



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
EPIROC D60 G18SED0760
 Component
Hydraulic System
 Fluid
HITACHI HYDRAULIC SUPER EX 46HN (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0197309	JR0186402	JR0157006
Sample Date		Client Info		16 Jan 2024	08 Sep 2023	17 Aug 2023
Machine Age	hrs	Client Info		9736	9172	8990
Oil Age	hrs	Client Info		565	0	0
Filter Age	hrs	Client Info		565	0	0
Oil Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Filter Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status				NORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		12	15	11
Iron	ppm	ASTM D5185m	>20	0	2	<1
Chromium	ppm	ASTM D5185m	>10	0	0	0
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
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	0	1	<1
Tin	ppm	ASTM D5185m	>10	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

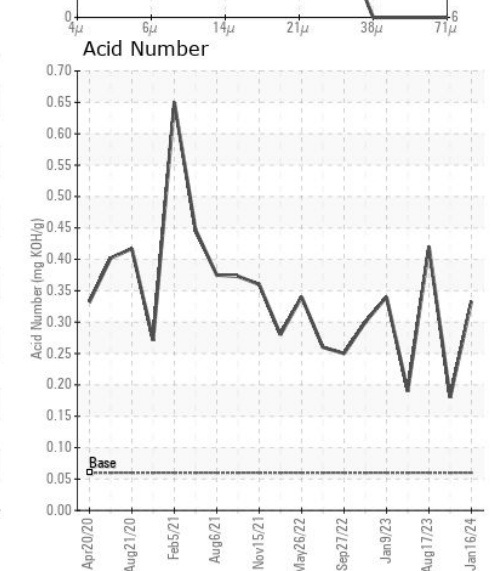
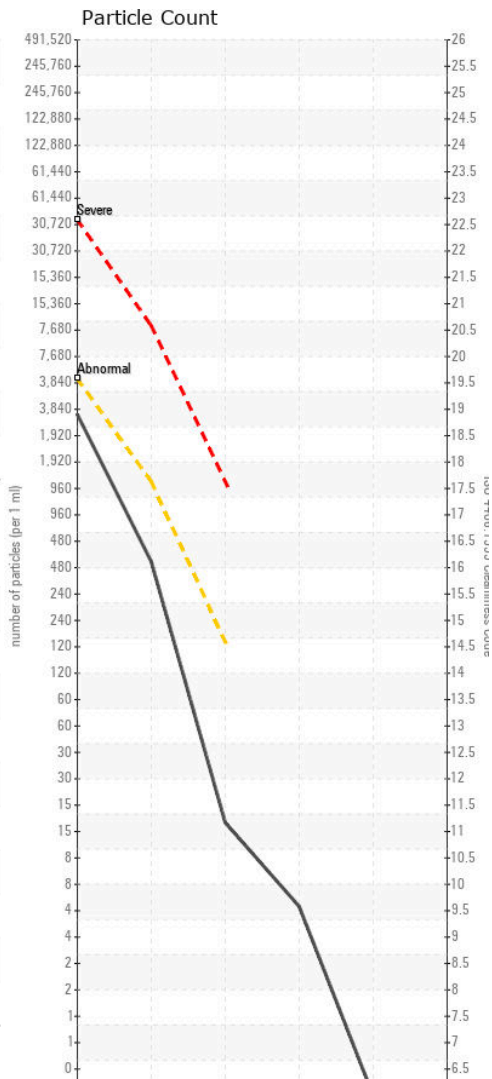
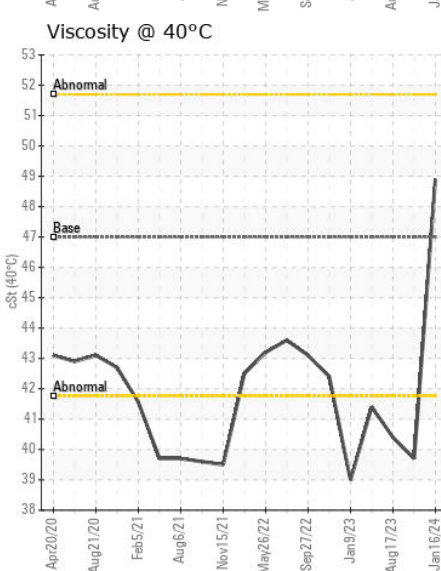
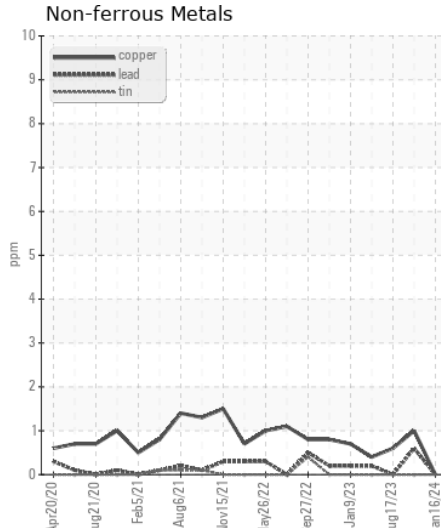
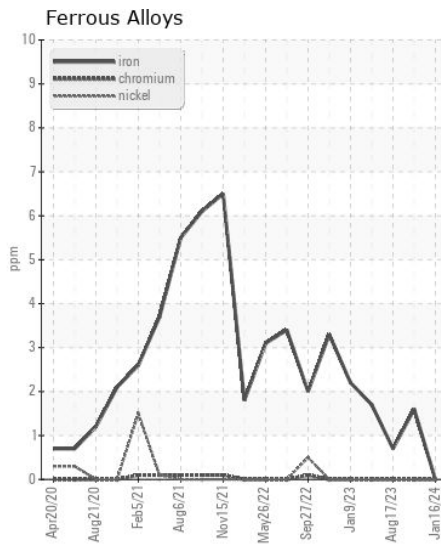
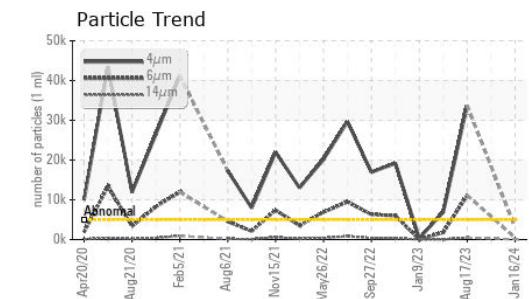
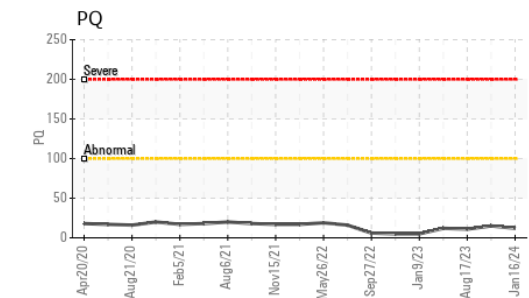
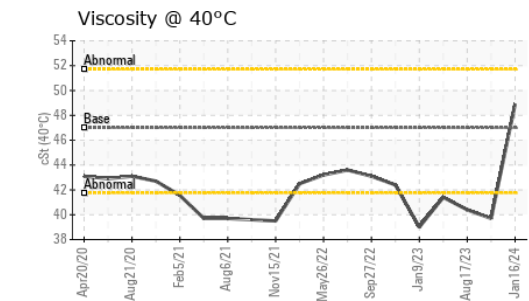
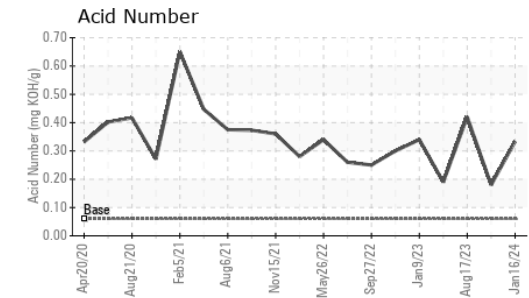
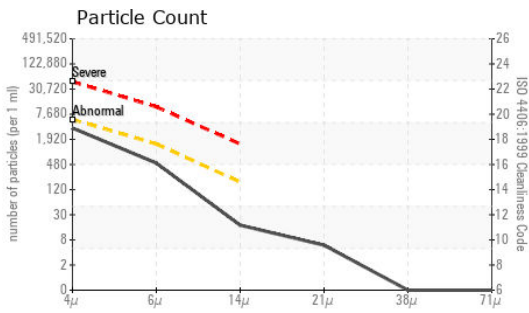
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	1	2	2
Potassium	ppm	ASTM D5185m	>20	<1	0	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	3130	---	▲ 33679
Particles >6µm		ASTM D7647	>1300	456	---	▲ 11123
Particles >14µm		ASTM D7647	>160	15	---	▲ 477
Particles >21µm		ASTM D7647	>40	5	---	▲ 99
Particles >38µm		ASTM D7647	>10	0	---	4
Particles >71µm		ASTM D7647	>3	0	---	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	19/16/11	---	▲ 22/21/16
Silt	scalar	*Visual	NONE	NONE	▲ MODER	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT	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

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		0	0	1
Boron	ppm	ASTM D5185m		0	0	1
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	2	2
Manganese	ppm	ASTM D5185m		0	<1	0
Magnesium	ppm	ASTM D5185m		<1	10	10
Calcium	ppm	ASTM D5185m		9	180	543
Phosphorus	ppm	ASTM D5185m	827	616	417	475
Zinc	ppm	ASTM D5185m	0	0	225	308
Sulfur	ppm	ASTM D5185m	13	0	1255	1470
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.333	0.18	0.42
Visc @ 40°C	cSt	ASTM D445	47	48.9	39.7	40.4



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0197309 **Received** : 17 Jan 2024
Lab Number : 06062537 **Diagnosed** : 18 Jan 2024
Unique Number : 10833919 **Diagnostician** : Don Baldrige
Test Package : CONST (Additional Tests: PQ)

RDU - MARTIN MARIETTA
 PO BOX 30013
 RALEIGH, NC
 US 27622
 Contact: Josh Robar
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 T:
 F:

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)