



WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
HITACHI 470LC HCMJAG60J00061632
 Component
Hydraulic System
 Fluid
HITACHI HYDRAULIC SUPER EX 46HN (--- GAL)

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. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0198394	JR0188763	JR0171645
Sample Date		Client Info		11 Jan 2024	02 Oct 2023	12 Jun 2023
Machine Age	hrs	Client Info		2491	2491	1976
Oil Age	hrs	Client Info		1456	1971	1976
Filter Age	hrs	Client Info		0	0	1000
Oil Changed		Client Info		Not Changed	Not Changed	Not Changed
Filter Changed		Client Info		Changed	Not Changed	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		14	9	16
Iron	ppm	ASTM D5185m	>20	5	<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	>10	1	2	0
Lead	ppm	ASTM D5185m	>10	0	0	<1
Copper	ppm	ASTM D5185m	>75	1	0	<1
Tin	ppm	ASTM D5185m	>10	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

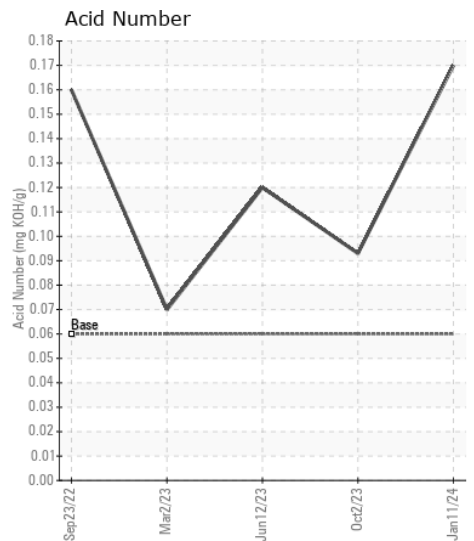
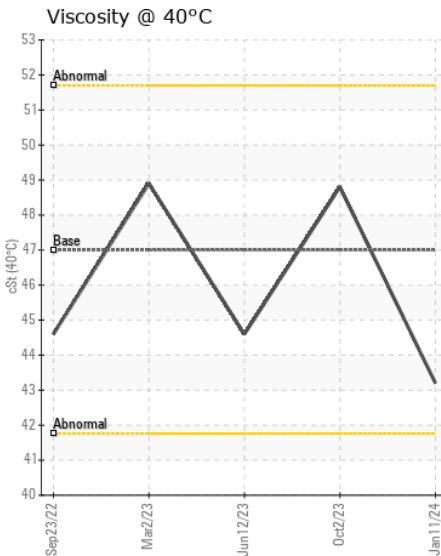
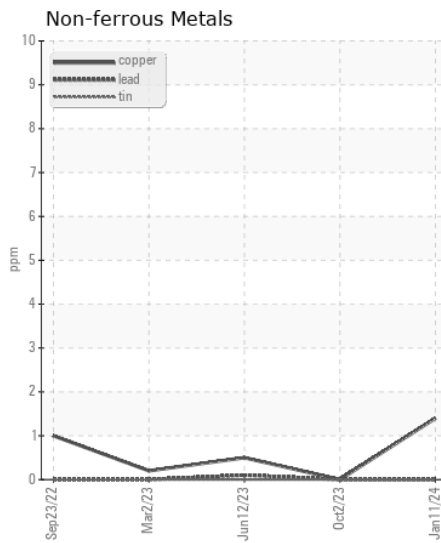
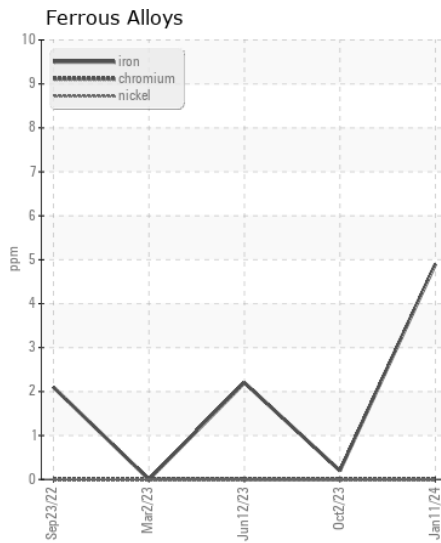
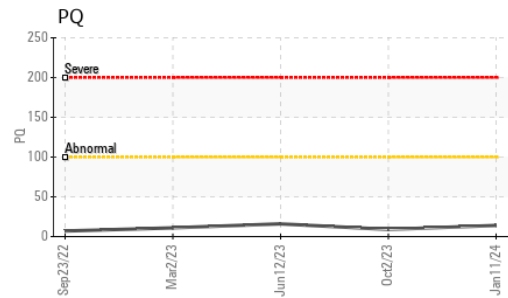
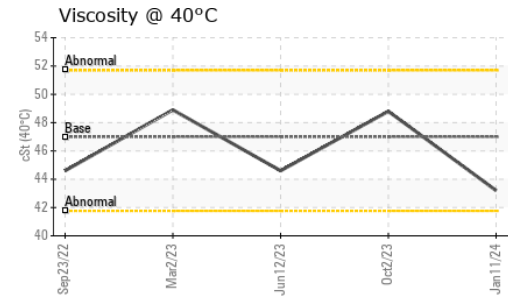
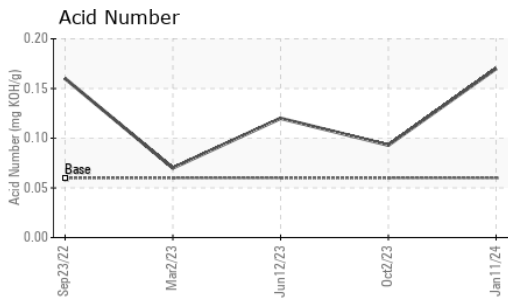
Moderate concentration of visible dirt/debris present in the oil.

Silicon	ppm	ASTM D5185m	>20	2	2	1
Potassium	ppm	ASTM D5185m	>20	<1	0	<1
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	---	2157	---
Particles >6µm		ASTM D7647	>1300	---	356	---
Particles >14µm		ASTM D7647	>160	---	15	---
Particles >21µm		ASTM D7647	>40	---	3	---
Particles >38µm		ASTM D7647	>10	---	0	---
Particles >71µm		ASTM D7647	>3	---	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	---	18/16/11	---
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	▲ MODER	NONE	▲ MODER
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

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		0	<1	0
Boron	ppm	ASTM D5185m		0	3	0
Barium	ppm	ASTM D5185m		0	0	2
Molybdenum	ppm	ASTM D5185m		0	4	0
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		3	14	2
Calcium	ppm	ASTM D5185m		6	26	<1
Phosphorus	ppm	ASTM D5185m	827	330	638	333
Zinc	ppm	ASTM D5185m	0	41	20	18
Sulfur	ppm	ASTM D5185m	13	1818	51	2368
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.17	0.093	0.12
Visc @ 40°C	cSt	ASTM D445	47	43.2	48.8	44.6



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0198394 **Received** : 17 Jan 2024
Lab Number : 06062563 **Diagnosed** : 18 Jan 2024
Unique Number : 10833945 **Diagnostician** : Don Baldrige
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)

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