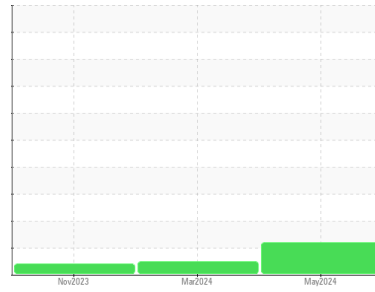




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
MCI 1904

Component
Diesel Engine

Fluid
PURUS SYNTHETIC BLEND 10W30 (--- GAL)

DIAGNOSIS

Recommendation

Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high.

Fluid Condition

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0859100	WC0859064	WC0859055
Sample Date	Client Info		13 May 2024	18 Mar 2024	28 Nov 2023
Machine Age	mls	Client Info	711755	704000	676667
Oil Age	mls	Client Info	21000	15000	0
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ABNORMAL	NORMAL	ATTENTION

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	0.2
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>165	10	26	42
Chromium	ppm	ASTM D5185m	>5	<1	1	2
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	3	3
Lead	ppm	ASTM D5185m	>150	2	3	2
Copper	ppm	ASTM D5185m	>90	0	1	2
Tin	ppm	ASTM D5185m	>5	<1	1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		11	17	19
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		73	71	80
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		977	939	1083
Calcium	ppm	ASTM D5185m		1237	1144	1278
Phosphorus	ppm	ASTM D5185m		1121	1044	1249
Zinc	ppm	ASTM D5185m		1365	1255	1419
Sulfur	ppm	ASTM D5185m		4089	3743	3698

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>35	9	13	18
Sodium	ppm	ASTM D5185m		30	17	1
Potassium	ppm	ASTM D5185m	>20	▲ 107	38	2
Glycol	%	*ASTM D2982		NEG	NEG	NEG

INFRA-RED

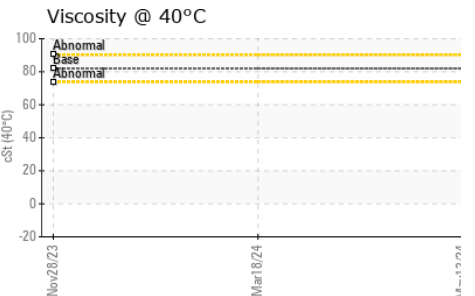
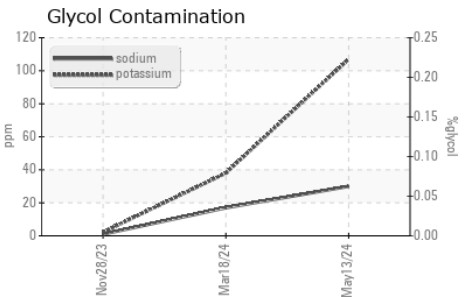
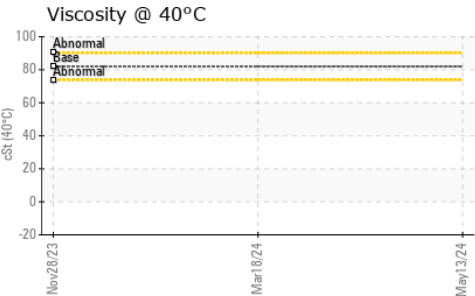
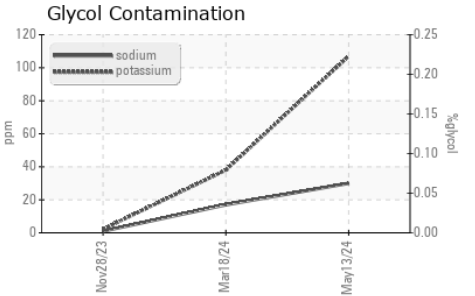
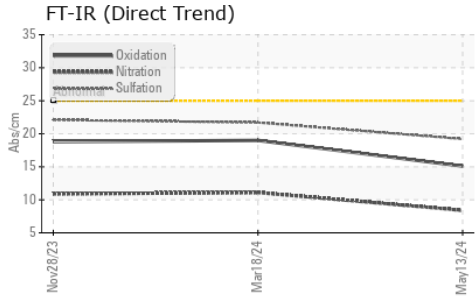
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>7.5	0.3	0.5	0.6
Nitration	Abs/cm	*ASTM D7624	>20	8.4	11.1	10.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.2	21.7	22.1

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.1	19.0	18.8
Base Number (BN)	mg KOH/g	ASTM D2896	10	8.8	7.5	9.3



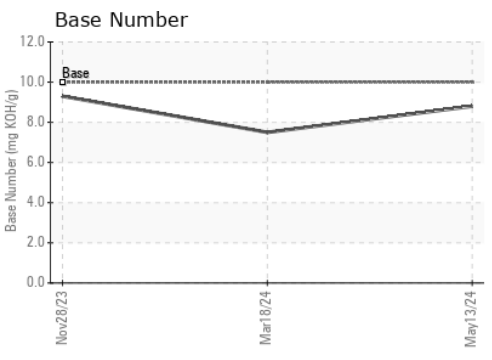
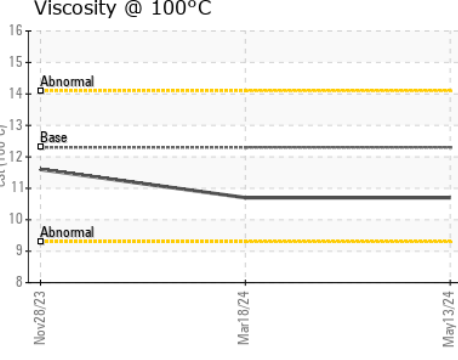
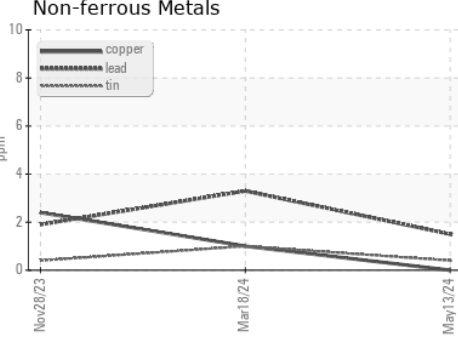
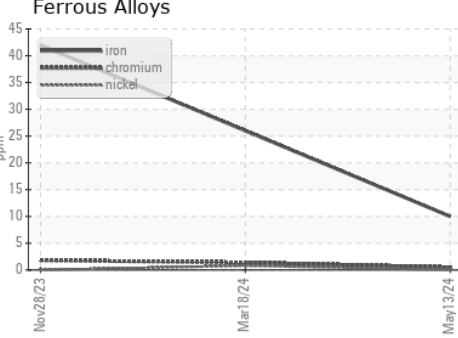
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
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 D445	12.3	10.7	11.6

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0859100 **Received** : 12 Jun 2024
Lab Number : 06208305 **Tested** : 14 Jun 2024
Unique Number : 11075766 **Diagnosed** : 14 Jun 2024 - Sean Felton
Test Package : FLEET (Additional Tests: Glycol, KV40)

JEFFERSON LINES
 1830 4TH AVE N
 BILLINGS, MT
 US 59101
 Contact: BILLINGS SHOP
 billingsshop@jeffersonlines.com

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)