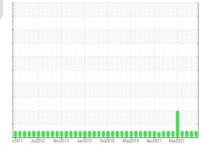


OIL ANALYSIS REPORT

SAB1 **SAB1 G5 Governor**

Hydraulic System

PETRO CANADA TURBOFLO XL46 (1600 LTR)



Sample Rating Trend



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.

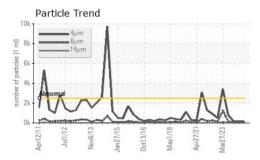
Fluid Condition

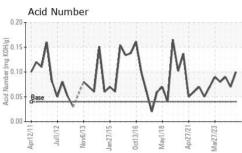
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

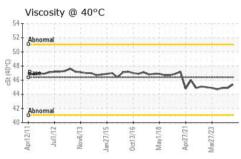
-111)						
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0933972	WC0812557	WC0642845
Sample Date		Client Info		03 Jul 2024	15 May 2024	21 Dec 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIC	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	0	<1
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>20	<1	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<1	0	<1
Lead	ppm	ASTM D5185(m)	>20	0	0	<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				history2
ADDITIVES Boron	ppm	method ASTM D5185(m)	limit/base	current 0	history1 <1	history2 0
	ppm		limit/base			•
Boron		ASTM D5185(m)	limit/base	0	<1	0
Boron Barium Molybdenum	ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	0	<1 0	0
Boron Barium	ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base	0 0 0	<1 0 0	0 0 0
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	0 0 0	<1 0 0 0	0 0 0
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	0 0 0 0	<1 0 0 0	0 0 0 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185(m)		0 0 0 0 0 0	<1 0 0 0 0 0 0	0 0 0 0 0 0 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185(m)		0 0 0 0 0 <1 4	<1 0 0 0 0 0 <1 3	0 0 0 0 0 0 <1 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185(m)		0 0 0 0 0 0 <1 4	<1 0 0 0 0 0 <1 3	0 0 0 0 0 0 <1 2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)		0 0 0 0 0 <1 4 2 698 <1	<1 0 0 0 0 0 <1 3 1 684	0 0 0 0 0 <1 2 <1 760
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	0 limit/base	0 0 0 0 0 <1 4 2 698 <1	<1 0 0 0 0 0 <1 3 1 684 <1	0 0 0 0 0 0 <1 2 <1 760 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	0	0 0 0 0 0 0 <1 4 2 698 <1	<1 0 0 0 0 0 <1 3 1 684 <1 history1	0 0 0 0 0 <1 2 <1 760
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	0 limit/base	0 0 0 0 0 <1 4 2 698 <1	<1 0 0 0 0 0 <1 3 1 684 <1	0 0 0 0 0 0 <1 2 <1 760 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm	ASTM D5185(m)	0 limit/base >15	0 0 0 0 0 0 <1 4 2 698 <1 current	<1 0 0 0 0 0 <1 3 1 684 <1 history1 0	0 0 0 0 0 0 <1 2 <1 760 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm	ASTM D5185(m)	0 limit/base >15 >20	0 0 0 0 0 0 <1 4 2 698 <1 current 0	<1 0 0 0 0 <1 3 1 684 <1 history1 0 0	0 0 0 0 0 0 <1 2 <1 760 <1 history2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANT Silicon Sodium Potassium FLUID CLEANLII	ppm	ASTM D5185(m) METHOD	0 limit/base >15 >20 limit/base	0 0 0 0 0 0 <1 4 2 698 <1 current 0 0	<1 0 0 0 0 0 <1 3 1 684 <1 history1 0 <1	0 0 0 0 0 0 <1 2 <1 760 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLI Particles >4µm	ppm	ASTM D5185(m)	0 limit/base >15 >20 limit/base >2500	0 0 0 0 0 <1 4 2 698 <1 current 0 0	<1 0 0 0 0 0 <1 3 1 684 <1 history1 0 0 <1	0 0 0 0 0 0 <1 2 <1 760 <1 history2 <1 0 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLII Particles >4µm Particles >6µm	ppm	ASTM D5185(m) method ASTM D5185(m)	0 limit/base >15 >20 limit/base >2500 >640 >80	0 0 0 0 0 0 <1 4 2 698 <1 current 0 0 0 current	<1 0 0 0 0 0 <1 3 1 684 <1 history1 0 0 1 124 51	0 0 0 0 0 0 <1 2 <1 760 <1 history2 <1 0 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANT Silicon Sodium Potassium Particles >4µm Particles >14µm Particles >14µm	ppm	ASTM D5185(m) ASTM D7647 ASTM D7647	0 limit/base >15 >20 limit/base >2500 >640 >80	0 0 0 0 0 0	<1 0 0 0 0 0 0 <1 3 1 684 <1 history1 0 0 <1 history1 124 51 9	0 0 0 0 0 0 <1 2 <1 760 <1 history2 <1 0 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLII Particles >4µm Particles >14µm Particles >21µm	ppm	ASTM D5185(m) METHOD ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647	0 limit/base >15 >20 limit/base >2500 >640 >80 >20	0 0 0 0 0 0 0 <1 4 2 698 <1 current 0 0 0 current 159 58 5	<1 0 0 0 0 0 0 <1 3 1 684 <1 history1 0 <1 history1 124 51 9 2	0 0 0 0 0 0 0 <1 2 <1 760 <1 history2 <1 0 <1 history2 196 34 4

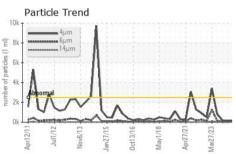


OIL ANALYSIS REPORT



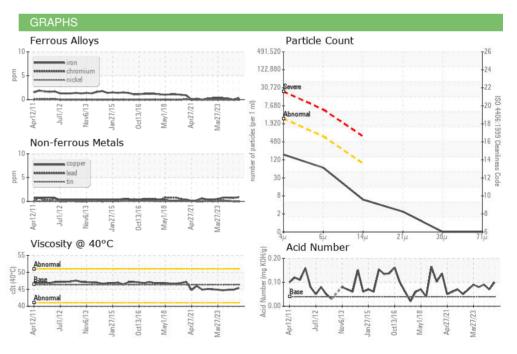






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FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.04	0.10	0.07	0.09
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	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)	46.39	45.4	44.9	44.9
SAMPLE IMAGES	3	method	limit/base	current	history1	history2

Color		0933972	draulid Syste	
Bottom				







Laboratory

Sample No. Lab Number : 02645450 Unique Number : 5802989

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

To discuss this sample report, contact Customer Service at 1-800-268-2131.

: WC0933972

Test Package : IND 2 (Additional Tests: TAN Man)

Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.

Received **Tested** Diagnosed

: 04 Jul 2024 : 05 Jul 2024

: 05 Jul 2024 - Kevin Marson

NIAGARA ON THE LAKE, ON CA LOS 1J0 Contact: Nathan Perala nathan.perala@opg.com

NIAGARA PLANT GROUP,, 14000 NIAGARA PKWY

Ontario Power Generation

T: F: (905)357-6558

Validity of results and interpretation are based on the sample and information as supplied. Report Id: ONTQUE [WCAMIS] 02645450 (Generated: 07/05/2024 09:40:07) Rev: 1

Submitted By: ?