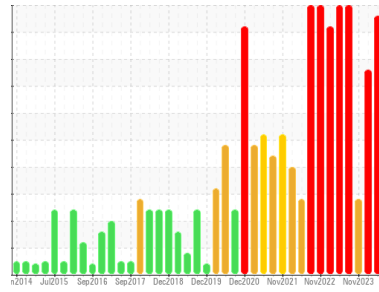




PROBLEM SUMMARY

Sample Rating Trend

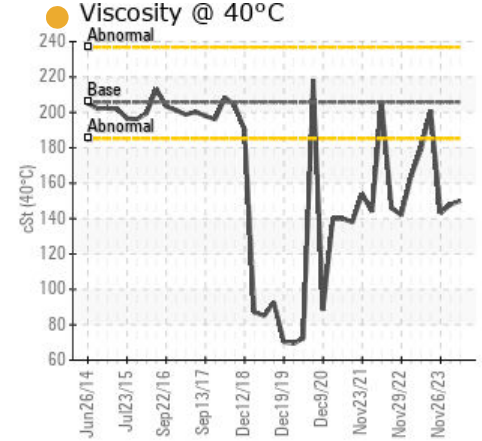
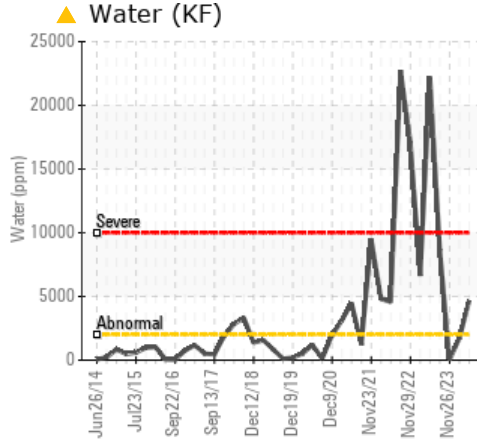
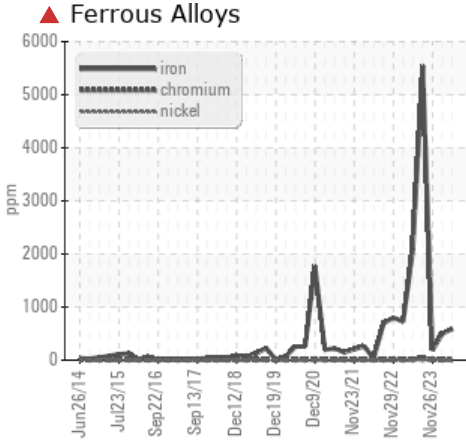


WEAR



Machine Id
CHALLENGE SMIMID MASSAGER 3 (S/N CK3357U00145)
 Component
Gearbox
 Fluid
PETRO CANADA PURITY FG EP GEAR OIL 220 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

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 wear. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	ABNORMAL
Iron	ppm	ASTM D5185m	>200	▲ 586	▲ 502	188
Water	%	ASTM D6304	>0.2	▲ 0.467	0.172	0.003
ppm Water	ppm	ASTM D6304	>2000	▲ 4670	1720	37
Silt	scalar	*Visual	NONE	▲ MODER	NONE	NONE

Customer Id: SMIMID
 Sample No.: USP0011875
 Lab Number: 06180187
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Jonathan Hester +1 919-379-4092 x4092
jhester@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
Inspect Wear Source	---	---	?	We advise that you inspect for the source(s) of wear.
Change Filter	---	---	?	We recommend you service the filters on this component if applicable.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Alert	---	---	?	We were unable to perform a particle count due to a high concentration of particles present in this sample.
Check Water Access	---	---	?	We advise that you check for the source of water entry.

HISTORICAL DIAGNOSIS

WEAR



28 Feb 2024 Diag: Doug Bogart

We recommend you service the filters on this component if applicable. 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. Gear wear is indicated. High concentration of visible metal present. No other contaminants were detected in the oil. The AN level is acceptable for this fluid.

view report



VISCOSITY



26 Nov 2023 Diag: Doug Bogart

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

view report



WEAR



23 Aug 2023 Diag: Doug Bogart

We recommend you service the filters on this component if applicable. We advise that you inspect for the source(s) of wear. NOTE: Please provide information regarding reservoir capacity with next sample. Gear wear is indicated. Appearance is milky. 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.

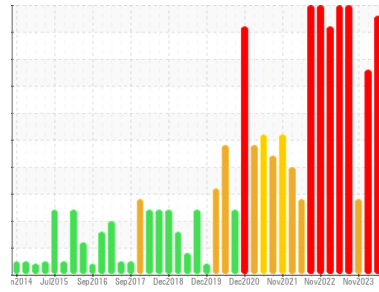
view report





OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
CHALLENGE SMIMID MASSAGER 3 (S/N CK3357U00145)

Component
Gearbox

Fluid
PETRO CANADA PURITY FG EP GEAR OIL 220 (--- GAL)

DIAGNOSIS

▲ Recommendation

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 wear. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.

▲ Wear

Gear wear is indicated.

▲ Contamination

Appearance is hazy. There is a moderate concentration of water present in the oil. There is a moderate amount of visible silt present in the sample.

● Fluid Condition

Viscosity of sample indicates oil is within ISO 150 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		USP0011875	USP0007552	USP0003814
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			SEVERE	SEVERE	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >200	▲ 586	▲ 502	188
Chromium	ppm	ASTM D5185m >15	6	5	2
Nickel	ppm	ASTM D5185m >15	2	2	2
Titanium	ppm	ASTM D5185m	2	2	1
Silver	ppm	ASTM D5185m	<1	0	0
Aluminum	ppm	ASTM D5185m >25	10	8	5
Lead	ppm	ASTM D5185m >100	2	2	<1
Copper	ppm	ASTM D5185m >200	8	6	2
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	17	10	2
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	1	<1	0
Manganese	ppm	ASTM D5185m	6	5	2
Magnesium	ppm	ASTM D5185m	4	2	1
Calcium	ppm	ASTM D5185m	20	8	10
Phosphorus	ppm	ASTM D5185m	321	200	178
Zinc	ppm	ASTM D5185m	43	45	10
Sulfur	ppm	ASTM D5185m	1015	603	599

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	43	36	21
Sodium	ppm	ASTM D5185m	11	6	2
Potassium	ppm	ASTM D5185m >20	33	20	10
Water	%	ASTM D6304 >0.2	▲ 0.467	0.172	0.003
ppm Water	ppm	ASTM D6304 >2000	▲ 4670	1720	37

FLUID CLEANLINESS

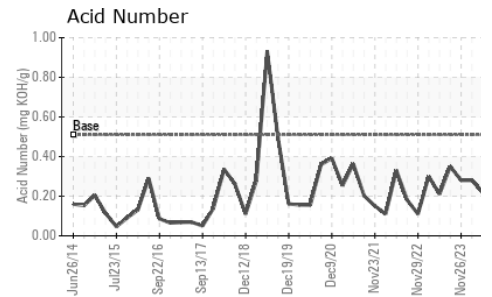
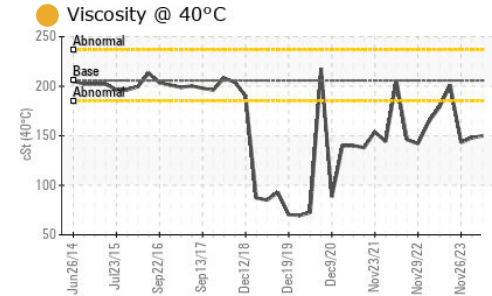
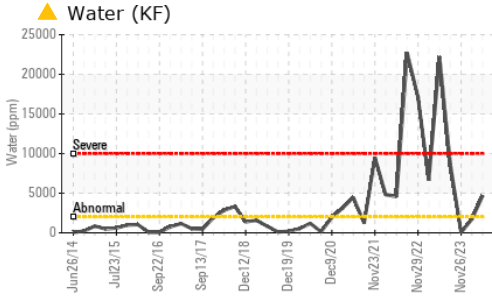
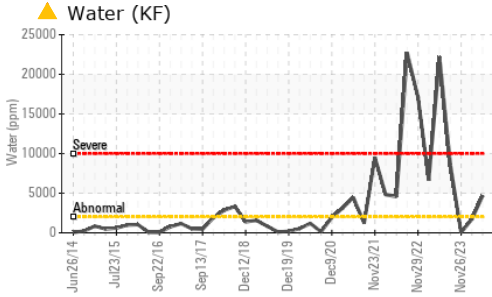
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	---	---	▲ 225802
Particles >6µm	ASTM D7647	>5000	---	---	▲ 184786
Particles >14µm	ASTM D7647	>640	---	---	▲ 48152
Particles >21µm	ASTM D7647	>160	---	---	▲ 11506
Particles >38µm	ASTM D7647	>40	---	---	▲ 241
Particles >71µm	ASTM D7647	>10	---	---	9
Oil Cleanliness	ISO 4406 (c)	>21/19/16	---	---	▲ 25/25/23

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.51	0.22	0.28	0.28



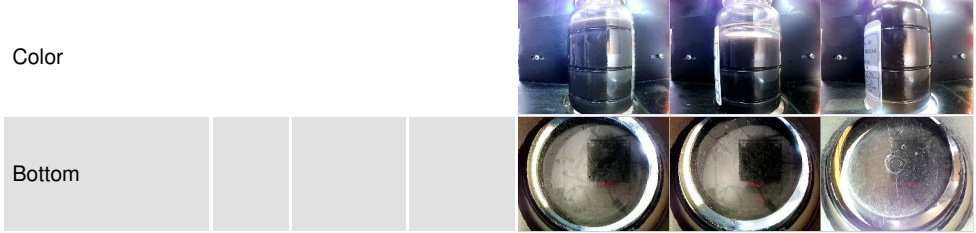
OIL ANALYSIS REPORT



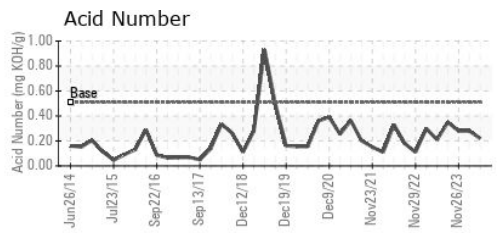
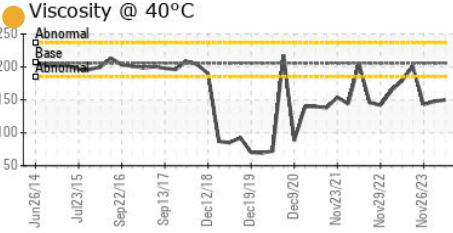
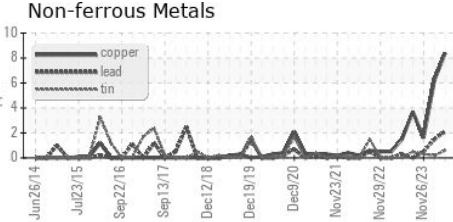
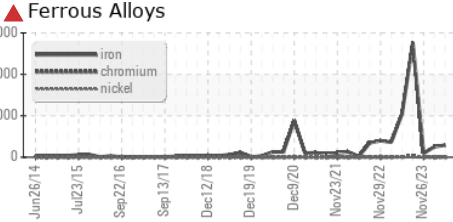
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	▲ HEAVY	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	▲ MODER	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	205.8	● 150	● 148	● 143.1

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0011875 **Received** : 15 May 2024
Lab Number : 06180187 **Tested** : 18 May 2024
Unique Number : 11031513 **Diagnosed** : 18 May 2024 - Jonathan Hester
Test Package : IND 2

SMITHFIELD FOODS-MIDDLESBORO
 MIDDLESBORO, KY
 US
 Contact: SERVICE MANAGER

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)