



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
M/V COHO FERRY
 Component
1 Auxiliary Engine
 Fluid
SHELL ROTELLA T3 15W40 (9 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PE0001489	PE0001454	PE0001459
Sample Date		Client Info		13 Jun 2024	18 Mar 2024	16 Dec 2023
Machine Age	hrs	Client Info		5435	4902	4542
Oil Age	hrs	Client Info		182	153	93
Filter Age	hrs	Client Info		182	153	93
Oil Changed		Client Info		Filtered	Filtered	Changed
Filter Changed		Client Info		Not Chngd	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

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

CONTAMINATION

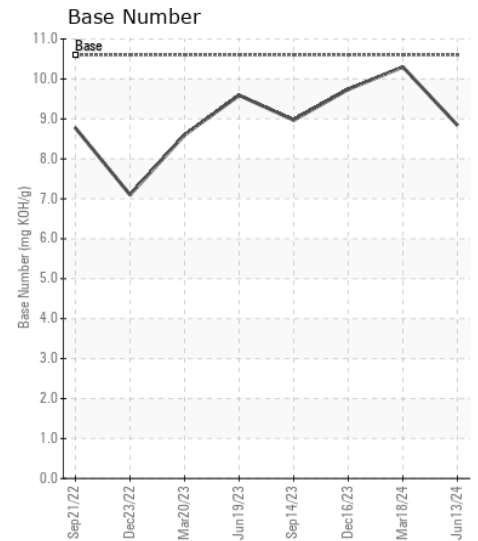
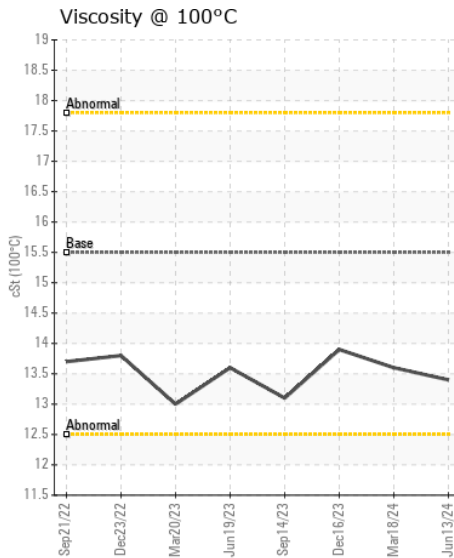
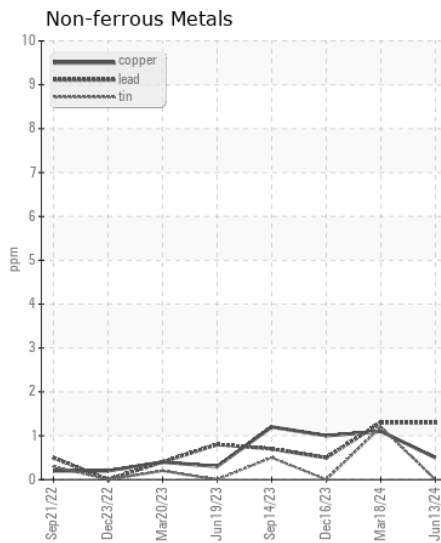
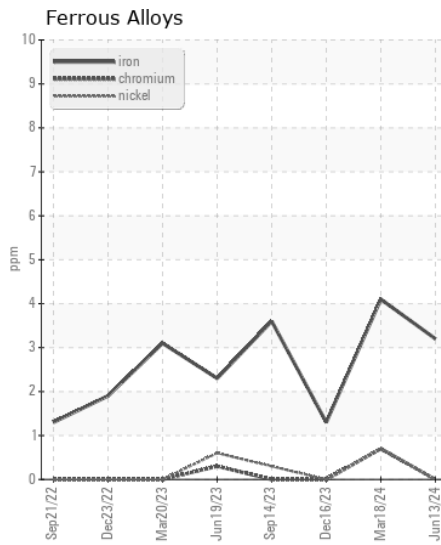
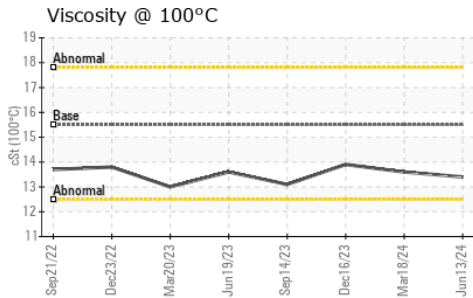
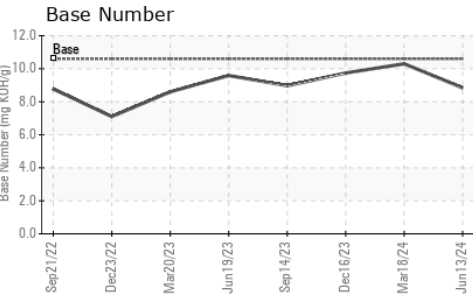
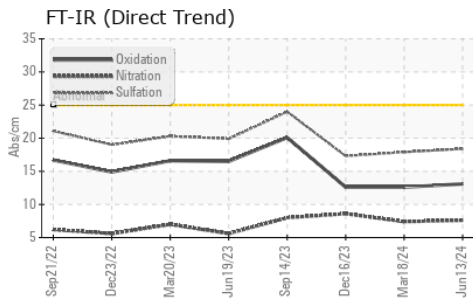
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	2	4	3
Potassium	ppm	ASTM D5185m	>20	<1	2	0
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.6	7.4	8.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.4	17.9	17.3
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	>0.1	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		3	<1	<1
Boron	ppm	ASTM D5185m	10	25	26	27
Barium	ppm	ASTM D5185m	0	0	1	0
Molybdenum	ppm	ASTM D5185m	10	15	17	16
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m	10	99	115	102
Calcium	ppm	ASTM D5185m	2600	2517	2225	2218
Phosphorus	ppm	ASTM D5185m	1050	1001	943	879
Zinc	ppm	ASTM D5185m	1250	1122	1082	1097
Sulfur	ppm	ASTM D5185m	3900	4153	3642	3485
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.1	12.6	12.6
Base Number (BN)	mg KOH/g	ASTM D2896	10.6	8.84	10.30	9.74
Visc @ 100°C	cSt	ASTM D445	15.5	13.4	13.6	13.9



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0001489
Lab Number : 06222889
Unique Number : 11101086
Test Package : PLANT (Additional Tests: FT-IR, ICP, KV100, SCREEN, TBN)

Received : 27 Jun 2024
Tested : 28 Jun 2024
Diagnosed : 30 Jun 2024 - Don Baldrige

BLACK BALL TRANSPORT INC
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 SEATTLE, WA
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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)

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F: