



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

NSE-AL-TRACTOR (NEW SOUTH EXPRESS)

Machine Id
AUTOCAR NSE21003

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is SAE 40 Diesel Engine Oil. Please confirm the oil type and grade, and specify the brand of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		NL0002153	NL0002048	NL0001754
Sample Date		Client Info		05 Apr 2024	20 Feb 2024	08 Apr 2023
Machine Age	hrs	Client Info		12530	11881	10731
Oil Age	hrs	Client Info		11881	10731	1945
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>100	30	39	13
Chromium	ppm	ASTM D5185m	>20	2	2	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	10	29	5
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	1	<1	0
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

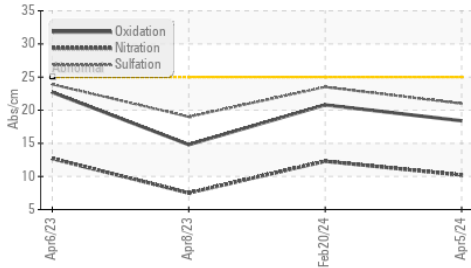
Silicon	ppm	ASTM D5185m	>25	6	5	3
Potassium	ppm	ASTM D5185m	>20	6	48	6
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1	1.8	0.7
Nitration	Abs/cm	*ASTM D7624	>20	10.2	12.3	7.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.0	23.5	19.0
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

FLUID CONDITION

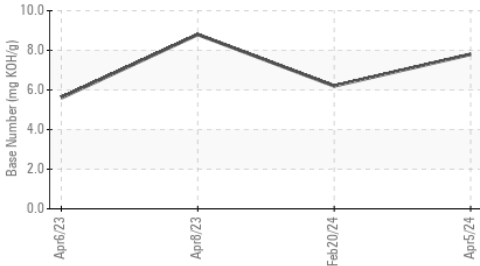
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	<1	1	0
Boron	ppm	ASTM D5185m		4	<1	1
Barium	ppm	ASTM D5185m		1	0	2
Molybdenum	ppm	ASTM D5185m		64	57	56
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		891	1026	870
Calcium	ppm	ASTM D5185m		1098	1150	1021
Phosphorus	ppm	ASTM D5185m		946	1082	922
Zinc	ppm	ASTM D5185m		1155	1266	1137
Sulfur	ppm	ASTM D5185m		2810	3141	3113
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.4	20.8	14.8
Base Number (BN)	mg KOH/g	ASTM D2896		7.8	6.2	8.8
Visc @ 100°C	cSt	ASTM D445		13.5	13.1	13.9

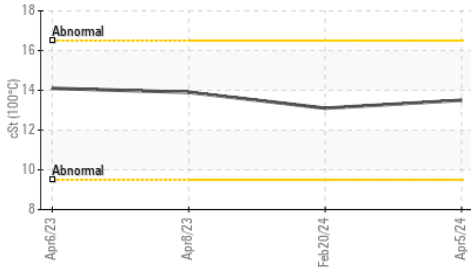
FT-IR (Direct Trend)



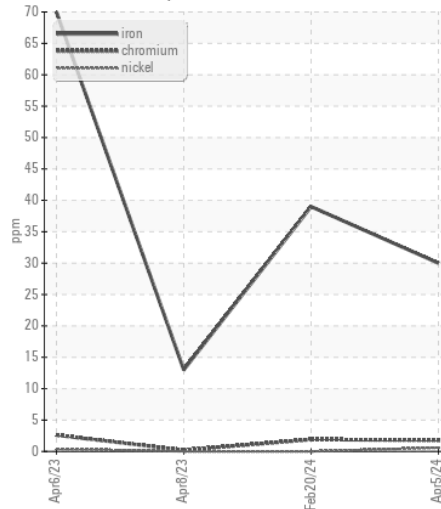
Base Number



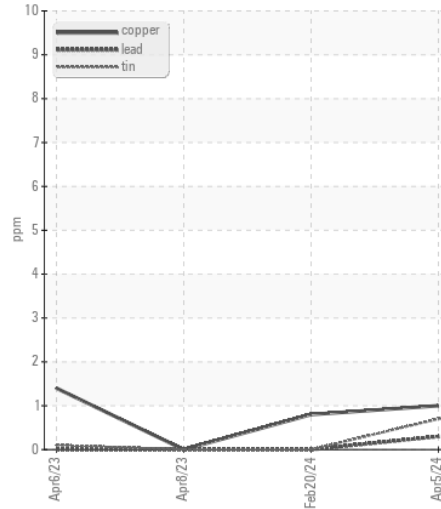
Viscosity @ 100°C



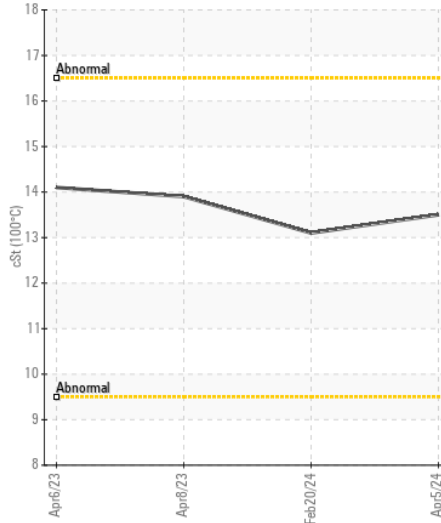
Ferrous Alloys



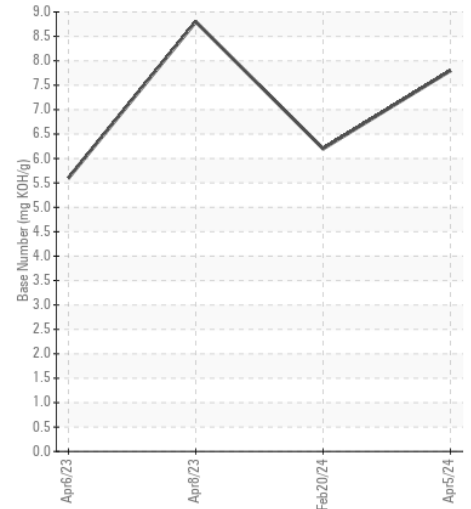
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NL0002153
Lab Number : 06149766
Unique Number : 10979844
Test Package : FLEET
Received : 16 Apr 2024
Tested : 17 Apr 2024
Diagnosed : 17 Apr 2024 - Wes Davis

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 US 35096
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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)