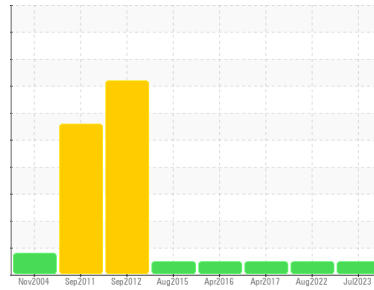




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
A4 - Turbine (lower) Guide Bearing

Component
Lower Bearing

Fluid
PETRO CANADA TURBOFLO R&O 46 (650 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

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 INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0792134	WC0308141	WC967786
Sample Date	Client Info	09 Jul 2023	25 Aug 2022	10 Apr 2017
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	NORMAL	NORMAL

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	0	<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	0
Lead	ppm	ASTM D5185(m) >20	<1	0	<1
Copper	ppm	ASTM D5185(m) >20	<1	0	<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)	0	<1	0
Barium	ppm	ASTM D5185(m)	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m)	<1	<1	0
Calcium	ppm	ASTM D5185(m) 0	<1	1	0
Phosphorus	ppm	ASTM D5185(m) 3	11	2	3
Zinc	ppm	ASTM D5185(m) 0	2	1	<1
Sulfur	ppm	ASTM D5185(m)	119	108	179
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >15	<1	2	<1
Sodium	ppm	ASTM D5185(m)	<1	<1	<1
Potassium	ppm	ASTM D5185(m) >20	<1	<1	0

FLUID CLEANLINESS

method	limit/base	current	history1	history2	
Particles >4µm	ASTM D7647	>10000	2739	1099	7830
Particles >6µm	ASTM D7647	>2500	321	136	855
Particles >14µm	ASTM D7647	>160	13	8	60
Particles >21µm	ASTM D7647	>40	3	3	18
Particles >38µm	ASTM D7647	>10	0	0	1
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>20/18/14	19/16/11	17/14/10	20/17/13

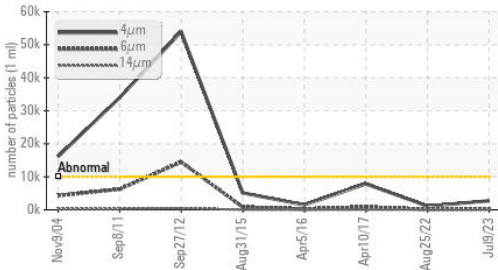
FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974* 0.12	0.06	0.09	0.04

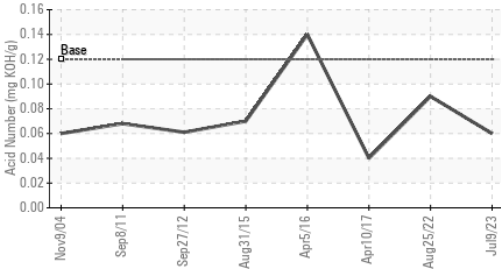


OIL ANALYSIS REPORT

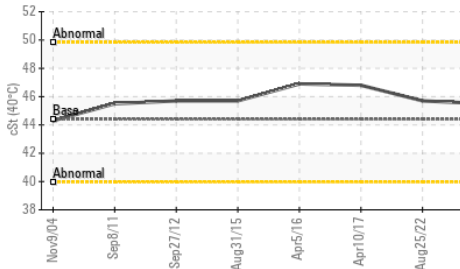
Particle Trend



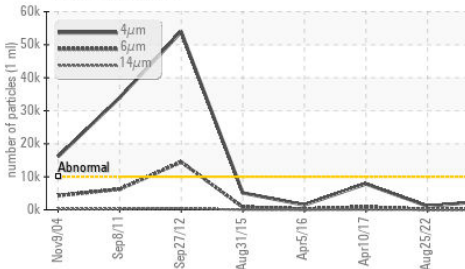
Acid Number



Viscosity @ 40°C



Particle Trend

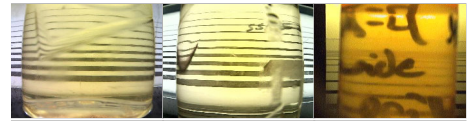


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

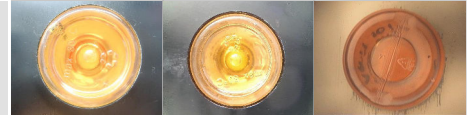
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	44.4	45.5	45.7

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color

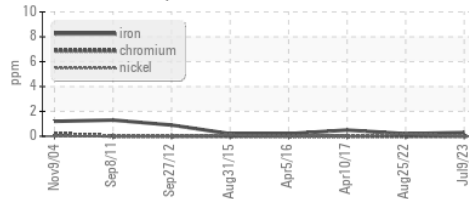


Bottom

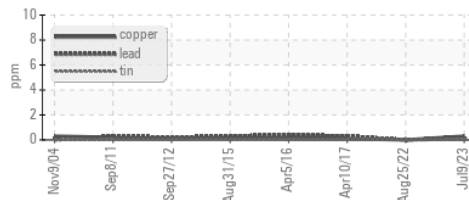


GRAPHS

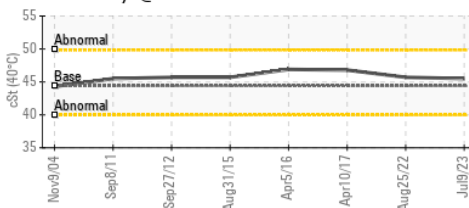
Ferrous Alloys



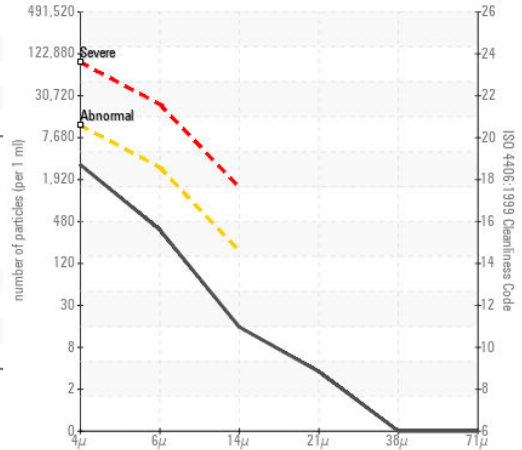
Non-ferrous Metals



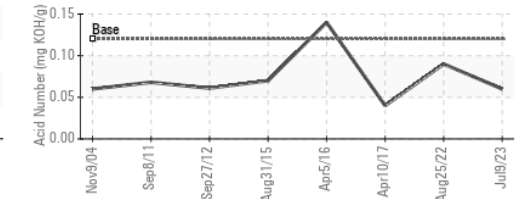
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
 Sample No. : WC0792134
 Lab Number : 02580055
 Unique Number : 5633115
 Test Package : IND 2 (Additional Tests: TAN Man)

Received : 01 Sep 2023
 Diagnosed : 05 Sep 2023
 Diagnostician : Kevin Marson

Nalcor Energy - Churchill Falls
 PO Box 310
 Churchill Falls, NL
 CA A0R 1A0
 Contact: Robert Noel
 robertnoel@nlh.nl.ca
 T: (709)925-8294
 F: (709)925-8220

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.