



LUBE PLUS+

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
WESTERN STAR 25
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		LP0002087	PCA0109960	LP0000877
Sample Date		Client Info		13 Jun 2024	05 May 2024	26 Feb 2024
Machine Age	mls	Client Info		172887	170000	162629
Oil Age	mls	Client Info		2887	7374	8894
Filter Age	mls	Client Info		0	7374	8894
Oil Changed		Client Info		Not Changd	Changed	Changed
Filter Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	11	22	48
Chromium	ppm	ASTM D5185m	>6	<1	1	1
Nickel	ppm	ASTM D5185m	>3	<1	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	<1	0
Aluminum	ppm	ASTM D5185m	>50	4	9	14
Lead	ppm	ASTM D5185m	>10	<1	<1	1
Copper	ppm	ASTM D5185m	>50	3	3	3
Tin	ppm	ASTM D5185m	>6	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

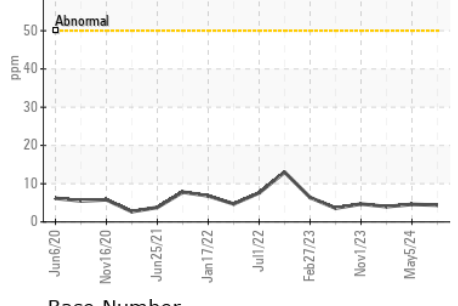
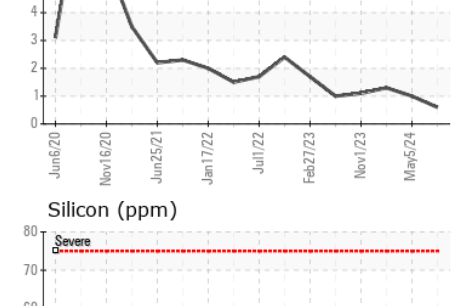
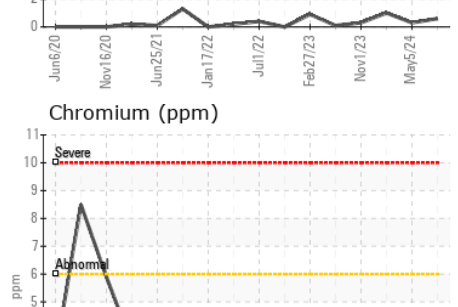
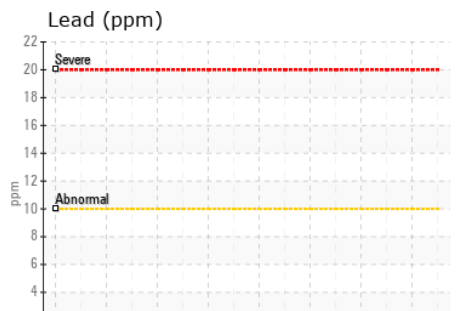
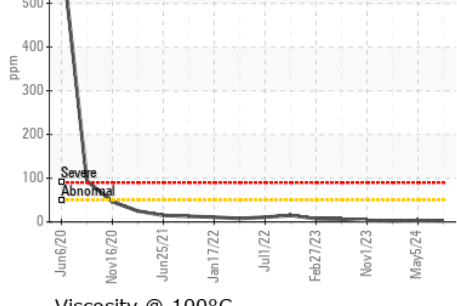
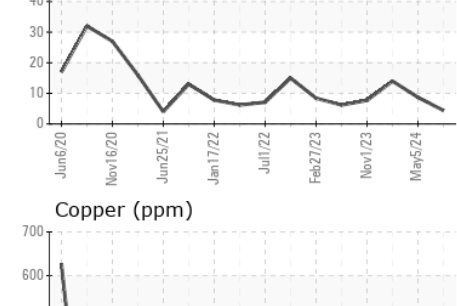
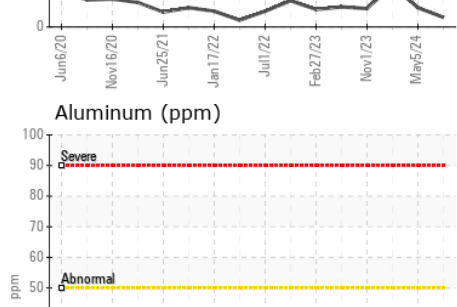
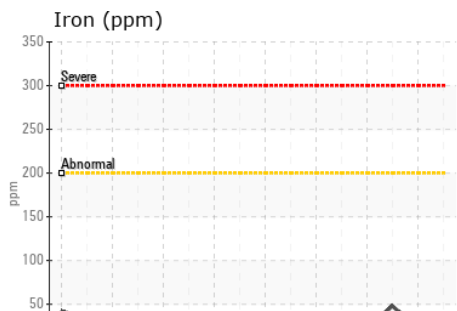
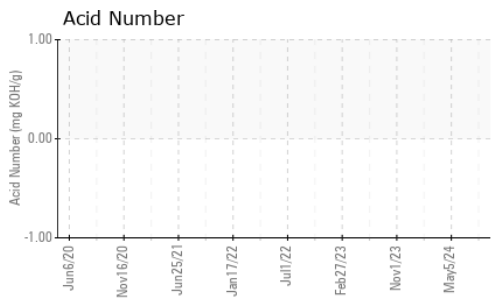
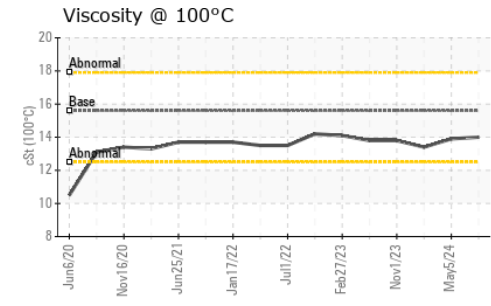
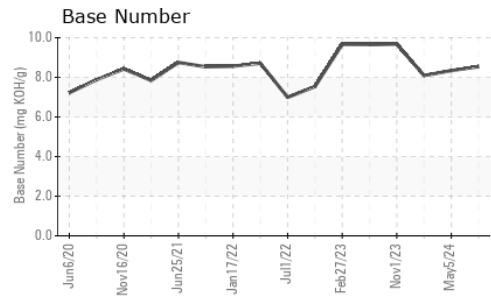
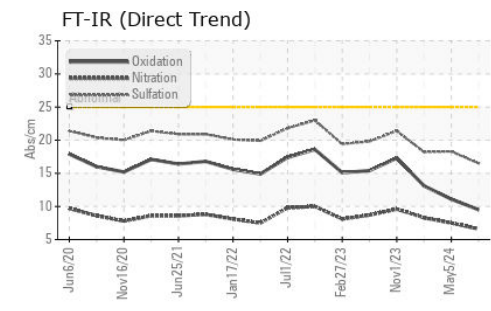
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	4	5	4
Potassium	ppm	ASTM D5185m	>20	5	7	12
Fuel		WC Method	>3.0	<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	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	6.6	7.5	8.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	16.5	18.3	18.2
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		0	1	1
Boron	ppm	ASTM D5185m		5	7	24
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		9	16	57
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		66	80	291
Calcium	ppm	ASTM D5185m		2233	2113	1817
Phosphorus	ppm	ASTM D5185m		944	989	952
Zinc	ppm	ASTM D5185m		1071	1094	1123
Sulfur	ppm	ASTM D5185m		3707	4150	3320
Oxidation	Abs/.1mm	*ASTM D7414	>25	9.5	11.1	13.1
Base Number (BN)	mg KOH/g	ASTM D2896		8.54	8.34	8.09
Visc @ 100°C	cSt	ASTM D445	15.6	14.0	13.9	13.4



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LP0002087
Lab Number : 06217414
Unique Number : 11090278
Test Package : MOB 2 (Additional Tests: TAN Man)

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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)