



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**HYUNDA E-7**  
Component  
**Diesel Engine**  
Fluid  
**FLEETLINE 15W40 (10 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LP0001920</b>	LP0000652	WC0524094
Sample Date		Client Info		<b>06 Apr 2024</b>	14 Sep 2023	01 Apr 2021
Machine Age	hrs	Client Info		<b>4722</b>	4227	2330
Oil Age	hrs	Client Info		<b>272</b>	1229	0
Filter Age	hrs	Client Info		<b>272</b>	1229	0
Oil Changed		Client Info		<b>Changed</b>	Changed	N/A
Filter Changed		Client Info		<b>Changed</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>8</b>	6	3
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>1</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	3	<1
Lead	ppm	ASTM D5185m	>40	<b>1</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>2</b>	<1	<1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

There is no indication of any contamination in the oil.

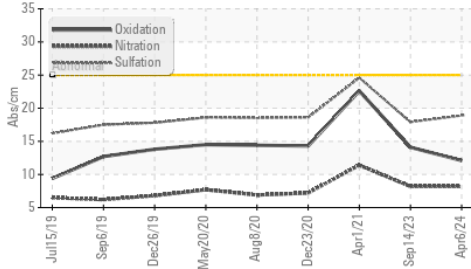
Silicon	ppm	ASTM D5185m	>25	<b>6</b>	6	2
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0	1
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.2</b>	8.2	11.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.9</b>	17.9	24.6
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	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

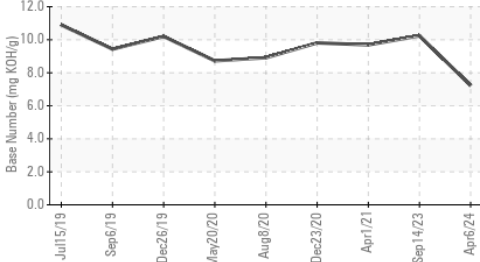
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>1</b>	2	<1
Boron	ppm	ASTM D5185m		<b>9</b>	18	15
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>16</b>	77	58
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>145</b>	570	888
Calcium	ppm	ASTM D5185m		<b>1790</b>	1674	1002
Phosphorus	ppm	ASTM D5185m		<b>738</b>	1076	968
Zinc	ppm	ASTM D5185m		<b>919</b>	1313	1148
Sulfur	ppm	ASTM D5185m		<b>3111</b>	3663	2561
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>12.1</b>	14.1	22.6
Base Number (BN)	mg KOH/g	ASTM D2896		<b>7.23</b>	10.24	9.69
Visc @ 100°C	cSt	ASTM D445		<b>13.1</b>	13.6	13.3

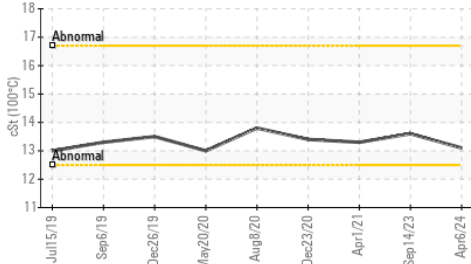
FT-IR (Direct Trend)



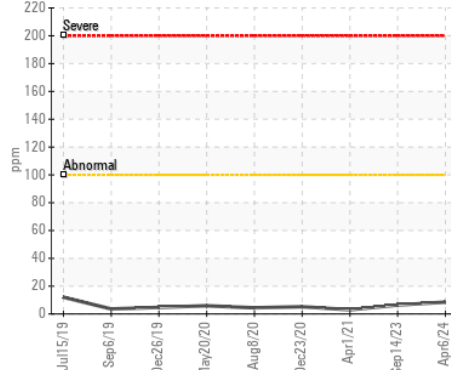
Base Number



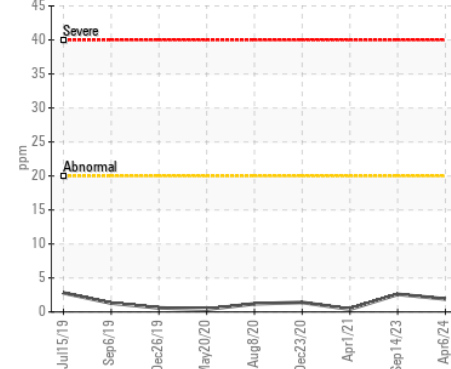
Viscosity @ 100°C



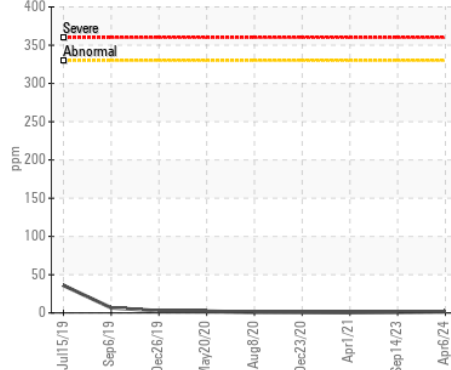
Iron (ppm)



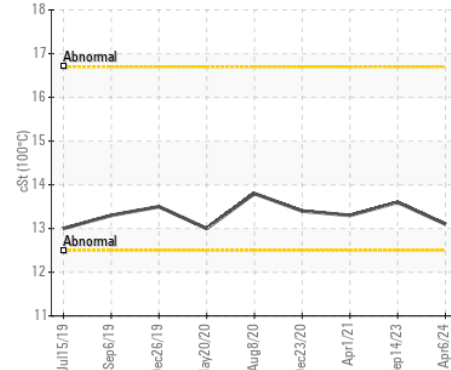
Aluminum (ppm)



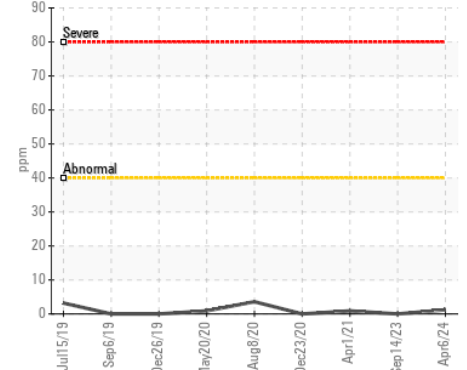
Copper (ppm)



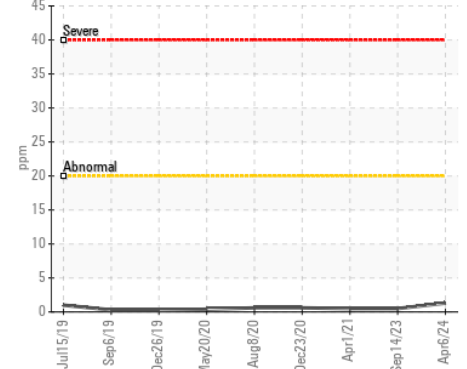
Viscosity @ 100°C



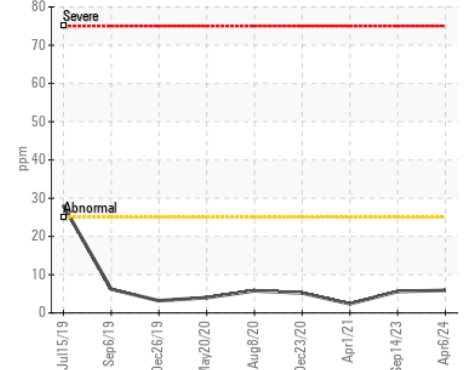
Lead (ppm)



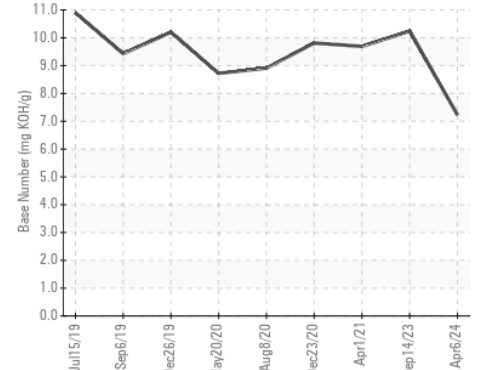
Chromium (ppm)



Silicon (ppm)



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : LP0001920

Lab Number : 06193017

Unique Number : 11049769

Test Package : MOB 2

Received : 28 May 2024

Tested : 30 May 2024

Diagnosed : 30 May 2024 - Wes Davis

S.M. LORUSSO & SONS

10 GROVE ST

WEST ROXBURY, MA

US 02132

Contact: MARK ERWIN

merwin@smlorusso.com

T:

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)