



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Area
{UNASSIGNED} [U#15. FSM281041]
 Machine Id
PRINCETON U#15
 Component
Diesel Engine
 Fluid
{not provided} (--- GAL)

RECOMMENDATION

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		WC0892005	---	---
Sample Date		Client Info		08 Apr 2024	---	---
Machine Age	hrs	Client Info		57	---	---
Oil Age	hrs	Client Info		57	---	---
Filter Age	hrs	Client Info		57	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				SEVERE	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	34	---	---
Chromium	ppm	ASTM D5185m	>20	3	---	---
Nickel	ppm	ASTM D5185m	>4	<1	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>3	0	---	---
Aluminum	ppm	ASTM D5185m	>20	12	---	---
Lead	ppm	ASTM D5185m	>40	2	---	---
Copper	ppm	ASTM D5185m	>330	10	---	---
Tin	ppm	ASTM D5185m	>15	2	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

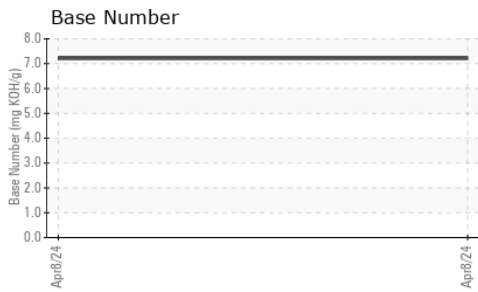
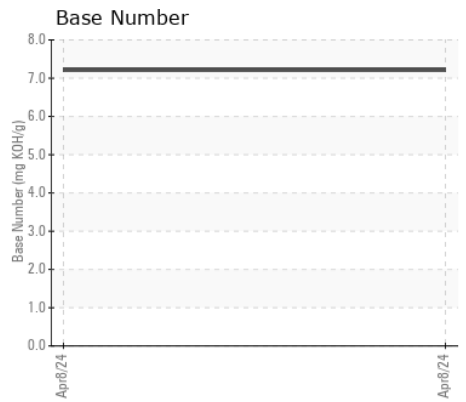
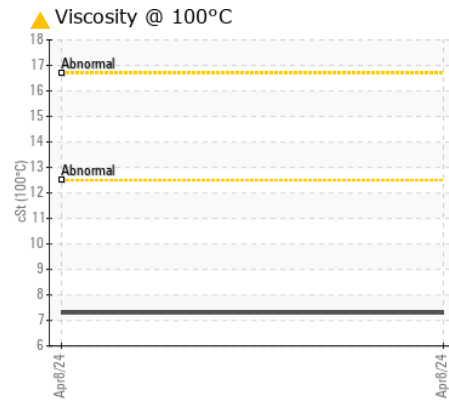
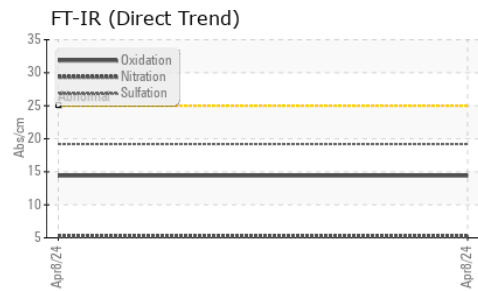
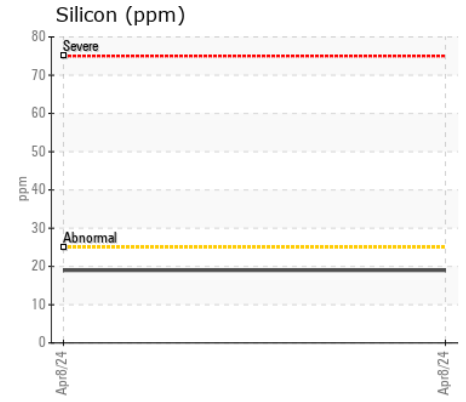
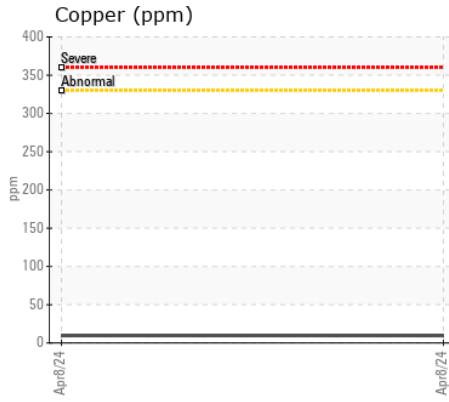
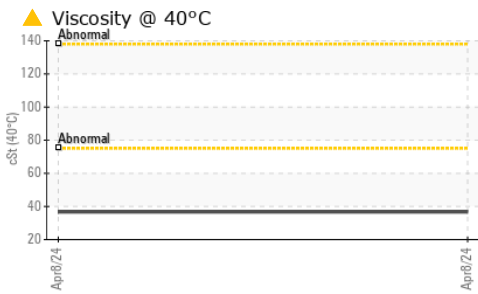
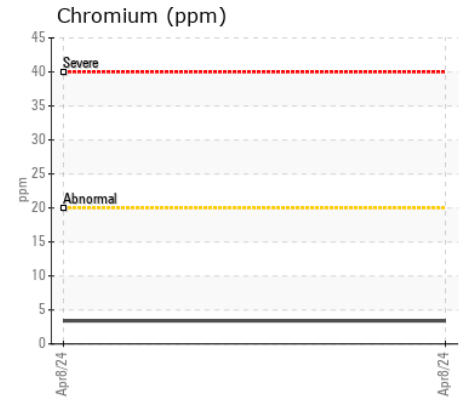
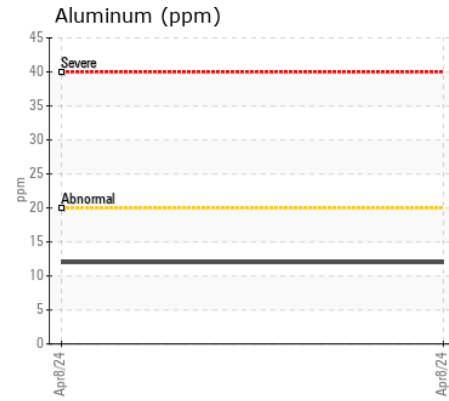
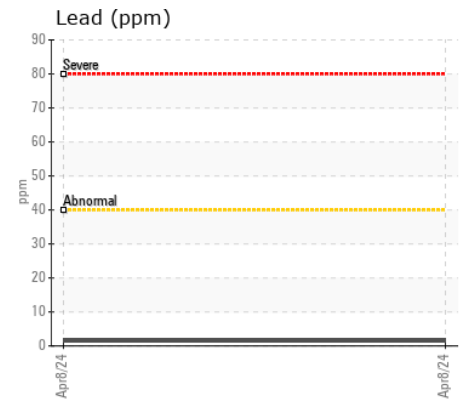
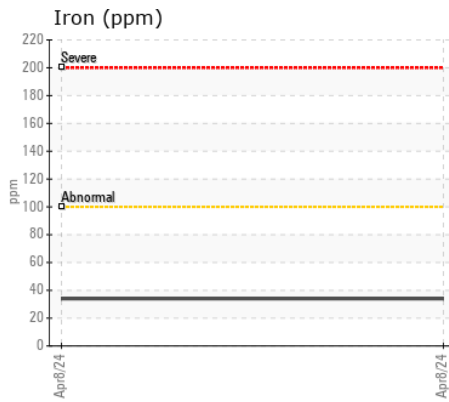
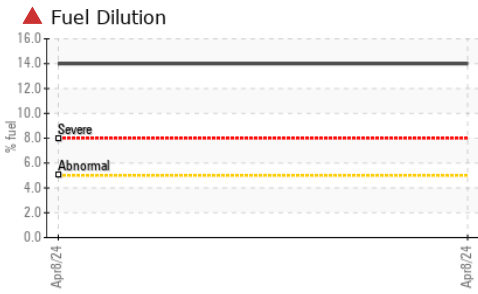
There is a high amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>25	19	---	---
Potassium	ppm	ASTM D5185m	>20	3	---	---
Fuel	%	ASTM D3524	>5	▲ 14.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.1	---	---
Nitration	Abs/cm	*ASTM D7624	>20	5.2	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.2	---	---
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		6	---	---
Boron	ppm	ASTM D5185m		315	---	---
Barium	ppm	ASTM D5185m		9	---	---
Molybdenum	ppm	ASTM D5185m		63	---	---
Manganese	ppm	ASTM D5185m		8	---	---
Magnesium	ppm	ASTM D5185m		290	---	---
Calcium	ppm	ASTM D5185m		1417	---	---
Phosphorus	ppm	ASTM D5185m		929	---	---
Zinc	ppm	ASTM D5185m		1024	---	---
Sulfur	ppm	ASTM D5185m		4159	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.4	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		7.21	---	---
Visc @ 40°C	cSt	ASTM D445		▲ 36.7	---	---
Visc @ 100°C	cSt	ASTM D445		▲ 7.3	---	---
Viscosity Index (VI)	Scale	ASTM D2270		168	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0892005 **Received** : 12 Apr 2024
Lab Number : 06147546 **Tested** : 17 Apr 2024
Unique Number : 10977624 **Diagnosed** : 17 Apr 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: FuelDilution, KV40, PercentFuel, VI)

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)

HIAB USA - SOUTH
 8960 HWY 5 BLDG A
 DOUGLASVILLE, GA
 US 30135

Contact: MARTY CHAPMAN
 marty.chapman@cargotec.com

T: (770)949-1007

F: (770)949-7552