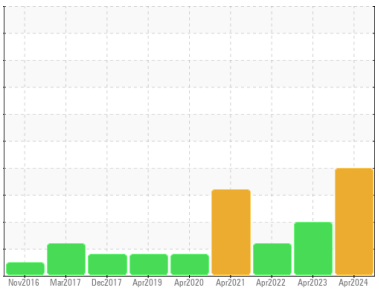
PROBLEM SUMMARY

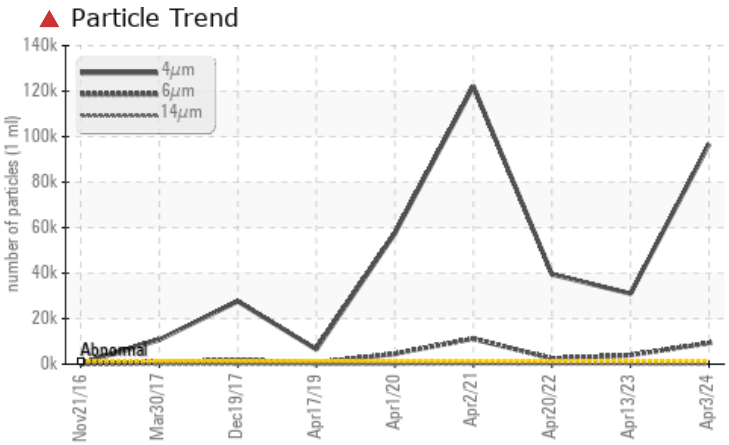
Sample Rating Trend



ISO

Machine Id
TA-1 REDUCER
Component
Gearbox
Fluid
CHEVRON MEROPA 220 (20 GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	ABNORMAL	SEVERE
Particles >4µm		ASTM D7647	>1300	▲ **96616**	▲ 30953	▲ 39481
Particles >6µm		ASTM D7647	>320	▲ **9226**	▲ 3922	▲ 2500
Oil Cleanliness		ISO 4406 (c)	>17/15/13	▲ **24/20/14**	▲ 22/19/14	▲ 22/18/13

Customer Id: HYDBELFL
Sample No.: ST46864
Lab Number: 06143080
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

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.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
Check Breathers	---	---	?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.
Check Seals	---	---	?	Check seals and/or filters for points of contaminant entry.

HISTORICAL DIAGNOSIS

ISO

13 Apr 2023 Diag: Wes Davis

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a moderate amount of particulates (2 to 100 microns in size) present in the oil. The water content is negligible. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

ISO

20 Apr 2022 Diag: Wes Davis

Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.All component wear rates are normal. Particles >4µm are severely high. Particles >6µm are abnormally high. The water content is negligible. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

ISO

02 Apr 2021 Diag: Wes Davis

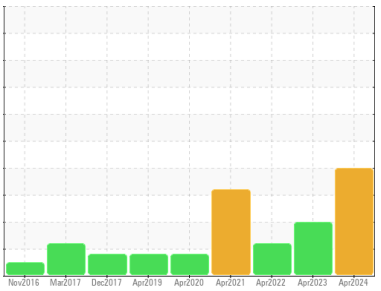
Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.All component wear rates are normal. Particles >6µm are severely high. Particles >4µm are severely high. Particles >14µm are notably high. The water content is negligible. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

STAUFF FILTRATION TECHNOLOGY

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Machine Id
TA-1 REDUCER
Component
Gearbox
Fluid
CHEVRON MEROPA 220 (20 GAL)

DIAGNOSIS

▲ Recommendation
Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

Wear
All component wear rates are normal.

▲ Contamination
There is a high amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**ST46864**	ST42170	ST44319
Sample Date		Client Info		**03 Apr 2024**	13 Apr 2023	20 Apr 2022
Machine Age	mths	Client Info		**0**	0	0
Oil Age	mths	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**SEVERE**	ABNORMAL	SEVERE

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	**94**	27	17
Chromium	ppm	ASTM D5185m	>15	**<1**	0	0
Nickel	ppm	ASTM D5185m	>15	**<1**	0	0
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**3**	<1	<1
Lead	ppm	ASTM D5185m	>100	**0**	0	<1
Copper	ppm	ASTM D5185m	>200	**7**	1	2
Tin	ppm	ASTM D5185m	>25	**0**	0	0
Antimony	ppm	ASTM D5185m	>5	**---**	---	---
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	<1	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	40	**0**	0	<1
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**0**	<1	<1
Calcium	ppm	ASTM D5185m		**11**	<1	1
Phosphorus	ppm	ASTM D5185m	270	**143**	135	121
Zinc	ppm	ASTM D5185m		**12**	6	2
Sulfur	ppm	ASTM D5185m	8600	**9093**	7366	4698

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**6**	2	4
Sodium	ppm	ASTM D5185m		**3**	1	0
Potassium	ppm	ASTM D5185m	>20	**4**	0	1
Water	%	ASTM D6304	>0.2	**0.001**	0.009	0.00
ppm Water	ppm	ASTM D6304	>2000	**13**	91.3	0.00

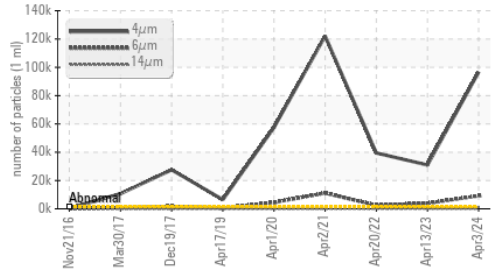
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>1300	▲ **96616**	▲ 30953	▲ 39481
Particles >6µm		ASTM D7647	>320	▲ **9226**	▲ 3922	▲ 2500
Particles >14µm		ASTM D7647	>80	● **101**	▲ 123	59
Particles >21µm		ASTM D7647	>20	**16**	▲ 26	12
Particles >38µm		ASTM D7647	>4	**0**	3	0
Particles >71µm		ASTM D7647	>3	**0**	1	0
Oil Cleanliness		ISO 4406 (c)	>17/15/13	▲ **24/20/14**	▲ 22/19/14	▲ 22/18/13

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.64	**0.34**	0.77	0.38

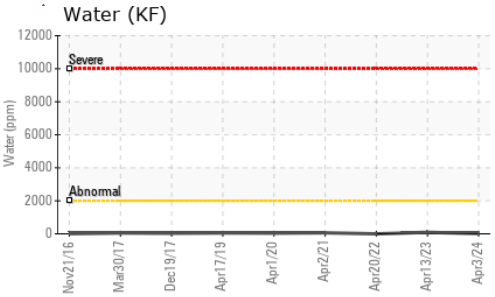
OIL ANALYSIS REPORT

STAUFF FILTRATION TECHNOLOGY

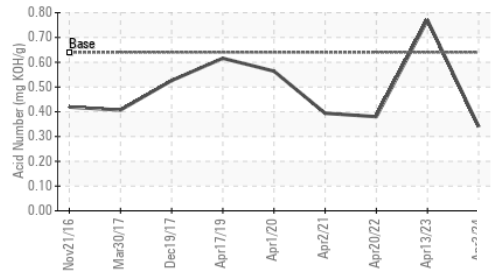
Particle Trend



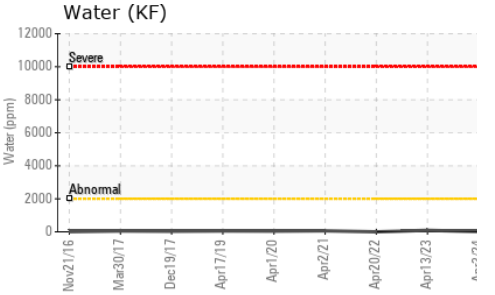
Water (KF)



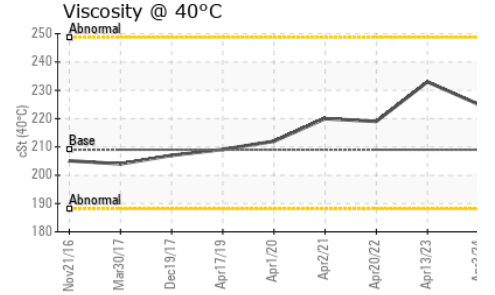
Acid Number



Water (KF)

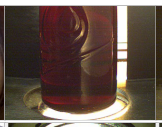
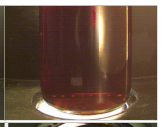
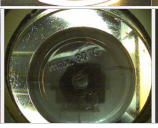


Viscosity @ 40°C



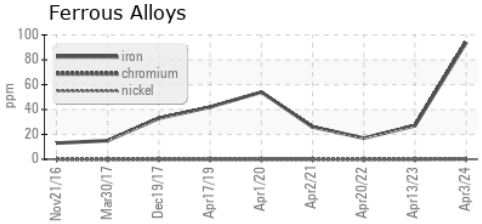
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	209	**225**	233	219

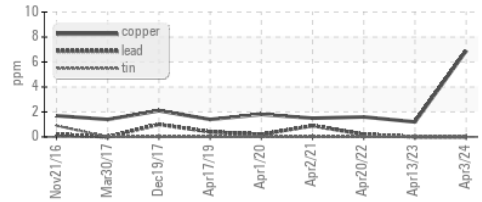
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

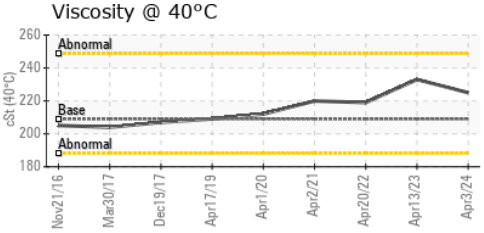
Ferrous Alloys



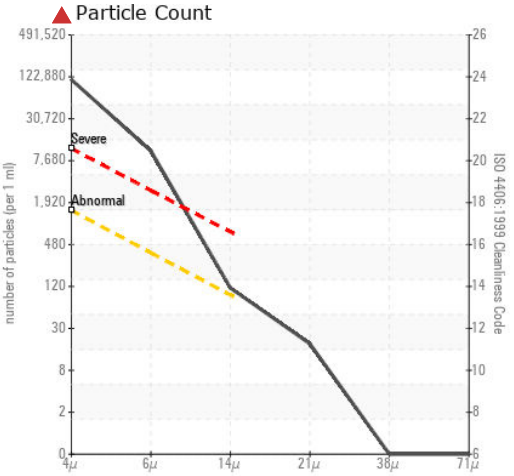
Non-ferrous Metals



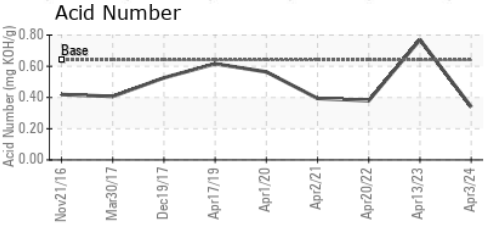
Viscosity @ 40°C



Particle Count



Acid Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ST46864
Lab Number : 06143080
Unique Number : 10967888
Test Package : IND 2 (Additional Tests: KF, PrtCount)

Received : 09 Apr 2024
Tested : 10 Apr 2024
Diagnosed : 10 Apr 2024 - Wes Davis

Certificate L2367

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)

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