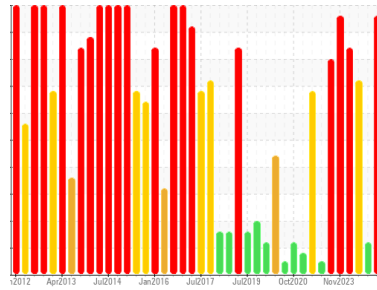




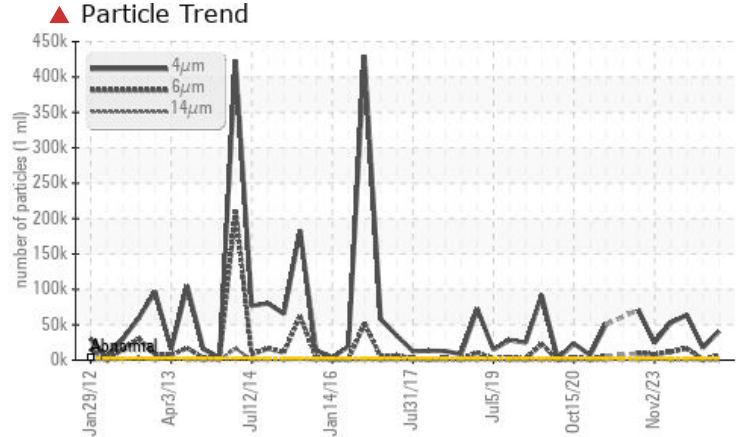
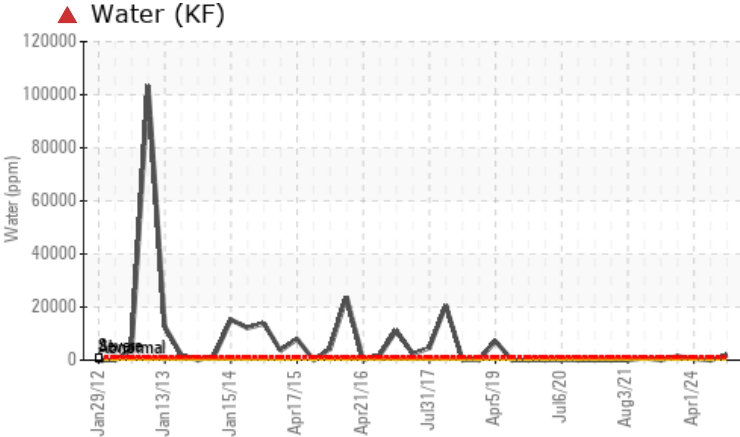
PROBLEM SUMMARY

Area
5 Utilities/030 Boiler House/B Blower/Fan/713 #13 FD East
 Machine Id
N/A 30TB713
 Component
Turbine
 Fluid
PETRO CANADA TURBOFLO 68 (20 LTR)

Sample Rating Trend



COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. We recommend that you drain the oil from the component if this has not already been done. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	SEVERE
Water	%	ASTM D6304*	>0.03	▲ 0.183	---	▲ 0.054
ppm Water	ppm	ASTM D6304*	>300	▲ 1839	---	▲ 543
Particles >4µm		ASTM D7647	>2500	▲ 40801	▲ 17469	▲ 63702
Particles >6µm		ASTM D7647	>640	▲ 6574	● 1207	▲ 16503
Oil Cleanliness		ISO 4406 (c)	>18/16/13	▲ 23/20/14	▲ 21/17/11	▲ 23/21/16
Appearance	scalar	Visual*	NORML	▲ MILKY	NORML	▲ HAZY
Emulsified Water	scalar	Visual*	>0.03	▲ .2%	NEG	▲ .2%
Free Water	scalar	Visual*		▲ 1%	NEG	NEG

Customer Id: PETMIS
 Sample No.: WC0957469
 Lab Number: 02646703
 Test Package: IND 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 Fluid	---	---	?	We recommend that you drain the oil from the component if this has not already been done.
Change Filter	---	---	?	We recommend you service the filters on this component.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
Check Breathers	---	---	?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.
Check Water Access	---	---	?	We advise that you check for the source of water entry.
Check Seals	---	---	?	Check seals and/or filters for points of contaminant entry.

HISTORICAL DIAGNOSIS



04 Apr 2024 Diag: Kevin Marson

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report



01 Apr 2024 Diag: Kevin Marson

Check seals and/or filters for points of contaminant entry. We advise that you check all areas where contaminants can enter the system. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample in 30-45 days to monitor this situation. We suspect that the abnormal contaminant(s) is the result of incorrect sampling technique. DISCLAIMER: Interpretation of results is based on the sample as received from the customer. The condition of the sample and the method of sampling cannot be verified. All component wear rates are normal. There is a high amount of particulates (2 to 100 microns in size) present in the oil. There is a moderate concentration of water present in the oil. Light concentration of visible dirt/debris present in the oil. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report



05 Jan 2024 Diag: Bill Quesnel

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. We advise that you follow the water drain-off procedure for this component. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation. All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. There is a high concentration of water present in the oil. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

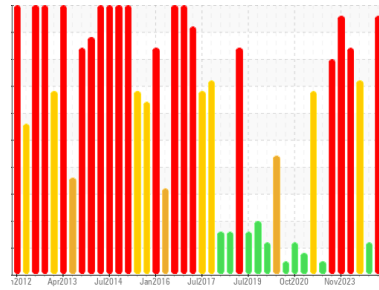
view report





OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Area
5 Utilities/030 Boiler House/B Blower/Fan/713 #13 FD East
 Machine Id
N/A 30TB713
 Component
Turbine
 Fluid
PETRO CANADA TURBOFLO 68 (20 LTR)

DIAGNOSIS

Recommendation

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. We recommend that you drain the oil from the component if this has not already been done. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

Wear

All component wear rates are normal.

Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil. There is a high concentration of water present in the oil. Free water present.

Fluid Condition

The AN level is acceptable for this fluid. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0957469	WC	WC0925273
Sample Date	Client Info	02 Jul 2024	04 Apr 2024	01 Apr 2024
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		SEVERE	ABNORMAL	SEVERE

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >15	4	5	6
Chromium	ppm	ASTM D5185(m) >4	0	0	0
Nickel	ppm	ASTM D5185(m) >2	<1	0	0
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	0	0
Aluminum	ppm	ASTM D5185(m) >10	0	0	0
Lead	ppm	ASTM D5185(m)	0	0	0
Copper	ppm	ASTM D5185(m) >5	<1	0	<1
Tin	ppm	ASTM D5185(m) >5	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	0
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 0	0	0	0
Manganese	ppm	ASTM D5185(m) 0	0	0	0
Magnesium	ppm	ASTM D5185(m) 0	<1	0	<1
Calcium	ppm	ASTM D5185(m) 0	<1	0	0
Phosphorus	ppm	ASTM D5185(m) 120	4	<1	<1
Zinc	ppm	ASTM D5185(m) 0.0	<1	<1	<1
Sulfur	ppm	ASTM D5185(m) 50	550	555	556
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

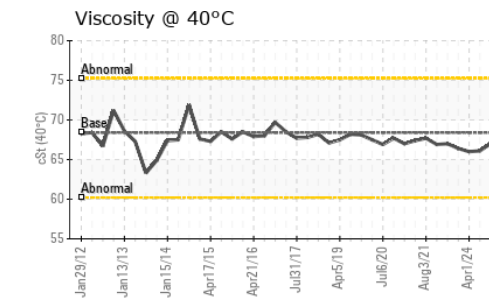
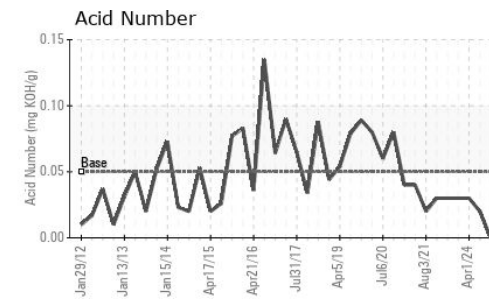
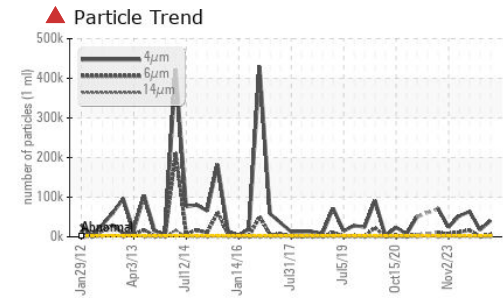
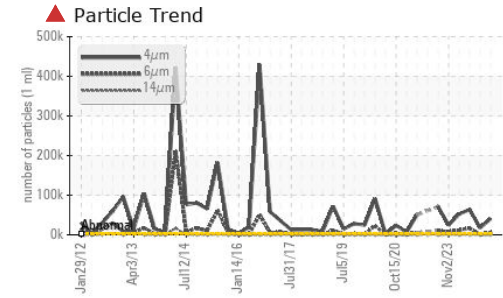
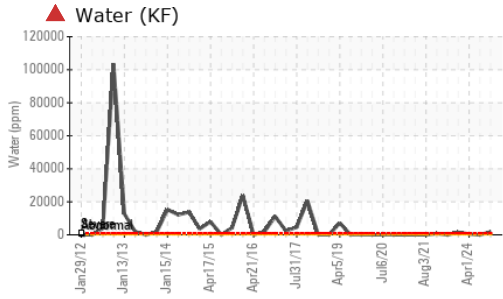
CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >15	0	0	0
Sodium	ppm	ASTM D5185(m)	4	3	4
Potassium	ppm	ASTM D5185(m) >20	0	<1	<1
Water	%	ASTM D6304* >0.03	▲ 0.183	---	▲ 0.054
ppm Water	ppm	ASTM D6304* >300	▲ 1839	---	▲ 543

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >2500	▲ 40801	▲ 17469	▲ 63702
Particles >6µm	ASTM D7647 >640	▲ 6574	● 1207	▲ 16503
Particles >14µm	ASTM D7647 >80	● 96	19	▲ 614
Particles >21µm	ASTM D7647 >20	17	4	▲ 96
Particles >38µm	ASTM D7647 >4	2	0	3
Particles >71µm	ASTM D7647 >3	0	0	0
Oil Cleanliness	ISO 4406 (c) >18/16/13	▲ 23/20/14	▲ 21/17/11	▲ 23/21/16

OIL ANALYSIS REPORT

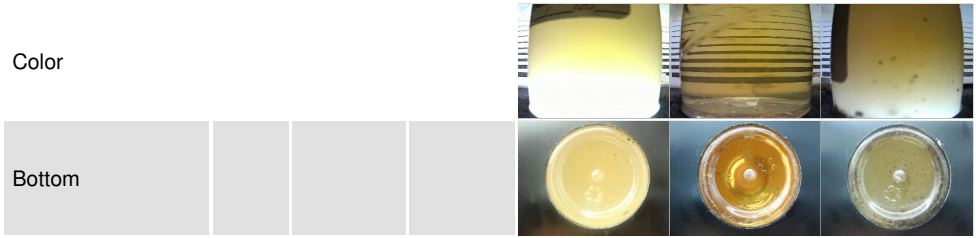


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.05	0.00	0.02	0.03

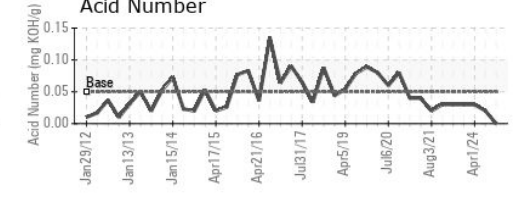
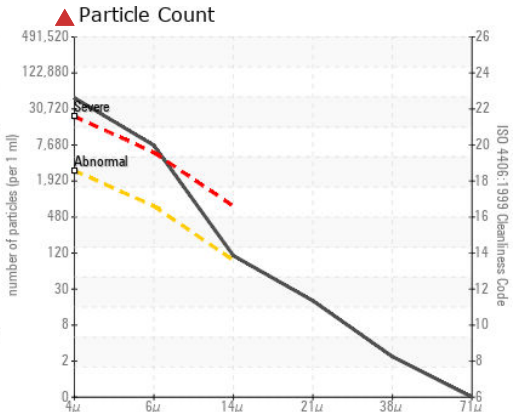
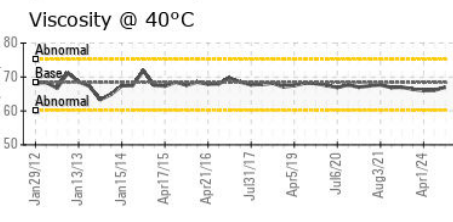
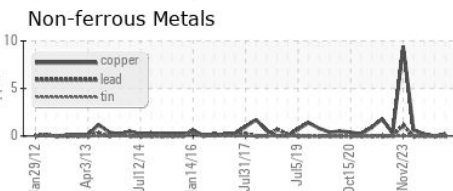
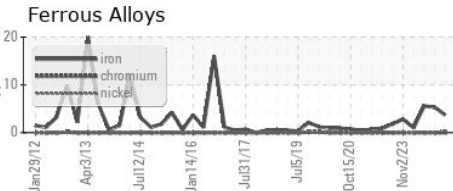
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	VLITE	VLITE	▲ LIGHT
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	VLITE
Appearance	scalar	Visual*	NORML	▲ MILKY	NORML	▲ HAZY
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.03	▲ .2%	NEG	▲ .2%
Free Water	scalar	Visual*		▲ 1%	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	68.4	67.0	66.1	66.0

SAMPLE IMAGES		method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0957469 **Received** : 09 Jul 2024
Lab Number : **02646703** **Tested** : 11 Jul 2024
Unique Number : 5812255 **Diagnosed** : 11 Jul 2024 - Kevin Marson
Test Package : IND 2 (Additional Tests: KF, TAN Man)

Petro Canada Lubricants Inc.
 385 Southdown Road
 Mississauga, ON
 CA L5J 2Y3
 Contact: Kyle Blezard
 kyle.blezard@HFSinclair.com
 T: (905)403-6768
 F: (905)822-6025

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.