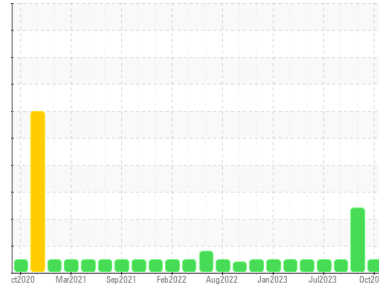




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
MP-134
 Machine Id
FB08559 - HYDRAULIC UNIT CHALLENGE TUMBLER 4
 Component
Hydraulic System
 Fluid
PETRO CANADA PURITY FG AW HYDRAULIC 46 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0856010	WC0842513	WC0840158
Sample Date	Client Info		26 Oct 2023	02 Oct 2023	07 Sep 2023
Machine Age	days	Client Info	0	0	0
Oil Age	days	Client Info	0	0	0
Oil Changed	Client Info		Not Changed	N/A	N/A
Sample Status			NORMAL	ATTENTION	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >20	0	2	0
Chromium	ppm	ASTM D5185m >20	<1	0	0
Nickel	ppm	ASTM D5185m >20	0	0	<1
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >20	<1	0	0
Lead	ppm	ASTM D5185m >20	0	0	0
Copper	ppm	ASTM D5185m >20	<1	<1	0
Tin	ppm	ASTM D5185m >20	0	0	<1
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	0	0	0
Barium	ppm	ASTM D5185m	<1	0	0
Molybdenum	ppm	ASTM D5185m	0	0	0
Manganese	ppm	ASTM D5185m	0	0	<1
Magnesium	ppm	ASTM D5185m	0	0	2
Calcium	ppm	ASTM D5185m	1	0	0
Phosphorus	ppm	ASTM D5185m	386	372	423
Zinc	ppm	ASTM D5185m	3	▲ 0	0
Sulfur	ppm	ASTM D5185m	427	▲ 970	557

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	9	1	6
Sodium	ppm	ASTM D5185m	0	4	<1
Potassium	ppm	ASTM D5185m >20	1	1	<1

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	400	▲ 11306	231
Particles >6µm	ASTM D7647	>2500	111	▲ 2996	76
Particles >14µm	ASTM D7647	>320	10	211	7
Particles >21µm	ASTM D7647	>80	2	78	2
Particles >38µm	ASTM D7647	>20	0	8	0
Particles >71µm	ASTM D7647	>4	0	2	0
Oil Cleanliness	ISO 4406 (c)	>20/18/15	16/14/10	▲ 21/19/15	15/13/10

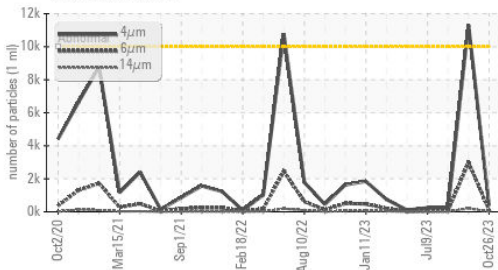
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.26	0.17	0.158	0.20

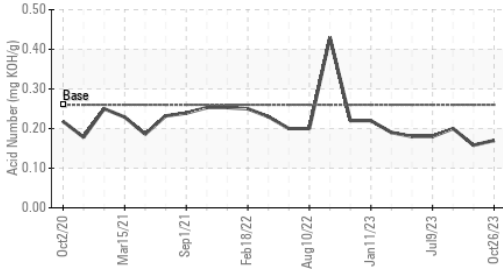


OIL ANALYSIS REPORT

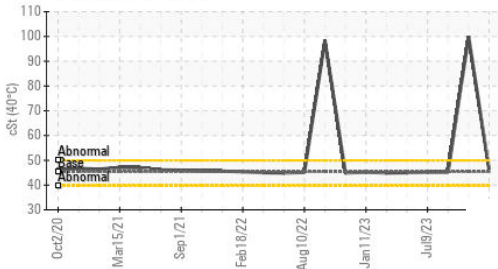
Particle Trend



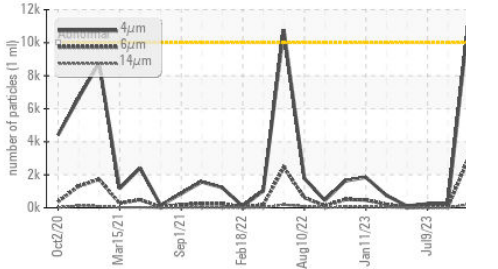
Acid Number



Viscosity @ 40°C



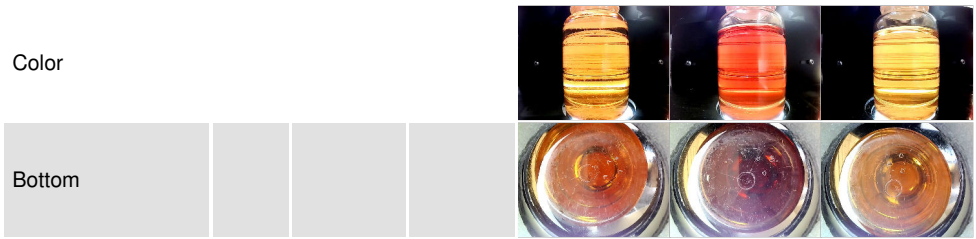
Particle Trend



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	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

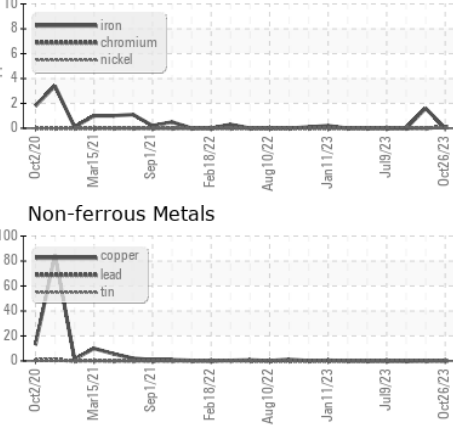
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	45.36	46.3	▲ 100	45.2

SAMPLE IMAGES	method	limit/base	current	history1	history2
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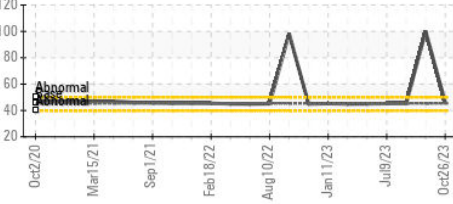


GRAPHS

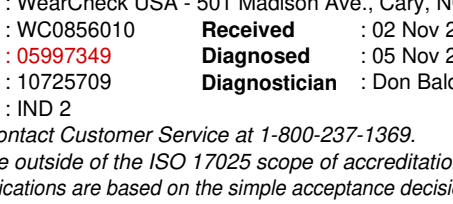
Ferrous Alloys



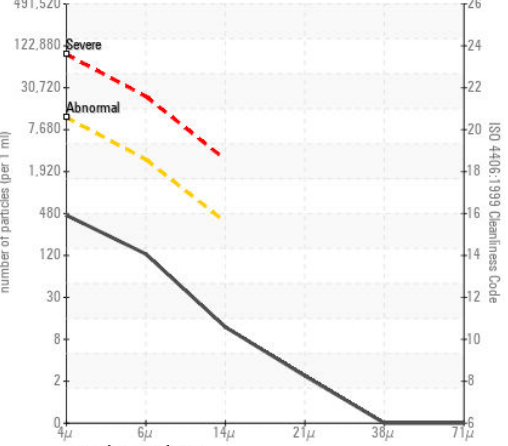
Non-ferrous Metals



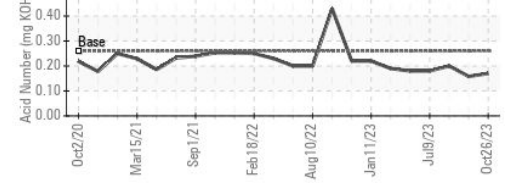
Viscosity @ 40°C



Particle Count



Acid Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0856010 **Received** : 02 Nov 2023
Lab Number : 05997349 **Diagnosed** : 05 Nov 2023
Unique Number : 10725709 **Diagnostician** : Don Baldrige
Test Package : IND 2

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 rslowe@hormel.com
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 F: (507)437-9805

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)