> >20	0 0 0 <1 0 0 <1 1740 <1 1740 <1 1 0 <1	0 0 0 0 <1 0 <1 1863 <1 <u>history1</u> 2 0 <1	<1 <1 0 0 0 <1 1 1 <1 1788 <1 history2 2 0 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 2.4 0 imit/base >20 imit/base	0 0 0 (0 <1 0 0 <1 1740 <1 : current 1 0 <1 : current	0 0 0 0 <1 1 1863 <1 history1 2 0 <1 history1	<1 <1 0 0 () () () () () () () () ()
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 imit/base >20 imit/base >20 imit/base	0 0 0 2 3 3 4 1 0 0 3 4 1 7 40 3 4 1 0 3 3 1 0 3 4 1 2 1 0 3 4 1 2 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3	0 0 0 0 0 1 0 1 1 8 6 3 4 1 8 6 3 4 1 8 6 3 4 1 8 6 3 4 1 8 6 3 4 1 8 6 3 4 1 8 6 3 4 1 8 6 3 4 1 8 6 3 4 1 9 8 6 7 8 1 8 9 8 9 8 9 8 9 8 9 8 9 9 9 9 9 9 9	<1 <1 0 0 0 (1 1 (1 7 88 (1 7 88 (1 7 88 (1 7 88 (1 7 88 (1 7 88 (1 7 88 (1 7 88 (1 7 88 (1 7 1 1 7 88 (1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1
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 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 0 0 4 1 0 0 4 1 1740 4 1 0 4 1 0 4 1 0 4 1 2 1 0 4 1 2 1 0 4 1 2 1 0 4 1 2 1 0 0 4 1 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 1 1 8 63 1 1 8 63 1 1 8 63 1 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8	<1 <1 0 0 0 (1 1 1 3 4 1 7 88 <1 1 7 88 <1 1 7 88 <1 2 0 0 0 0 0 1 8 5 89 (1 839
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm 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 4 1 0 0 0 4 1 1740 4 1 0 4 1 0 4 1 0 4 1 2 1 0 4 1 2 1 0 4 1 2 1 0 4 1 2 1 0 0 4 1 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 1 1 8 6 3 1 8 3 3 1 1 8 3 3 1 1 8 3 1 1 8 3 3 1 1 8 3 1 1 1 8 3 3 1 1 1 8 3 3 1 1 1 8 3 3 1 1 1 1	<1 <1 0 0 0 1 (1 1 1788 <1 1788 <1 2 0 0 0 0 0 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 Potassium 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	0 0 0 0 2.4 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 <1 0 0 <1 1740 <1 <u>current</u> 1 0 <1 <u>trurent</u> 41221 ▲ 41221 ■ 1413 13 3	0 0 0 0 0 1 0 1 1 8 6 3 1 1 8 6 3 1 1 8 6 3 1 1 1 8 6 3 1 1 1 8 6 3 1 1 1 8 6 3 1 1 1 8 6 3 1 1 1 8 6 3 1 1 1 8 6 3 1 1 1 8 6 3 1 1 1 1 8 6 3 1 1 1 1 1 8 6 3 1 1 1 1 8 6 3 1 1 1 1 8 6 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	<1 <1 0 0 0 <1 1 <1 1788 <1 itstory2 2 0 0 history2 45589 1839 9 3
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 ASTM D7647	0 0 0 0 2.4 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 1 0 <1 0 0 <1 1740 <1 <u>current</u> 1 0 <1 <u>current</u> 4 2 4 1221 ▲ 41221 ▲ 41221 ▲ 1413 13 3 1	0 0 0 0 0 0 1 0 1 1 8 6 3 1 8 3 1 8 1 8 3 1 8 1 8 1 8 1 8 1 8 1	<1 <1 0 0 0 <1 1 <1 1788 <1 itstory2 2 0 0 history2 45589 1839 9 3 0

Submitted By: ?



OIL ANALYSIS REPORT

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2,880 Severe					-24
0,720 Abnor					22 8
7,680					+406:1999 Cleanliness Code +16 +14 +12 +12 +10 +12 +10 +12 +10 +12 +10 +12 +10 +12 +10 +12 +10 +12 +10 +12 +10 +12 +10 +12 +10 +12 +10 +12 +10 +12 +10 +12 +10 +12 +10 +12 +12 +12 +12 +12 +12 +12 +12 +12 +12
1,920-	1				18 199
480 -	1				-16 0
120-					14 1
30-		1			-12 🖁
8-		-	-		-10 8
2-					-8
0 4μ	6µ	14µ	21.		71µ
	ticle Trer		21µ	38µ	Τιμ
▲ Par			\mathcal{M}	збµ M	M
Par 100k 80k 60k 40k 20k Abn	ticle Trer			M	
Par Par 00k 00k 40k 20k	ticle Trer ^{4μm} ^{6μm} ^{14μm}			M	M



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Jov11/20 Feb8/22

42 - Abnorma

40

Feb4/14

FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.02	0.08	0.09	0.12
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*	>2	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	46.6	46.6	46.5
SAMPLE IMAGES	6	method	limit/base	current	history1	history2
			100			Construction of the local division of the lo

Color

Bottom



PrtFilter

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **Ontario Power Generation** Laboratory CALA NIAGARA PLANT GROUP,, 14000 NIAGARA PKWY Sample No. : WC0890864 Received : 28 Mar 2024 Lab Number : 02625253 Tested : 01 Apr 2024 NIAGARA ON THE LAKE, ON ISO 17025:2017 Accredited Laboratory Unique Number : 5750372 Diagnosed : 01 Apr 2024 - Kevin Marson CA LOS 1J0 Test Package : IND 2 (Additional Tests: BottomAnalysis, FilterPatch, PrtFilter, TAN Man Contact: Alex Courtemanche To discuss this sample report, contact Customer Service at 1-800-268-2131. alex.courtemanche@opg.com T: (905)357-0322 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. F: (905)357-6558