

OIL ANALYSIS REPORT

Sample Rating Trend



NAT CUTS [98949972] LINE 1 CUBER

Hydraulic System

AW HYDRAULIC OIL ISO 46 (--- GAL)

DIAGNOSIS

Recommendation

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

All component wear rates are normal.

Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil.

Fluid Condition

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

n2020 Min2021 Sup2021 Duc2021 Min2022 Viov2022 Min2022 Aur2023 Jun2024 Apr2024						
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0124895	PCA0117991	PCA0117990
Sample Date		Client Info		20 May 2024	12 Apr 2024	08 Apr 2024
Machine Age	days	Client Info		0	0	0
Oil Age	days	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ATTENTION	ABNORMAL
CONTAMINATI	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.05	NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	0	9	9
Chromium	ppm	ASTM D5185m	>20	<1	2	2
Nickel	ppm	ASTM D5185m	>20	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	2
Lead	ppm	ASTM D5185m	>20	<1	1	1
Copper	ppm	ASTM D5185m	>20	3	17	18
Tin	ppm	ASTM D5185m	>20	<1	1	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	<1	<1
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ACTM DE10Em	E	0	0	0
	ppiii	ASTM D5185m	5	0	0	0
Barium	ppm	ASTM D5185m	5	0	0	0
Barium Molybdenum	• • • • • • • • • • • • • • • • • • • •					
	ppm	ASTM D5185m	5	0	0	0
Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	5	0	0 <1	0 <1
Molybdenum Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	5	0 0 0	0 <1 0	0 <1 0 <1 0 <1 0
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 25	0 0 0 <1	0 <1 0 <1	0 <1 0 <1
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 25 200	0 0 0 <1 1	0 <1 0 <1 6	0 <1 0 <1 0 <1 0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 25 200 300	0 0 0 <1 1 740	0 <1 0 <1 6 343	0 <1 0 <1 0 334
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 25 200 300 370	0 0 0 <1 1 740	0 <1 0 <1 6 343 43	0 <1 0 <1 0 <1 0 334 38
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 25 200 300 370 2500 limit/base	0 0 0 <1 1 740 5 2492	0 <1 0 <1 6 343 43 863	0 <1 0 <1 0 <334 38 823
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 25 200 300 370 2500 limit/base	0 0 0 <1 1 740 5 2492 current	0 <1 0 <1 6 343 43 863 history1	0 <1 0 <1 0 <334 38 823 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 5 25 200 300 370 2500 limit/base >15	0 0 0 <1 1 740 5 2492 current	0 <1 0 <1 6 343 43 863 history1 5	0 <1 0 <1 0 <334 38 823 history2 5
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m	5 5 25 200 300 370 2500 limit/base >15	0 0 0 <1 1 740 5 2492 current 2 <1	0 <1 0 <1 6 343 43 863 history1 5 0	0 <1 0 <1 0 <334 38 823 history2 5 0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	5 5 25 200 300 370 2500 limit/base >15 >20	0 0 0 <1 1 740 5 2492 current 2 <1 0	0 <1 0 <1 6 343 43 863 history1 5 0 1	0 <1 0 <1 0 334 38 823 history2 5 0 <1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANL	ppm	ASTM D5185m	5 5 25 200 300 370 2500 limit/base >15 >20	0 0 0 <1 1 740 5 2492 current 2 <1 0	0 <1 0 <1 6 343 43 863 history1 5 0 1 history1	0 <1 0 <1 0 334 38 823 history2 5 0 <1 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANL Particles >4µm	ppm	ASTM D5185m method ASTM D5185m	5 5 25 200 300 370 2500 limit/base >15 >20 limit/base >1300	0 0 0 <1 1 740 5 2492 current 2 <1 0 current ▲ 60479	0 <1 0 <1 6 343 43 863 history1 5 0 1 history1 2455	0 <1 0 <1 0 334 38 823 history2 5 0 <1 history2 ▲ 3045
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANL Particles >4µm Particles >6µm	ppm	ASTM D5185m method ASTM D5185m	5 5 25 200 300 370 2500 limit/base >15 >20 limit/base >1300 >320	0 0 0 <1 1 740 5 2492 current 2 <1 0 current ▲ 60479 ▲ 10890	0 <1 0 <1 6 343 43 863 history1 5 0 1 history1 2455 415	0 <1 0 <1 0 <334 38 823 history2 5 0 <1 history2 △ 3045 △ 413
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANL Particles >4µm Particles >14µm	ppm	ASTM D5185m Method ASTM D5185m ASTM D7647 ASTM D7647	5 5 25 200 300 370 2500 limit/base >15 >20 limit/base >1300 >320 >80	0 0 0 <1 1 740 5 2492 current 2 <1 0 current △ 60479 △ 10890 67	0 <1 0 <1 6 343 43 863 history1 5 0 1 history1 2455 415 43	0 <1 0 <1 0 <334 38 823 history2 5 0 <1 history2 △ 3045 △ 413 19
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANL Particles >4µm Particles >14µm Particles >21µm	ppm	ASTM D5185m method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 limit/base >15 >20 limit/base >1300 >320 >80 >20	0 0 0 <1 1 740 5 2492 current 2 <1 0 current ▲ 60479 ▲ 10890 67 6	0 <1 0 <1 6 343 43 863 history1 5 0 1 history1 2455 415 43 6	0 <1 0 <1 0 <334 38 823 history2 5 0 <1 history2 ▲ 3045 ▲ 413 19 3
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANL Particles >4µm Particles >14µm Particles >21µm Particles >38µm	ppm	ASTM D5185m method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	5 5 25 200 300 370 2500 limit/base >15 >20 limit/base >1300 >320 >80 >20 >4	0 0 0 <1 1 740 5 2492 current 2 <1 0 current ▲ 60479 ▲ 10890 67 6	0 <1 0 <1 0 <1 6 343 43 43 863 history1 5 0 1 history1 2455 415 43 6 0	0 <1 0 <1 0 <334 38 823 history2 5 0 <1 history2 ▲ 3045 ▲ 413 19 3 0

Acid Number (AN)

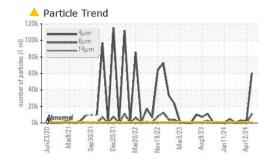
mg KOH/g ASTM D8045 0.57

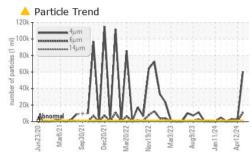
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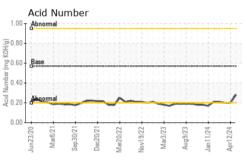
0.20

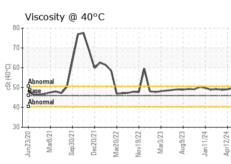


OIL ANALYSIS REPORT







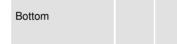


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
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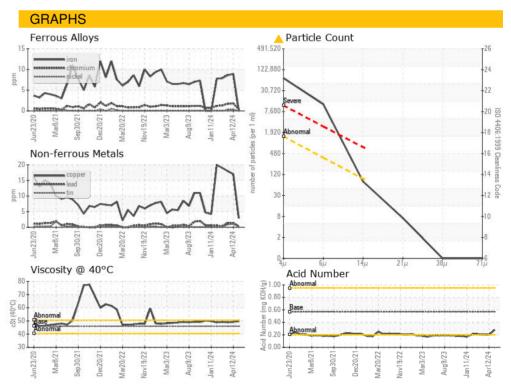
FLUID FROF	LHILS	method	IIIIII/Dase	Current	HISTOLAL	HISTOLYZ
Visc @ 40°C	cSt	ASTM D445	46	49.8	49.1	48.9

SAMPLE IMAGES	method	limit/base	current	history1	history2

Color











Certificate 12367

Laboratory Sample No.

Test Package : IND 2

: PCA0124895 Lab Number : 06199095 Unique Number : 11061218

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 04 Jun 2024

Tested : 10 Jun 2024 Diagnosed : 10 Jun 2024 - Jonathan Hester

KraftHeinz - Springfield - Plant 8311 PCA

2035 E BENNETT SPRINGFIELD, MO US 65804

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:

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