



WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
[05W48095]

Machine Id
HITACHI ZX670 HCMJBK60L00060017

Component
Hydraulic System

Fluid
HITACHI HYDRAULIC SUPER EX 46HN (100 GAL)

RECOMMENDATION

The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0226672	JR0169921	JR0074693
Sample Date		Client Info		10 Jul 2024	23 Aug 2023	15 Mar 2022
Machine Age	hrs	Client Info		5933	5607	4836
Oil Age	hrs	Client Info		2401	0	0
Filter Age	hrs	Client Info		326	0	0
Oil Changed		Client Info		Not Changed	Not Changed	Not Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		17	16	17
Iron	ppm	ASTM D5185m	>20	9	10	3
Chromium	ppm	ASTM D5185m	>10	<1	0	0
Nickel	ppm	ASTM D5185m	>10	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m		<1	0	<1
Aluminum	ppm	ASTM D5185m	>10	3	<1	<1
Lead	ppm	ASTM D5185m	>10	0	<1	0
Copper	ppm	ASTM D5185m	>75	9	8	<1
Tin	ppm	ASTM D5185m	>10	<1	<1	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

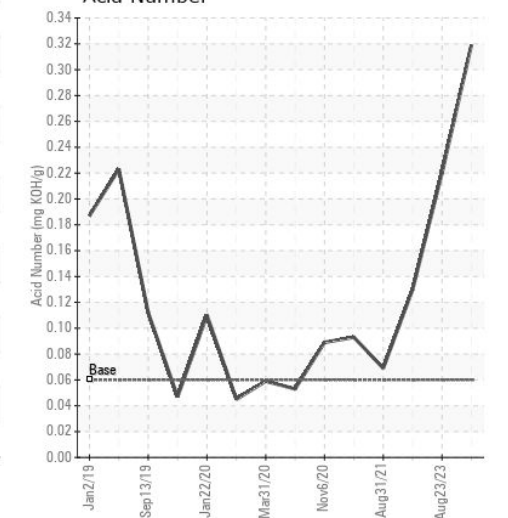
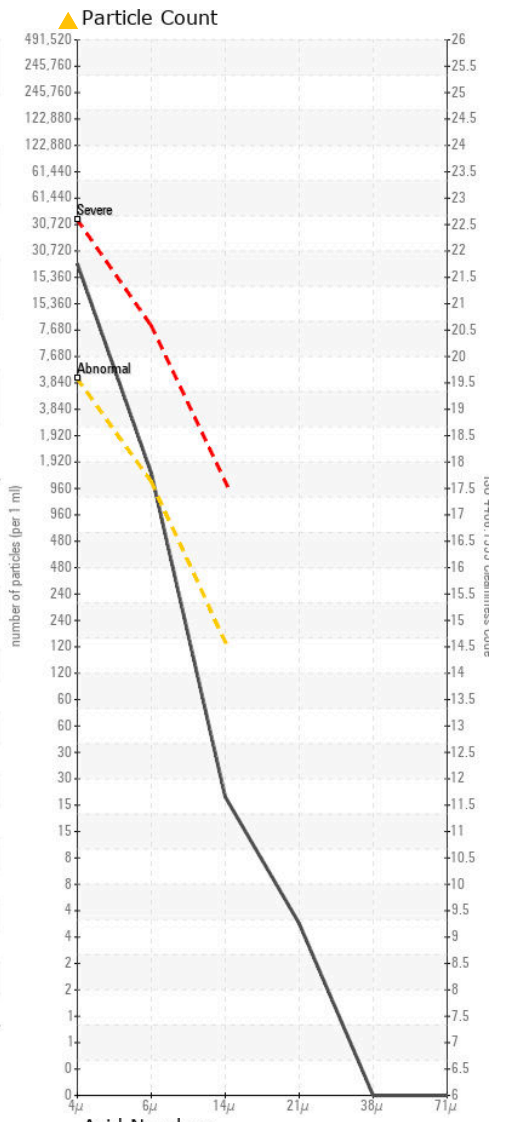
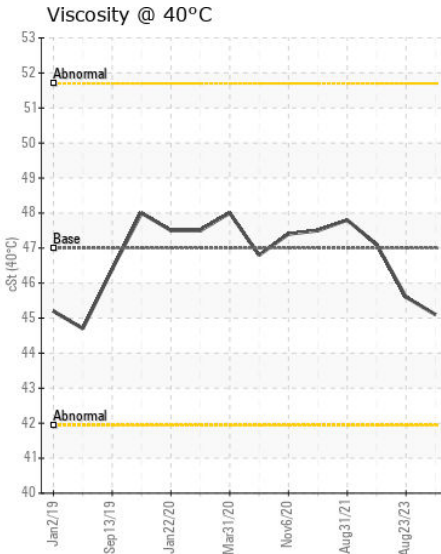
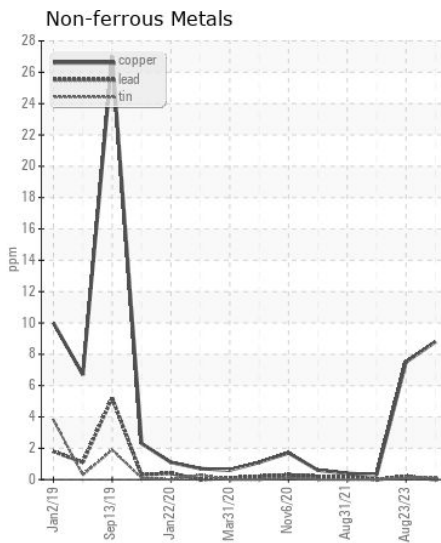
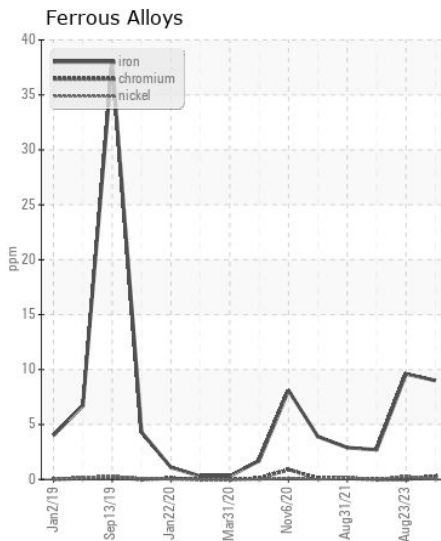
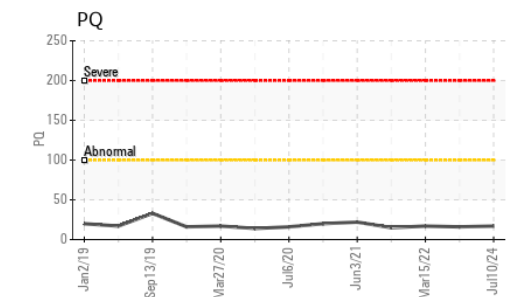
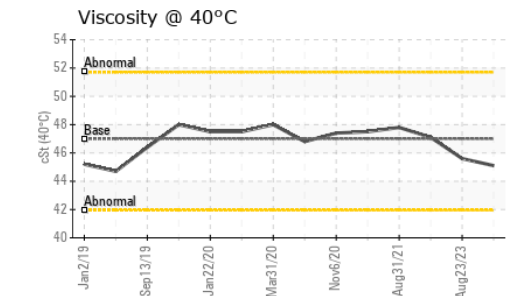
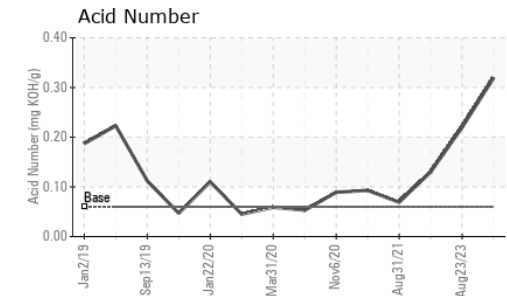
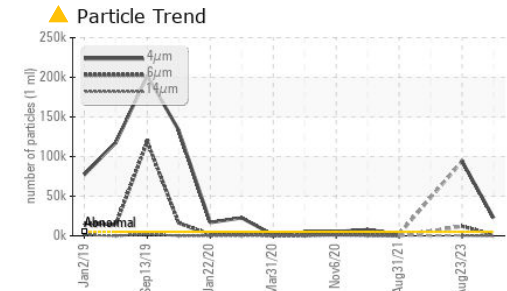
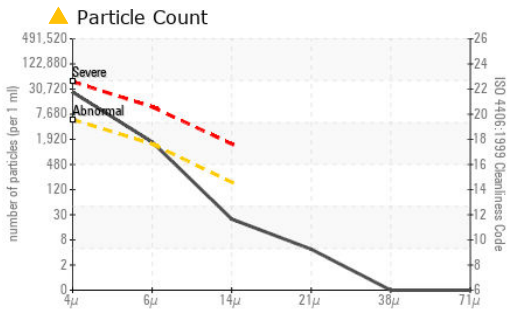
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>20	2	2	<1
Potassium	ppm	ASTM D5185m	>20	<1	1	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	▲ 22528	▲ 94034	---
Particles >6µm		ASTM D7647	>1300	● 1454	▲ 11937	---
Particles >14µm		ASTM D7647	>160	21	▲ 302	---
Particles >21µm		ASTM D7647	>40	4	▲ 58	---
Particles >38µm		ASTM D7647	>10	0	1	---
Particles >71µm		ASTM D7647	>3	0	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 22/18/12	▲ 24/21/15	---
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	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 oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Sodium	ppm	ASTM D5185m		0	0	<1
Boron	ppm	ASTM D5185m		<1	2	0
Barium	ppm	ASTM D5185m		<1	1	0
Molybdenum	ppm	ASTM D5185m		<1	1	0
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		5	5	0
Calcium	ppm	ASTM D5185m		475	533	12
Phosphorus	ppm	ASTM D5185m	827	581	641	654
Zinc	ppm	ASTM D5185m	0	186	206	3
Sulfur	ppm	ASTM D5185m	13	1030	1396	35
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.319	0.22	0.13
Visc @ 40°C	cSt	ASTM D445	47	45.1	45.6	47.1



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0226672 **Received** : 15 Jul 2024
Lab Number : 06235779 **Tested** : 16 Jul 2024
Unique Number : 11124613 **Diagnosed** : 16 Jul 2024 - Wes Davis
Test Package : CONST (Additional Tests: PQ)

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Certificate L2367
 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)