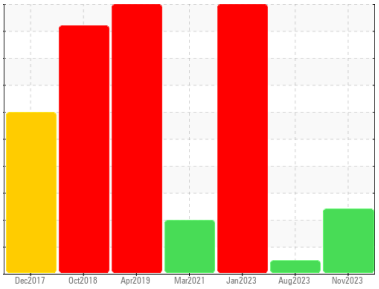
PROBLEM SUMMARY

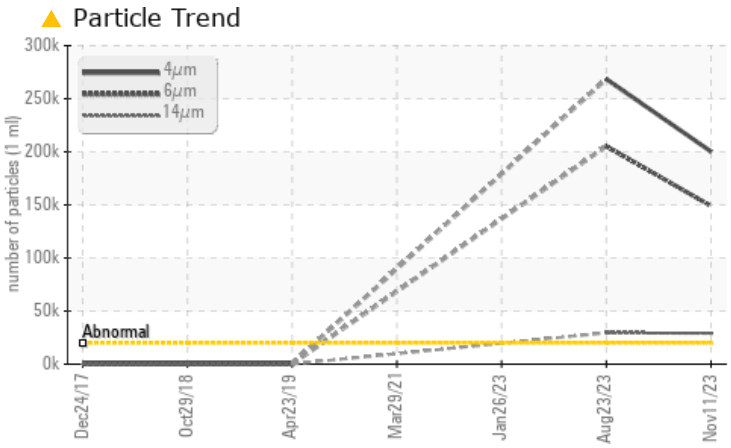
Area
HYBRID [10023667910]
Machine Id
B57517 (S/N 30804)
Component
Gearbox
Fluid
PETRO CANADA PURITY FG EP GEAR OIL 220 (7 QTS)

Sample Rating Trend



ISO

COMPONENT CONDITION SUMMARY



RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	NORMAL	SEVERE
Particles >4µm		ASTM D7647	>20000	▲ **200242**	268531	---
Particles >6µm		ASTM D7647	>5000	▲ **148999**	205274	---
Particles >14µm		ASTM D7647	>640	▲ **29139**	29381	---
Particles >21µm		ASTM D7647	>160	▲ **6787**	4761	---
Particles >38µm		ASTM D7647	>40	▲ **52**	27	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **25/24/22**	25/25/22	---

Customer Id: OSCOSC
Sample No.: WC0866195
Lab Number: 06012388
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldridge +1
don.b505@comcast.net

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component if applicable.

HISTORICAL DIAGNOSIS

23 Aug 2023 Diag: Doug Bogart

NORMAL

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

view report

26 Jan 2023 Diag: Jonathan Hester

WEAR

We advise that you check for the source of water entry. We advise that you follow the water drain-off procedure for this component, and use off-line filtration to improve the cleanliness of the system fluid. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to metal particles present in this sample.Moderate concentration of visible metal present. Gear wear is indicated. Appearance is unacceptable Free water present. There is a moderate concentration of water present in the oil. The AN level is acceptable for this fluid.

view report

29 Mar 2021 Diag: Don Baldridge

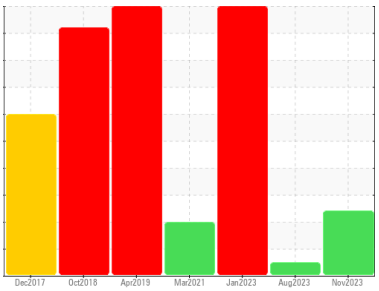
VISUAL METAL

No corrective action is recommended at this time. Resample at the next service interval to monitor. We were unable to perform a particle count due to metal particles present in this sample.The iron level has decreased, but is still abnormal. Moderate concentration of visible metal present. All other component wear rates are normal. The water content is negligible. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
HYBRID [10023667910]
Machine Id
B57517 (S/N 30804)
Component
Gearbox
Fluid
PETRO CANADA PURITY FG EP GEAR OIL 220 (7 QTS)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is a high amount of particulates present in the oil.

Fluid Condition
The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0866195**	WC0836315	WC0751732
Sample Date		Client Info		**11 Nov 2023**	23 Aug 2023	26 Jan 2023
Machine Age	mths	Client Info		**0**	0	0
Oil Age	mths	Client Info		**3**	0	0
Oil Changed		Client Info		**Changed**	N/A	Changed
Sample Status				**ABNORMAL**	NORMAL	SEVERE

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	**74**	166	1402
Chromium	ppm	ASTM D5185m	>15	**1**	5	13
Nickel	ppm	ASTM D5185m	>15	**0**	<1	1
Titanium	ppm	ASTM D5185m		**1**	4	<1
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**<1**	2	3
Lead	ppm	ASTM D5185m	>100	**0**	0	0
Copper	ppm	ASTM D5185m	>200	**<1**	<1	1
Tin	ppm	ASTM D5185m	>25	**0**	0	<1
Antimony	ppm	ASTM D5185m	>5	**---**	---	---
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

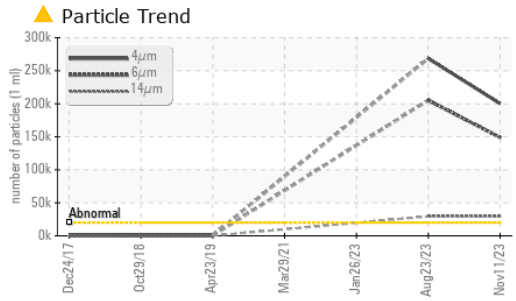
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	0	0
Barium	ppm	ASTM D5185m		**0**	5	0
Molybdenum	ppm	ASTM D5185m		**0**	<1	<1
Manganese	ppm	ASTM D5185m		**2**	5	6
Magnesium	ppm	ASTM D5185m		**0**	<1	0
Calcium	ppm	ASTM D5185m		**2**	45	4
Phosphorus	ppm	ASTM D5185m		**80**	93	86
Zinc	ppm	ASTM D5185m		**0**	5	0
Sulfur	ppm	ASTM D5185m		**839**	1046	692

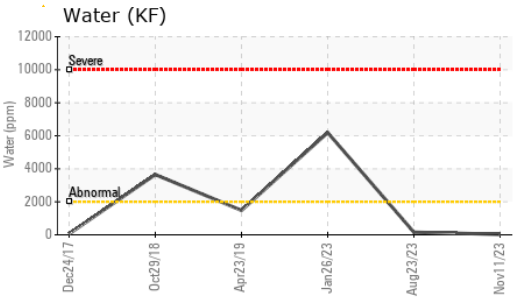
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**5**	6	9
Sodium	ppm	ASTM D5185m		**1**	0	1
Potassium	ppm	ASTM D5185m	>20	**0**	1	0
Water	%	ASTM D6304	>0.2	**0.003**	0.015	0.619
ppm Water	ppm	ASTM D6304	>2000	**29.1**	157.6	6190

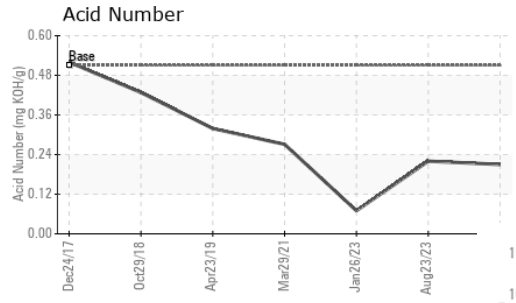
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	**200242**	268531	---
Particles >6µm		ASTM D7647	>5000	**148999**	205274	---
Particles >14µm		ASTM D7647	>640	**29139**	29381	---
Particles >21µm		ASTM D7647	>160	**6787**	4761	---
Particles >38µm		ASTM D7647	>40	**52**	27	---
Particles >71µm		ASTM D7647	>10	**1**	0	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	**25/24/22**	25/25/22	---

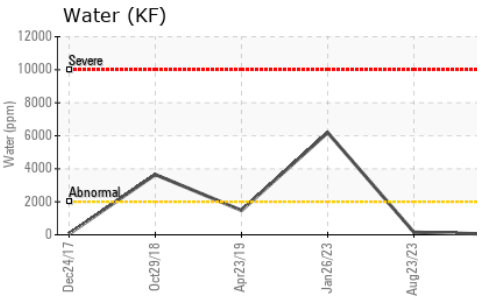
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.51	**0.21**	0.22	0.07

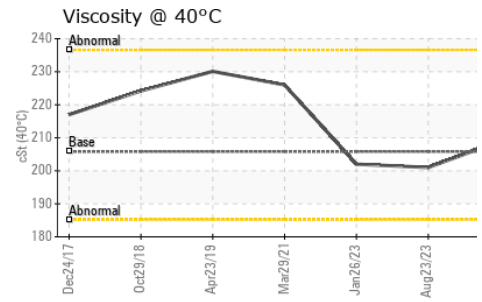
OIL ANALYSIS REPORT









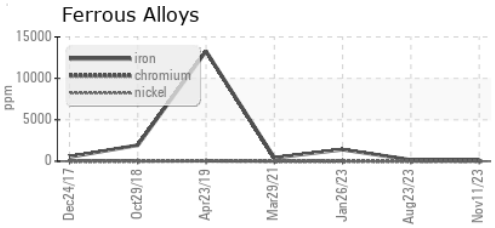


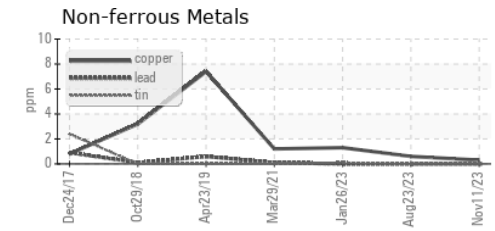
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	▲ MODER
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	▲ MILKY
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**NEG**	NEG	0.2%
Free Water	scalar	*Visual		**NEG**	NEG	▲ 1.0

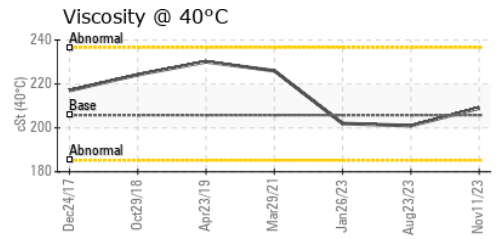
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	205.8	**209**	201	202

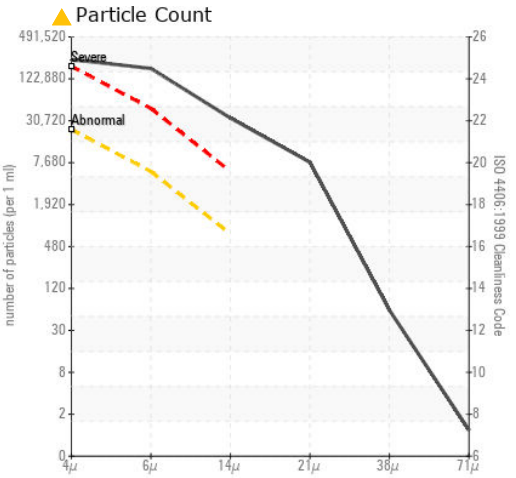
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

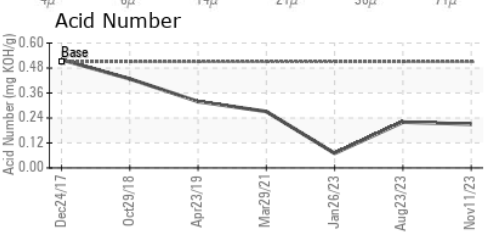
GRAPHS











Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0866195 **Received** : 20 Nov 2023
Lab Number : 06012388 **Diagnosed** : 22 Nov 2023
Unique Number : 10751532 **Diagnostician** : Don Baldridge
Test Package : IND 2 (Additional Tests: KF, PrtCount)

Certificate L2367

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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