



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>ABNORMAL</b>
FLUID CONDITION	<b>ABNORMAL</b>

Machine Id  
**HITACHI 50 HCMAED60C00287585**  
 Component  
**Hydraulic System**  
 Fluid  
**HITACHI HYDRAULIC SUPER EX 46HN (--- GAL)**

### RECOMMENDATION

Recommend drain oil if not already done. Reduce drain interval to 2000 hours or drain and flush and use recommended zinc free oil. The filter change at the time of sampling has been noted.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0199720</b>	JR0148731	JR0106072
Sample Date		Client Info		<b>21 Feb 2024</b>	17 Nov 2022	04 Jan 2022
Machine Age	hrs	Client Info		<b>3439</b>	2955	2580
Oil Age	hrs	Client Info		<b>0</b>	0	500
Filter Age	hrs	Client Info		<b>0</b>	0	500
Oil Changed		Client Info		<b>Not Changed</b>	Not Changed	Not Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Not Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

### WEAR

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		<b>13</b>	3	18
Iron	ppm	ASTM D5185m	>20	<b>6</b>	5	8
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	<1
Lead	ppm	ASTM D5185m	>10	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m	>75	<b>3</b>	2	4
Tin	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

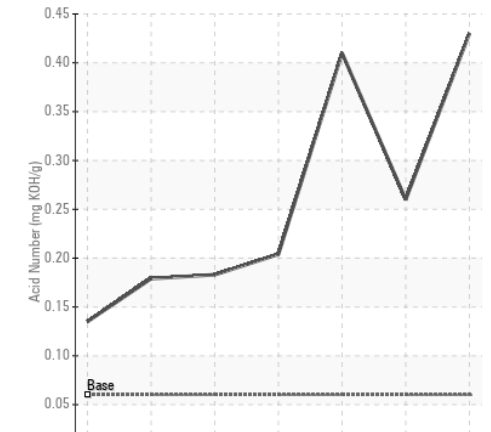
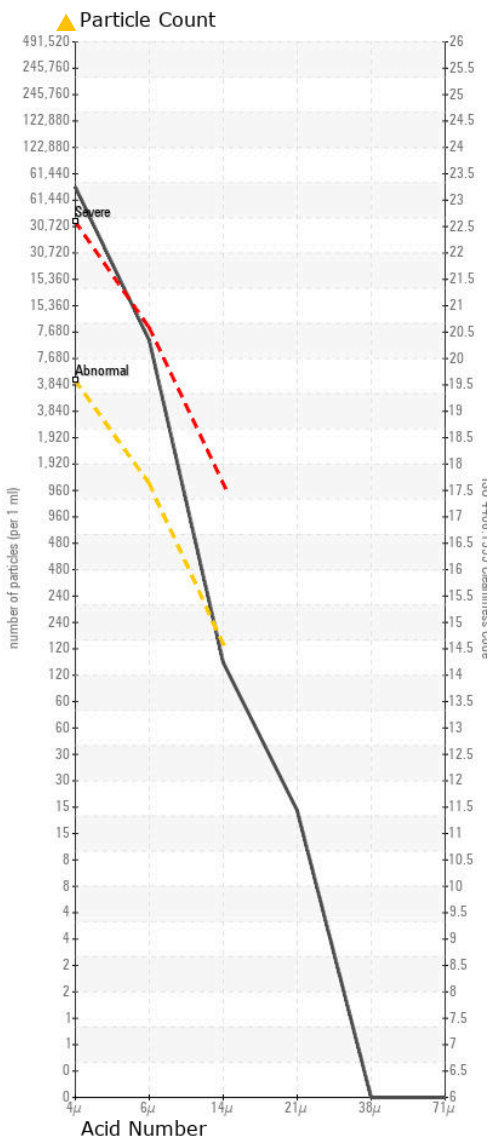
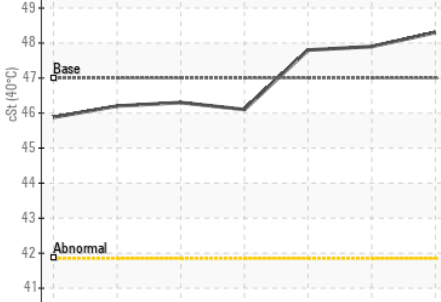
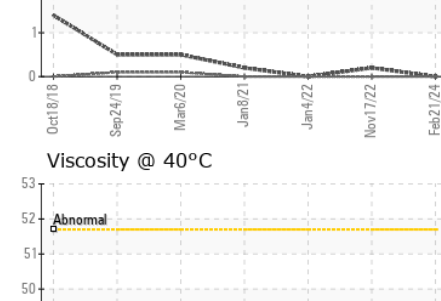
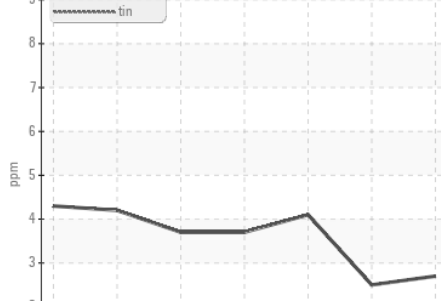
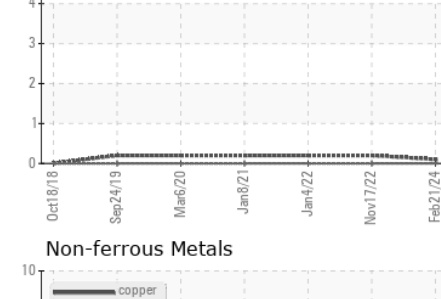
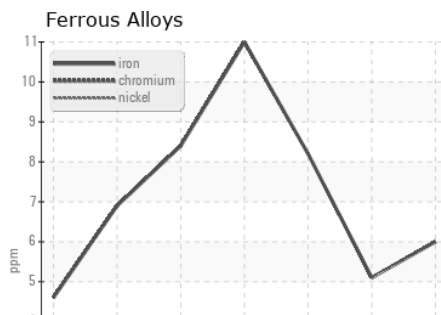
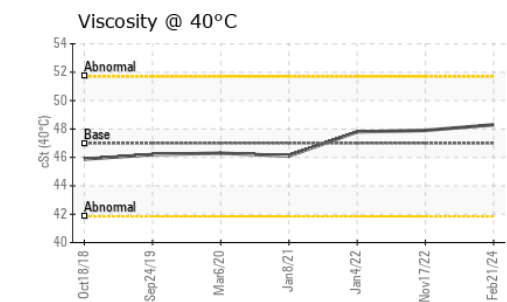
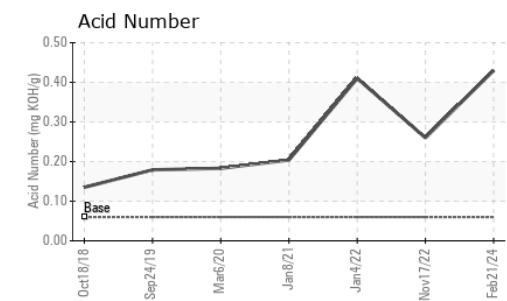
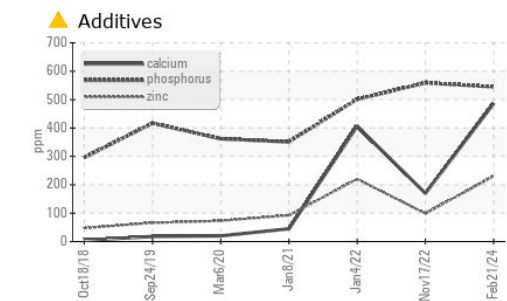
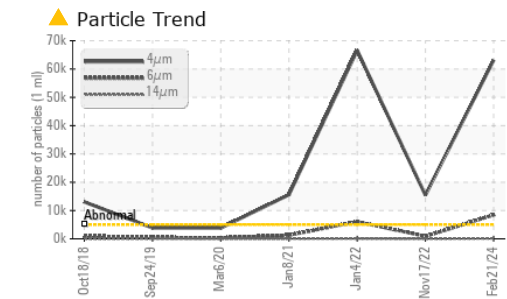
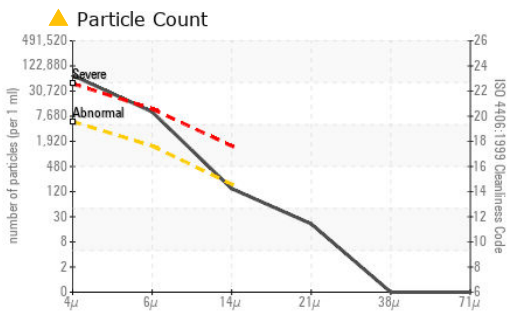
There is a high amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>2</b>	2	2
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	<1	0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>5000	<b>▲ 63110</b>	▲ 15426	▲ 66590
Particles >6µm		ASTM D7647	>1300	<b>▲ 8476</b>	882	▲ 6050
Particles >14µm		ASTM D7647	>160	<b>125</b>	7	53
Particles >21µm		ASTM D7647	>40	<b>18</b>	2	10
Particles >38µm		ASTM D7647	>10	<b>0</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>▲ 23/20/14</b>	▲ 21/17/10	▲ 23/20/13
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil. Zinc level above manufacturer's recommendations. The AN level is acceptable for this fluid.

Sodium	ppm	ASTM D5185m		<b>0</b>	0	<1
Boron	ppm	ASTM D5185m		<b>0</b>	2	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	2	<1
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>12</b>	7	4
Calcium	ppm	ASTM D5185m		<b>486</b>	170	▲ 406
Phosphorus	ppm	ASTM D5185m	827	<b>545</b>	559	501
Zinc	ppm	ASTM D5185m	0	<b>▲ 230</b>	▲ 99	▲ 220
Sulfur	ppm	ASTM D5185m	13	<b>755</b>	653	1002
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	<b>0.43</b>	0.26	0.410
Visc @ 40°C	cSt	ASTM D445	47	<b>48.3</b>	47.9	47.8



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0199720 **Received** : 22 Feb 2024  
**Lab Number** : 06097618 **Tested** : 23 Feb 2024  
**Unique Number** : 10890471 **Diagnosed** : 26 Feb 2024 - Jonathan Hester  
**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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