



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
CATERPILLAR 950K 140 (S/N R4A2622)
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (7 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		RW0005164	RW0004496	RW0004074
Sample Date		Client Info		12 Mar 2024	19 Aug 2023	01 Oct 2022
Machine Age	hrs	Client Info		8143	7739	7450
Oil Age	hrs	Client Info		404	289	433
Filter Age	hrs	Client Info		404	289	433
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	31	34	61
Chromium	ppm	ASTM D5185m	>20	0	1	2
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	18	22	▲ 37
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	4	1	5
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

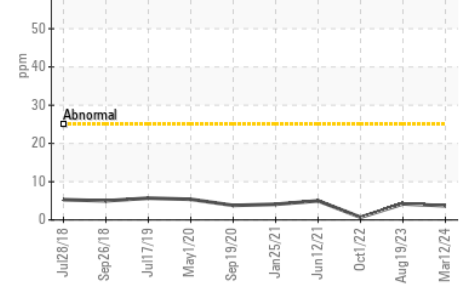
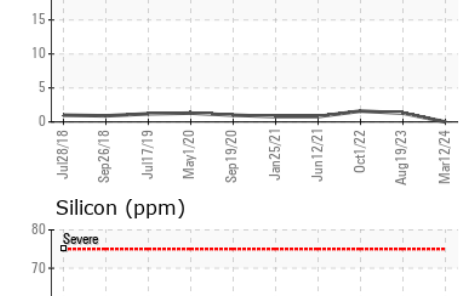
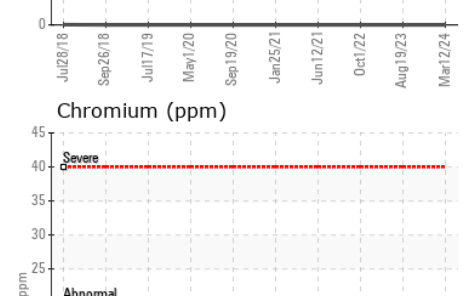
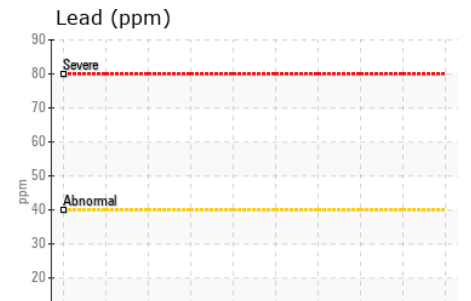
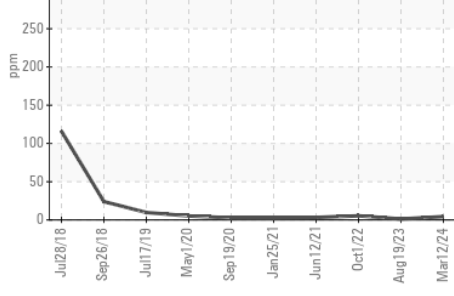
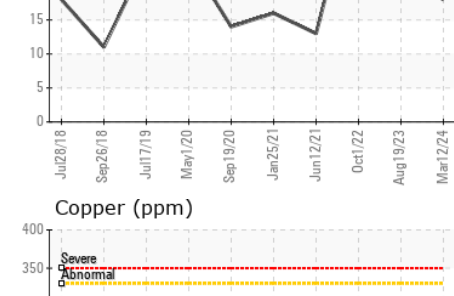
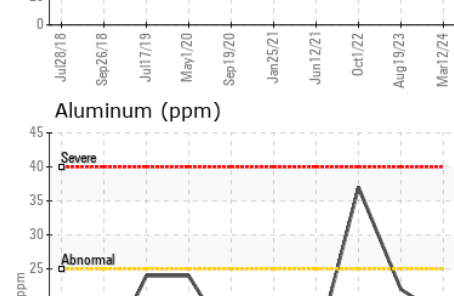
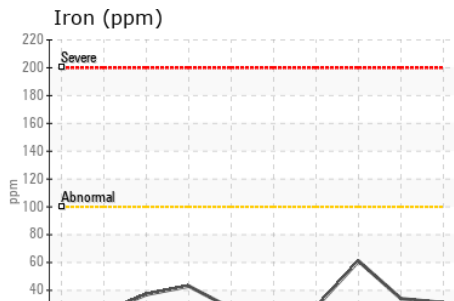
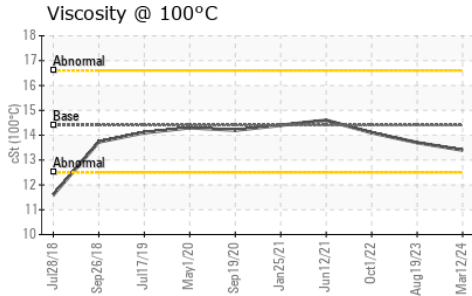
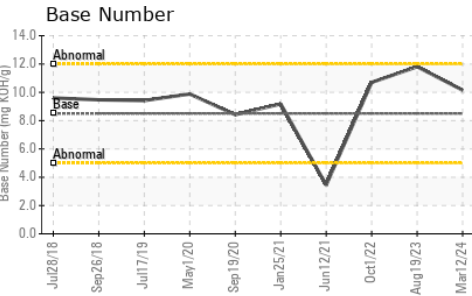
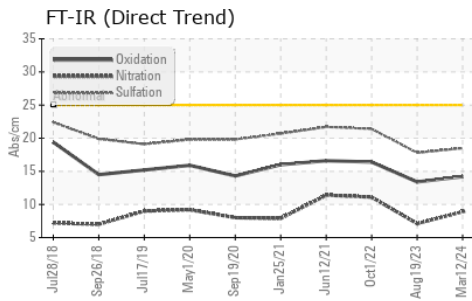
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	4	<1
Potassium	ppm	ASTM D5185m	>20	<1	<1	0
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1	0.5	0.9
Nitration	Abs/cm	*ASTM D7624	>20	8.9	7.1	11.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.5	17.8	21.4
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

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m	>158	8	10	19
Boron	ppm	ASTM D5185m	250	0	6	32
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	68	67	80
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	450	1044	989	412
Calcium	ppm	ASTM D5185m	3000	1320	1305	1876
Phosphorus	ppm	ASTM D5185m	1150	1179	1172	1100
Zinc	ppm	ASTM D5185m	1350	1417	1447	1253
Sulfur	ppm	ASTM D5185m	4250	4200	4338	4326
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.2	13.4	16.4
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	10.15	11.81	10.7
Visc @ 100°C	cSt	ASTM D445	14.4	13.4	13.7	14.1



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RW0005164
Lab Number : 06146744
Unique Number : 10976822
Test Package : MOB 2

HALLACK CONTRACTING, INC.
 4223 W POLK
 HART, MI
 US 49420

Received : 11 Apr 2024
Tested : 15 Apr 2024
Diagnosed : 15 Apr 2024 - Wes Davis

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