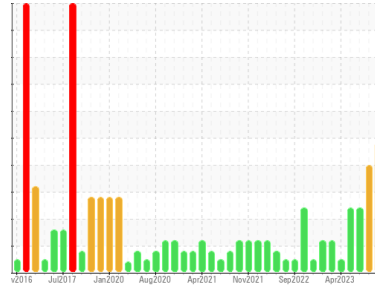




OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id
NEW FLYER 1116

Component
Diesel Engine

Fluid
SAFETY-KLEEN PERFORMANCE PLUS XHD-7 15W40 (--- GAL)

DIAGNOSIS

Recommendation

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 from the component if this has not already been done. We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil. Water treatment chemicals present, indicating slow coolant leak. There is a moderate concentration of dirt present in the oil. Test for glycol is negative. Tests confirm the presence of fuel in the oil.

Fluid Condition

The oil is no longer serviceable due to the presence of contaminants. The condition of the oil is acceptable for the time in service (see recommendation).

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0830242	WC0849954	WC0830150
Sample Date	Client Info	17 Oct 2023	31 Aug 2023	17 Jul 2023
Machine Age	kms Client Info	858334	849020	839738
Oil Age	kms Client Info	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185(m) >75	21	25	18
Chromium	ppm ASTM D5185(m) >5	<1	<1	<1
Nickel	ppm ASTM D5185(m) >4	0	0	0
Titanium	ppm ASTM D5185(m) >2	0	0	0
Silver	ppm ASTM D5185(m) >2	<1	0	0
Aluminum	ppm ASTM D5185(m) >15	2	4	2
Lead	ppm ASTM D5185(m) >25	<1	0	<1
Copper	ppm ASTM D5185(m) >100	12	3	3
Tin	ppm ASTM D5185(m) >4	0	0	0
Antimony	ppm ASTM D5185(m)	0	0	0
Vanadium	ppm ASTM D5185(m)	0	0	0
Beryllium	ppm ASTM D5185(m)	0	0	0
Cadmium	ppm ASTM D5185(m)	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m)	11	10	3
Barium	ppm ASTM D5185(m)	<1	0	0
Molybdenum	ppm ASTM D5185(m)	127	127	95
Manganese	ppm ASTM D5185(m)	0	<1	<1
Magnesium	ppm ASTM D5185(m)	855	881	936
Calcium	ppm ASTM D5185(m)	952	971	1021
Phosphorus	ppm ASTM D5185(m)	925	1000	1032
Zinc	ppm ASTM D5185(m)	1013	1066	1123
Sulfur	ppm ASTM D5185(m)	2397	2525	2521
Lithium	ppm ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >25	▲ 27	▲ 27	14
Sodium	ppm ASTM D5185(m)	▲ 807	▲ 933	▲ 440
Potassium	ppm ASTM D5185(m) >20	▲ 439	▲ 484	▲ 281
Fuel	% ASTM D7593* >3.0	▲ 5.2	<1.0	<1.0
Glycol	% ASTM D7922*	0.0	0.0	0.0

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% ASTM D7844* >6	1.3	1.5	1.6
Nitration	Abs/cm ASTM D7624* >20	12.2	13.4	12.6
Sulfation	Abs/.1mm ASTM D7415* >30	26.3	29.0	28.4

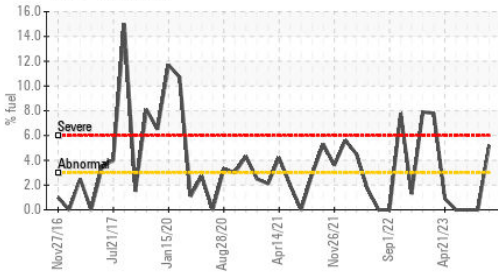
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm ASTM D7414* >25	22.0	23.1	23.8

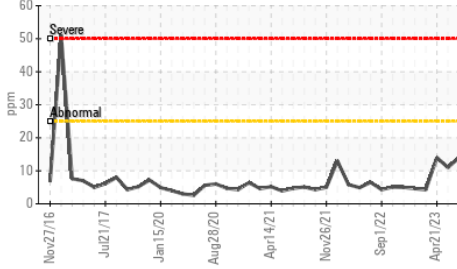


OIL ANALYSIS REPORT

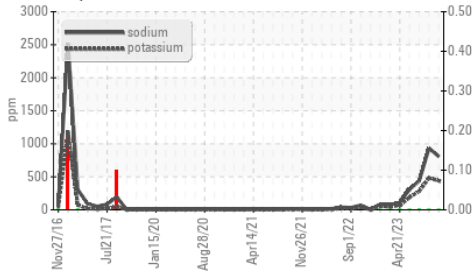
▲ Fuel Dilution



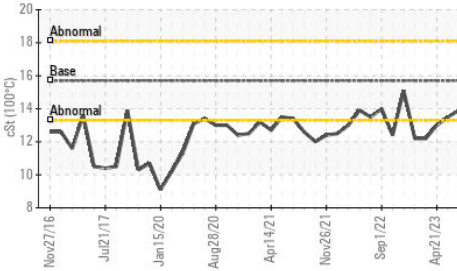
▲ Silicon (ppm)



Glycol Contamination



Viscosity @ 100°C



VISUAL

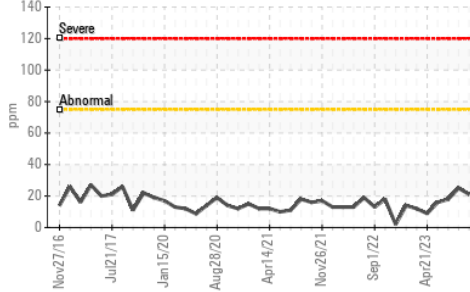
method	limit/base	current	history1	history2
Emulsified Water	scalar Visual*	>0.2	NEG	NEG
Free Water	scalar Visual*		NEG	NEG

FLUID PROPERTIES

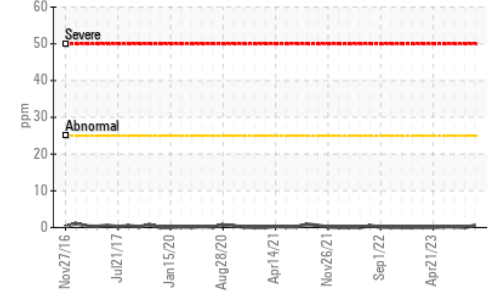
method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D7279(m)	15.7	12.9	13.5

GRAPHS

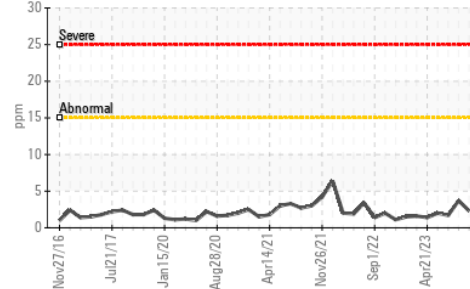
Iron (ppm)



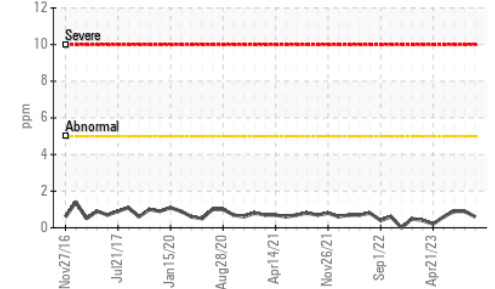
Lead (ppm)



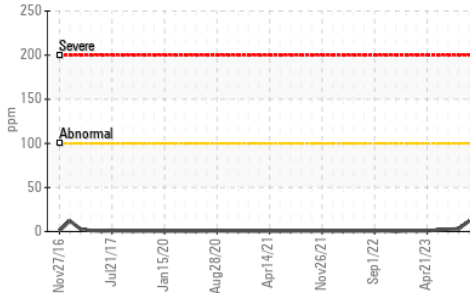
Aluminum (ppm)



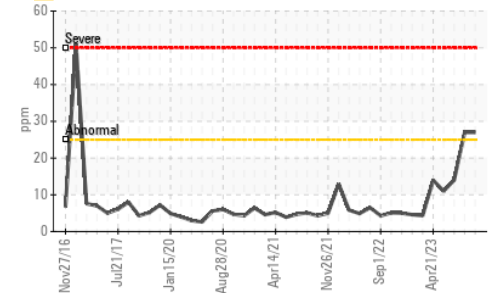
Chromium (ppm)



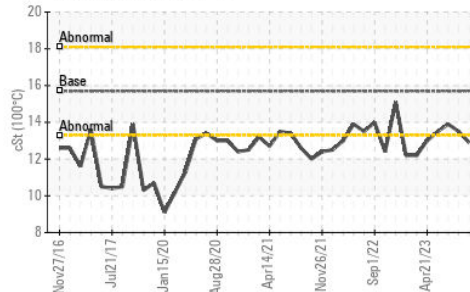
Copper (ppm)



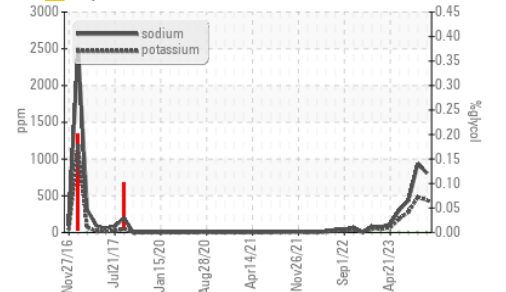
▲ Silicon (ppm)



Viscosity @ 100°C



▲ Glycol Contamination



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0830242
Lab Number : 02591730
Unique Number : 5668809
Test Package : MOB 1 (Additional Tests: FuelDilution, Glycol, PercentFuel)

Received : 25 Oct 2023
Diagnosed : 26 Oct 2023
Diagnostician : Kevin Marson

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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.