



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
8531
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We advise that you check the fuel injection system. 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. 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.

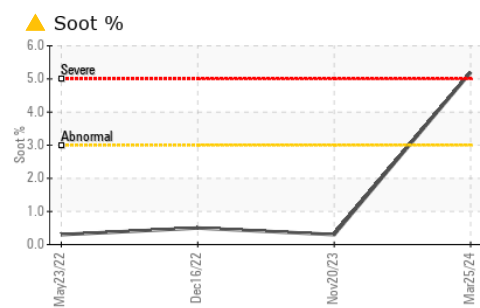
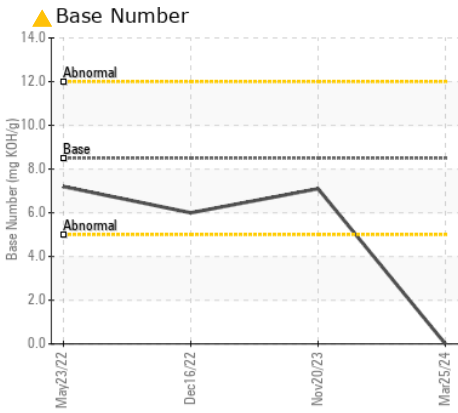
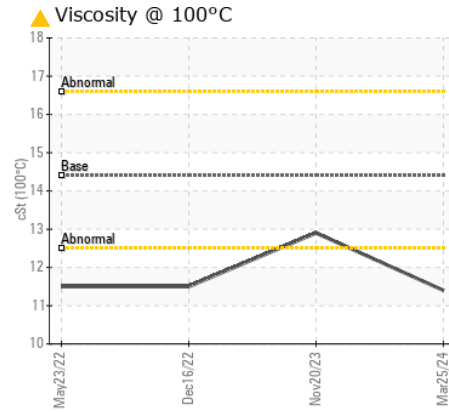
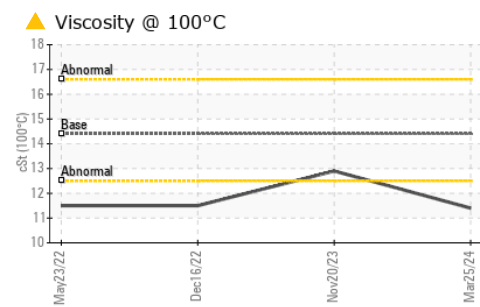
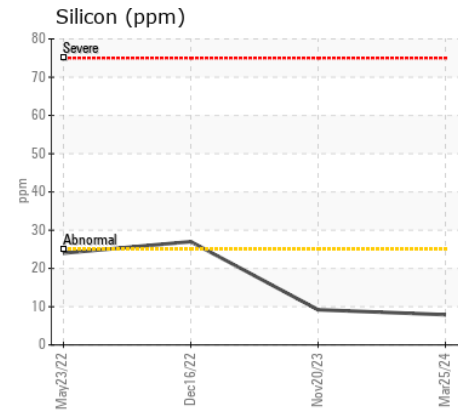
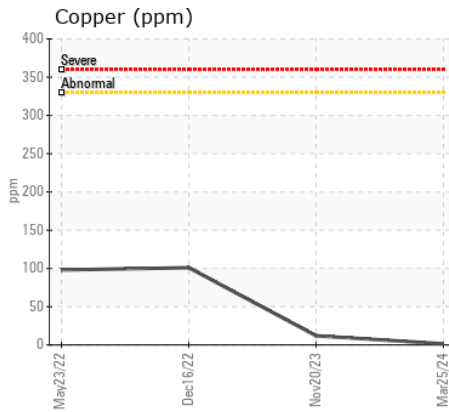
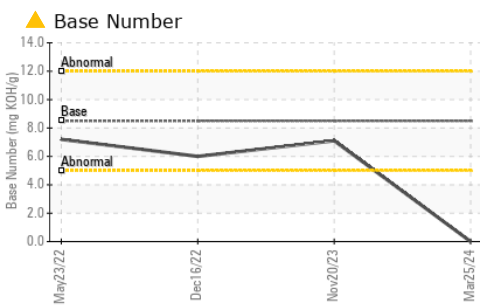
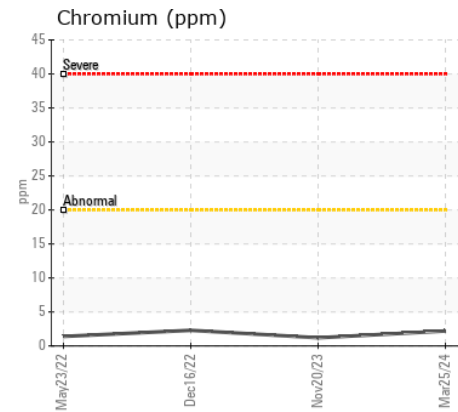
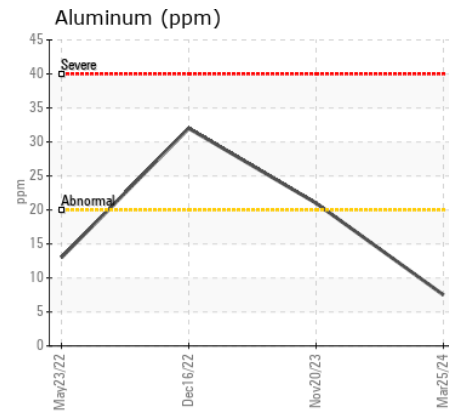
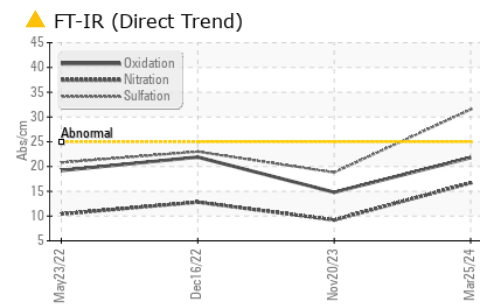
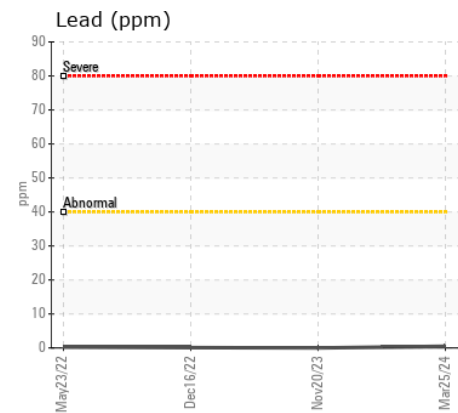
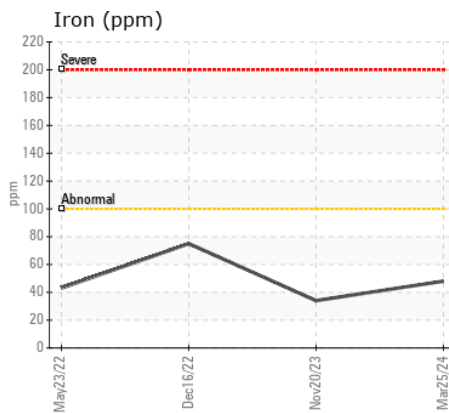
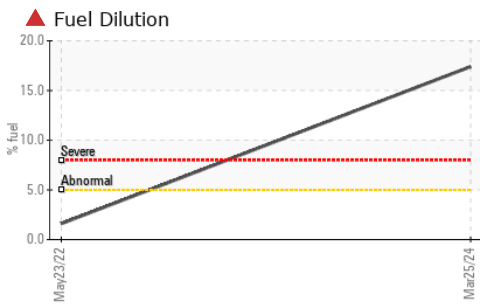
CONTAMINATION

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

FLUID CONDITION

The BN level is low. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0905820	WC0870729	WC0761279
Sample Date		Client Info		25 Mar 2024	20 Nov 2023	16 Dec 2022
Machine Age	mls	Client Info		24373	19088	9809
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				SEVERE	NORMAL	ATTENTION
Iron	ppm	ASTM D5185m	>100	48	34	75
Chromium	ppm	ASTM D5185m	>20	2	1	2
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	8	21	32
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	2	12	101
Tin	ppm	ASTM D5185m	>15	<1	<1	2
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	8	9	27
Potassium	ppm	ASTM D5185m	>20	13	62	111
Fuel	%	ASTM D3524	>5	▲ 17.4	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	▲ 5.2	0.3	0.5
Nitration	Abs/cm	*ASTM D7624	>20	16.7	9.2	12.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	31.5	18.8	23.0
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	9	2	7
Boron	ppm	ASTM D5185m	250	21	37	20
Barium	ppm	ASTM D5185m	10	0	0	9
Molybdenum	ppm	ASTM D5185m	100	67	78	45
Manganese	ppm	ASTM D5185m		<1	<1	4
Magnesium	ppm	ASTM D5185m	450	83	184	675
Calcium	ppm	ASTM D5185m	3000	1515	1997	1095
Phosphorus	ppm	ASTM D5185m	1150	707	992	554
Zinc	ppm	ASTM D5185m	1350	899	1182	788
Sulfur	ppm	ASTM D5185m	4250	2534	3463	1824
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.8	14.8	21.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	▲ 0.0	7.1	6.0
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 11.4	12.9	● 11.5



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0905820 **Received** : 23 May 2024
Lab Number : 06188986 **Tested** : 29 May 2024
Unique Number : 11045738 **Diagnosed** : 29 May 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, TBN)

WAKE COUNTY PUBLIC SCHOOL SYSTEM
 1551 ROCK QUARRY ROAD
 RALEIGH, NC
 US 27610
 Contact: DEVIN WEBER
 dweber@wcpss.net
 T: (919)856-8076
 F: x:

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)