



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
A-339
 Component
Diesel Engine
 Fluid
DURAMAX 15W40 (--- QTS)

RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DC0020731	DC0029744	DC0020453
Sample Date		Client Info		16 Jan 2024	10 Aug 2023	09 May 2023
Machine Age	hrs	Client Info		30877	30042	29379
Oil Age	hrs	Client Info		835	683	952
Filter Age	hrs	Client Info		835	683	952
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	SEVERE

WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 161	42	50
Chromium	ppm	ASTM D5185m	>20	3	2	2
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	2	0
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	9	9	11
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

CONTAMINATION

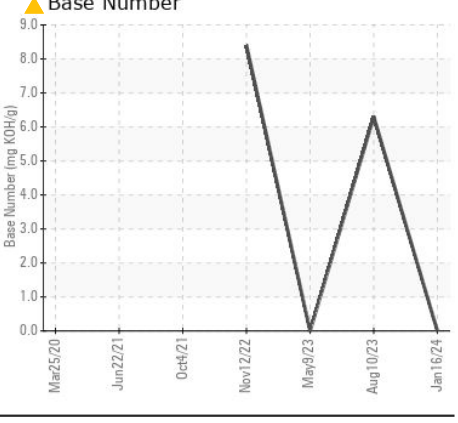
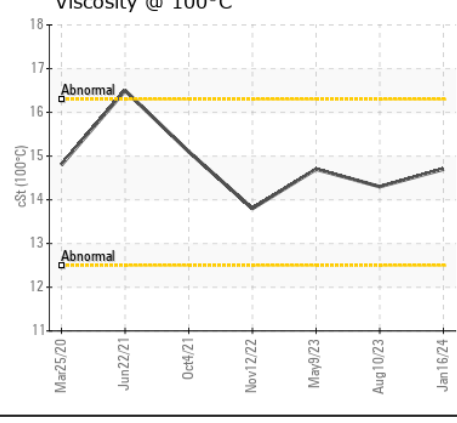
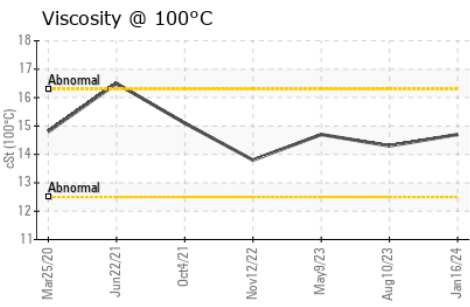
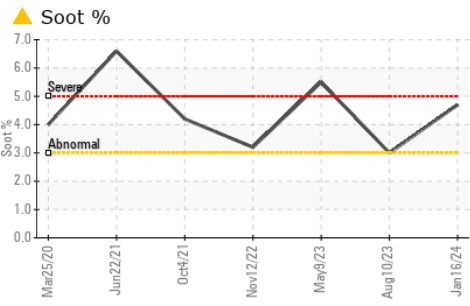
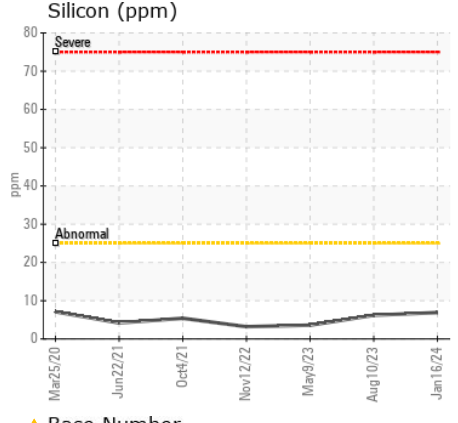
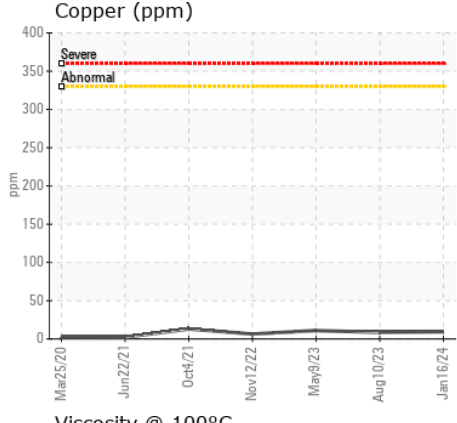
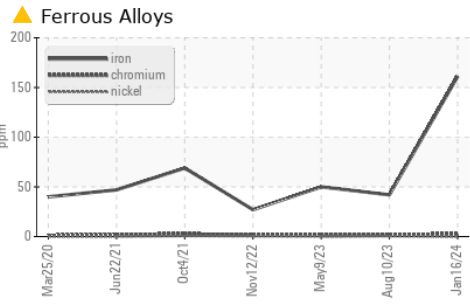
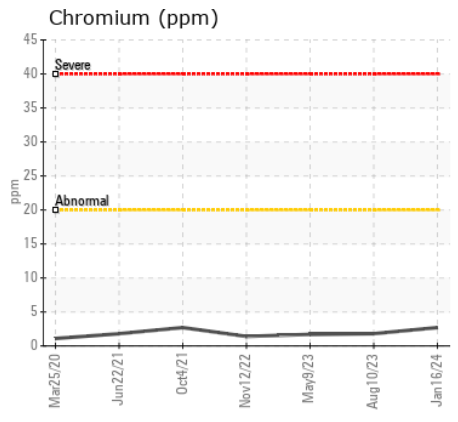
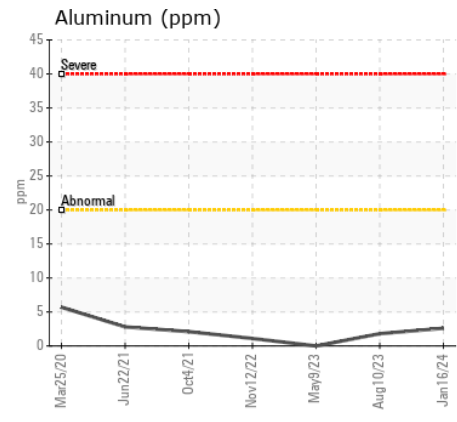
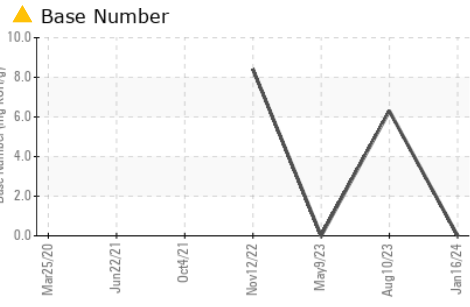
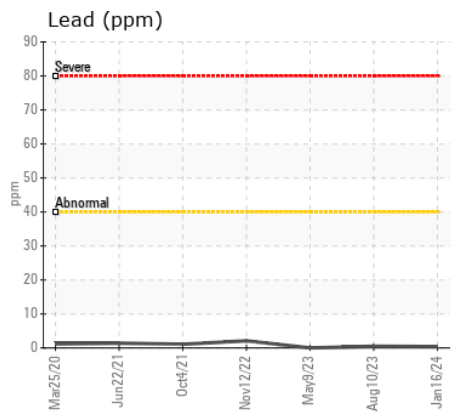
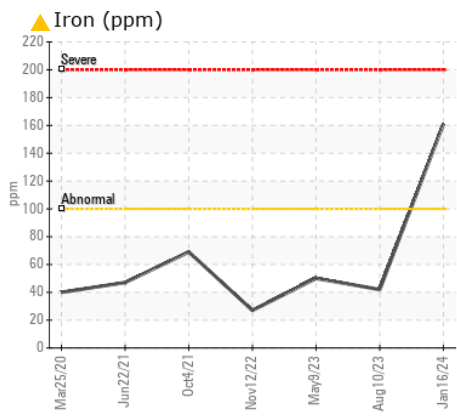
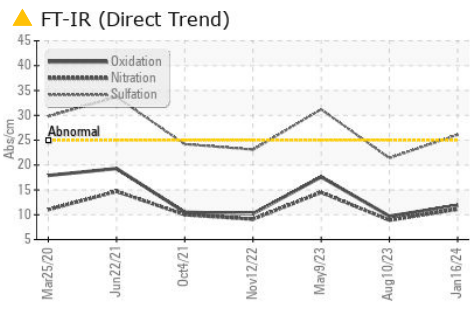
There is an abnormal amount of solids and carbon present in the oil.

Silicon	ppm	ASTM D5185m	>25	7	6	4
Potassium	ppm	ASTM D5185m	>20	<1	4	0
Fuel	%	ASTM D3524	>5	<1.0	<1.0	▲ 3.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	▲ 4.7	▲ 3	▲ 5.5
Nitration	Abs/cm	*ASTM D7624	>20	11.1	8.9	14.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.1	21.4	31.2
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 level is low.

Sodium	ppm	ASTM D5185m		1	1	1
Boron	ppm	ASTM D5185m		4	2	<1
Barium	ppm	ASTM D5185m		0	11	0
Molybdenum	ppm	ASTM D5185m		5	5	4
Manganese	ppm	ASTM D5185m		2	<1	<1
Magnesium	ppm	ASTM D5185m		60	76	66
Calcium	ppm	ASTM D5185m		2337	2137	2251
Phosphorus	ppm	ASTM D5185m		891	836	851
Zinc	ppm	ASTM D5185m		1066	1033	1043
Sulfur	ppm	ASTM D5185m		4085	3453	4111
Oxidation	Abs/.1mm	*ASTM D7414	>25	11.9	9.7	17.6
Base Number (BN)	mg KOH/g	ASTM D2896		▲ 0.0	6.3	▲ 0.0
Visc @ 100°C	cSt	ASTM D445		14.7	14.3	14.7



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DC0020731 **Received** : 11 Apr 2024
Lab Number : 06146470 **Tested** : 15 Apr 2024
Unique Number : 10976548 **Diagnosed** : 15 Apr 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: FuelDilution, 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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