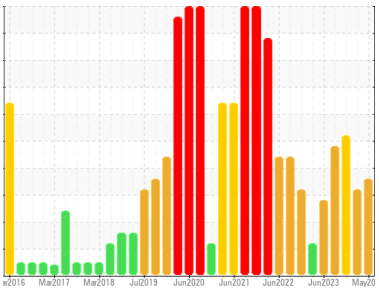
OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Machine Id
SMIMID MASSAGER 7 (S/N CK3357U00145)
Component
Gearbox
Fluid
PETRO CANADA PURITY FG EP GEAR OIL 220 (--- GAL)

DIAGNOSIS

Recommendation
We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
Appearance is hazy. There is a high amount of silt (particulates < 6 microns in size) present in the oil. There is a light concentration of water present in the oil.

Fluid Condition
The oil viscosity is lower than normal. The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**USP0011876**	USP0007550	USP0003812
Sample Date		Client Info		**14 May 2024**	28 Feb 2024	26 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				**ABNORMAL**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	**135**	121	84
Chromium	ppm	ASTM D5185m	>15	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>15	**<1**	<1	1
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m		**<1**	0	0
Aluminum	ppm	ASTM D5185m	>25	**2**	2	<1
Lead	ppm	ASTM D5185m	>100	**<1**	0	0
Copper	ppm	ASTM D5185m	>200	**1**	<1	0
Tin	ppm	ASTM D5185m	>25	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	<1	0
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**<1**	<1	0
Manganese	ppm	ASTM D5185m		**<1**	1	<1
Magnesium	ppm	ASTM D5185m		**<1**	<1	<1
Calcium	ppm	ASTM D5185m		**4**	2	6
Phosphorus	ppm	ASTM D5185m		**107**	60	68
Zinc	ppm	ASTM D5185m		**0**	6	0
Sulfur	ppm	ASTM D5185m		**697**	700	716

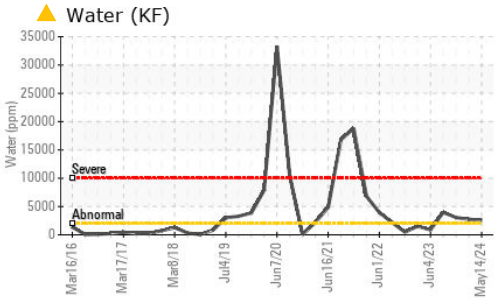
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**8**	7	6
Sodium	ppm	ASTM D5185m		**1**	<1	<1
Potassium	ppm	ASTM D5185m	>20	**2**	<1	1
Water	%	ASTM D6304	>0.2	▲ **0.257**	▲ 0.274	▲ 0.305
ppm Water	ppm	ASTM D6304	>2000	▲ **2570**	▲ 2740	▲ 3050

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	▲ **50936**	---	---
Particles >6µm		ASTM D7647	>5000	**2091**	---	---
Particles >14µm		ASTM D7647	>640	**18**	---	---
Particles >21µm		ASTM D7647	>160	**3**	---	---
Particles >38µm		ASTM D7647	>40	**0**	---	---
Particles >71µm		ASTM D7647	>10	**0**	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **23/18/11**	---	---

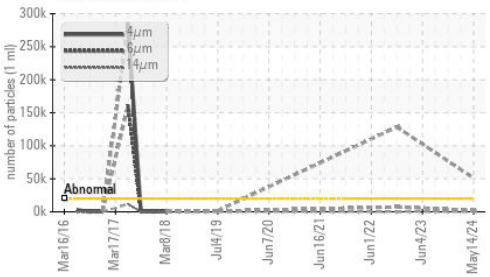
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.51	**0.18**	0.17	0.15

OIL ANALYSIS REPORT

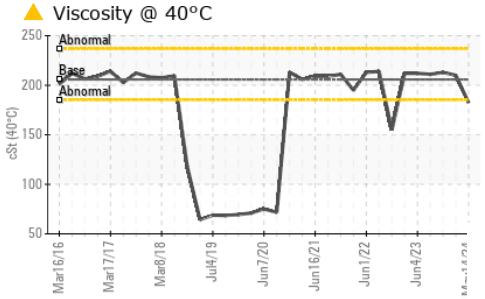
Water (KF)



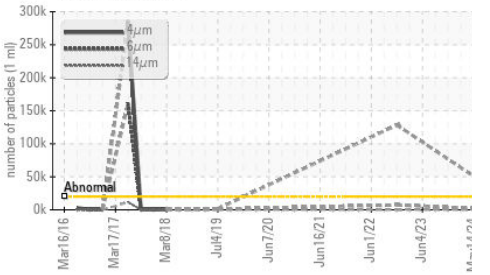
Particle Trend



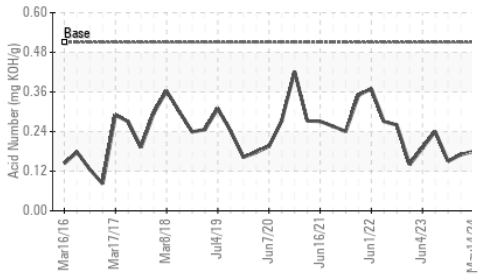
Viscosity @ 40°C



Particle Trend



Acid Number



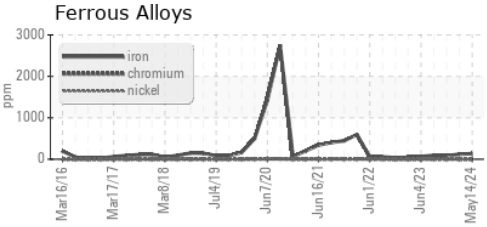
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	▲ MODER	▲ MODER
Debris	scalar	*Visual	NONE	**NONE**	NONE	▲ MODER
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	● **HAZY**	● HAZY	● HAZY
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**0.2%**	0.2%	0.2%
Free Water	scalar	*Visual		**NEG**	NEG	▲ 10.0

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	205.8	▲ **182.4**	210	213

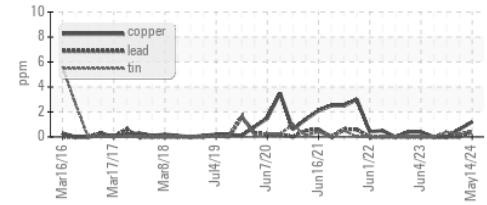
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

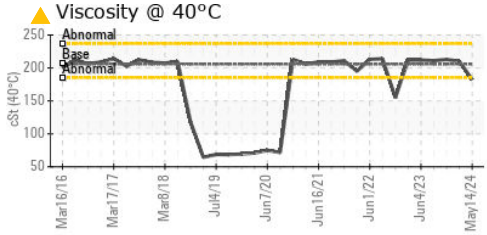
Ferrous Alloys



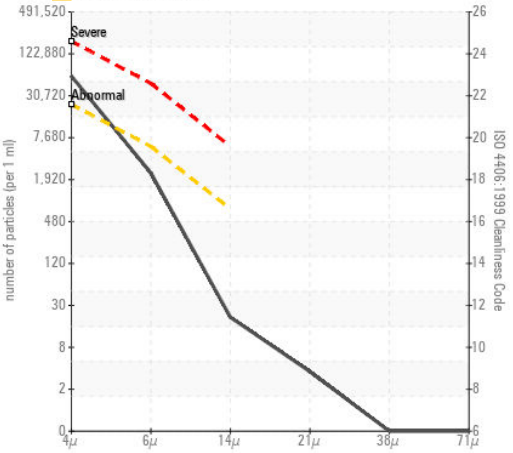
Non-ferrous Metals



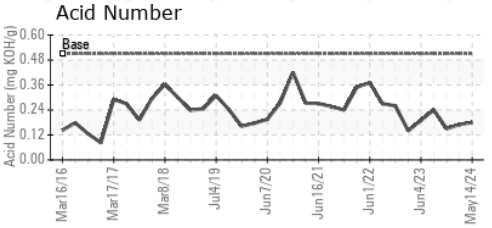
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0011876
Lab Number : 06180188
Unique Number : 11031514
Test Package : IND 2

Received : 15 May 2024
Tested : 23 May 2024
Diagnosed : 23 May 2024 - Jonathan Hester

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)