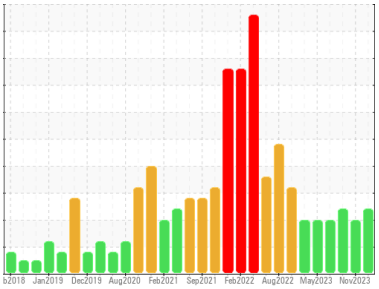
OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY

Area
NORTH KETTLE ROOM
Machine Id
GROEN B27300 - N KETTLE 4
Component
Gearbox
Fluid
PETRO CANADA ENDURATEX SYNTHETIC EP 220 (--- GAL)

DIAGNOSIS

Recommendation
We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is a high amount of particulates present in the oil.

Fluid Condition
Viscosity of sample indicates oil is within ISO 460 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		**WC0885533**	WC0866708	WC0842452
Sample Date		Client Info		**02 Jan 2024**	06 Nov 2023	12 Sep 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

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	**<1**	1	2
Chromium	ppm	ASTM D5185m	>10	**0**	0	0
Nickel	ppm	ASTM D5185m	>10	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**16**	16	18
Lead	ppm	ASTM D5185m	>50	**0**	0	0
Copper	ppm	ASTM D5185m	>200	**0**	<1	0
Tin	ppm	ASTM D5185m	>10	**0**	0	0
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	33	**0**	0	0
Barium	ppm	ASTM D5185m	5	**0**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**<1**	<1	0
Magnesium	ppm	ASTM D5185m	5	**0**	2	<1
Calcium	ppm	ASTM D5185m	5	**8**	7	6
Phosphorus	ppm	ASTM D5185m	437	**544**	581	560
Zinc	ppm	ASTM D5185m	5	**0**	1	0
Sulfur	ppm	ASTM D5185m	5000	**573**	618	676

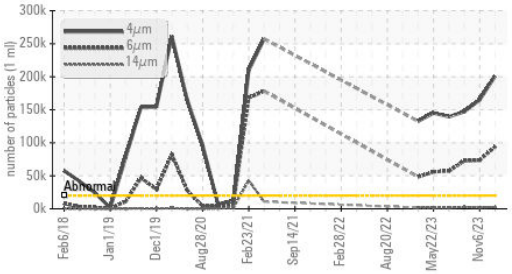
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**13**	13	13
Sodium	ppm	ASTM D5185m		**9**	10	11
Potassium	ppm	ASTM D5185m	>20	**<1**	<1	0

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	▲ **200897**	▲ 164974	▲ 147095
Particles >6µm		ASTM D7647	>5000	▲ **93807**	▲ 73678	▲ 72745
Particles >14µm		ASTM D7647	>640	▲ **2650**	▲ 1882	▲ 2701
Particles >21µm		ASTM D7647	>160	▲ **177**	119	▲ 189
Particles >38µm		ASTM D7647	>40	**2**	1	2
Particles >71µm		ASTM D7647	>10	**1**	0	1
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **25/24/19**	▲ 25/23/18	▲ 24/23/19

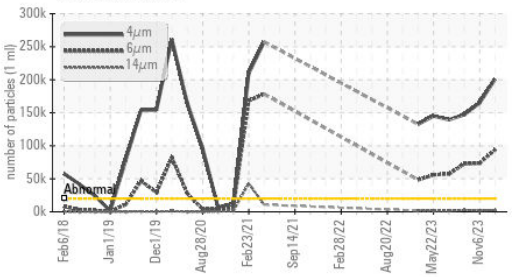
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.7	**0.42**	0.40	0.40

OIL ANALYSIS REPORT

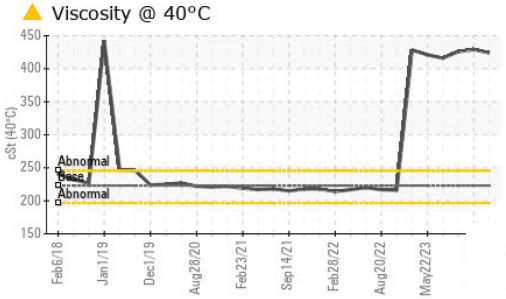
Particle Trend



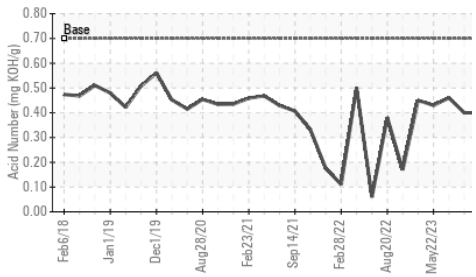
Particle Trend



Viscosity @ 40°C



Acid Number



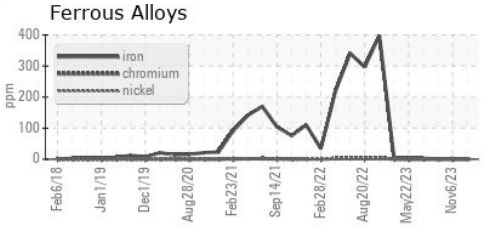
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**LIGHT**	NONE	NONE
Sand/Dirt	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	223	▲ **424**	▲ 429	▲ 426

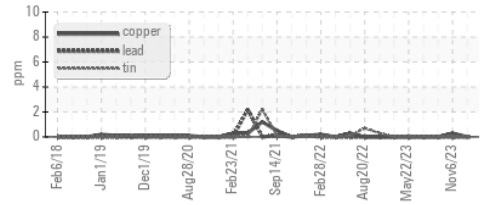
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

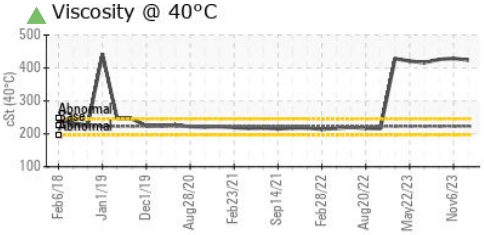
Ferrous Alloys



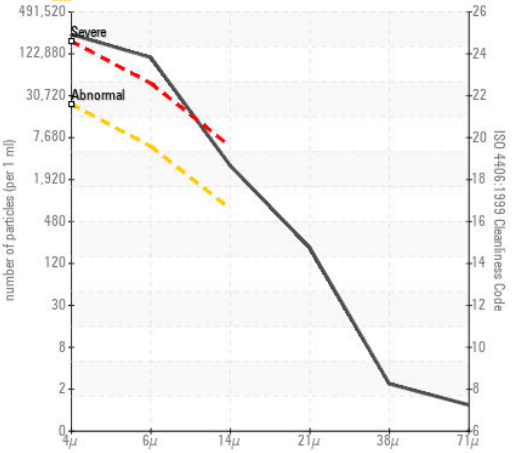
Non-ferrous Metals



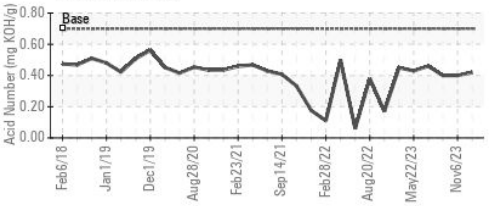
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0885533 **Recieved** : 10 Jan 2024
Lab Number : 06056639 **Diagnosed** : 11 Jan 2024
Unique Number : 10822588 **Diagnostician** : Doug Bogart
Test Package : IND 2 (Additional Tests: PrtCount)

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)

Rochelle Foods - PRE
1001 South Main, P.O. Box 45
Rochelle, IL
US 61068
Contact: JAMES ROBINSON III
jrobinson3@hormel.com
T:
F: (815)562-4147