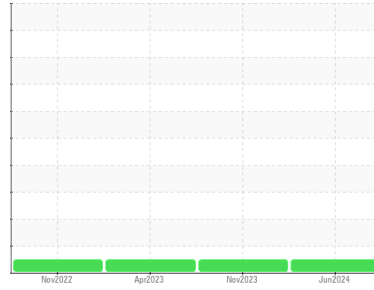




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

22319

Component

Diesel Engine

Fluid

DIESEL ENGINE OIL SAE 10W30 (--- QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0901355	WC0832056	WC0784064
Sample Date	Client Info			11 Jun 2024	27 Nov 2023	10 Apr 2023
Machine Age	mls	Client Info		254735	187194	112634
Oil Age	mls	Client Info		50000	50000	50000
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	<1.0
Water	WC Method	>0.2		NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	41	45	56
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	9	10	18
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	4	4	6
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	6	7	5
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	70	63	58
Manganese	ppm	ASTM D5185m		1	<1	2
Magnesium	ppm	ASTM D5185m	450	1025	984	968
Calcium	ppm	ASTM D5185m	3000	1301	1244	1387
Phosphorus	ppm	ASTM D5185m	1150	1212	1140	1031
Zinc	ppm	ASTM D5185m	1350	1395	1371	1303
Sulfur	ppm	ASTM D5185m	4250	3555	3043	3503

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	16	15	13
Sodium	ppm	ASTM D5185m		7	2	3
Potassium	ppm	ASTM D5185m	>20	13	16	39
Glycol	%	*ASTM D2982		NEG	NEG	NEG

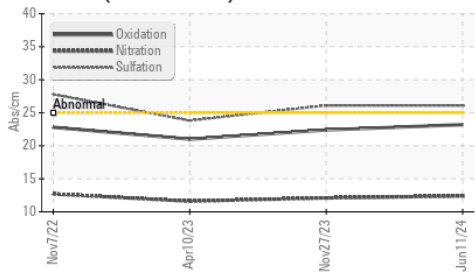
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.6	0.5	0.6
Nitration	Abs/cm	*ASTM D7624	>20	12.4	12.1	11.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.1	26.1	23.8

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.2	22.4	21.0
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	4.9	5.4	4.8



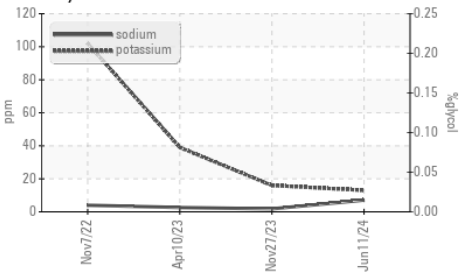
OIL ANALYSIS REPORT

FT-IR (Direct Trend)



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

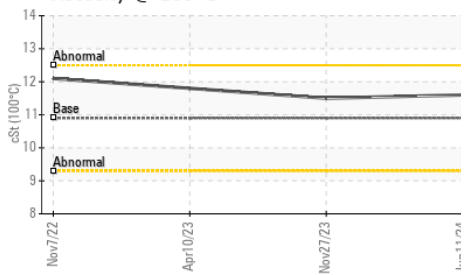
Glycol Contamination



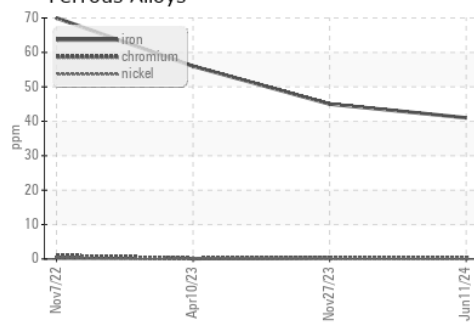
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	10.9	11.6	11.5

GRAPHS

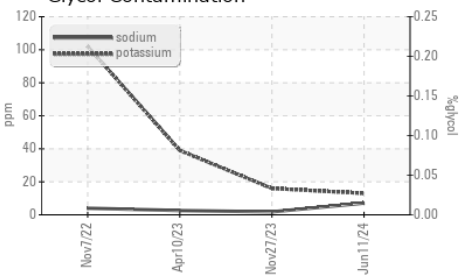
Viscosity @ 100°C



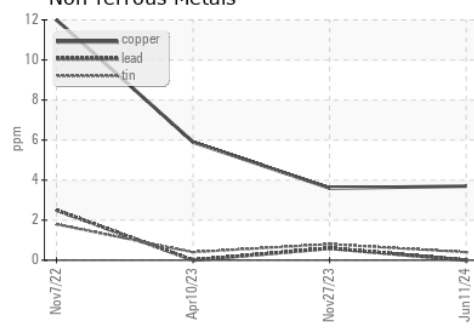
Ferrous Alloys



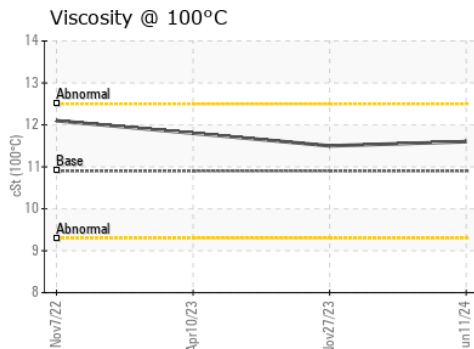
Glycol Contamination



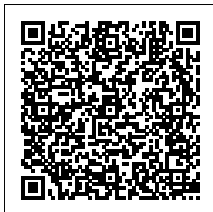
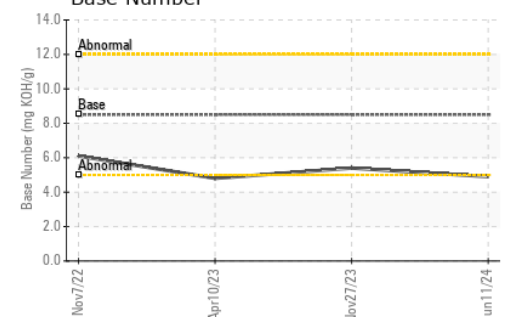
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0901355 **Received** : 17 Jun 2024
Lab Number : 06211377 **Tested** : 19 Jun 2024
Unique Number : 11084241 **Diagnosed** : 19 Jun 2024 - Don Baldrige
Test Package : FLEET (Additional Tests: Glycol)

MID-ATLANTIC TRANSPORT
 38 IRONSIDE CT
 WILLINGBORO, NJ
 US 08046
 Contact: GARY LAWYER
 gary@midatlantictrans.com
 T: (609)864-6948
 F:

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)