



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
INTERNATIONAL 148

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 15W40 (20 QTS)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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.

WEAR

Cylinder, crank, or cam shaft wear is indicated.

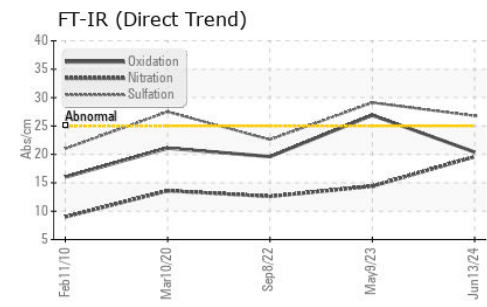
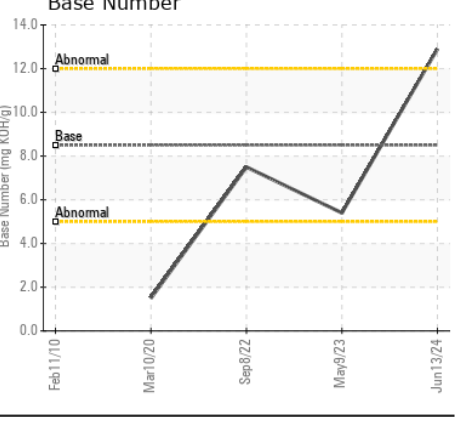
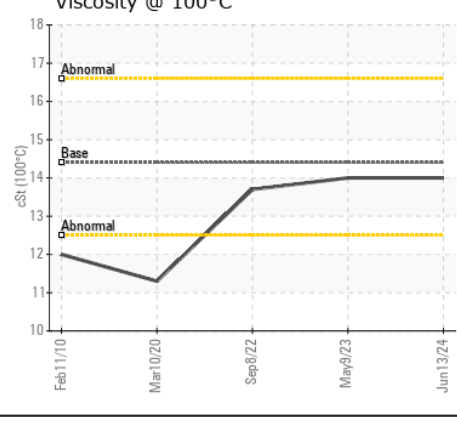
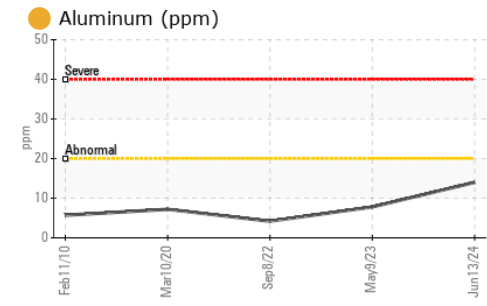
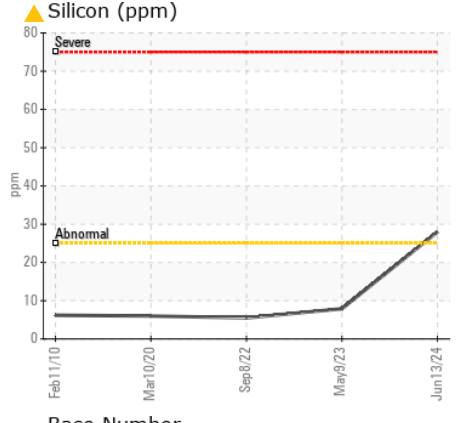
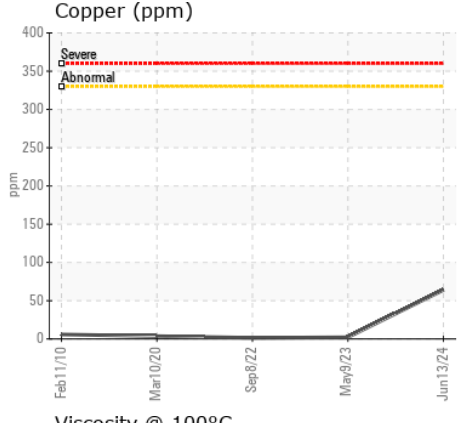
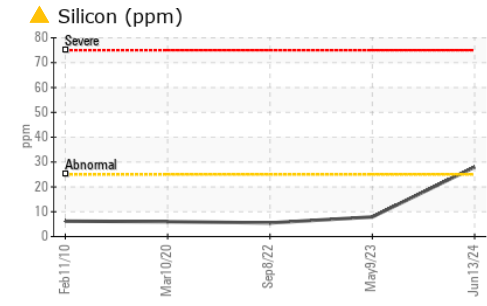
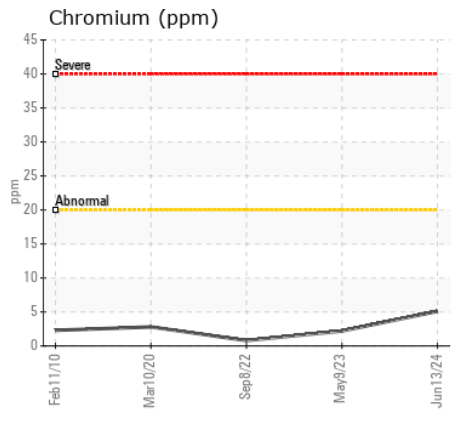
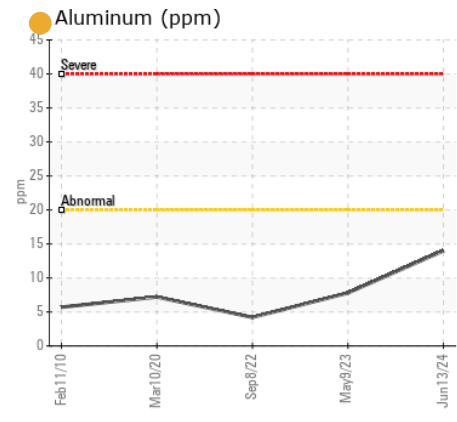
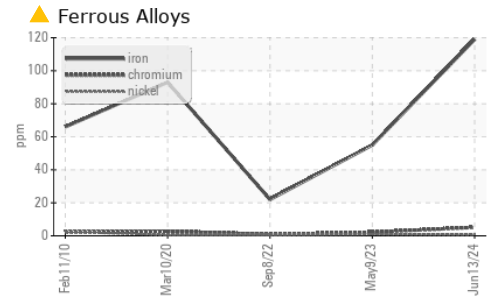
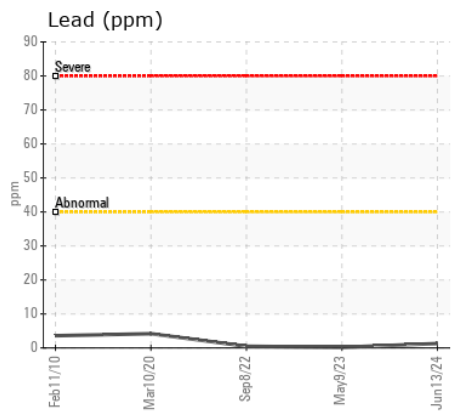
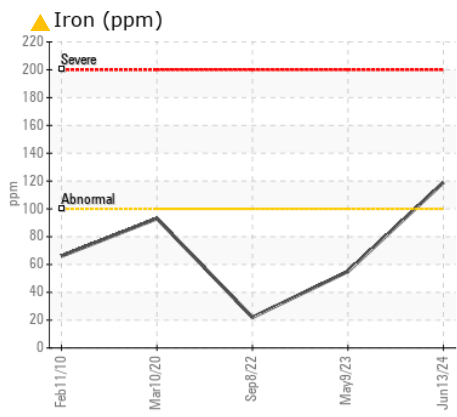
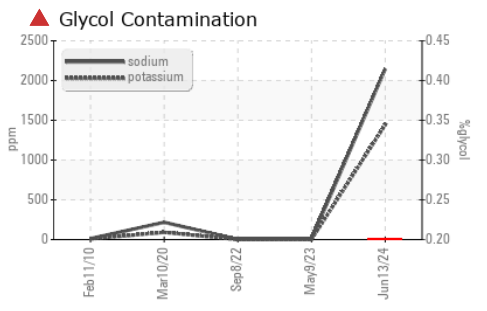
CONTAMINATION

Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

FLUID CONDITION

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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0932707	WC0806542	WC0729762
Sample Date		Client Info		13 Jun 2024	09 May 2023	08 Sep 2022
Machine Age	mls	Client Info		214210	204157	60868
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Filter Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				SEVERE	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	▲ 119	55	22
Chromium	ppm	ASTM D5185m	>20	5	2	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	● 14	8	4
Lead	ppm	ASTM D5185m	>40	1	<1	<1
Copper	ppm	ASTM D5185m	>330	64	2	2
Tin	ppm	ASTM D5185m	>15	<1	<1	1
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	▲ 28	8	6
Potassium	ppm	ASTM D5185m	>20	▲ 1444	3	0
Fuel		WC Method	>2.0	<1.0	<1.0	1.9
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		▲ 0.20	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.9	1.1	0.5
Nitration	Abs/cm	*ASTM D7624	>20	19.6	14.4	12.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.8	29.1	22.6
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Sodium	ppm	ASTM D5185m	>158	▲ 2145	3	2
Boron	ppm	ASTM D5185m	250	35	28	55
Barium	ppm	ASTM D5185m	10	0	2	0
Molybdenum	ppm	ASTM D5185m	100	349	97	79
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	100	76	33
Calcium	ppm	ASTM D5185m	3000	1968	2374	1845
Phosphorus	ppm	ASTM D5185m	1150	926	1086	889
Zinc	ppm	ASTM D5185m	1350	1220	1310	1080
Sulfur	ppm	ASTM D5185m	4250	3398	4017	3117
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.4	26.9	19.6
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	12.9	5.4	7.5
Visc @ 100°C	cSt	ASTM D445	14.4	14.0	14.0	13.7



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0932707 **Received** : 26 Jun 2024
Lab Number : 06220931 **Tested** : 28 Jun 2024
Unique Number : 11099128 **Diagnosed** : 28 Jun 2024 - Jonathan Hester
Test Package : MOB 1 (Additional Tests: Glycol, TBN)
 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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