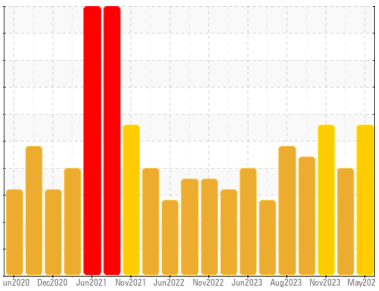
PROBLEM SUMMARY

Sample Rating Trend

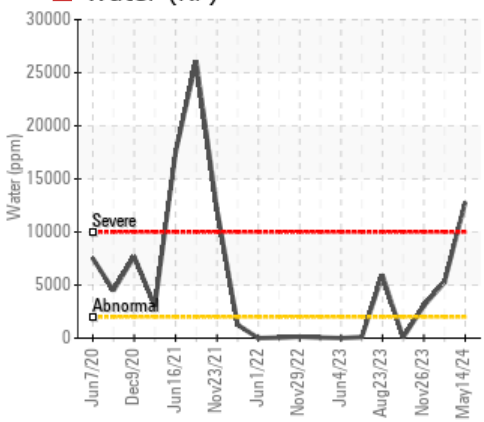


WATER

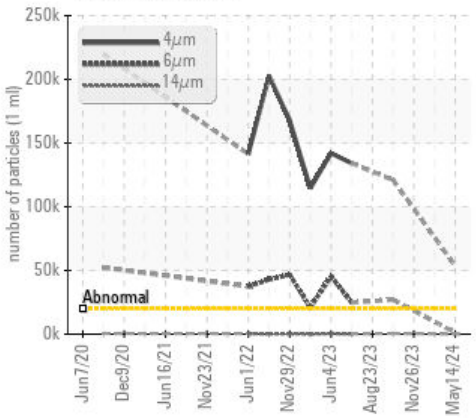
Machine Id
CRYOVAC 8600-14CS LINE 8 (S/N CK3357U00145)
Component
Gearbox
Fluid
PETRO CANADA PURITY FG EP GEAR OIL 220 (--- QTS)

COMPONENT CONDITION SUMMARY

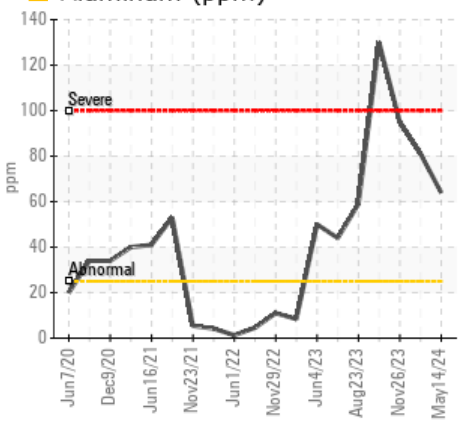
▲ Water (KF)



▲ Particle Trend



▲ Aluminum (ppm)



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, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	ABNORMAL	ABNORMAL
Aluminum	ppm	ASTM D5185m	>25	▲ **64**	▲ 81	▲ 95
Water	%	ASTM D6304	>0.2	▲ **1.28**	▲ 0.526	▲ 0.305
ppm Water	ppm	ASTM D6304	>2000	▲ **12800**	▲ 5260	▲ 3050
Particles >4µm		ASTM D7647	>20000	▲ **53632**	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **23/17/12**	---	---
Emulsified Water	scalar	*Visual	>0.2	▲ **0.2%**	0.2%	0.2%

Customer Id: SMIMID
Sample No.: USP0011877
Lab Number: 06180189
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
Water Drain-off	---	---	?	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.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Water Access	---	---	?	We advise that you check for the source of water entry.

HISTORICAL DIAGNOSIS

WATER

28 Feb 2024 Diag: Doug Bogart

We advise that you perform a filter service and use off-line filtration to improve the cleanliness of the system fluid. Else we recommend that you drain the oil from the component if this has not already been done. 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

WATER

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. We were unable to perform a particle count due to a high concentration of particles present in this sample.The aluminum level is abnormal. All other component wear rates are normal. Appearance is hazy. There is a moderate amount of visible silt present in the sample. Elemental level of silicon (Si) above normal. There is a light concentration of water present in the oil. The AN level is acceptable for this fluid.

view report

DIRT

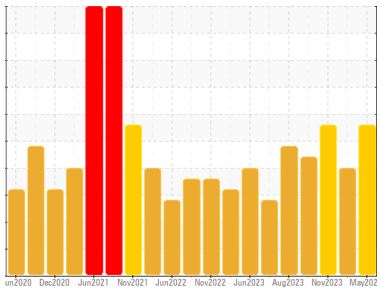
23 Aug 2023 Diag: Doug Bogart

Resample at the next service interval to monitor.The aluminum level is abnormal. All other component wear rates are normal. Appearance is hazy. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Machine Id
CRYOVAC 8600-14CS LINE 8 (S/N CK3357U00145)
Component
Gearbox
Fluid
PETRO CANADA PURITY FG EP GEAR OIL 220 (--- QTS)

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, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.

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

Contamination
Appearance is milky. There is a high amount of silt (particulates < 14 microns in size) present in the oil. There is a high concentration of water 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		**USP0011877**	USP0007555	USP0003808
Sample Date		Client Info		**14 May 2024**	28 Feb 2024	26 Nov 2023
Machine Age	mls	Client Info		**0**	0	0
Oil Age	mls	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	**18**	22	22
Chromium	ppm	ASTM D5185m	>15	**<1**	<1	0
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	▲ **64**	▲ 81	▲ 95
Lead	ppm	ASTM D5185m	>100	**<1**	0	<1
Copper	ppm	ASTM D5185m	>200	**7**	7	5
Tin	ppm	ASTM D5185m	>25	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**6**	10	14
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		**2**	3	4
Calcium	ppm	ASTM D5185m		**257**	344	456
Phosphorus	ppm	ASTM D5185m		**205**	217	204
Zinc	ppm	ASTM D5185m		**0**	3	0
Sulfur	ppm	ASTM D5185m		**820**	746	752

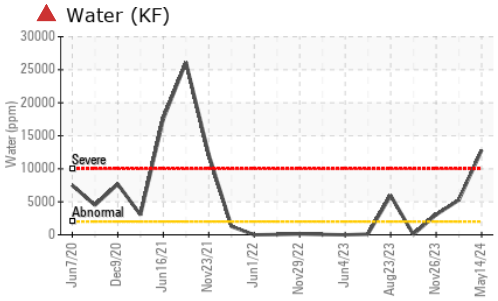
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**11**	23	▲ 58
Sodium	ppm	ASTM D5185m		**18**	40	50
Potassium	ppm	ASTM D5185m	>20	**2**	<1	1
Water	%	ASTM D6304	>0.2	▲ **1.28**	▲ 0.526	▲ 0.305
ppm Water	ppm	ASTM D6304	>2000	▲ **12800**	▲ 5260	▲ 3050

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	▲ **53632**	---	---
Particles >6µm		ASTM D7647	>5000	**1155**	---	---
Particles >14µm		ASTM D7647	>640	**32**	---	---
Particles >21µm		ASTM D7647	>160	**11**	---	---
Particles >38µm		ASTM D7647	>40	**1**	---	---
Particles >71µm		ASTM D7647	>10	**0**	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **23/17/12**	---	---

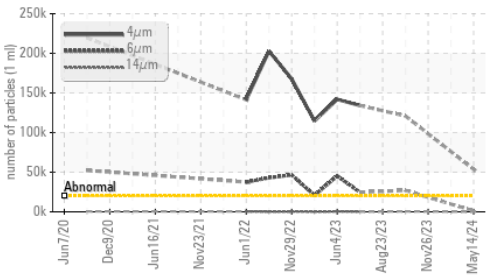
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.51	**0.14**	0.154	0.249

OIL ANALYSIS REPORT

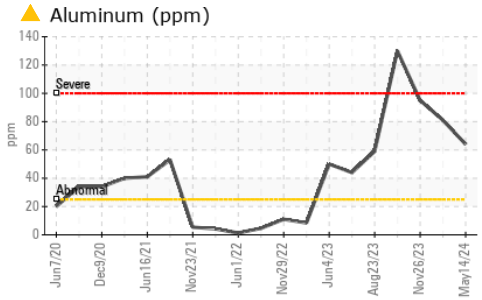
Water (KF)



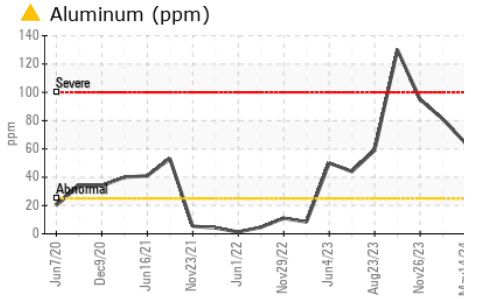
Particle Trend



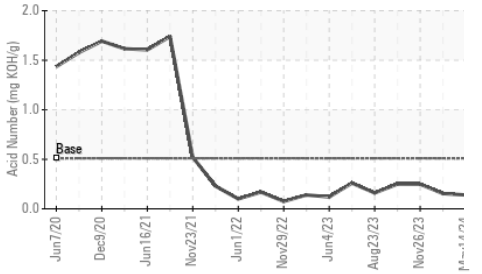
Aluminum (ppm)



Aluminum (ppm)



Acid Number



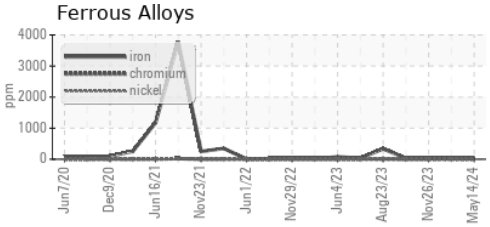
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	▲ MODER	▲ MODER
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	● **MILKY**	● MILKY	● 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	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	205.8	**219**	192	216

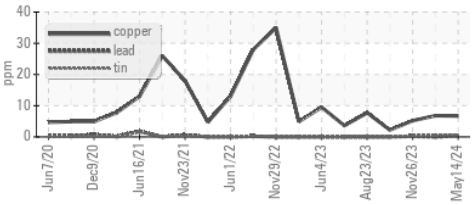
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

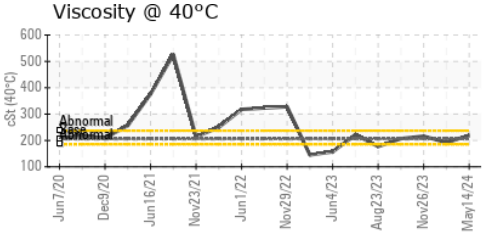
Ferrous Alloys



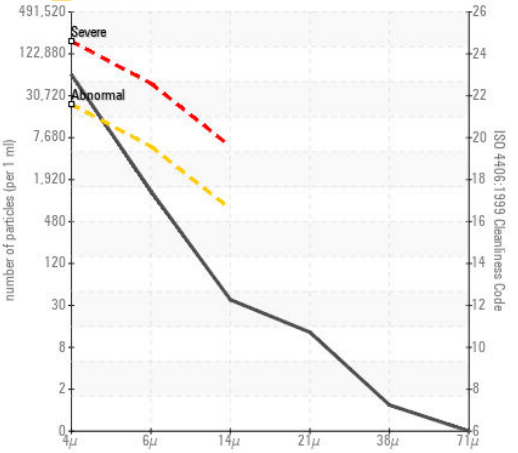
Non-ferrous Metals



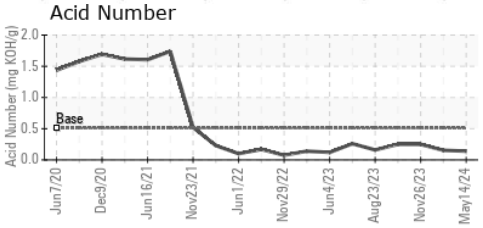
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0011877
Lab Number : 06180189
Unique Number : 11031515
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)