



WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL

Machine Id
EPIROC D60 G18SED0760
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		JR0209693	JR0202497	JR0197309
Sample Date		Client Info		16 May 2024	20 Feb 2024	16 Jan 2024
Machine Age	hrs	Client Info		10463	9966	9736
Oil Age	hrs	Client Info		0	0	565
Filter Age	hrs	Client Info		0	0	565
Oil Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Filter Changed		Client Info		Not Chngd	Changed	Not Chngd
Sample Status				ATTENTION	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
Iron	ppm	ASTM D5185m	>20	2	0	0
Chromium	ppm	ASTM D5185m	>10	0	<1	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	<1	1
Lead	ppm	ASTM D5185m	>10	<1	0	0
Copper	ppm	ASTM D5185m	>75	<1	0	0
Tin	ppm	ASTM D5185m	>10	<1	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

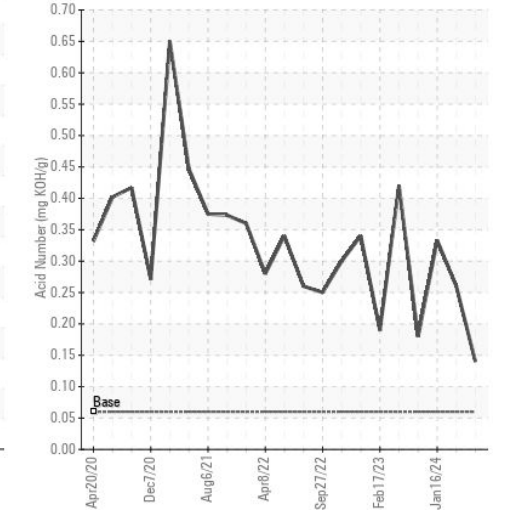
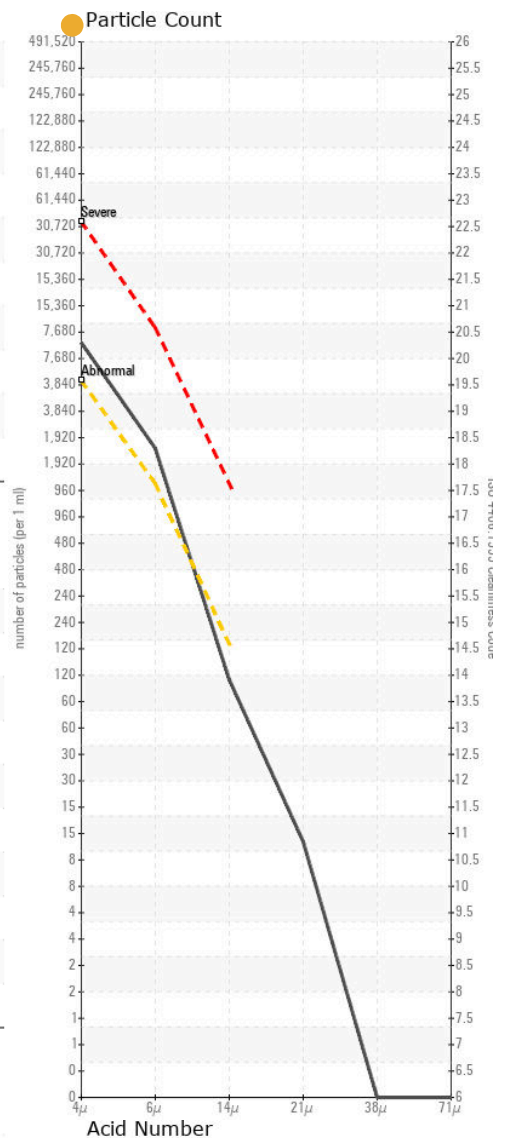
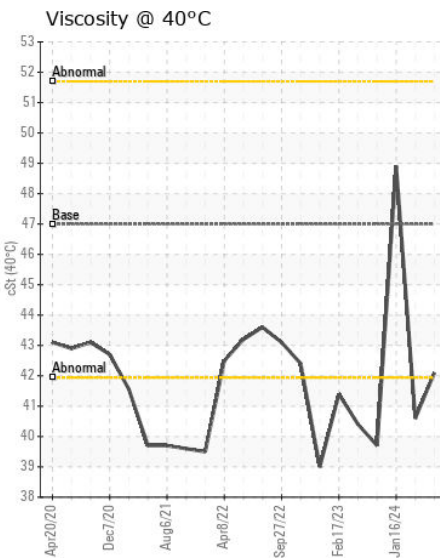
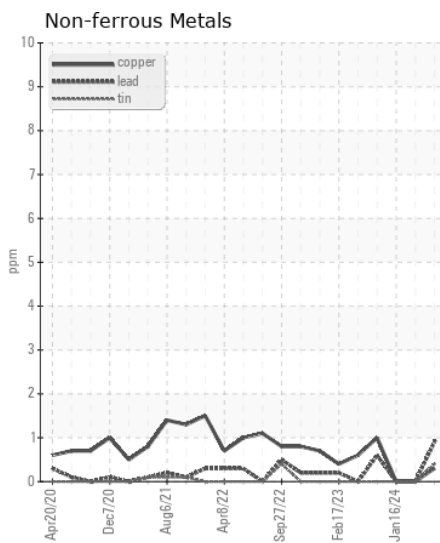
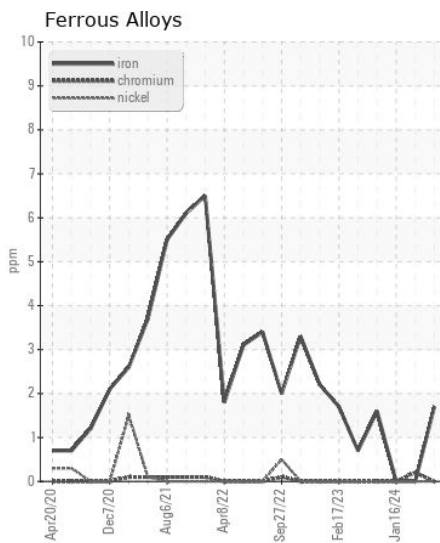
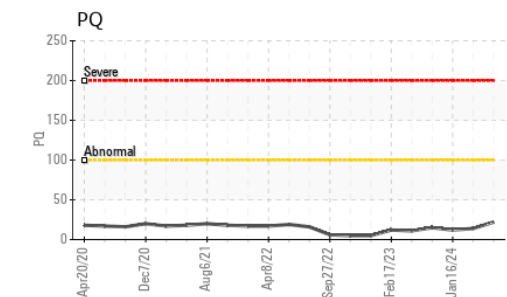
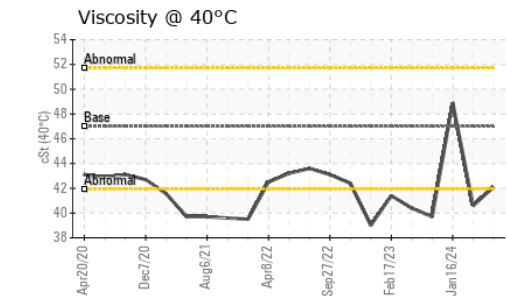
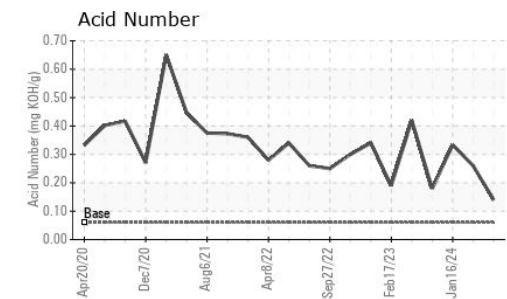
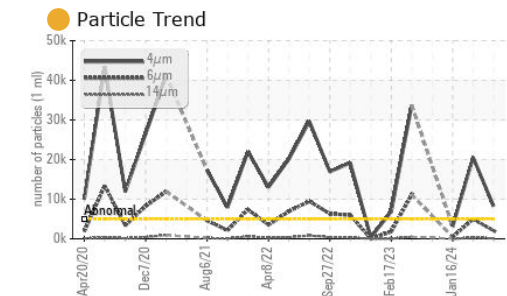
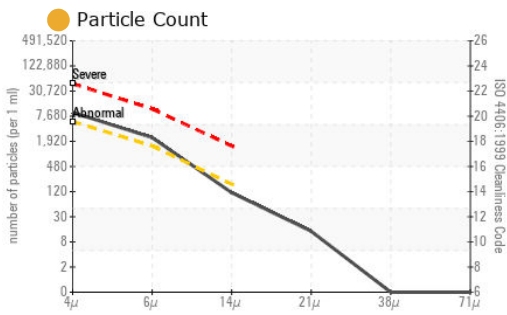
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>20	2	1	1
Potassium	ppm	ASTM D5185m	>20	0	0	<1
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	8218	▲ 20553	3130
Particles >6µm		ASTM D7647	>1300	2065	▲ 4987	456
Particles >14µm		ASTM D7647	>160	100	▲ 255	15
Particles >21µm		ASTM D7647	>40	12	▲ 43	5
Particles >38µm		ASTM D7647	>10	0	1	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	20/18/14	▲ 22/19/15	19/16/11
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	NEG	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		2	0	0
Boron	ppm	ASTM D5185m		1	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		2	0	0
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m		8	<1	<1
Calcium	ppm	ASTM D5185m		148	135	9
Phosphorus	ppm	ASTM D5185m	827	409	431	616
Zinc	ppm	ASTM D5185m	0	181	190	0
Sulfur	ppm	ASTM D5185m	13	917	850	0
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.14	0.26	0.333
Visc @ 40°C	cSt	ASTM D445	47	42.1	40.6	48.9



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0209693
Lab Number : 06186011
Unique Number : 11042763
Test Package : CONST (Additional Tests: PQ)

Received : 21 May 2024
Tested : 22 May 2024
Diagnosed : 23 May 2024 - Don Baldrige

RDU - MARTIN MARIETTA
 PO BOX 30013
 RALEIGH, NC
 US 27622

Contact: Josh Robar
 josh.robar@martinmarietta.com

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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