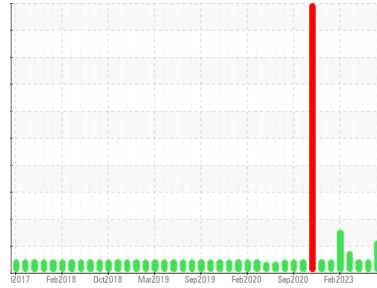


PROBLEM SUMMARY

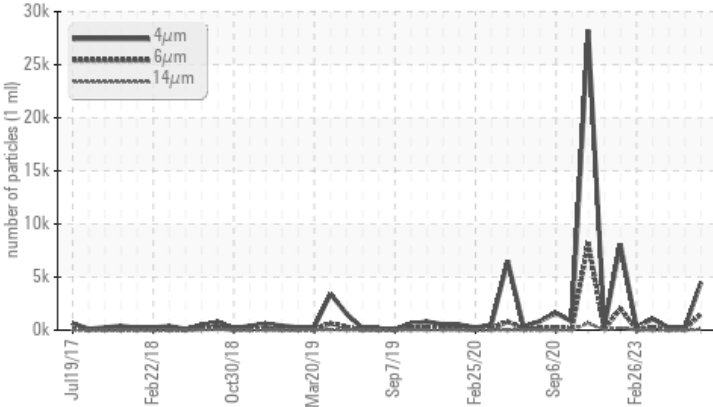
Area
Main Power Generation [450169585]
 Machine Id
Generator - MPG (Port) Lube Oil System (S/N Sample Tag XX-80201-S1)
 Component
Turbine
 Fluid
PETRO CANADA TURBOFLO 32 (8300 LTR)

Sample Rating Trend



COMPONENT CONDITION SUMMARY

▲ Particle Trend



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 MAR 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.

PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	NORMAL	NORMAL
Particles >6µm	ASTM D7647	>640	▲ 1511	58	68
Particles >14µm	ASTM D7647	>80	▲ 89	6	7
Oil Cleanliness	ISO 4406 (c)	>--/16/13	▲ 19/18/14	15/13/10	15/13/10

Customer Id: TERHAM
 Sample No.: PC0040111
 Lab Number: 02569711
 Test Package: MAR 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

To change component or sample information:
 Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Contact Required	---	---	?	Please contact your representative for information regarding the proper sampling kits for your service.
Alert	---	---	?	NOTE: We recommend using MAR 3 test kits,

HISTORICAL DIAGNOSIS

25 May 2023 Diag: Kevin Marson

NORMAL



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. Component wear rates appear to be normal (unconfirmed). The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



24 Apr 2023 Diag: Kevin Marson

NORMAL



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 MAR 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid. Component wear rates appear to be normal (unconfirmed). The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



13 Mar 2023 Diag: Kevin Marson

ADDITIVES

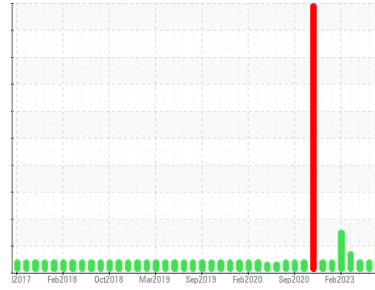


Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as PETRO CANADA TURBOFLO 32, however, a fluid match indicates that this fluid is ISO 32 Gas / Steam Turbine Oil. Please confirm the oil type and grade on your next sample. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MAR 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid. Component wear rates appear to be normal (unconfirmed). The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



Area
Main Power Generation [450169585]
Machine Id
Generator - MPG (Port) Lube Oil System (S/N Sample Tag XX-80201-S1)
Component
Turbine
Fluid
PETRO CANADA TURBOFLO 32 (8300 LTR)



DIAGNOSIS

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 MAR 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.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	PC0040111	PC	PC
Sample Date	Client Info	04 Jul 2023	25 May 2023	24 Apr 2023
Machine Age	hrs	0	0	0
Oil Age	hrs	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	NORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2
PQ	ASTM D8184*	0	0	0
Iron	ppm	ASTM D5185(m) >15	<1	<1
Chromium	ppm	ASTM D5185(m) >4	0	0
Nickel	ppm	ASTM D5185(m) >2	0	0
Titanium	ppm	ASTM D5185(m)	0	0
Silver	ppm	ASTM D5185(m)	0	0
Aluminum	ppm	ASTM D5185(m) >10	0	0
Lead	ppm	ASTM D5185(m)	0	0
Copper	ppm	ASTM D5185(m) >5	<1	<1
Tin	ppm	ASTM D5185(m) >5	1	1
Antimony	ppm	ASTM D5185(m)	0	<1
Vanadium	ppm	ASTM D5185(m)	0	0
Beryllium	ppm	ASTM D5185(m)	0	0
Cadmium	ppm	ASTM D5185(m)	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 0	0	0
Barium	ppm	ASTM D5185(m) 0	0	0
Molybdenum	ppm	ASTM D5185(m) 0	0	0
Manganese	ppm	ASTM D5185(m)	0	0
Magnesium	ppm	ASTM D5185(m) 0	<1	0
Calcium	ppm	ASTM D5185(m) 0	1	0
Phosphorus	ppm	ASTM D5185(m) 120	279	292
Zinc	ppm	ASTM D5185(m) 0.0	2	<1
Sulfur	ppm	ASTM D5185(m) 0	504	529
Lithium	ppm	ASTM D5185(m)	<1	<1

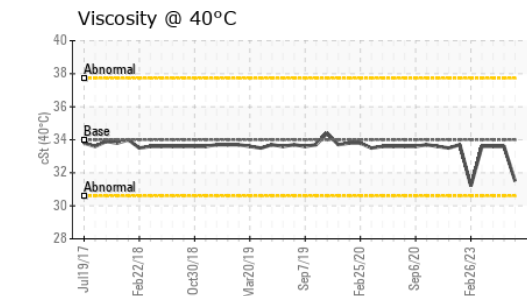
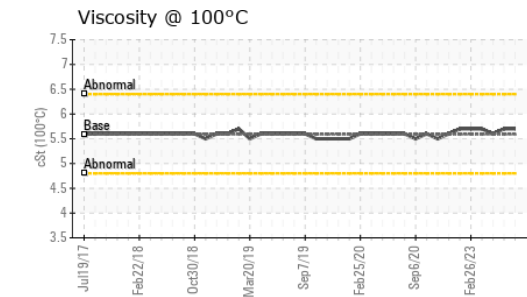
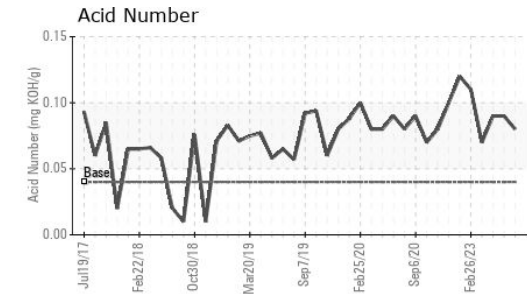
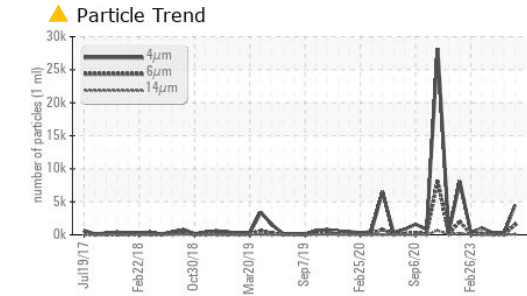
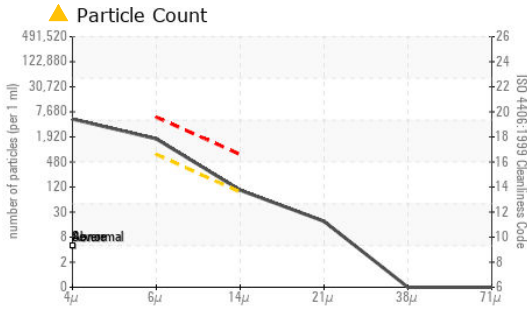
CONTAMINANTS

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

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	4495	220	232
Particles >6µm	ASTM D7647 >640	▲ 1511	58	68
Particles >14µm	ASTM D7647 >80	▲ 89	6	7
Particles >21µm	ASTM D7647 >20	16	2	2
Particles >38µm	ASTM D7647 >4	0	0	0
Particles >71µm	ASTM D7647 >3	0	0	0
Oil Cleanliness	ISO 4406 (c) >--/16/13	▲ 19/18/14	15/13/10	15/13/10

OIL ANALYSIS REPORT



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0040111 **Received** : 13 Jul 2023
Lab Number : 02569711 **Diagnosed** : 14 Jul 2023
Unique Number : 5606757 **Diagnostician** : Kevin Marson
Test Package : MAR 2 (Additional Tests: KV100, PQ, TAN Man, VI)

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.

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.04	0.08	0.09	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*	>0.03	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)	34.0	31.5	33.6	33.6
Visc @ 100°C	cSt	ASTM D7279(m)	5.59	5.7	5.7	5.6
Viscosity Index (VI)	Scale	ASTM D2270*	110	122	109	103

SAMPLE IMAGES

