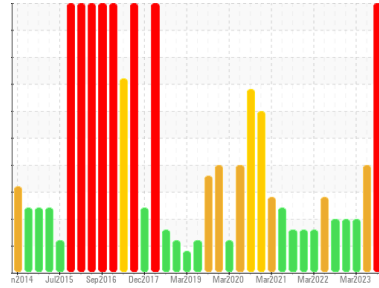




PROBLEM SUMMARY

Sample Rating Trend



WATER

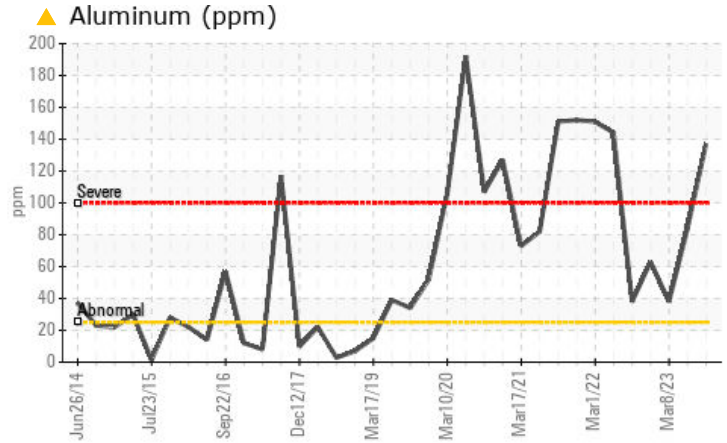
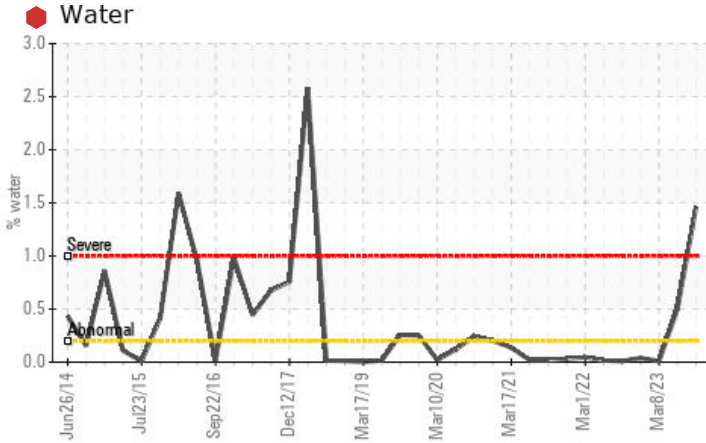


Machine Id
CRYOVAC SMIMID PACKAGER LINE 1 (S/N CK3357U00145)

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 advise that you follow the water drain-off procedure for this component. 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.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	ABNORMAL
Aluminum	ppm	ASTM D5185m	>25	▲ 137	▲ 84	▲ 38
Water	%	ASTM D6304	>0.2	● 1.46	▲ 0.501	0.009
ppm Water	ppm	ASTM D6304	>2000	● 14600	▲ 5010	96.8
Debris	scalar	*Visual	NONE	▲ MODER	NONE	NONE
Appearance	scalar	*Visual	NORML	▲ MILKY	▲ MILKY	NORML
Emulsified Water	scalar	*Visual	>0.2	● 0.2%	0.2%	NEG
Free Water	scalar	*Visual		● 1.0	NEG	NEG

Customer Id: SMIMID
Sample No.: USP0000514
Lab Number: 05933723
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
Water Drain-off	---	---	?	We advise that you follow the water drain-off procedure for this component.
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

04 Jun 2023 Diag: Doug Bogart

WATER



We advise that you check for the source of water entry. We advise that you perform a filter service and use off-line filtration to improve the cleanliness of the system fluid. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles and water present in this sample. The aluminum level is abnormal. All other component wear rates are normal. Appearance is milky. There is a moderate concentration of water present in the oil. There is a moderate amount of visible silt present in the sample. The AN level is acceptable for this fluid.

view report



08 Mar 2023 Diag: Doug Bogart

WEAR



Resample at the next service interval to monitor. The aluminum level is abnormal. There is a high amount of silt (particulates < 14 microns in size) 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



29 Nov 2022 Diag: Doug Bogart

WEAR



Resample at the next service interval to monitor. The aluminum level is abnormal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

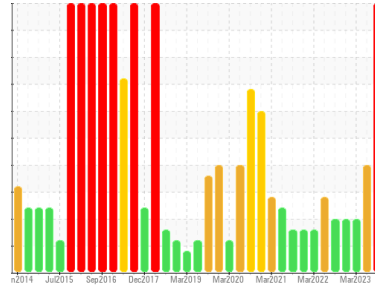
view report





OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Machine Id
CRYOVAC SMIMID PACKAGER LINE 1 (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 advise that you follow the water drain-off procedure for this component. 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.

Wear

The aluminum level is abnormal. All other component wear rates are normal.

Contamination

Appearance is milky. There is a high concentration of water present in the oil. Free water present. Moderate concentration of visible dirt/debris present in the oil.

Fluid Condition

The AN level is acceptable for this fluid.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		USP0000514	USP243481	USP246386
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			SEVERE	ABNORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>200	150	88	48
Chromium	ppm	ASTM D5185m	>15	<1	<1	0
Nickel	ppm	ASTM D5185m	>15	0	0	0
Titanium	ppm	ASTM D5185m		3	2	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	▲ 137	▲ 84	▲ 38
Lead	ppm	ASTM D5185m	>100	0	0	0
Copper	ppm	ASTM D5185m	>200	10	6	3
Tin	ppm	ASTM D5185m	>25	<1	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		28	18	9
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	<1	<1
Manganese	ppm	ASTM D5185m		2	2	<1
Magnesium	ppm	ASTM D5185m		5	2	1
Calcium	ppm	ASTM D5185m		792	523	262
Phosphorus	ppm	ASTM D5185m		317	218	110
Zinc	ppm	ASTM D5185m		0	0	<1
Sulfur	ppm	ASTM D5185m		983	893	876

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>50	12	7	5
Sodium	ppm	ASTM D5185m		41	30	17
Potassium	ppm	ASTM D5185m	>20	<1	<1	<1
Water	%	ASTM D6304	>0.2	● 1.46	▲ 0.501	0.009
ppm Water	ppm	ASTM D6304	>2000	● 14600	▲ 5010	96.8

FLUID CLEANLINESS

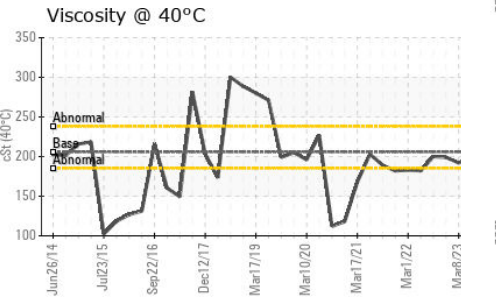
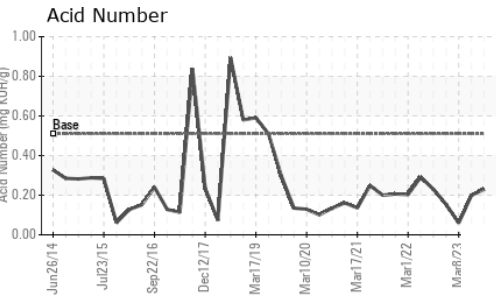
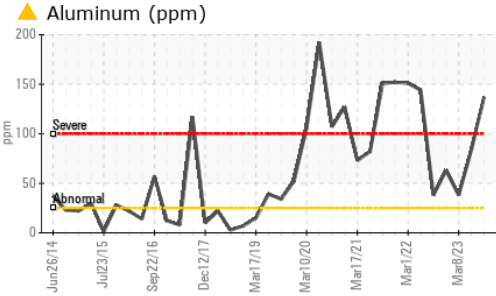
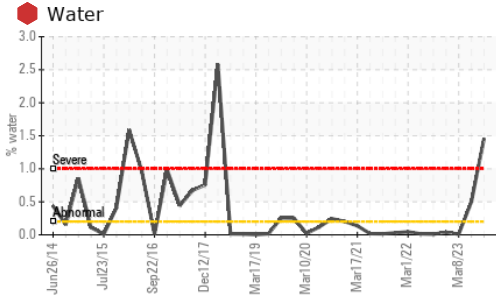
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	---	---	▲ 136309
Particles >6µm	ASTM D7647	>5000	---	---	▲ 22617
Particles >14µm	ASTM D7647	>640	---	---	639
Particles >21µm	ASTM D7647	>160	---	---	81
Particles >38µm	ASTM D7647	>40	---	---	3
Particles >71µm	ASTM D7647	>10	---	---	0
Oil Cleanliness	ISO 4406 (c)	>21/19/16	---	---	▲ 24/22/16

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	0.51	0.23	0.199	0.06



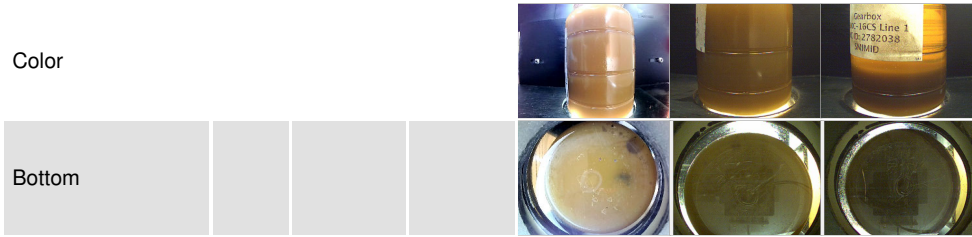
OIL ANALYSIS REPORT



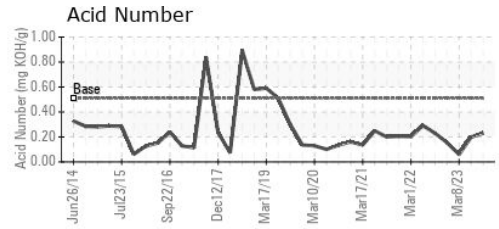
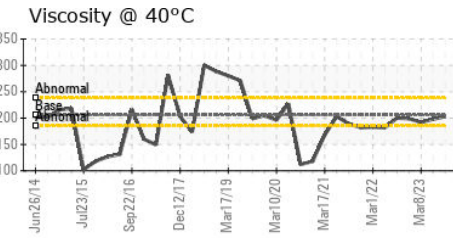
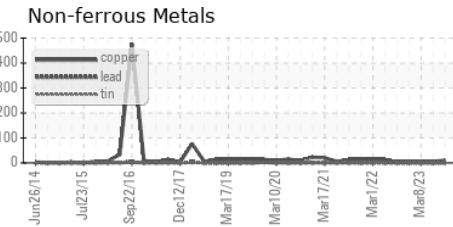
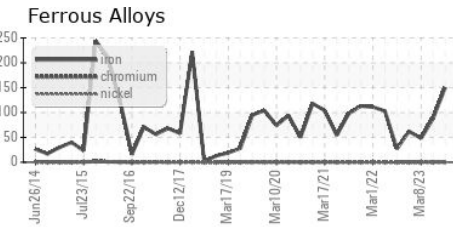
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	▲ MODER	NONE
Debris	scalar	*Visual	▲ MODER	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	205.8	203	198

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0000514 **Received** : 24 Aug 2023
Lab Number : 05933723 **Diagnosed** : 25 Aug 2023
Unique Number : 10618994 **Diagnostician** : Doug Bogart
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)

T:
F: