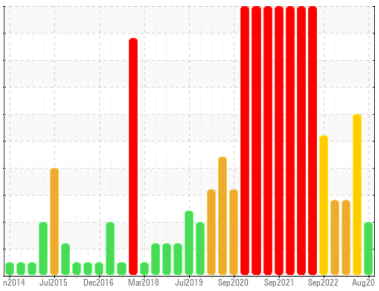
PROBLEM SUMMARY

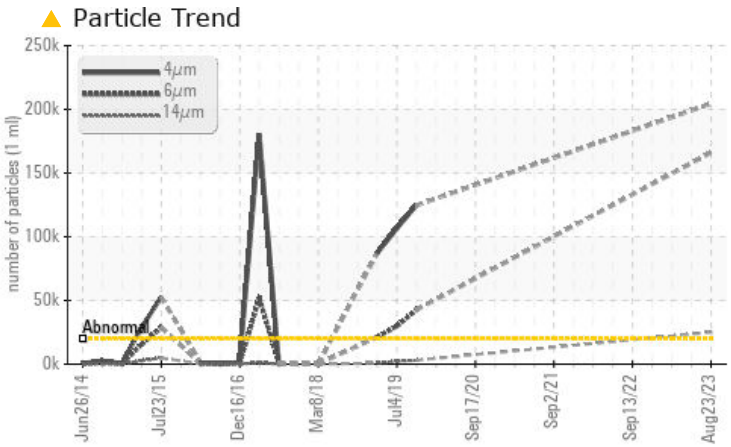
Sample Rating Trend



ISO

Machine Id
SMIMID MASSAGER 5
Component
Gearbox
Fluid
PETRO CANADA PURITY FG EP GEAR OIL 220 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

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	ABNORMAL	ABNORMAL
Particles >4µm		ASTM D7647	>20000	▲ **204466**	---	---
Particles >6µm		ASTM D7647	>5000	▲ **165979**	---	---
Particles >14µm		ASTM D7647	>640	▲ **25001**	---	---
Particles >21µm		ASTM D7647	>160	▲ **1979**	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **25/25/22**	---	---

Customer Id: SMIMID
Sample No.: USP0000516
Lab Number: 05933721
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

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

04 Jun 2023 Diag: Doug Bogart

WATER

We advise that you check for the source of water entry. We recommend you service the filters on this component if applicable. We advise that you inspect for the source(s) of metal. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.High concentration of visible metal present. All component wear rates are normal. Appearance is hazy. There is a moderate amount of visible silt present in the sample. There is a moderate concentration of water present in the oil. The AN level is acceptable for this fluid.

view report

08 Mar 2023 Diag: Doug Bogart

WATER

We advise that you check for the source of water entry. We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.All component wear rates are normal. Moderate concentration of visible dirt/debris present in the oil. There is a moderate concentration of water present in the oil. The AN level is acceptable for this fluid.

view report

29 Nov 2022 Diag: Doug Bogart

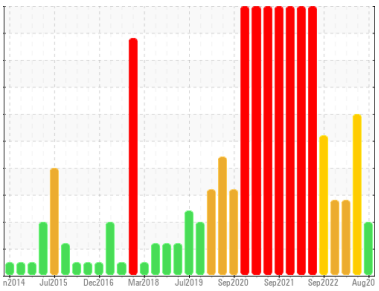
WATER

We advise that you check for the source of water entry. We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.All component wear rates are normal. Moderate concentration of visible dirt/debris present in the oil. There is a moderate concentration of water present in the oil. The AN level is acceptable for this fluid.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Machine Id
SMIMID MASSAGER 5
Component
Gearbox
Fluid
PETRO CANADA PURITY FG EP GEAR OIL 220 (--- GAL)

DIAGNOSIS

Recommendation
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 suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**USP0000516**	USP05864341	USP246392
Sample Date		Client Info		**23 Aug 2023**	04 Jun 2023	08 Mar 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				**ABNORMAL**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	**84**	77	60
Chromium	ppm	ASTM D5185m	>15	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>15	**0**	0	0
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m		**<1**	0	0
Aluminum	ppm	ASTM D5185m	>25	**0**	0	0
Lead	ppm	ASTM D5185m	>100	**0**	0	0
Copper	ppm	ASTM D5185m	>200	**0**	<1	0
Tin	ppm	ASTM D5185m	>25	**0**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**2**	0	0
Barium	ppm	ASTM D5185m		**<1**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**2**	0	0
Calcium	ppm	ASTM D5185m		**14**	<1	<1
Phosphorus	ppm	ASTM D5185m		**159**	110	88
Zinc	ppm	ASTM D5185m		**0**	0	0
Sulfur	ppm	ASTM D5185m		**952**	881	740

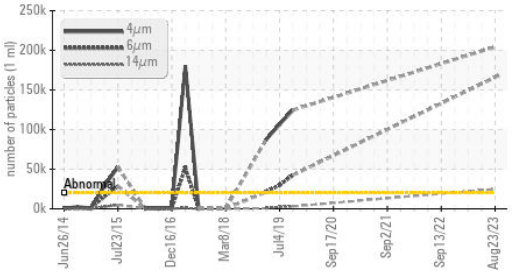
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**6**	3	3
Sodium	ppm	ASTM D5185m		**<1**	<1	<1
Potassium	ppm	ASTM D5185m	>20	**0**	<1	0
Water	%	ASTM D6304	>0.2	**0.011**	▲ 0.401	▲ 0.344
ppm Water	ppm	ASTM D6304	>2000	**114.7**	▲ 4010	▲ 3440

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	▲ **204466**	---	---
Particles >6µm		ASTM D7647	>5000	▲ **165979**	---	---
Particles >14µm		ASTM D7647	>640	▲ **25001**	---	---
Particles >21µm		ASTM D7647	>160	▲ **1979**	---	---
Particles >38µm		ASTM D7647	>40	**9**	---	---
Particles >71µm		ASTM D7647	>10	**0**	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **25/25/22**	---	---

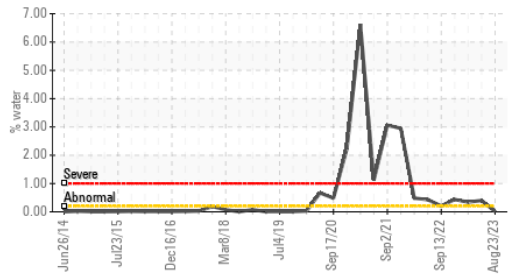
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.51	**0.41**	0.31	0.37

OIL ANALYSIS REPORT

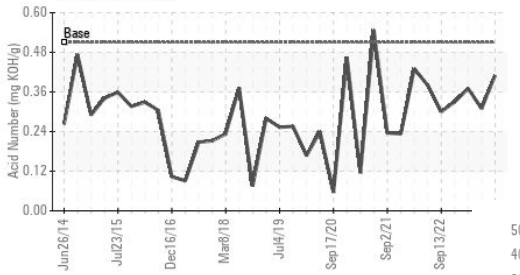
Particle Trend



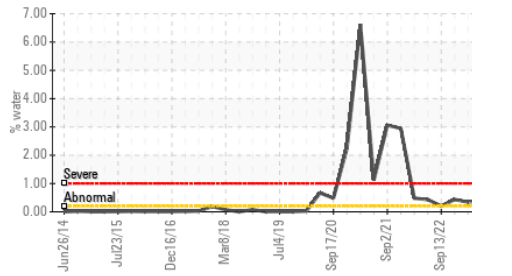
Water



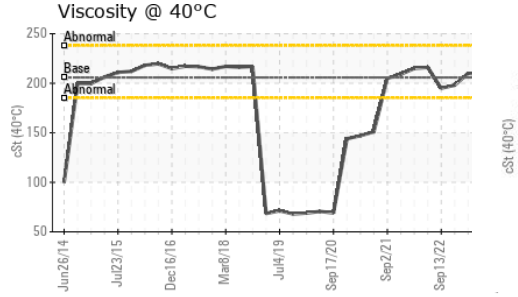
Acid Number



Water

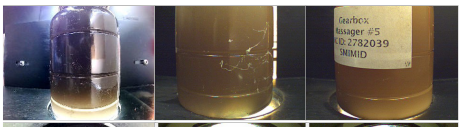
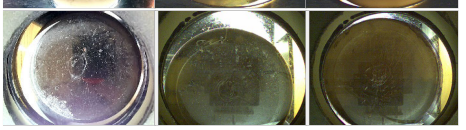


Viscosity @ 40°C



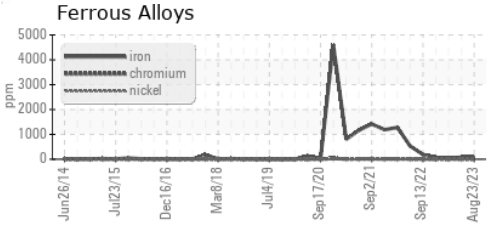
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**LIGHT**	▲ HEAVY	MODER
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	▲ MODER	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	▲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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	205.8	**201**	209	210

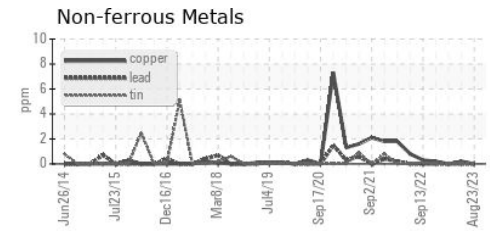
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

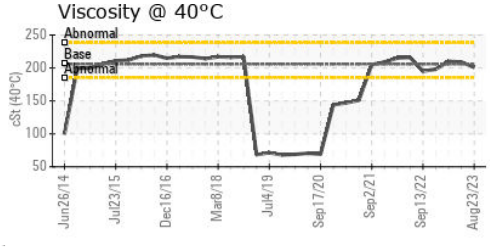
Ferrous Alloys



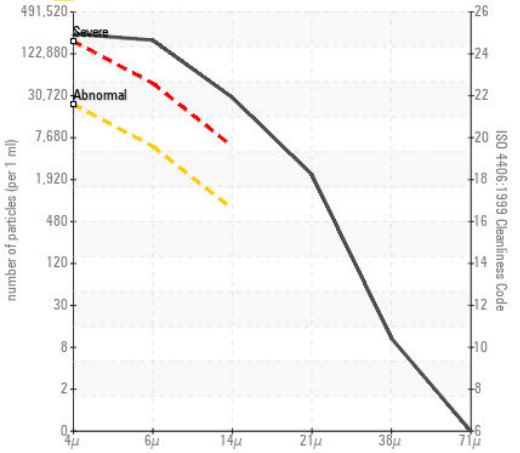
Non-ferrous Metals



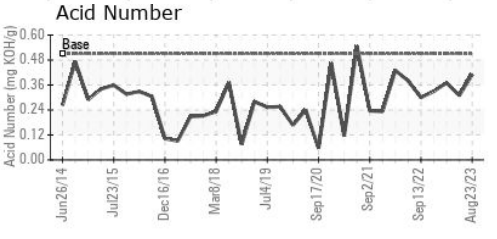
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0000516
Lab Number : 05933721
Unique Number : 10618992
Test Package : IND 2

Received : 24 Aug 2023
Diagnosed : 25 Aug 2023
Diagnostician : Doug Bogart

SMITHFIELD FOODS-MIDDLESBORO

MIDDLESBORO, KY
US
Contact: SERVICE MANAGER

T:
F:

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)