



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

Area  
**[44632]**  
 Machine Id  
**HITACHI ZX210 1FFDCJ70LEE330546**  
 Component  
**Hydraulic System**  
 Fluid  
**HITACHI HYDRAULIC SUPER EX 46HN (--- GAL)**

### RECOMMENDATION

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0203060</b>	JR0157766	JR0110698
Sample Date		Client Info		<b>12 Feb 2024</b>	11 Jan 2023	08 Dec 2021
Machine Age	hrs	Client Info		<b>7239</b>	6545	5625
Oil Age	hrs	Client Info		<b>6319</b>	920	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changed</b>	Not Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	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>9</b>	8	16
Iron	ppm	ASTM D5185m	>20	<b>9</b>	8	▲ 25
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	2
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>1</b>	3	6
Lead	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>75	<b>&lt;1</b>	1	2
Tin	ppm	ASTM D5185m	>10	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

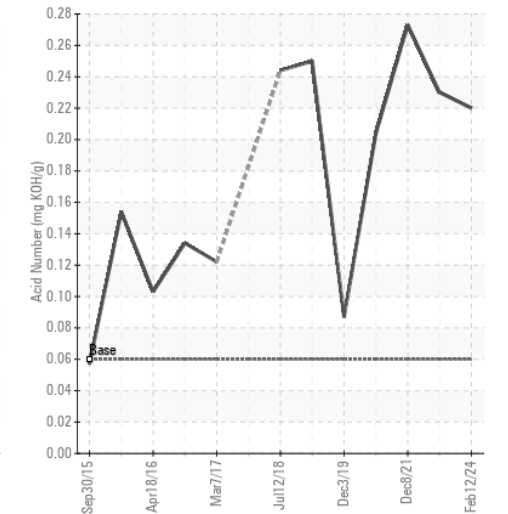
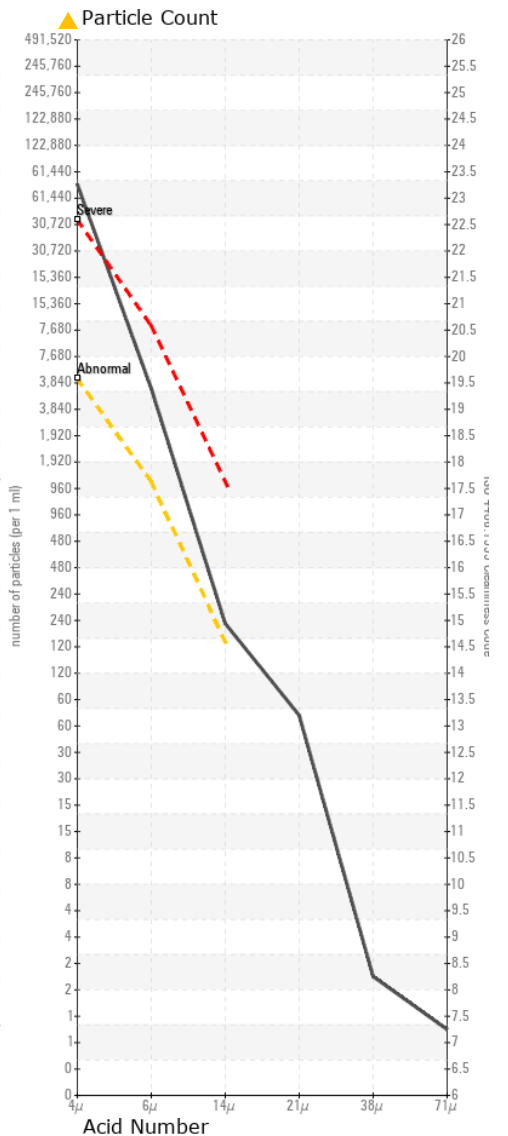
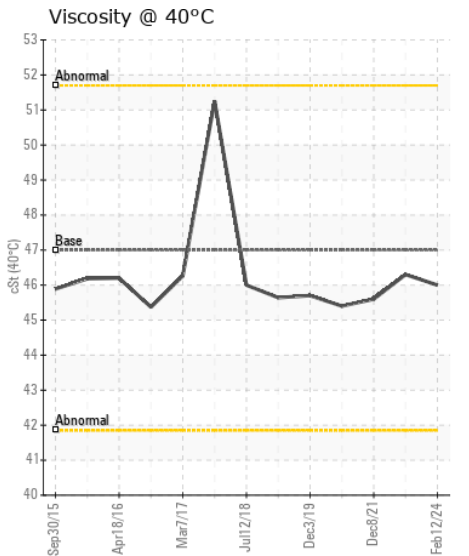
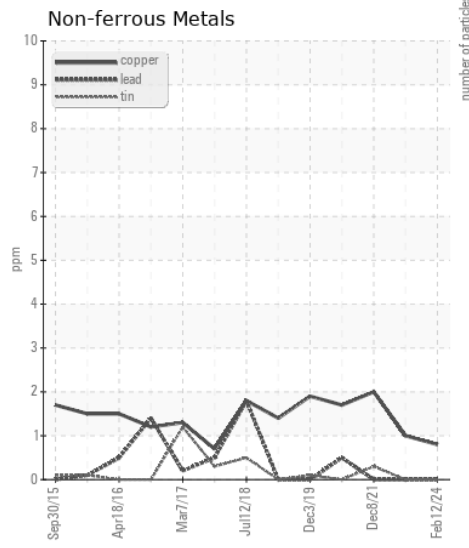
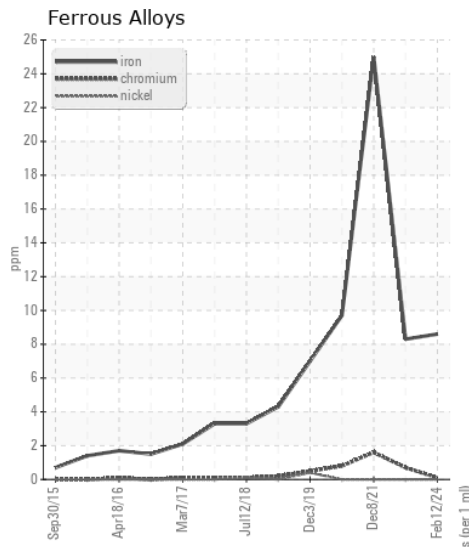
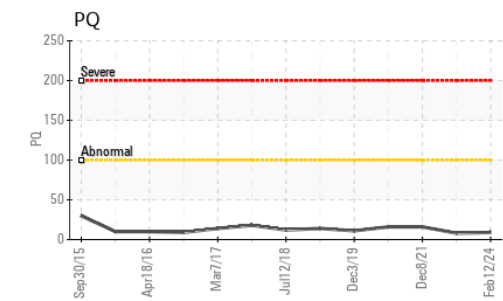
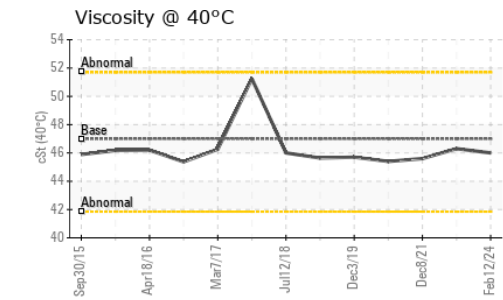
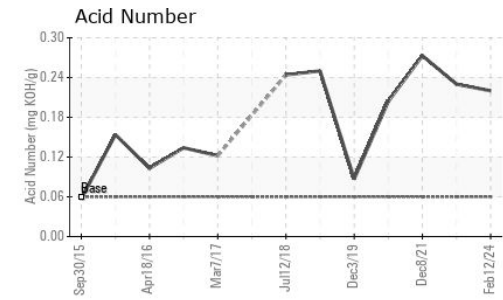
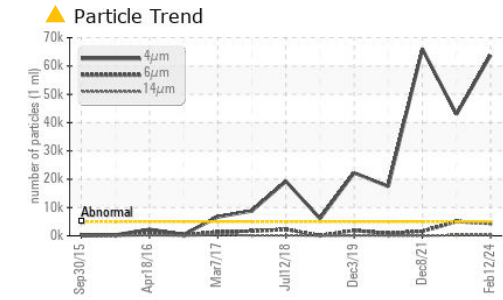
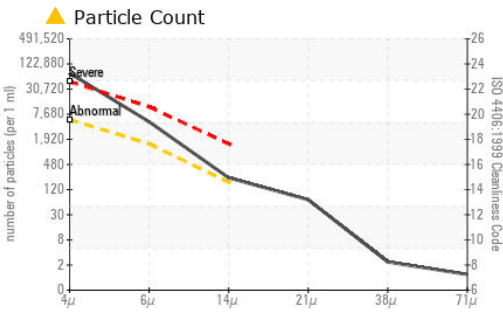
There is a high amount of particulates present in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>1</b>	1	2
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>5000	▲ <b>63804</b>	▲ 42937	▲ 66014
Particles >6µm		ASTM D7647	>1300	▲ <b>4397</b>	▲ 5047	▲ 1579
Particles >14µm		ASTM D7647	>160	▲ <b>203</b>	▲ 286	7
Particles >21µm		ASTM D7647	>40	▲ <b>61</b>	▲ 52	2
Particles >38µm		ASTM D7647	>10	<b>2</b>	2	0
Particles >71µm		ASTM D7647	>3	<b>1</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ <b>23/19/15</b>	▲ 23/20/15	▲ 23/18/10
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

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

Sodium	ppm	ASTM D5185m		<b>0</b>	0	1
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>2</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185m		<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>&lt;1</b>	2	0
Calcium	ppm	ASTM D5185m		<b>2</b>	3	2
Phosphorus	ppm	ASTM D5185m	827	<b>463</b>	536	450
Zinc	ppm	ASTM D5185m	0	<b>17</b>	12	24
Sulfur	ppm	ASTM D5185m	13	<b>39</b>	137	182
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	<b>0.22</b>	0.23	0.273
Visc @ 40°C	cSt	ASTM D445	47	<b>46.0</b>	46.3	45.6



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0203060 **Received** : 14 Feb 2024  
**Lab Number** : 06089515 **Tested** : 15 Feb 2024  
**Unique Number** : 10876960 **Diagnosed** : 16 Feb 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: PQ )

**JRE - MANASSAS PARK**  
 9107 OWENS DRIVE  
 MANASSAS PARK, VA  
 US 20111  
 Contact: DON VEST  
 dvest@jamesriverequipment.com  
 T: (703)631-8500  
 F: (703)631-4715

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)