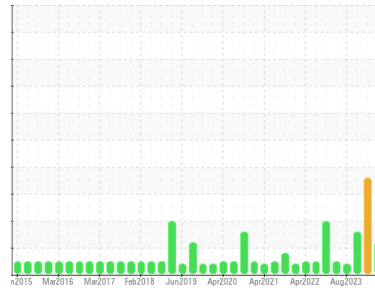


OIL ANALYSIS REPORT

Sample Rating Trend

ISO


Machine Id
HITACHI 470 HCMJAA70C00030815
 Component
Hydraulic System
 Fluid
HITACHI HYDRAULIC SUPER EX 46HN (--- GAL)

DIAGNOSIS
Recommendation

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. 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

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			JR0212025	JR0199892	JR0179624
Sample Date	Client Info			20 Jun 2024	26 Feb 2024	27 Nov 2023
Machine Age	hrs	Client Info		17963	17465	17018
Oil Age	hrs	Client Info		0	0	0
Oil Changed	Client Info			Not Changed	Not Changed	Not Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.1	NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		21	11	12
Iron	ppm	ASTM D5185m	>20	0	10	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	>10	<1	2	1
Lead	ppm	ASTM D5185m	>10	0	<1	0
Copper	ppm	ASTM D5185m	>75	9	7	0
Tin	ppm	ASTM D5185m	>10	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

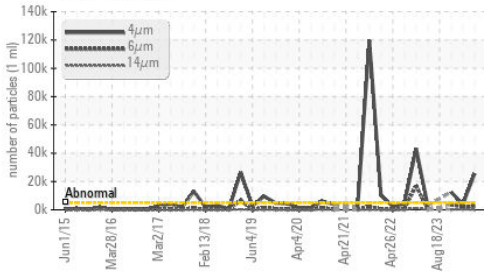
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	<1	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		<1	7	7
Calcium	ppm	ASTM D5185m		1008	1398	1543
Phosphorus	ppm	ASTM D5185m	827	651	956	899
Zinc	ppm	ASTM D5185m	0	538	748	689
Sulfur	ppm	ASTM D5185m	13	1584	1996	1733

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	2	5	3
Sodium	ppm	ASTM D5185m		2	2	0
Potassium	ppm	ASTM D5185m	>20	<1	<1	0

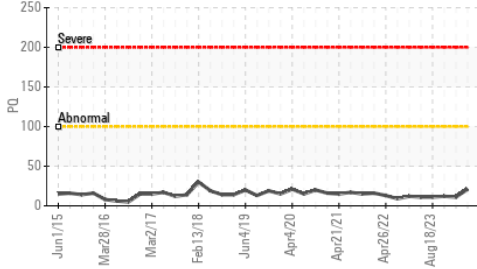
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ 25495	3758	▲ 12518
Particles >6µm		ASTM D7647	>1300	▲ 2591	▲ 2047	▲ 3368
Particles >14µm		ASTM D7647	>160	55	▲ 348	▲ 183
Particles >21µm		ASTM D7647	>40	9	▲ 117	34
Particles >38µm		ASTM D7647	>10	0	▲ 18	2
Particles >71µm		ASTM D7647	>3	0	2	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 22/19/13	▲ 19/18/16	▲ 21/19/15

OIL ANALYSIS REPORT

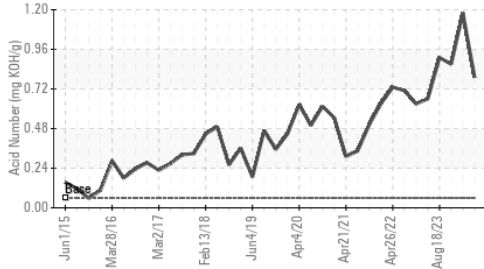
▲ Particle Trend



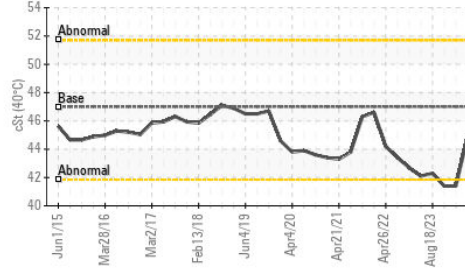
PQ



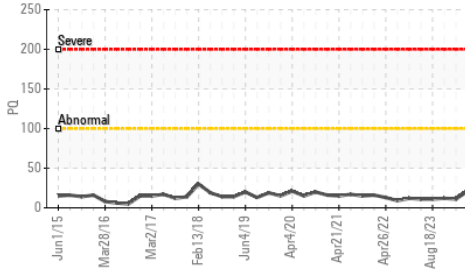
Acid Number



Viscosity @ 40°C



PQ



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.79	1.18	0.87

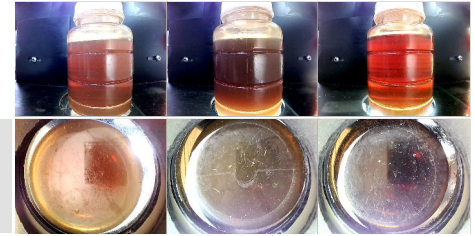
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	0.2%	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	47	44.9	41.4	41.4

SAMPLE IMAGES		method	limit/base	current	history1	history2
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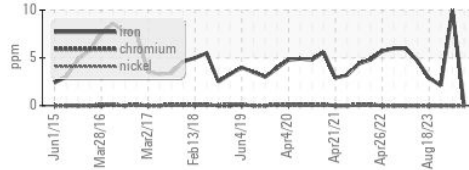
Color

Bottom

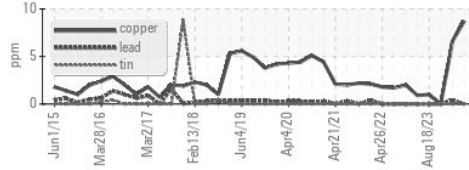


GRAPHS

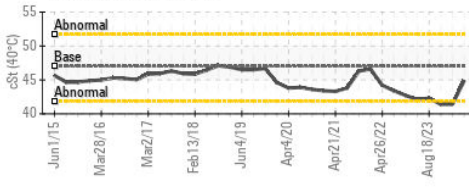
Ferrous Alloys



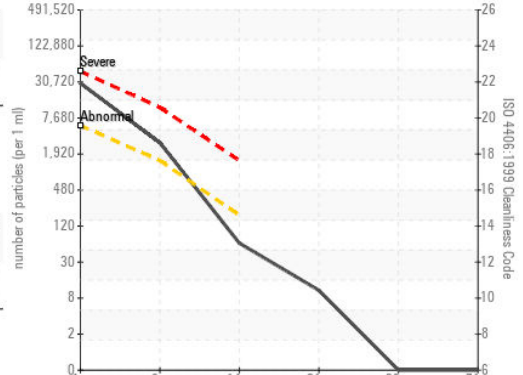
Non-ferrous Metals



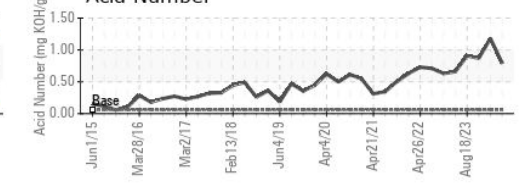
Viscosity @ 40°C



▲ Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : JR0212025

Lab Number : 06219591

Unique Number : 11097788

Test Package : CONST (Additional Tests: PQ)

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)

Received : 25 Jun 2024

Tested : 26 Jun 2024

Diagnosed : 26 Jun 2024 - Don Baldrige

JRE - ASHLAND

11047 LEADBETTER RD

ASHLAND, VA

US 23005

Contact: DAVID ZIEG

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T: (804)798-6001

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