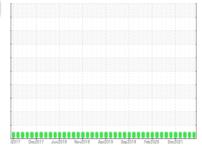


OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id

MAREN 01026

Hydraulic System

AW HYDRAULIC OIL ISO 32 (--- GAL)

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition

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

(2017 Dec2017 Jun2018 New2018 Apr2019 Sep2019 Feb2020 Dec2021						
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PTK0001423	PTK0000393	PTK0000306
Sample Date		Client Info		19 Apr 2024	09 Nov 2023	13 Jun 2023
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				NORMAL	NORMAL	NORMAL
CONTAMINATION	1	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	0	0	<1
Chromium	ppm	ASTM D5185m	>10	<1	0	<1
Nickel	ppm	ASTM D5185m	>10	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m		<1	0	0
Aluminum	ppm	ASTM D5185m	>10	2	0	<1
Lead	ppm	ASTM D5185m	>10	1	0	<1
Copper	ppm	ASTM D5185m	>75	4	3	4
Tin	ppm	ASTM D5185m	>10	1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	<1
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	5	0	0	0
Barium	ppm	ASTM D5185m	5	<1	0	0
Molybdenum	ppm	ASTM D5185m	5	1	0	<1
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m	25	4	<1	3
Calcium						
	ppm	ASTM D5185m	200	59	57	55
Phosphorus	ppm	ASTM D5185m	300	319	300	295
Zinc		ASTM D5185m ASTM D5185m	300 370	319 385	300 416	295 362
Zinc Sulfur	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	300 370 2500	319	300 416 893	295 362 1012
Zinc	ppm	ASTM D5185m ASTM D5185m ASTM D5185m method	300 370 2500 limit/base	319 385	300 416	295 362
Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	300 370 2500	319 385 1312 current	300 416 893 history1	295 362 1012 history2
Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	300 370 2500 limit/base >20	319 385 1312 current 1	300 416 893 history1 0 <1	295 362 1012 history2 <1
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	300 370 2500 limit/base >20	319 385 1312 current 1 0	300 416 893 history1 0 <1	295 362 1012 history2 <1 1
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	300 370 2500 limit/base >20	319 385 1312 current 1 0 1	300 416 893 history1 0 <1 0	295 362 1012 history2 <1 1 0 history2
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	300 370 2500 limit/base >20 >20 limit/base	319 385 1312 current 1 0 1 current 321	300 416 893 history1 0 <1 0 history1 743	295 362 1012 history2 <1 1 0 history2 383
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647	300 370 2500 limit/base >20 >20 limit/base	319 385 1312	300 416 893 history1 0 <1 0 history1 743 244	295 362 1012 history2 <1 1 0 history2 383 123
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	300 370 2500 limit/base >20 >20 limit/base >2500 >320	319 385 1312	300 416 893 history1 0 <1 0 history1 743 244 29	295 362 1012 history2 <1 1 0 history2 383 123 18
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	300 370 2500 limit/base >20 >20 limit/base >2500 >320 >80	319 385 1312 current 1 0 1 current 321 51 5	300 416 893 history1 0 <1 0 history1 743 244 29 10	295 362 1012 history2 <1 1 0 history2 383 123 18 7
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	300 370 2500 limit/base >20 limit/base >2500 >320 >80 >20	319 385 1312 current 1 0 1 current 321 51 5 2 0	300 416 893 history1 0 <1 0 history1 743 244 29 10	295 362 1012 history2 <1 1 0 history2 383 123 18 7 1
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm Particles >71µm	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647	300 370 2500 limit/base >20 >20 limit/base >2500 >320 >80 >20 >4	319 385 1312 current 1 0 1 current 321 51 5 2 0 0	300 416 893 history1 0 <1 0 history1 743 244 29 10 1	295 362 1012 history2 <1 1 0 history2 383 123 18 7 1 0
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	300 370 2500 limit/base >20 limit/base >2500 >320 >80 >20	319 385 1312 current 1 0 1 current 321 51 5 2 0	300 416 893 history1 0 <1 0 history1 743 244 29 10	295 362 1012 history2 <1 1 0 history2 383 123 18 7 1

Acid Number (AN)

mg KOH/g ASTM D8045 0.57

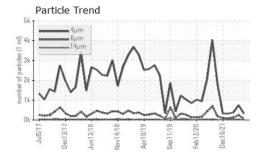
0.24

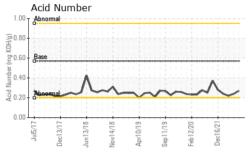
Report Id: GRAELK [WUSCAR] 06159782 (Generated: 04/26/2024 11:47:57) Rev: 1

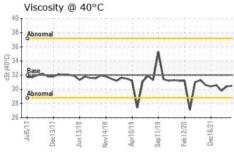
Contact/Location: TONY HILDY - GRAELK

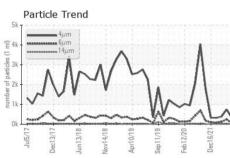


OIL ANALYSIS REPORT









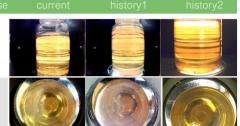
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	ΓIES	method	limit/base	current	history1	history2

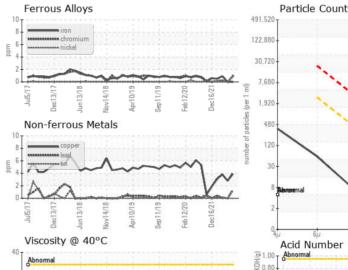
I LOID I HOI LITT	ILO					
Visc @ 40°C	cSt	ASTM D445	32	30.5	30.4	29.8

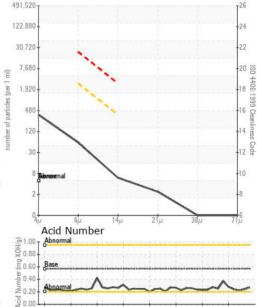
SAMPLE IMAGES Color

Bottom

GRAPHS











Certificate 12367

Laboratory Sample No.

Lab Number : 06159782 Unique Number : 10995205

Test Package : MOB 2

\$3 30

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PTK0001423 Received **Tested**

: 24 Apr 2024 : 25 Apr 2024

Diagnosed : 25 Apr 2024 - Wes Davis

US 60017 Contact: TONY HILDY anthonyhildy@graphicpkg.com

GRAPHIC PACKAGING

1500 NICHOLAS BLVD

ELK GROVE, IL

T: (847)437-1700

* - 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)

To discuss this sample report, contact Customer Service at 1-800-237-1369.

F: Contact/Location: TONY HILDY - GRAELK