



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
FP60
 Component
Diesel Engine
 Fluid
{not provided} (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend you service the filters on this component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0014473	---	---
Sample Date		Client Info		15 Jun 2024	---	---
Machine Age	hrs	Client Info		11838	---	---
Oil Age	hrs	Client Info		900	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				ABNORMAL	---	---

WEAR

Moderate concentration of visible metal present. All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	9	---	---
Chromium	ppm	ASTM D5185m	>20	0	---	---
Nickel	ppm	ASTM D5185m	>4	0	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>3	0	---	---
Aluminum	ppm	ASTM D5185m	>20	2	---	---
Lead	ppm	ASTM D5185m	>40	0	---	---
Copper	ppm	ASTM D5185m	>330	4	---	---
Tin	ppm	ASTM D5185m	>15	0	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	▲ MODER	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

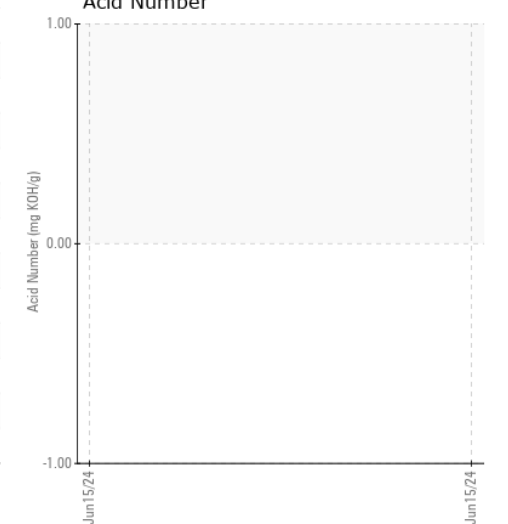
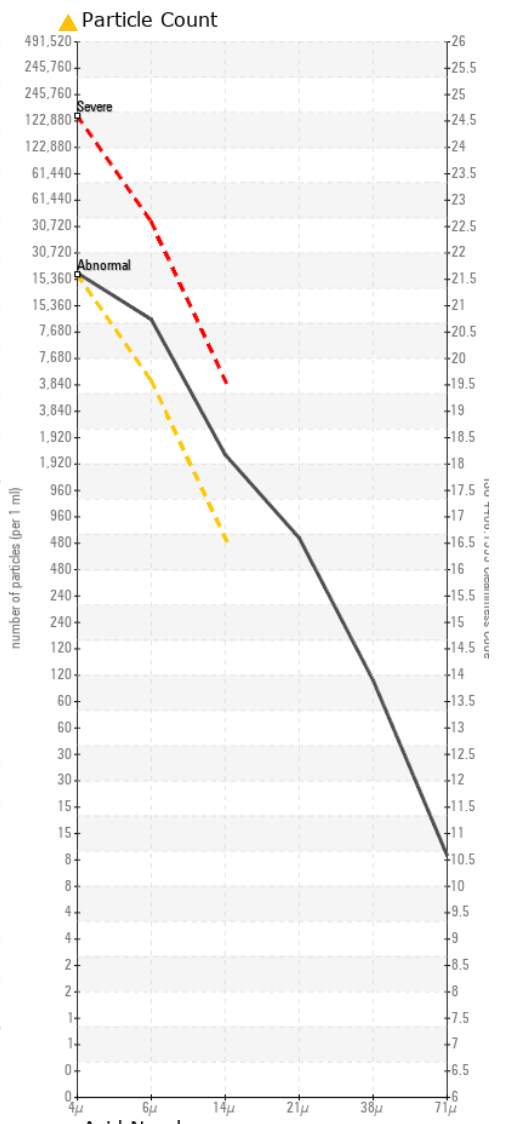
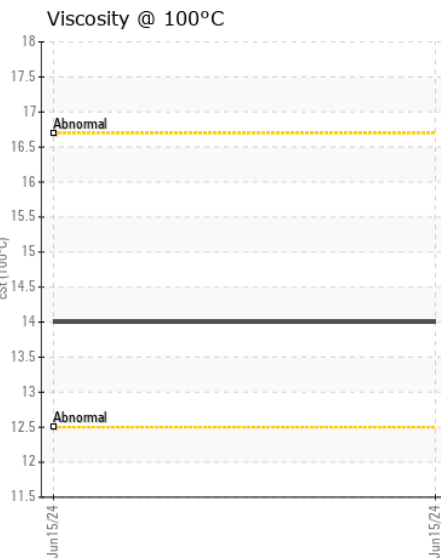
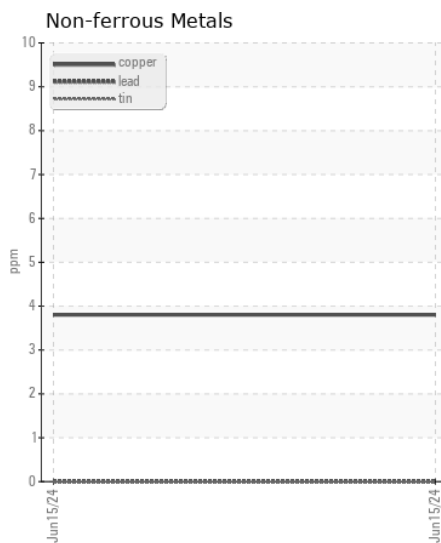
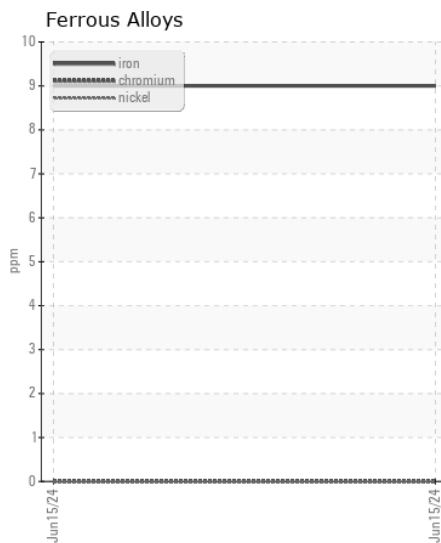
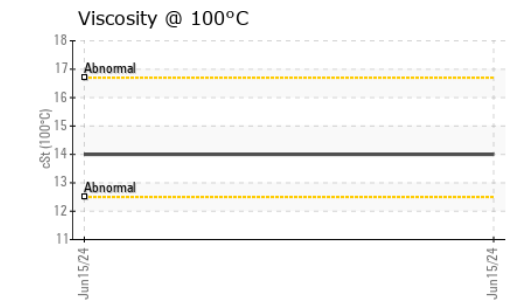
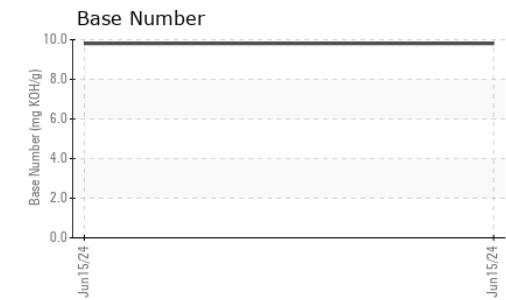
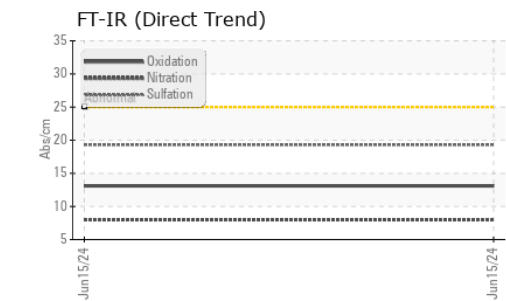
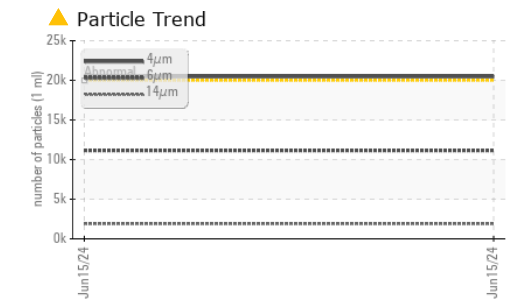
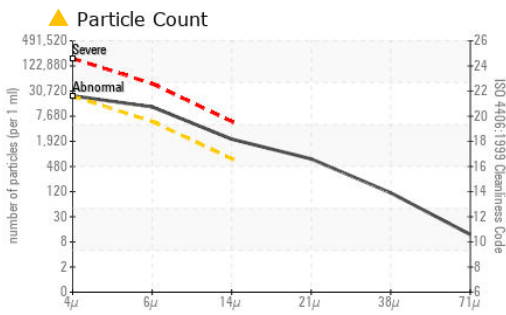
There is a high amount of particulates present in the oil.

Silicon	ppm	ASTM D5185m	>25	5	---	---
Potassium	ppm	ASTM D5185m	>20	6	---	---
Fuel		WC Method	>5	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.2	---	---
Nitration	Abs/cm	*ASTM D7624	>20	8.0	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.3	---	---
Particles >4µm		ASTM D7647	>20000	▲ 20470	---	---
Particles >6µm		ASTM D7647	>5000	▲ 11151	---	---
Particles >14µm		ASTM D7647	>640	▲ 1898	---	---
Particles >21µm		ASTM D7647	>160	▲ 639	---	---
Particles >38µm		ASTM D7647	>40	▲ 99	---	---
Particles >71µm		ASTM D7647	>10	▲ 10	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ 22/21/18	---	---
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

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		26	---	---
Boron	ppm	ASTM D5185m		74	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		2	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		759	---	---
Calcium	ppm	ASTM D5185m		1508	---	---
Phosphorus	ppm	ASTM D5185m		1110	---	---
Zinc	ppm	ASTM D5185m		1352	---	---
Sulfur	ppm	ASTM D5185m		4795	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.1	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		9.81	---	---
Visc @ 100°C	cSt	ASTM D445		14.0	---	---



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0014473 **Received** : 20 Jun 2024
Lab Number : 06215922 **Tested** : 23 Jun 2024
Unique Number : 11088786 **Diagnosed** : 23 Jun 2024 - Don Baldrige
Test Package : MOB 2 (Additional Tests: PrtCount, TAN Man)

IRON CLAD ENERGY
 9015 W COUNTY RD 127
 MIDLAND, TX
 US 79706
 Contact: TREVOR FRENETTE

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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F: