

Machine Id
WESTERN STAR 14
Component
Diesel Engine
Fluid
FLEETLINE SUPERFLEET XHD 15W40 (10 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PCA0110136	LP0001598	LP0000928
Sample Date		Client Info		20 Jun 2024	19 Mar 2024	08 Nov 2023
Machine Age	mls	Client Info		58717	49320	37971
Oil Age	mls	Client Info		9397	11349	7978
Filter Age	mls	Client Info		9397	11349	7978
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	18	20	25
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	<1	3	2
Lead	ppm	ASTM D5185m	>40	0	2	1
Copper	ppm	ASTM D5185m	>330	2	8	7
Tin	ppm	ASTM D5185m	>15	0	2	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

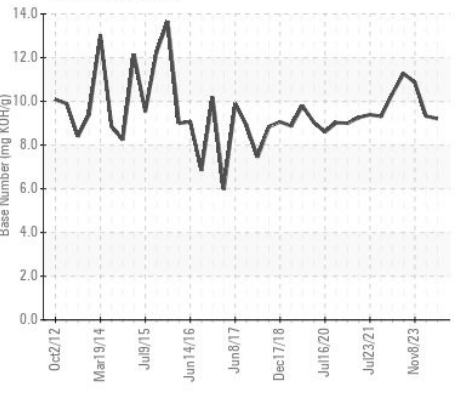
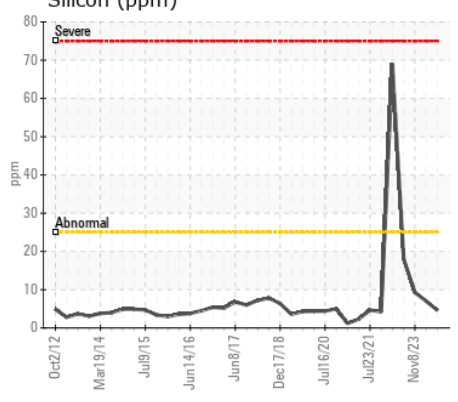
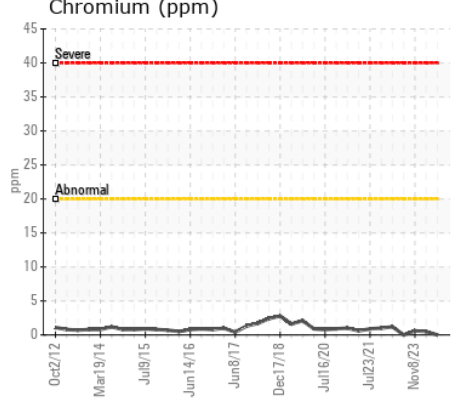
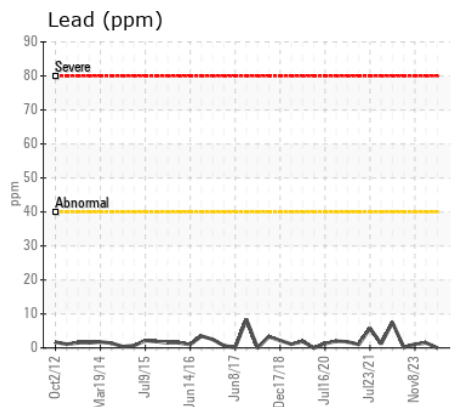
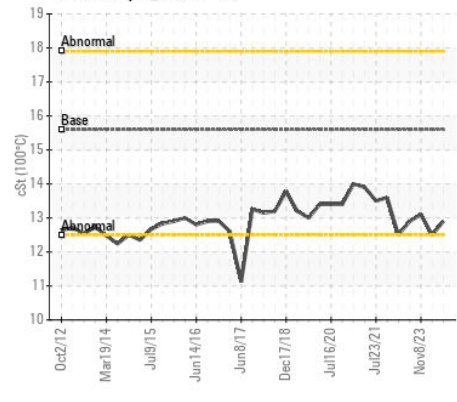
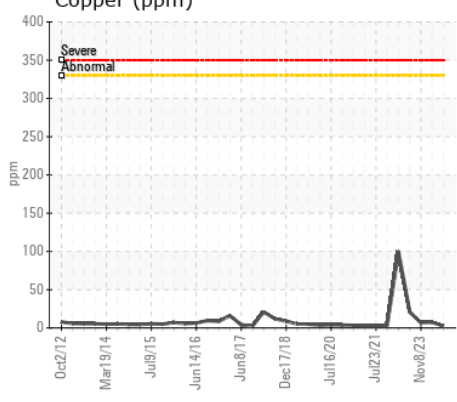
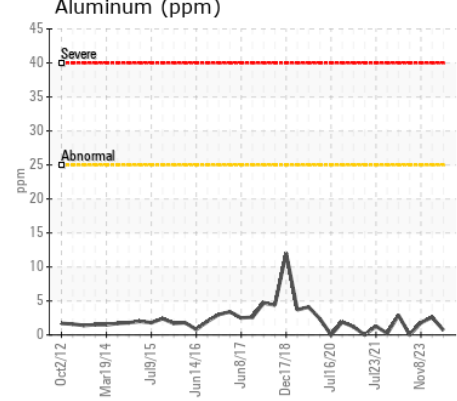
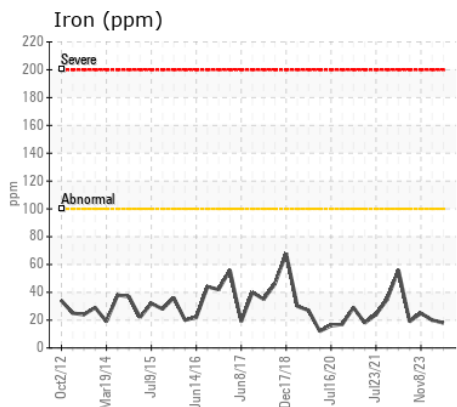
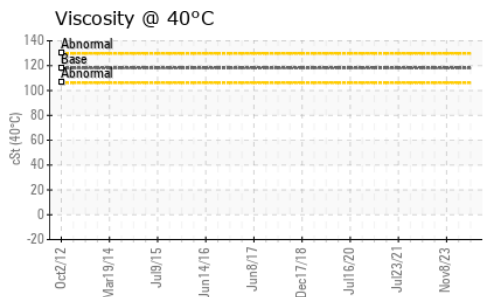
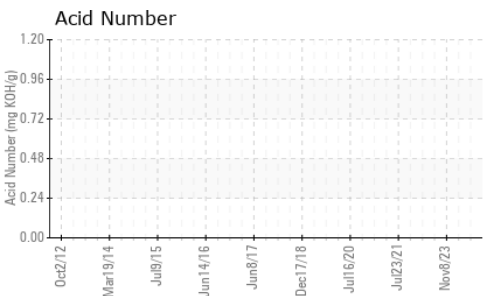
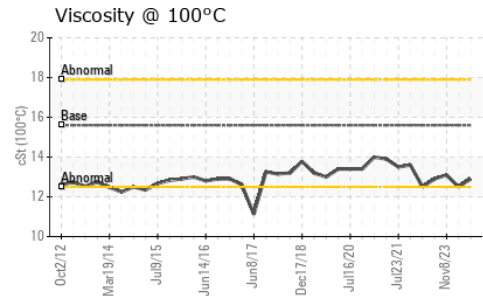
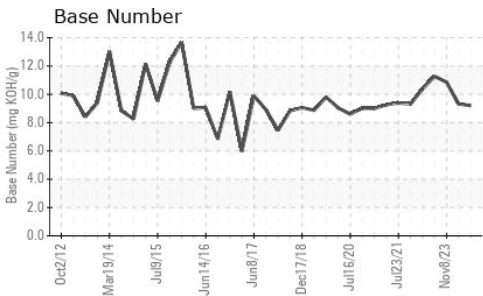
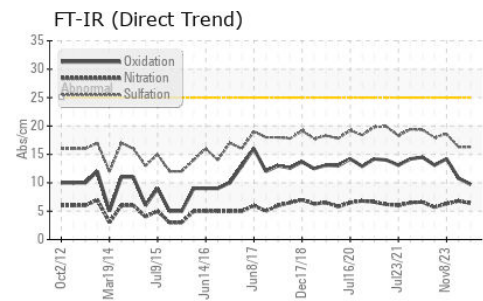
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	5	7	9
Potassium	ppm	ASTM D5185m	>20	0	2	2
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	0.3	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	6.4	6.8	6.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	16.3	16.3	18.6
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		1	<1	2
Boron	ppm	ASTM D5185m		6	27	9
Barium	ppm	ASTM D5185m		0	1	<1
Molybdenum	ppm	ASTM D5185m		12	49	59
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		68	215	795
Calcium	ppm	ASTM D5185m		2295	1976	1187
Phosphorus	ppm	ASTM D5185m		899	911	1068
Zinc	ppm	ASTM D5185m		1046	1064	1261
Sulfur	ppm	ASTM D5185m		4031	3633	3262
Oxidation	Abs/.1mm	*ASTM D7414	>25	9.7	10.8	14.2
Acid Number (AN)	mg KOH/g	ASTM D8045		---	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		9.21	9.32	10.86
Visc @ 100°C	cSt	ASTM D445	15.6	12.9	12.5	13.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0110136
Lab Number : 06225341
Unique Number : 11103538
Test Package : MOB 2 (Additional Tests: KV40, TAN Man)

Received : 01 Jul 2024
Tested : 03 Jul 2024
Diagnosed : 03 Jul 2024 - Don Baldridge

S.M. LORUSSO & SONS
 221 NORFOLK ST.
 WALPOLE, MA
 US 02081

Contact: PAUL BECKMAN
 pbeckman@smlorusso.com
 T: (508)668-2603
 F: (508)660-0232

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)