



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**M/V COHO FERRY**  
 Component  
**Port Reduction Gear**  
 Fluid  
**SHELL MORLINA S3 BA 150 (110 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PE0001589</b>	PE0001490	PE0000859
Sample Date		Client Info		<b>13 Jun 2024</b>	17 Mar 2024	16 Dec 2023
Machine Age	hrs	Client Info		<b>56197</b>	55477	55078
Oil Age	hrs	Client Info		<b>967</b>	3355	2966
Filter Age	hrs	Client Info		<b>967</b>	250	2966
Oil Changed		Client Info		<b>Filtered</b>	Filtered	Filtered
Filter Changed		Client Info		<b>Not Changd</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	ABNORMAL	NORMAL

**WEAR**

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		<b>15</b>	15	12
Iron	ppm	ASTM D5185m	>150	<b>6</b>	6	3
Chromium	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>0</b>	<1	0
Lead	ppm	ASTM D5185m	>100	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>50	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m	>10	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

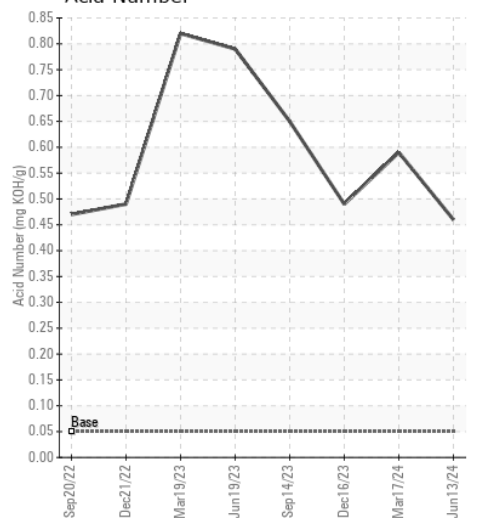
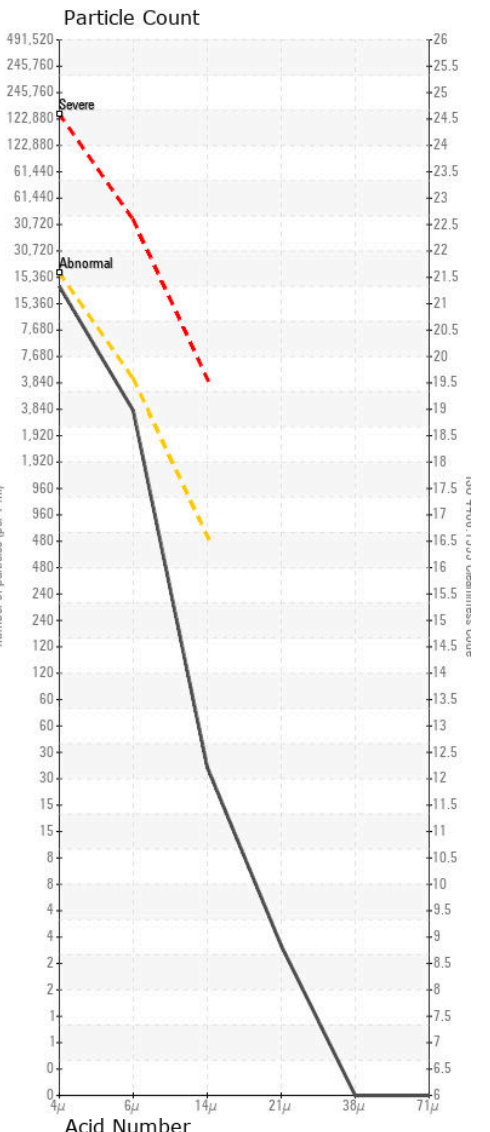
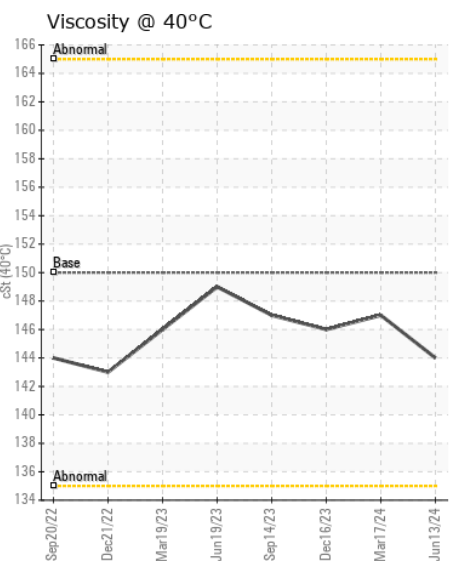
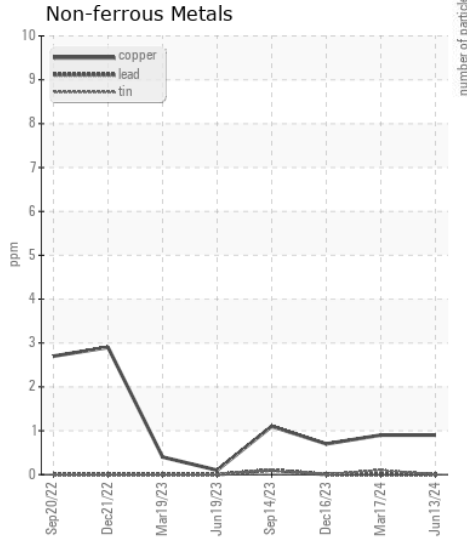
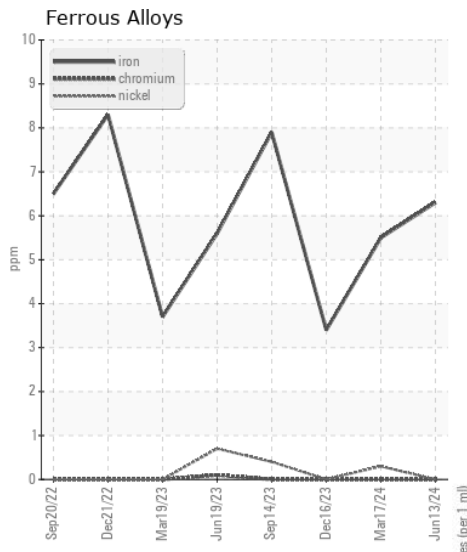
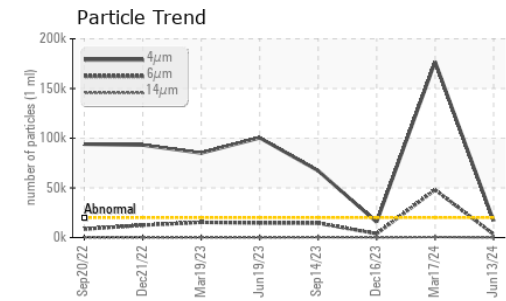
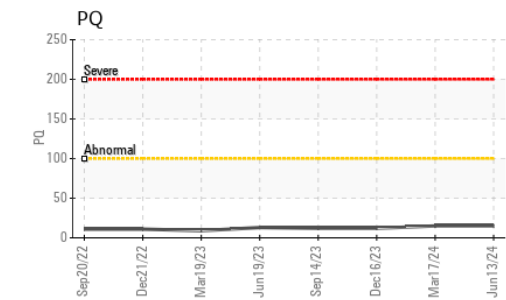
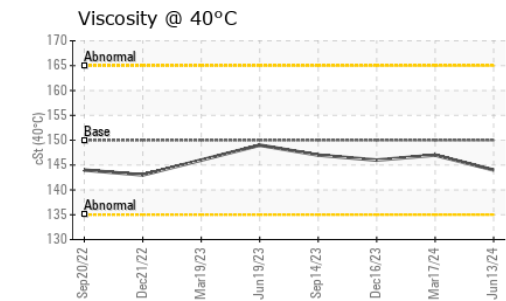
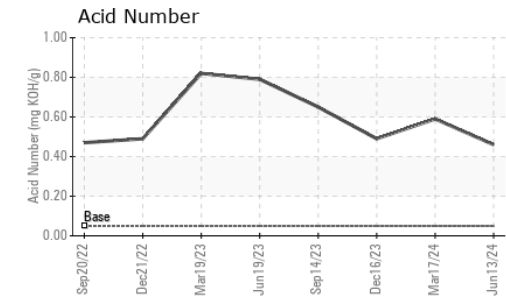
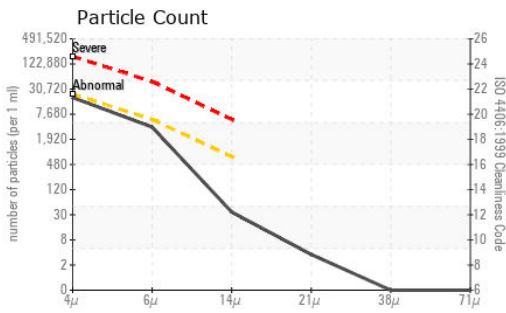
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	<b>2</b>	2	<1
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	<1	0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>20000	<b>16773</b>	▲ 176848	15626
Particles >6µm		ASTM D7647	>5000	<b>3289</b>	▲ 48030	3835
Particles >14µm		ASTM D7647	>640	<b>31</b>	543	93
Particles >21µm		ASTM D7647	>160	<b>3</b>	47	13
Particles >38µm		ASTM D7647	>40	<b>0</b>	0	0
Particles >71µm		ASTM D7647	>10	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>21/19/12</b>	▲ 25/23/16	21/19/14
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>1</b>	2	<1
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>4</b>	2	3
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>0</b>	<1	0
Calcium	ppm	ASTM D5185m		<b>62</b>	68	68
Phosphorus	ppm	ASTM D5185m		<b>253</b>	287	289
Zinc	ppm	ASTM D5185m		<b>311</b>	362	369
Sulfur	ppm	ASTM D5185m		<b>5179</b>	5984	5024
Acid Number (AN)	mg KOH/g	ASTM D8045	0.05	<b>0.46</b>	0.59	0.49
Visc @ 40°C	cSt	ASTM D445	150	<b>144</b>	147	146



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PE0001589  
**Lab Number** : 06222818  
**Unique Number** : 11101015  
**Test Package** : PLANT ( Additional Tests: ICP, KV40, PQ, PrtCount, SCREEN )

**BLACK BALL TRANSPORT INC**  
 4209 21ST AVE W, SUITE 307  
 SEATTLE, WA  
 US 98199  
 Contact: REBECCA CHERRIER  
 RCHERRIER@COHOFERRY.COM  
 T: (360)989-4364  
 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)