



Machine Id
HAMM HD120 H2070092

Component
Diesel Engine

Fluid
{not provided} (--- GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the fuel injection system. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0197690	---	---
Sample Date		Client Info		19 Mar 2024	---	---
Machine Age	hrs	Client Info		7199	---	---
Oil Age	hrs	Client Info		6779	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Not Chngd	---	---
Filter Changed		Client Info		Not Chngd	---	---
Sample Status				SEVERE	---	---

WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 177	---	---
Chromium	ppm	ASTM D5185m	>20	4	---	---
Nickel	ppm	ASTM D5185m	>4	1	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>3	0	---	---
Aluminum	ppm	ASTM D5185m	>20	17	---	---
Lead	ppm	ASTM D5185m	>40	5	---	---
Copper	ppm	ASTM D5185m	>330	6	---	---
Tin	ppm	ASTM D5185m	>15	2	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

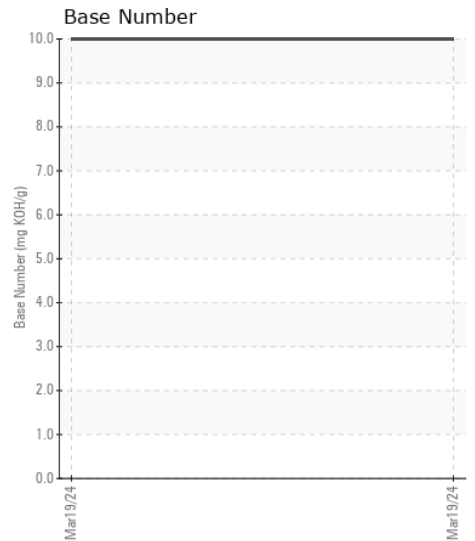
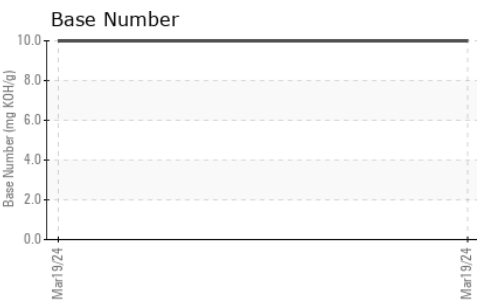
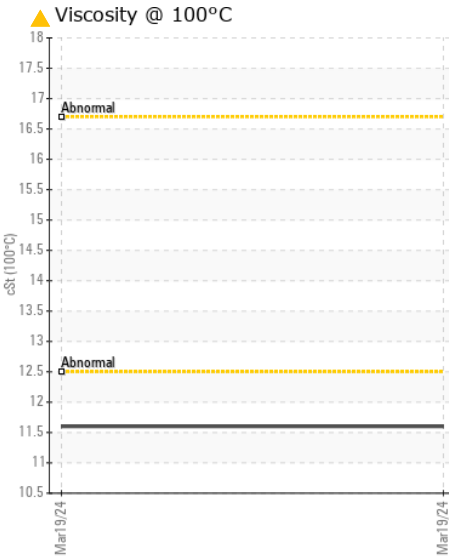
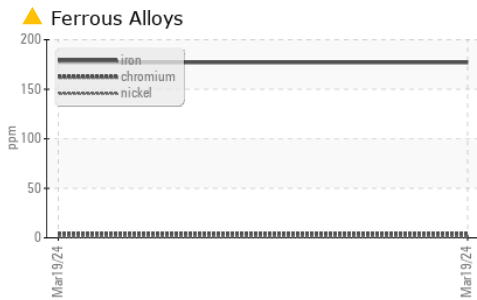
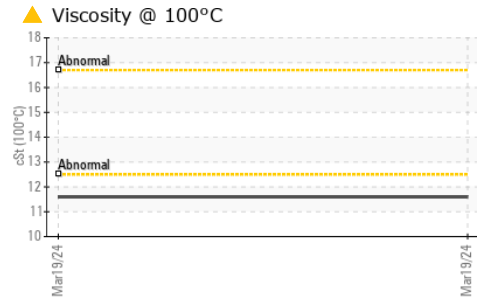
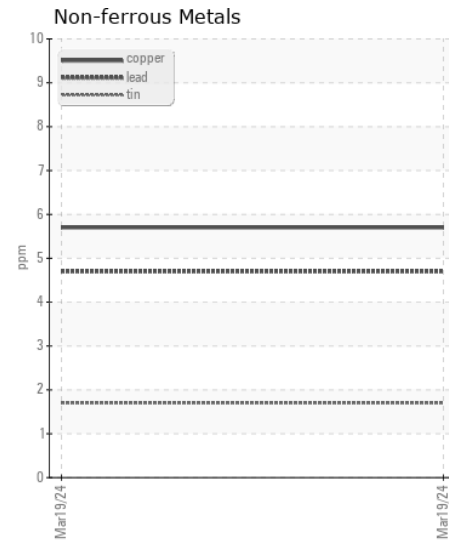
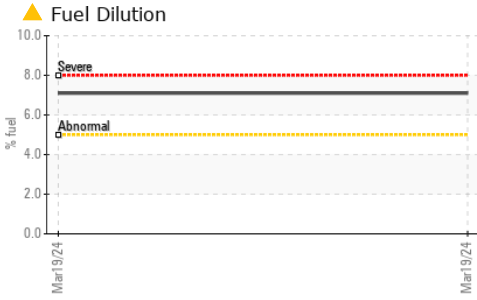
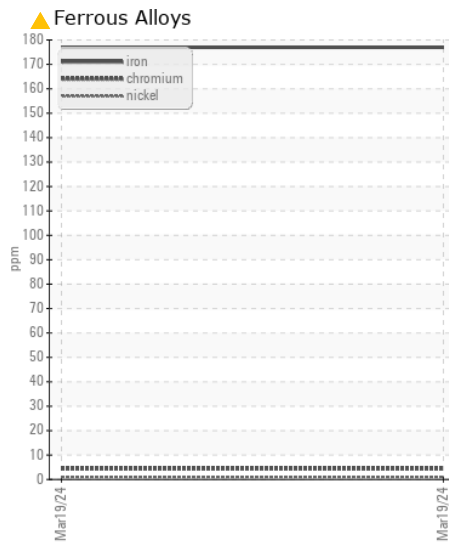
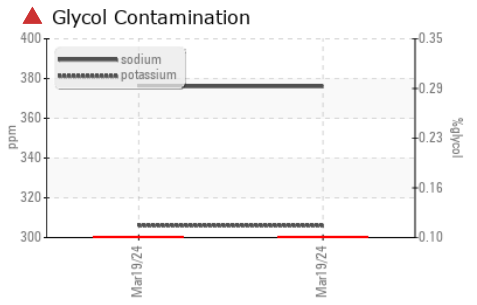
Sodium and/or potassium levels are high. Test for glycol is positive. There is a moderate amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>25	12	---	---
Potassium	ppm	ASTM D5185m	>20	▲ 306	---	---
Fuel	%	ASTM D3524	>5	▲ 7.1	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol	%	*ASTM D2982		▲ 0.10	---	---
Soot %	%	*ASTM D7844	>3	0.4	---	---
Nitration	Abs/cm	*ASTM D7624	>20	13.2	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.0	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---

FLUID CONDITION

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		▲ 376	---	---
Boron	ppm	ASTM D5185m		9	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		89	---	---
Manganese	ppm	ASTM D5185m		1	---	---
Magnesium	ppm	ASTM D5185m		931	---	---
Calcium	ppm	ASTM D5185m		1152	---	---
Phosphorus	ppm	ASTM D5185m		1058	---	---
Zinc	ppm	ASTM D5185m		1257	---	---
Sulfur	ppm	ASTM D5185m		3054	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.1	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		10.0	---	---
Visc @ 100°C	cSt	ASTM D445		▲ 11.6	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0197690
Lab Number : 06123471
Unique Number : 10937622
Test Package : CONST (Additional Tests: FuelDilution, Glycol, PercentFuel, TBN)

JRE - GARNER
 4161 AUBURN CHURCH RD
 GARNER, NC
 US 27529
 Contact: RALEIGH SHOP

To discuss this sample report, contact Customer Service at 1-800-237-1369.

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* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

T: (919)614-2260

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

F: (919)779-5432