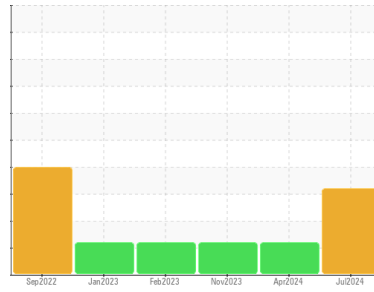




PROBLEM SUMMARY

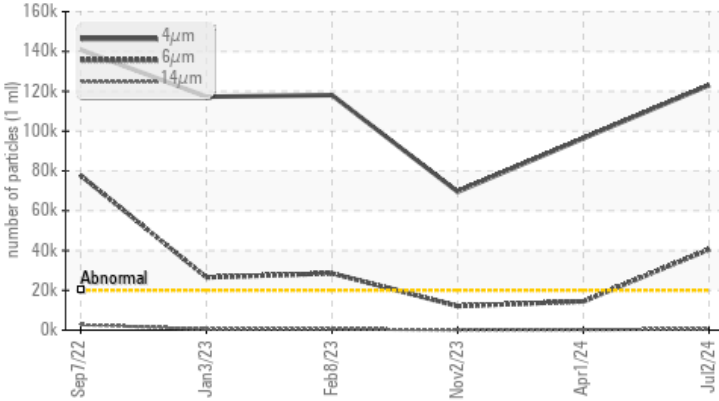
Area
5 Utilities/031 Water Pumping/Gearbox/P Pump/752A #3 Fire Pump
 Machine Id
31GP752A #3 Fire Pump Gearbox
 Component
Gearbox
 Fluid
PETRO CANADA ENDURATEX EP 150 (--- LTR)

Sample Rating Trend



COMPONENT CONDITION SUMMARY

▲ Particle Trend



RECOMMENDATION

Check seals and/or filters for points of contaminant entry. 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. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

PROBLEMATIC TEST RESULTS

Sample Status			SEVERE	ABNORMAL	ABNORMAL
Particles >4µm	ASTM D7647	>20000	▲ 123055	▲ 96339	▲ 69510
Particles >6µm	ASTM D7647	>5000	▲ 40586	▲ 14463	▲ 12086
Oil Cleanliness	ISO 4406 (c)	>21/19/16	▲ 24/23/16	▲ 24/21/15	▲ 23/21/14

Customer Id: PETMIS
 Sample No.: WC0957480
 Lab Number: 02646793
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca


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	---	---	?	Resample in 30-45 days to monitor this situation.
Information Required	---	---	?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.
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 Seals	---	---	?	Check seals and/or filters for points of contaminant entry.


HISTORICAL DIAGNOSIS

ISO




01 Apr 2024 Diag: Wes Davis
 We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. 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




ISO




02 Nov 2023 Diag: Kevin Marson
 We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. 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




ISO



08 Feb 2023 Diag: Wes Davis
 We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. All component wear rates are normal. Oil Cleanliness are abnormally high. Particles >4µm are abnormally high. Particles >6µm are abnormally high. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

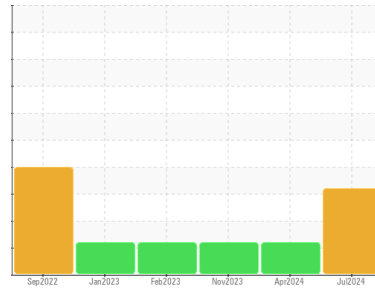
view report





OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
5 Utilities/031 Water Pumping/Gearbox/P Pump/752A #3 Fire Pump
 Machine Id
31GP752A #3 Fire Pump Gearbox
 Component
Gearbox
 Fluid
PETRO CANADA ENDURATEX EP 150 (--- LTR)

DIAGNOSIS

Recommendation

Check seals and/or filters for points of contaminant entry. 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. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

All component wear rates are normal.

Contamination

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

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		WC0957480	WC0902171	WC0873664
Sample Date	Client Info		02 Jul 2024	01 Apr 2024	02 Nov 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			SEVERE	ABNORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>200	10	4	2
Chromium	ppm	ASTM D5185(m)	>15	0	0	0
Nickel	ppm	ASTM D5185(m)	>15	<1	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	<1
Aluminum	ppm	ASTM D5185(m)	>25	<1	0	0
Lead	ppm	ASTM D5185(m)	>100	0	0	0
Copper	ppm	ASTM D5185(m)	>200	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>25	0	0	0
Antimony	ppm	ASTM D5185(m)	>5	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)	55	53	62	66
Barium	ppm	ASTM D5185(m)	0	0	0	<1
Molybdenum	ppm	ASTM D5185(m)	0	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0	0
Magnesium	ppm	ASTM D5185(m)	2	3	<1	<1
Calcium	ppm	ASTM D5185(m)	6	6	1	2
Phosphorus	ppm	ASTM D5185(m)	250	221	247	264
Zinc	ppm	ASTM D5185(m)	3	6	3	2
Sulfur	ppm	ASTM D5185(m)	7500	4019	4755	5080
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>50	3	<1	2
Sodium	ppm	ASTM D5185(m)		<1	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	0	0	0

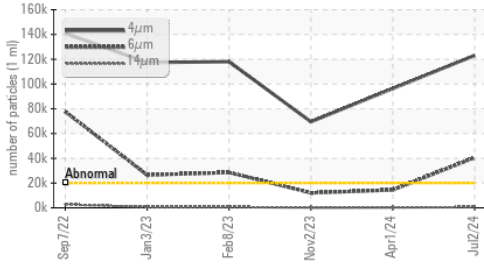
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	▲ 123055	▲ 96339	▲ 69510
Particles >6µm	ASTM D7647	>5000	▲ 40586	▲ 14463	▲ 12086
Particles >14µm	ASTM D7647	>640	553	221	126
Particles >21µm	ASTM D7647	>160	78	30	17
Particles >38µm	ASTM D7647	>40	13	2	3
Particles >71µm	ASTM D7647	>10	8	0	2
Oil Cleanliness	ISO 4406 (c)	>21/19/16	▲ 24/23/16	▲ 24/21/15	▲ 23/21/14

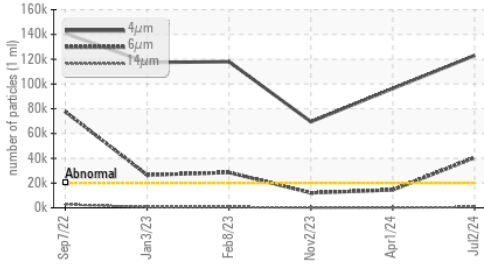


OIL ANALYSIS REPORT

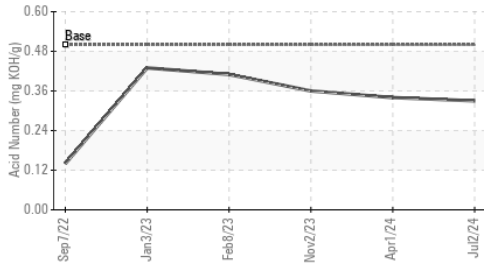
▲ Particle Trend



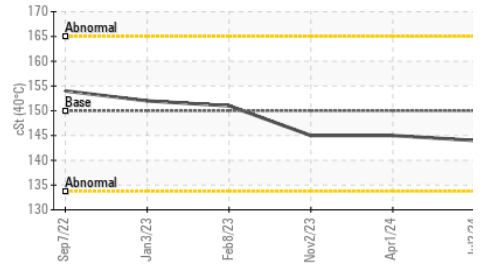
▲ Particle Trend



Acid Number



Viscosity @ 40°C



FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974*	0.5	0.33	0.34	0.36

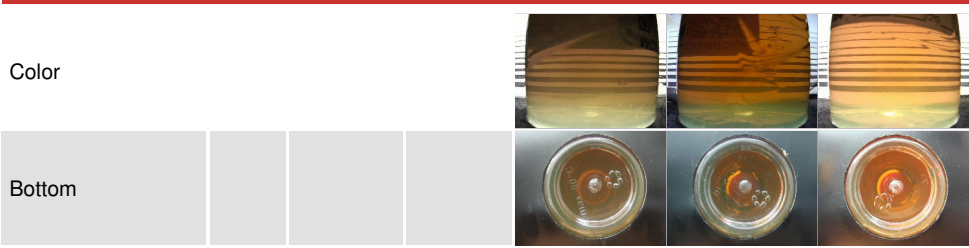
VISUAL

	method	limit/base	current	history1	history2	
White Metal	scalar	Visual*	NONE	LIGHT	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	VLITE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

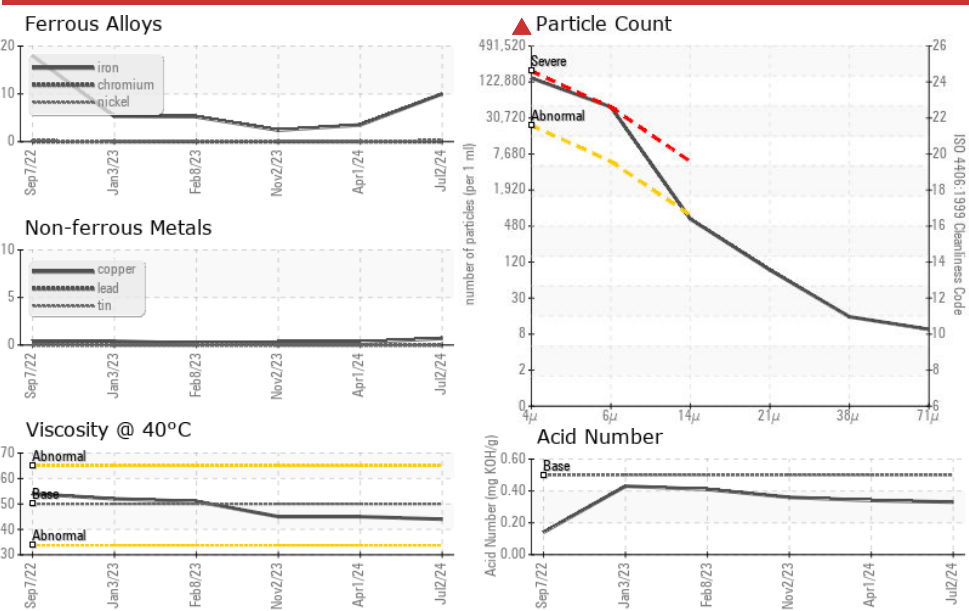
FLUID PROPERTIES

	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D7279(m)	150.0	144	145	145

SAMPLE IMAGES



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0957480 **Received** : 09 Jul 2024
Lab Number : **02646793** **Tested** : 10 Jul 2024
Unique Number : 5812345 **Diagnosed** : 10 Jul 2024 - Wes Davis
Test Package : IND 2

Petro Canada Lubricants Inc.
 385 Southdown Road
 Mississauga, ON
 CA L5J 2Y3
 Contact: Martin Wagenaar
 martin.wagenaar@HFSinclair.com
 T: (905)403-5682
 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.