



WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
EPIROC TMG21SED0180
Component
Hydraulic System
Fluid
HITACHI HYDRAULIC SUPER EX 46HN (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0205525	JR0187969	---
Sample Date		Client Info		13 Mar 2024	08 Nov 2023	---
Machine Age	hrs	Client Info		30422	3500	---
Oil Age	hrs	Client Info		30422	3500	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Not Changd	Not Changd	---
Filter Changed		Client Info		Not Changd	Not Changd	---
Sample Status				ABNORMAL	ABNORMAL	---

WEAR

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		16	14	---
Iron	ppm	ASTM D5185m	>20	0	0	---
Chromium	ppm	ASTM D5185m	>10	0	0	---
Nickel	ppm	ASTM D5185m	>10	0	<1	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m		0	0	---
Aluminum	ppm	ASTM D5185m	>10	<1	<1	---
Lead	ppm	ASTM D5185m	>10	0	0	---
Copper	ppm	ASTM D5185m	>75	0	<1	---
Tin	ppm	ASTM D5185m	>10	0	0	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

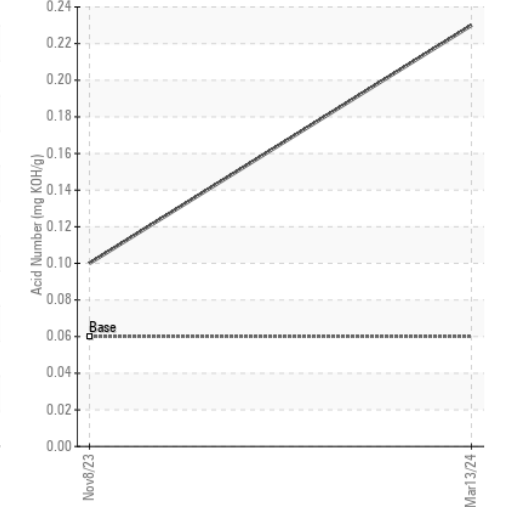
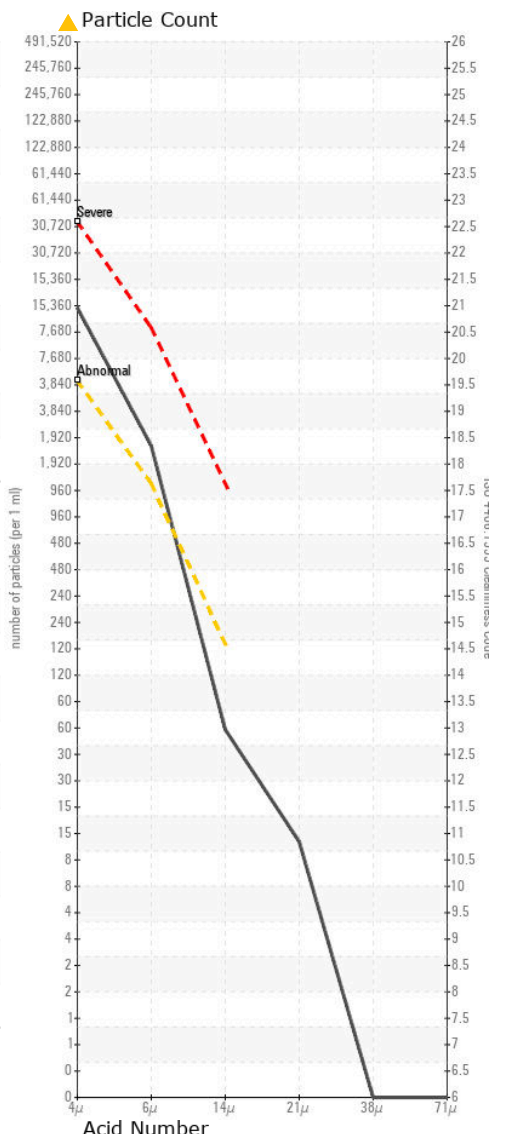
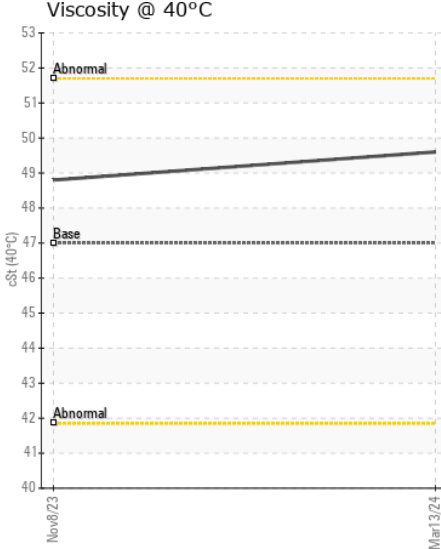
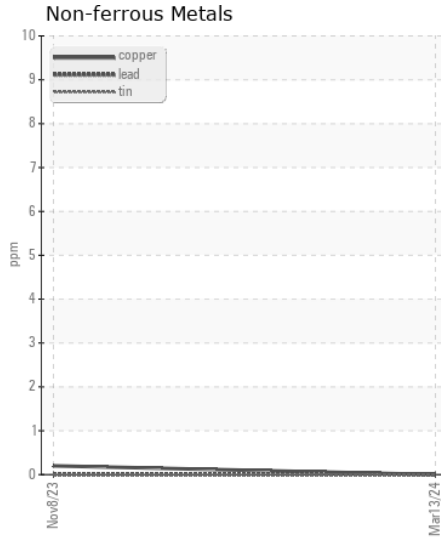
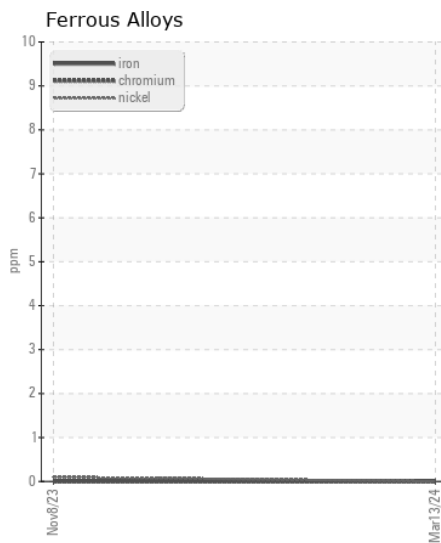
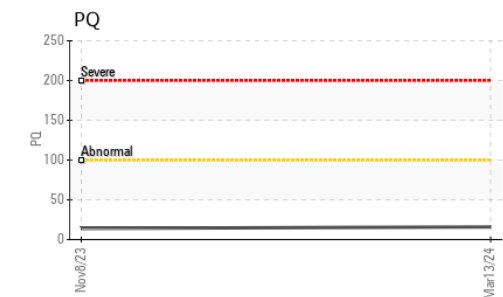
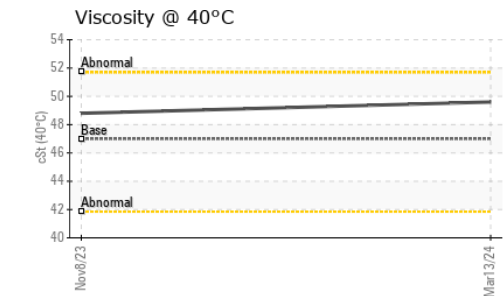
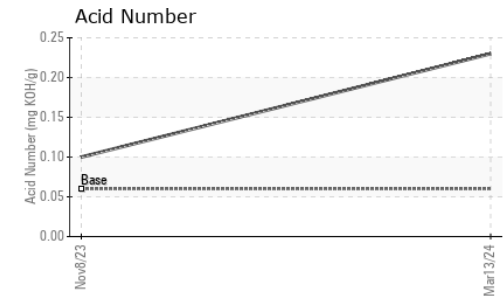
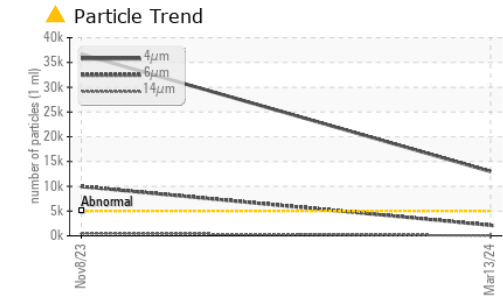
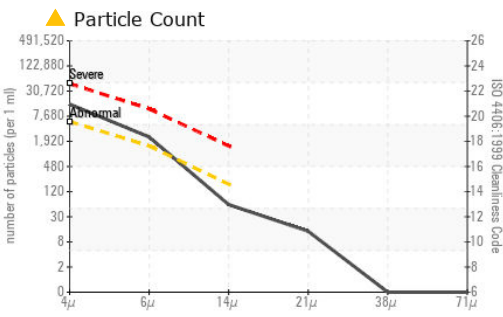
There is a high amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>20	3	2	---
Potassium	ppm	ASTM D5185m	>20	0	<1	---
Water		WC Method	>0.1	NEG	NEG	---
Particles >4µm		ASTM D7647	>5000	▲ 12980	▲ 36685	---
Particles >6µm		ASTM D7647	>1300	● 2134	▲ 9961	---
Particles >14µm		ASTM D7647	>160	52	▲ 494	---
Particles >21µm		ASTM D7647	>40	12	▲ 98	---
Particles >38µm		ASTM D7647	>10	0	4	---
Particles >71µm		ASTM D7647	>3	0	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 21/18/13	▲ 22/20/16	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.1	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	---
Boron	ppm	ASTM D5185m		7	6	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		7	6	---
Manganese	ppm	ASTM D5185m		0	0	---
Magnesium	ppm	ASTM D5185m		15	23	---
Calcium	ppm	ASTM D5185m		55	41	---
Phosphorus	ppm	ASTM D5185m	827	677	670	---
Zinc	ppm	ASTM D5185m	0	24	26	---
Sulfur	ppm	ASTM D5185m	13	51	111	---
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.23	0.10	---
Visc @ 40°C	cSt	ASTM D445	47	49.6	48.8	---



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0205525 **Received** : 19 Mar 2024
Lab Number : 06122235 **Tested** : 20 Mar 2024
Unique Number : 10936386 **Diagnosed** : 21 Mar 2024 - Don Baldrige
Test Package : CONST (Additional Tests: PQ)

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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)