



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINANTS	NORMAL
OIL CONDITION	NORMAL

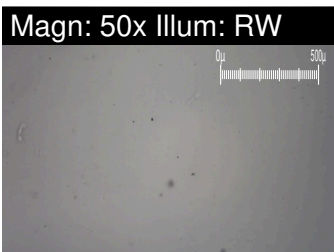
Machine Id
SAB1 G2 GOVERNER
 Component
Governor System
 Fluid
PETRO CANADA TURBOFLO XL46 (--- LTR)

RECOMMENDATION

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

WEAR

All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system.



Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PP	---	---
Sample Date		Client Info		27 Jun 2022	---	---
Machine Age	hrs	Client Info		0	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				NORMAL	---	---
PQ		ASTM D8184*		0	---	---
Iron	ppm	ASTM D5185(m)	>50	<1	---	---
Chromium	ppm	ASTM D5185(m)		0	---	---
Nickel	ppm	ASTM D5185(m)		0	---	---
Titanium	ppm	ASTM D5185(m)		0	---	---
Silver	ppm	ASTM D5185(m)		0	---	---
Aluminum	ppm	ASTM D5185(m)	>3	0	---	---
Lead	ppm	ASTM D5185(m)	>75	<1	---	---
Copper	ppm	ASTM D5185(m)	>15	<1	---	---
Tin	ppm	ASTM D5185(m)	>55	0	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Large Particles		DR-Ferr*		1.4	---	---
Small Particles		DR-Ferr*		0.2	---	---
Total Particles		DR-Ferr*	>---	1.6	---	---
Large Particles Percentage	%	DR-Ferr*		75	---	---
Severity Index		DR-Ferr*		2	---	---
Ferrous Rubbing	Scale 0-10	ASTM D7684*		1		
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		1		
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*				
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*				
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*				
Nonferrous Sliding	Scale 0-10	ASTM D7684*				
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*				
Nonferrous Other	Scale 0-10	ASTM D7684*				

CONTAMINANTS

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

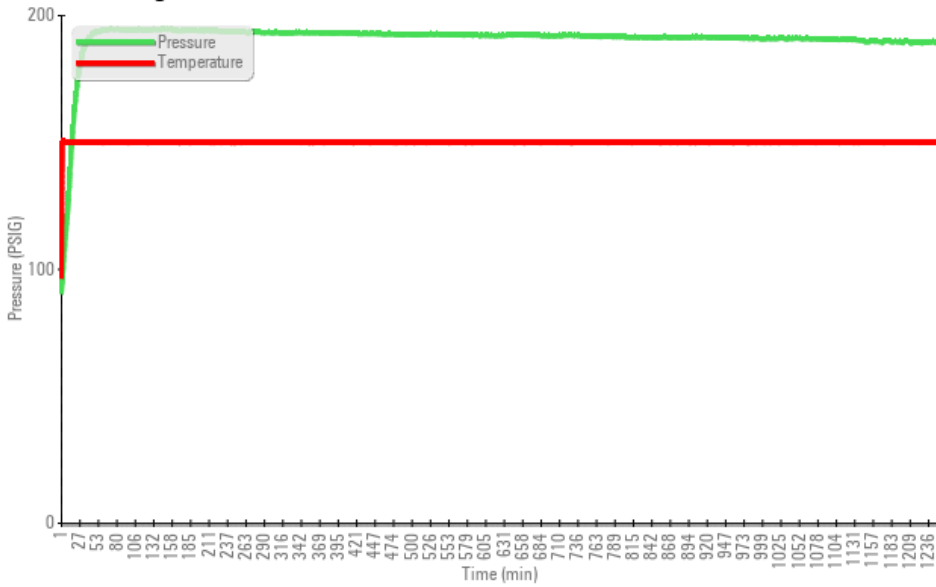
Silicon	ppm	ASTM D5185(m)	>8	0	---	---
Potassium	ppm	ASTM D5185(m)	>20	<1	---	---
Water	%	ASTM D6304*	>0.1	0.001	---	---
ppm Water	ppm	ASTM D6304*	>1000	10.2	---	---
Soot %	%	ASTM D7844*		0	---	---
Nitration	Abs/cm	ASTM D7624*		2.1	---	---
Sulfation	Abs/.1mm	ASTM D7415*		11.6	---	---
Separability	oil/h2o/em	ASTM D1401*	40/40/0	41/39/0 (20)	---	---
MPC Varnish Potential	Scale	ASTM D7843(m)*	>15	4	---	---
Particles >4µm		ASTM D7647	>2500	375	---	---
Particles >6µm		ASTM D7647	>640	140	---	---
Particles >14µm		ASTM D7647	>80	21	---	---
Particles >21µm		ASTM D7647	>20	6	---	---
Particles >38µm		ASTM D7647	>4	1	---	---
Particles >71µm		ASTM D7647	>3	0	---	---
Oil Cleanliness		ISO 4406 (c)	>18/16/13	16/14/12	---	---
Pentane Insolubles	%	ASTM D893(m)*		0.031	---	---
Toluene Insolubles	%	ASTM D893(m)*		0.015	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	---	---
Emulsified Water	scalar	Visual*	>0.1	NEG	---	---
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*				
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		1		

OIL CONDITION

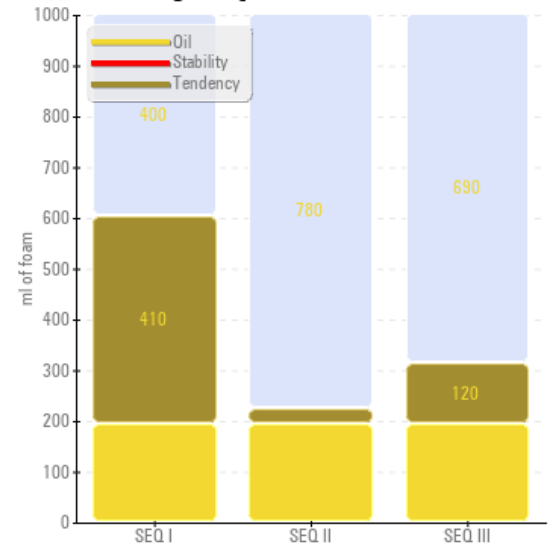
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)		<1	---	---
Boron	ppm	ASTM D5185(m)		<1	---	---
Barium	ppm	ASTM D5185(m)		0	---	---
Molybdenum	ppm	ASTM D5185(m)		0	---	---
Manganese	ppm	ASTM D5185(m)		0	---	---
Magnesium	ppm	ASTM D5185(m)		0	---	---
Calcium	ppm	ASTM D5185(m)		<1	---	---
Phosphorus	ppm	ASTM D5185(m)		9	---	---
Zinc	ppm	ASTM D5185(m)	0	4	---	---
Sulfur	ppm	ASTM D5185(m)		698	---	---
Oxidation	Abs/.1mm	ASTM D7414*		2.7	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.04	0.09	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	46.39	44.1	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	6.79	6.9	---	---
Viscosity Index (VI)	Scale	ASTM D2270*	100	112	---	---
Air Release Time	min	ASTM D3427*	4	4.60	---	---
Foam Tendency	I/II/III	ASTM D892*	0	410/30/120	---	---
Foam Stability	I/II/III	ASTM D892*	0	0/0/0	---	---
ASTM Color	scalar	ASTM D1500*	0.5	<1.0	---	---
Rust Prevention	PASS/FAIL	ASTM D665*		PASS	---	---
Oxidation Test (RPVOT)	minutes	ASTM D2272*	2700	3605	---	---
Anti-Oxidant 1	%	ASTM D6971*	<25	88	---	---
Anti-Oxidant 2	%	ASTM D6971*	<25	79	---	---
Lubricant Degradation	Scale 0-10	ASTM D7684*				

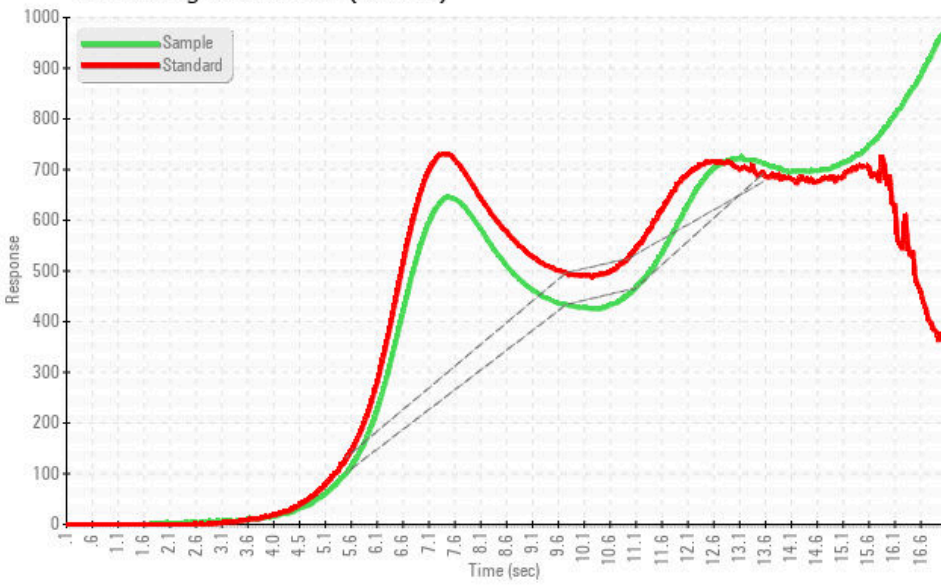
Rotating Pressure Vessel Oxidation Test



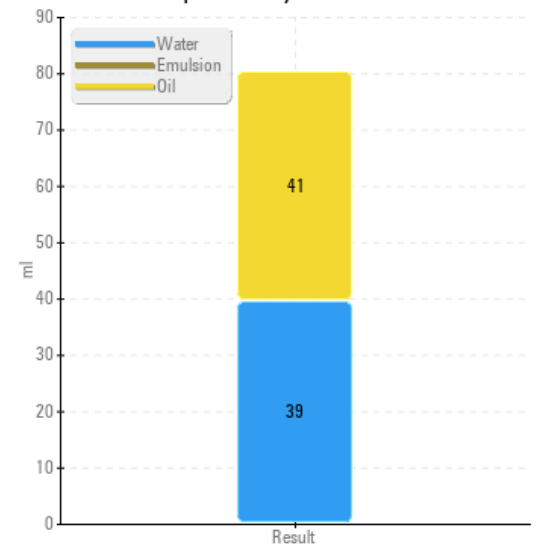
Foaming SEQ I/II/III



Remaining Useful Life (RULER)



Water Separability



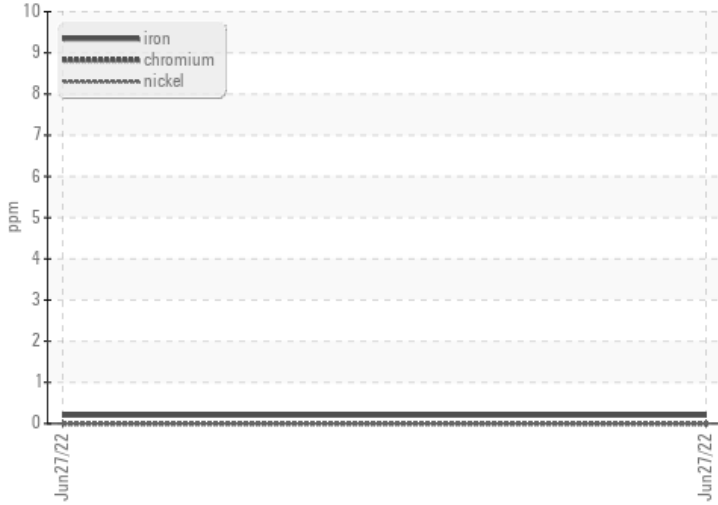
MPC (Varnish Test)



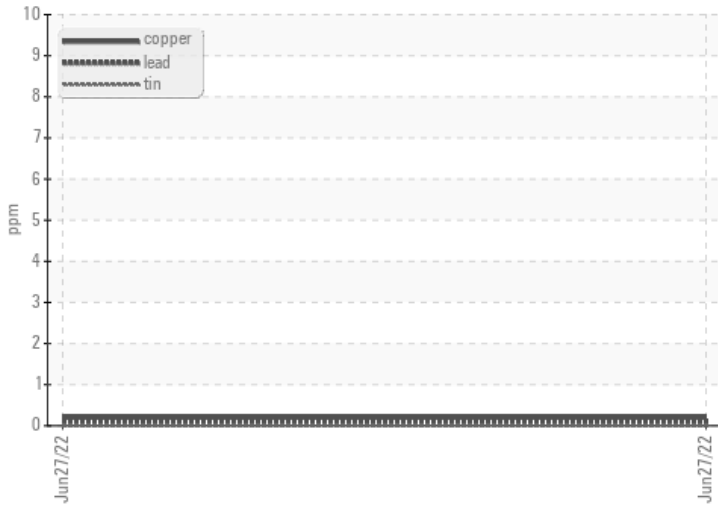
Sample Color & Clarity



Ferrous Alloys



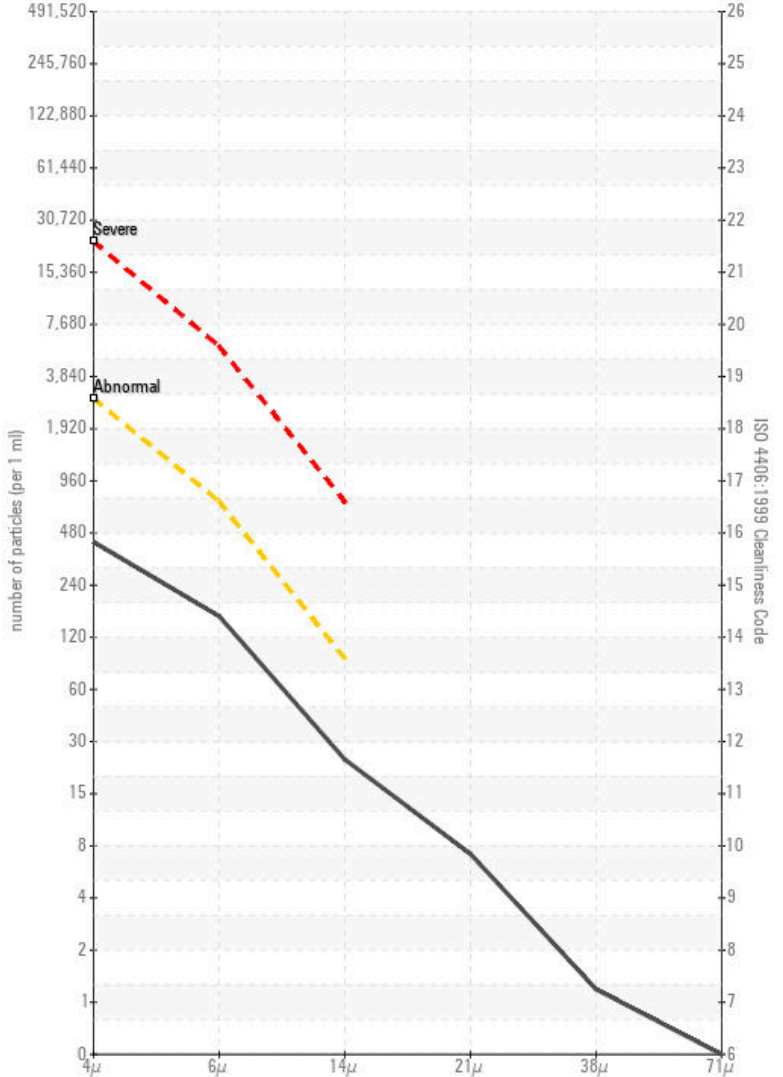
Non-ferrous Metals



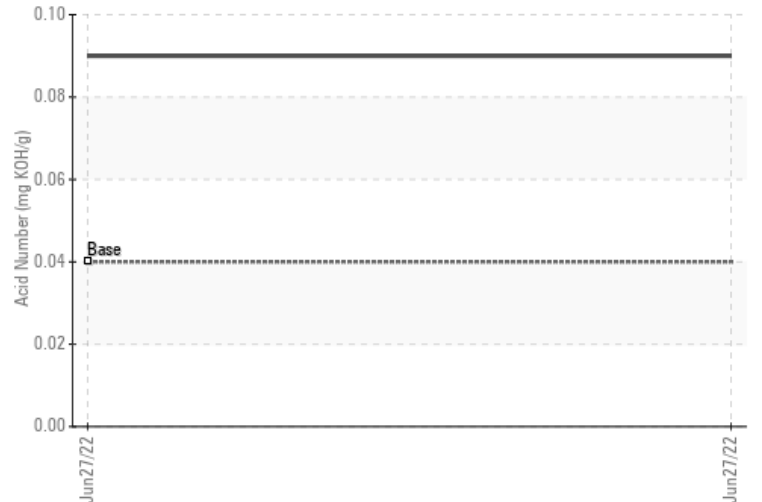
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PP
Lab Number : 02515993
Unique Number : 5472973
Test Package : AOM 3 (Additional Tests: Tollnsol)

Received : 13 Oct 2022
Tested : 21 Oct 2022
Diagnosed : 21 Oct 2022 - Kevin Marson

Ontario Power Generation
 NIAGARA PLANT GROUP, 14000 NIAGARA PKWY
 NIAGARA ON THE LAKE, ON
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Contact: Michael Brochu
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 T: (905)357-0322
 F: (905)374-5466

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.