

### **OIL ANALYSIS REPORT**

# Area SAB1 SAB1 G9 Governor Sump

### Component **Hydraulic System** ESSO TERESSO ISO 46 (1600 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

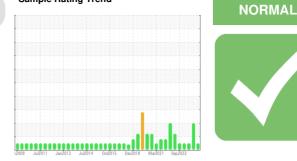
Component wear rates appear to be normal (unconfirmed).

#### 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.

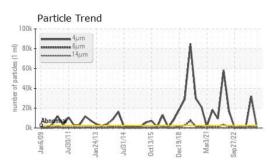


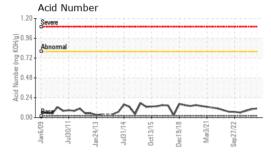
Sample Rating Trend

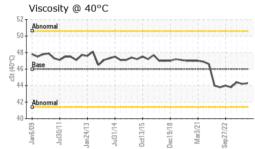
		mothed	limit/bose	outropt	biotomut	bistory
SAMPLE INFORM		method	limit/base	current	history1	history2
Sample Number		Client Info		WC0864638	WC0828633	WC0642885
Sample Date		Client Info		21 Dec 2023	27 Aug 2023	27 Mar 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	SEVERE	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	2	<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	0
Aluminum	ppm	ASTM D5185(m)	>20	<1	<1	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	<1
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				history2
ADDITIVES Boron	maa				history1 0	
Boron	ppm pom	ASTM D5185(m)	limit/base 0	current 0 0	· · · · · · · · · · · · · · · · · · ·	history2 <1 0
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	0	0 0	0	<1
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0	0	0	<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	<1 0 0
Boron Barium Molybdenum	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	0 0 0 0 0	<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	0 0 0 0	<1 0 0 0 <1
Boron Barium Molybdenum Manganese Magnesium	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 2	0 0 0 0 0 <1	<1 0 0 0 <1 0
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) ASTM D5185(m)	0 0 0 0 2.4	0 0 0 0 0 2 <1	0 0 0 0 0 <1 2	<1 0 0 0 <1 0 <1 <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 0 0 2	0 0 0 0 0 <1 2 2	<1 0 0 <1 0 <1
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 0 2 <1 685	0 0 0 0 0 0 2 2 641 <1	<1 0 0 <1 0 <1 <1 <1 653 <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) ASTM D5185(m)	0 0 0 0 2.4 0 	0 0 0 0 2 <1 685 <1	0 0 0 0 <1 2 2 641 <1 <1 history1	<1 0 0 <1 0 <1 0 <1 653 <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) <b>method</b> ASTM D5185(m)	0 0 0 2.4 0	0 0 0 0 0 2 <1 685 <1	0 0 0 0 <1 2 2 641 <1 history1 0	<1 0 0 <1 0 <1 <1 <1 653 <1 history2 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) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) <b>method</b> ASTM D5185(m) ASTM D5185(m)	0 0 0 2.4 0 !///////////////////////////////////	0 0 0 0 0 2 <1 685 <1 Current 0 0	0 0 0 0 0 2 2 641 <1 *1 history1 0 0	<1 0 0 <1 0 <1 <1 <1 653 <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 2.4 0 1 1 1 1 1 5 5 20	0 0 0 0 2 <1 685 <1 <i>current</i> 0 0 2	0 0 0 0 0 1 2 2 641 <1 2 641 <1 <b>history1</b> 0 0 0 <1	<1 0 0 <1 0 <1 <1 <1 653 <1 history2 0 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 0 0 0 2.4 0 2.4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 2 <1 685 <1	0 0 0 0 0 1 2 2 641 <1 2 641 <1 1 history1 0 0 0 <1 history1	<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 2.4 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 2 <1 685 <1	0 0 0 0 0 2 2 641 <1 2 641 <1 0 0 0 4 1 0 0 0 4 1 history1 0 0 0 3 1972	<1 0 0 0 <1 0 <1 653 <1 history2 0 0 0 history2 430
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 1 1 1 1 5 20 1 1 1 2 2 0 1 1 2 2 0 2 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2	0 0 0 0 2 <1 685 <1	0 0 0 0 0 2 2 641 <1 2 641 <1 0 0 0 <1 0 0 1 0 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 1 2 2 1 1 2 1 1 2 1 1 1 1	<1 0 0 0 <1 0 <1 <1 653 <1 history2 0 0 0 history2 430 91
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 D7647 ASTM D7647 ASTM D7647	0 0 0 2.4 0 2.4 0 1 1 1 1 1 1 1 1 1 2 0 1 2 1 1 1 1 1 1	0 0 0 0 2 <1 685 <1 0 0 0 <1 0 1 597 288 25	0 0 0 0 0 2 2 641 <1 2 2 641 <1 0 0 0 <1 0 0 0 <1 0 0 0 <1 0 0 0 <1 0 0 0 1 0 0 0 0	<1 0 0 0 <1 0 <1 (1 653 <1 history2 0 0 0 0 history2 430 91 8
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 D5185(m)	0 0 0 2.4 0 2.4 0 1 1 1 1 1 1 1 1 1 2 0 1 2 1 1 1 1 1 1	0 0 0 0 2 <1 685 <1	0 0 0 0 0 2 2 641 <1 2 641 <1 0 0 0 <1 0 0 1 0 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 1 2 2 1 1 2 1 1 2 1 1 1 1	<1 0 0 0 <1 0 <1 <1 653 <1 history2 0 0 0 history2 430 91
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 D7647 ASTM D7647 ASTM D7647	0 0 0 2.4 0 2.4 0 1 1 1 1 1 1 1 1 1 2 0 1 2 1 1 1 1 1 1	0 0 0 0 2 <1 685 <1 0 0 0 <1 0 0 <1 1597 288 25 5 1	0 0 0 0 0 2 2 641 <1 2 2 641 <1 0 0 0 <1 0 0 0 <1 0 0 0 <1 0 0 0 <1 0 0 0 1 0 0 0 0	<1 0 0 0 <1 0 <1 (1 653 <1 history2 0 0 0 0 history2 430 91 8
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 2.4 0 2.4 0 3 3 5 4 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 0 0 0 2 <1 685 <1	0 0 0 0 2 1 2 2 641 <1 2 641 <1 0 0 0 <1 0 0 <1 0 31972 ↓1906 12 2 2	<1 0 0 0 <1 0 <1 <1 653 <1 history2 0 0 0 0 0 history2 430 91 8 1 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 >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 2.4 0 2.4 0 3 3 5 4 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 0 0 0 2 <1 685 <1 0 0 0 <1 0 0 <1 1597 288 25 5 1	0 0 0 0 2 3 2 2 641 2 2 641 3 1 1 0 0 3 1 1 1 1 1 1 2 1 1 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1	<1 0 0 0 <1 0 <1 <1 653 <1 history2 0 0 0 0 0 history2 430 91 8 1 0 0 0



## **OIL ANALYSIS REPORT**



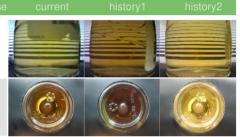


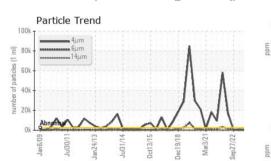


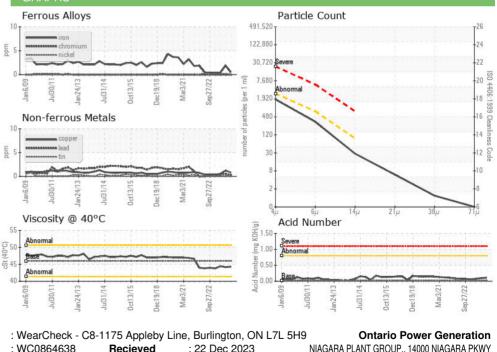
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.02	0.11	0.10	0.08
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	VLITE	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 PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	46	44.3	44.2	44.4
SAMPLE IMAGES		method	limit/base	current	history1	history2
				III MARKEN		1



Bottom







Laboratory CALA Sample No. : WC0864638 Recieved : 22 Dec 2023 Lab Number : 02604962 : 27 Dec 2023 Diagnosed ISO 17025:2017 Accredited Laboratory : 5698047 Diagnostician : Kevin Marson Unique Number 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.

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