



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

Mobile Fleet

Machine Id

8102 8102

Component

Diesel Engine

Fluid

DIESEL ENGINE OIL 10W40 (10 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0937790	WC0918604	WC0885934
Sample Date		Client Info		17 May 2024	25 Mar 2024	26 Jan 2024
Machine Age	hrs	Client Info		12529	12291	12045
Oil Age	hrs	Client Info		238	249	252
Filter Age	hrs	Client Info		238	249	252
Oil Changed		Client Info		Not Changd	Changed	Changed
Filter Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	ATTENTION	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	6	13	10
Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	4	9	4
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	3	3	1
Tin	ppm	ASTM D5185m	>15	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

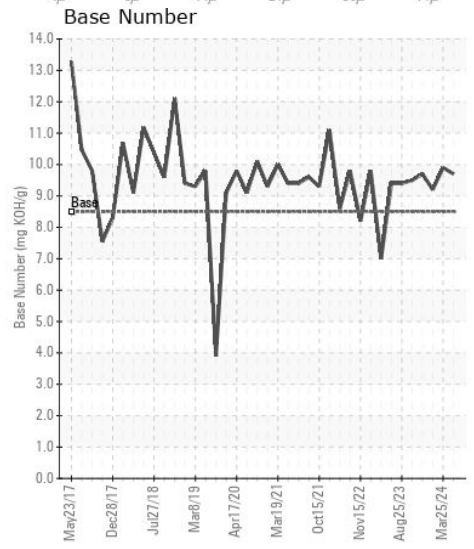
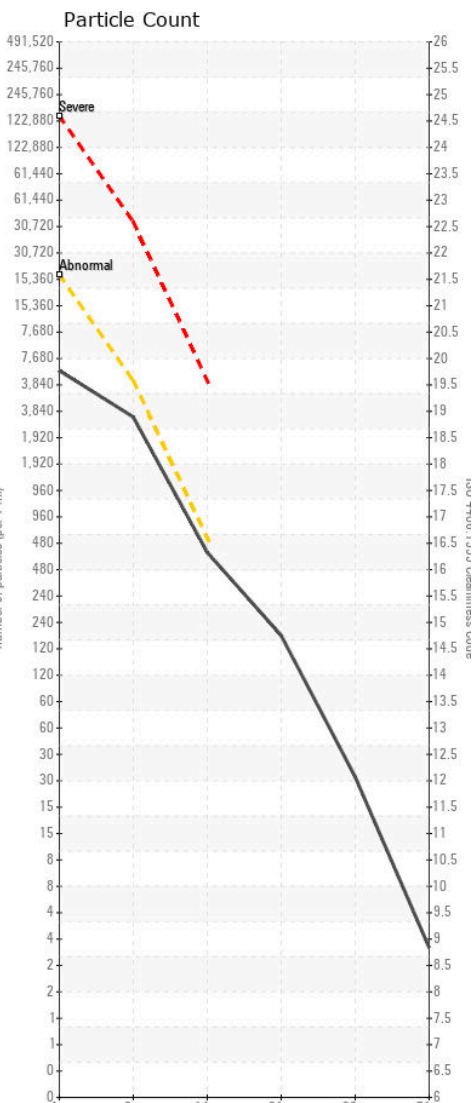
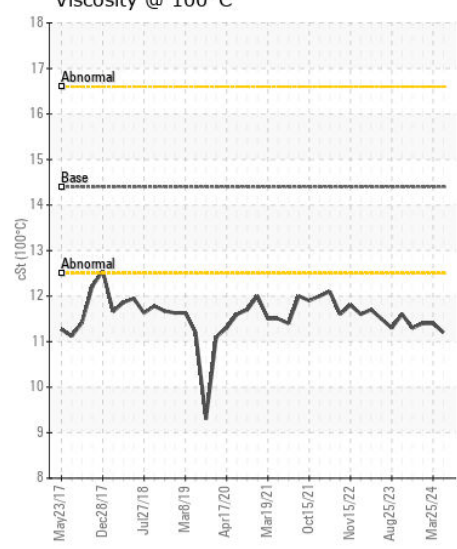
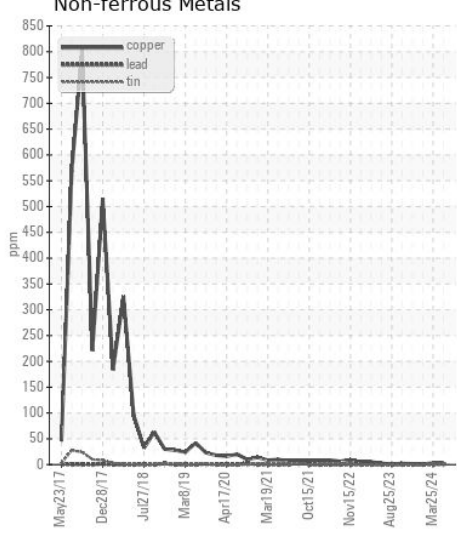
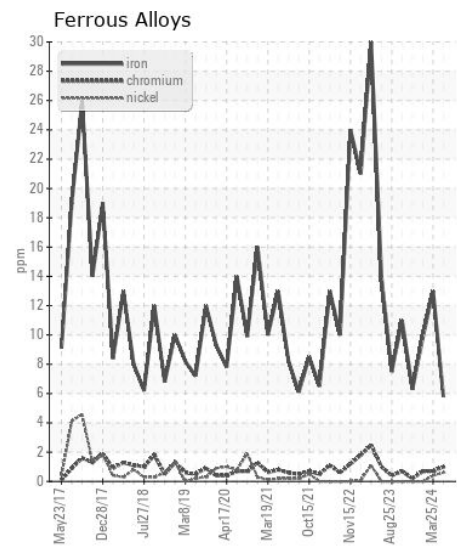
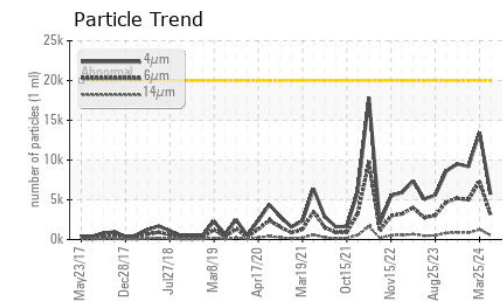
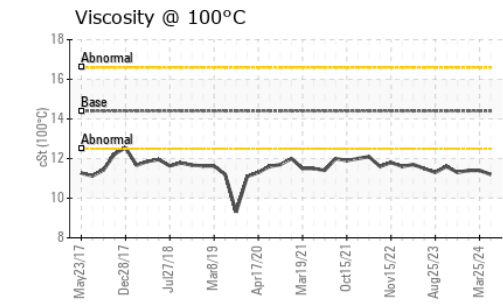
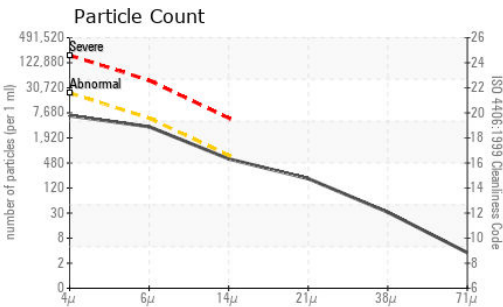
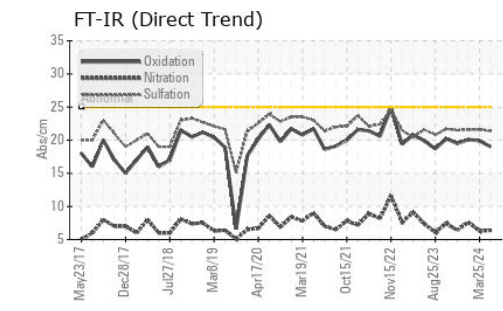
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>25	6	22	7
Potassium	ppm	ASTM D5185m	>20	2	3	<1
Fuel	%	ASTM D3524	>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	0.2	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	6.4	6.3	7.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.4	21.6	21.6
Particles >4µm		ASTM D7647	>20000	5707	13493	9169
Particles >6µm		ASTM D7647	>5000	3109	7351	4995
Particles >14µm		ASTM D7647	>640	529	1251	850
Particles >21µm		ASTM D7647	>160	178	421	286
Particles >38µm		ASTM D7647	>40	28	65	44
Particles >71µm		ASTM D7647	>10	3	7	5
Oil Cleanliness		ISO 4406 (c)	>21/19/16	20/19/16	21/20/17	20/19/17
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		2	2	1
Boron	ppm	ASTM D5185m	250	56	51	41
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	49	49	53
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	504	494	507
Calcium	ppm	ASTM D5185m	3000	1624	1688	1692
Phosphorus	ppm	ASTM D5185m	1150	808	745	754
Zinc	ppm	ASTM D5185m	1350	900	901	951
Sulfur	ppm	ASTM D5185m	4250	2883	2477	2508
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.0	19.9	20.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	9.7	9.9	9.2
Visc @ 100°C	cSt	ASTM D445	14.4	11.2	11.4	11.4



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0937790 **Received** : 21 May 2024
Lab Number : 06185991 **Tested** : 23 May 2024
Unique Number : 11042743 **Diagnosed** : 23 May 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: FuelDilution, PrtCount, TBN)

CAROLINA SUNROCK
 PO BOX 25
 BUTNER, NC
 US 27509
 Contact: Leigh Dennis
 rdennis@thesunrockgroup.com
 T: (919)575-4505
 F: (919)575-0162

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)