



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
A-343
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. We recommend an early resample to monitor this condition.
NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

WEAR

All component wear rates are normal.

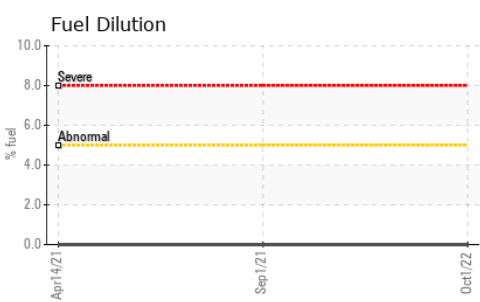
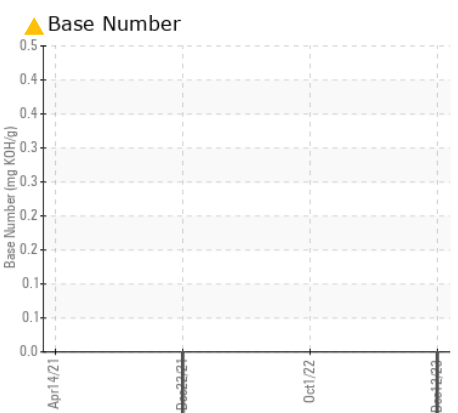
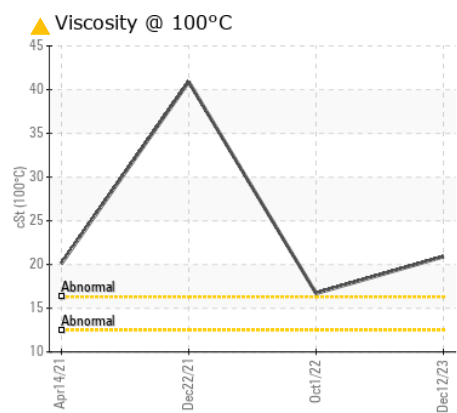
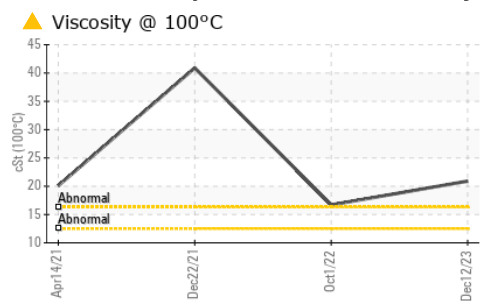
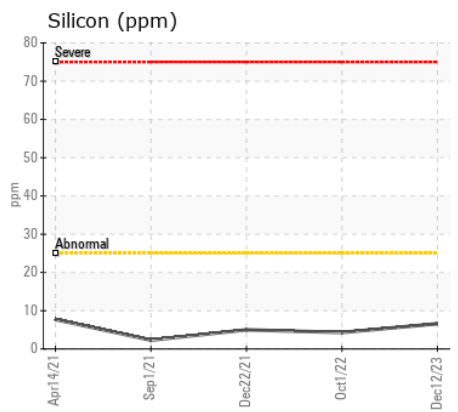
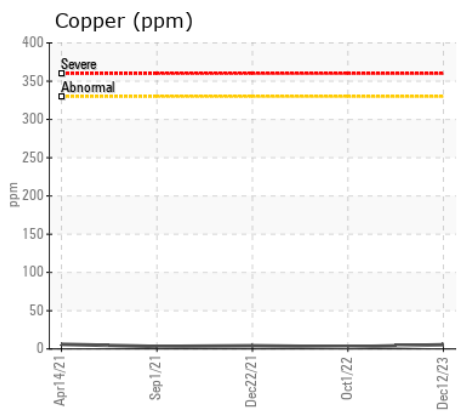
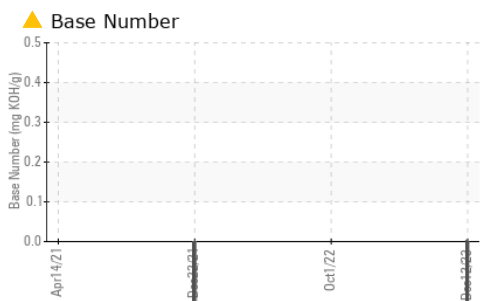
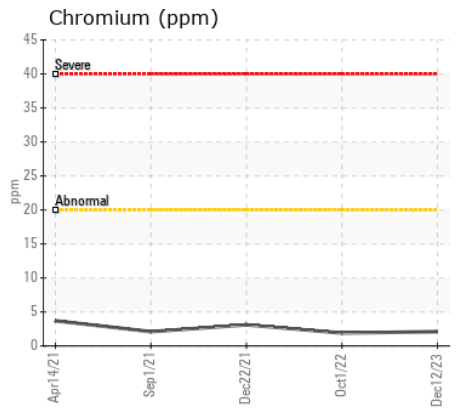
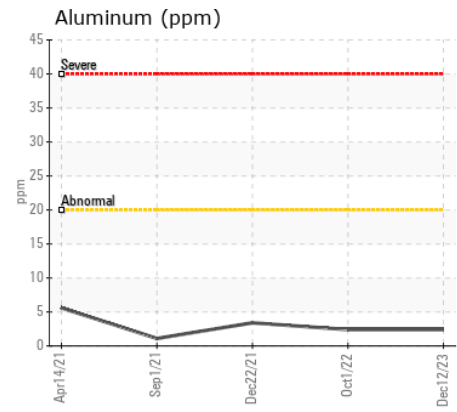
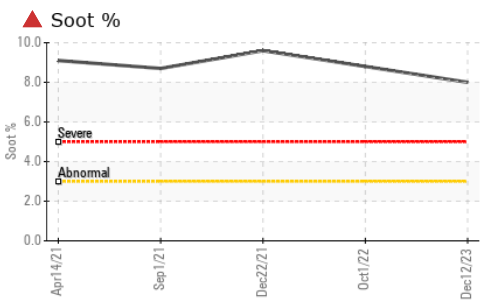
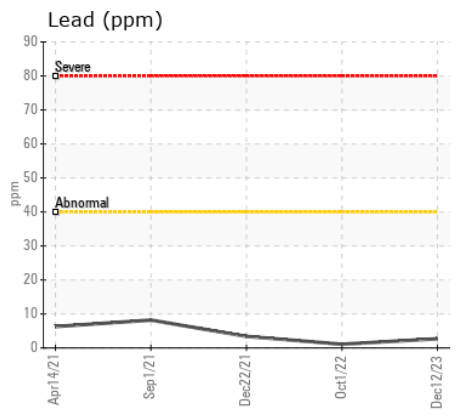
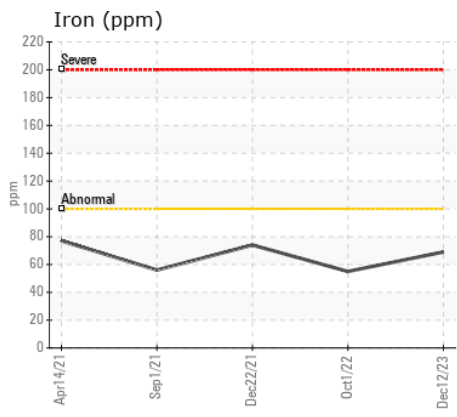
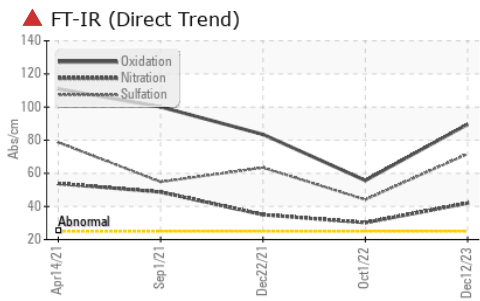
CONTAMINATION

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

FLUID CONDITION

The oil viscosity is higher than normal. The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DC0029816	DC0021263	DC0016977
Sample Date		Client Info		12 Dec 2023	01 Oct 2022	22 Dec 2021
Machine Age	hrs	Client Info		32245	29958	28432
Oil Age	hrs	Client Info		936	608	743
Filter Age	hrs	Client Info		936	608	743
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	SEVERE	SEVERE
Iron	ppm	ASTM D5185m	>100	69	55	74
Chromium	ppm	ASTM D5185m	>20	2	2	3
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	3
Lead	ppm	ASTM D5185m	>40	3	1	3
Copper	ppm	ASTM D5185m	>330	6	3	4
Tin	ppm	ASTM D5185m	>15	2	<1	1
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	7	4	5
Potassium	ppm	ASTM D5185m	>20	2	3	2
Fuel	%	ASTM D3524	>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	▲ 8	▲ 8.8	▲ 9.6
Nitration	Abs/cm	*ASTM D7624	>20	42.0	30.2	35.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	71.7	44.1	63.4
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
Sodium	ppm	ASTM D5185m		2	0	5
Boron	ppm	ASTM D5185m		2	4	16
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		5	4	15
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		91	47	126
Calcium	ppm	ASTM D5185m		2219	2351	2141
Phosphorus	ppm	ASTM D5185m		840	859	814
Zinc	ppm	ASTM D5185m		1044	1026	934
Sulfur	ppm	ASTM D5185m		3948	4058	2858
Oxidation	Abs/.1mm	*ASTM D7414	>25	89.6	55.7	83.5
Base Number (BN)	mg KOH/g	ASTM D2896		▲ 0.0	▲ -42.8	▲ 0.0
Visc @ 100°C	cSt	ASTM D445		▲ 20.9	▲ 16.7	▲ 40.9



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DC0029816 **Received** : 11 Apr 2024
Lab Number : 06146432 **Tested** : 15 Apr 2024
Unique Number : 10976510 **Diagnosed** : 15 Apr 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: FuelDilution, TBN)

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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)