



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**HYUNDAI E-47**  
 Component  
**Diesel Engine**  
 Fluid  
**FLEETLINE SUPERFLEET XHD 15W40 (12 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LP0001540</b>	LP0000769	LP0000610
Sample Date		Client Info		<b>18 Jun 2024</b>	06 Dec 2023	31 Aug 2023
Machine Age	hrs	Client Info		<b>3964</b>	3680	3419
Oil Age	hrs	Client Info		<b>284</b>	261	249
Filter Age	hrs	Client Info		<b>284</b>	261	249
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>1</b>	0	2
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	1	1
Lead	ppm	ASTM D5185m	>40	<b>1</b>	0	1
Copper	ppm	ASTM D5185m	>330	<b>0</b>	1	0
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	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**

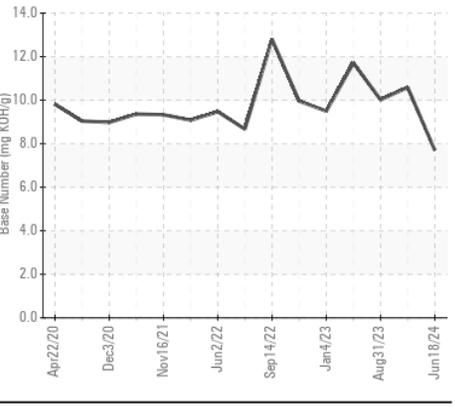
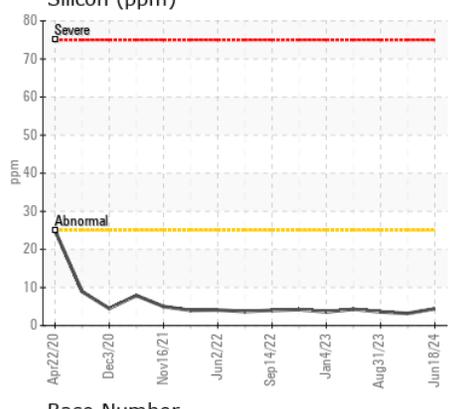
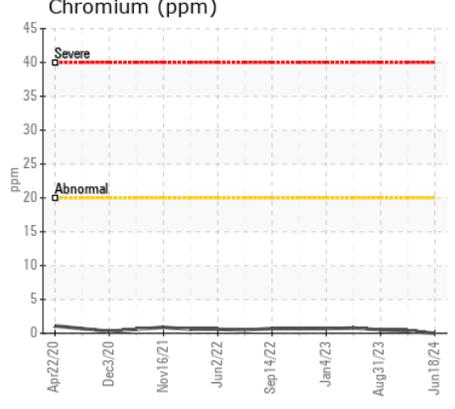
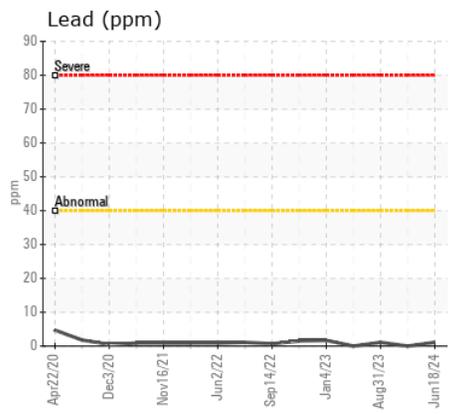
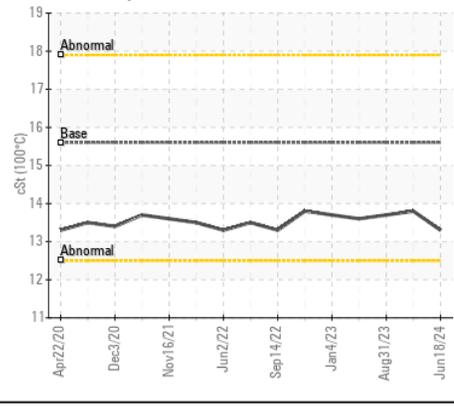
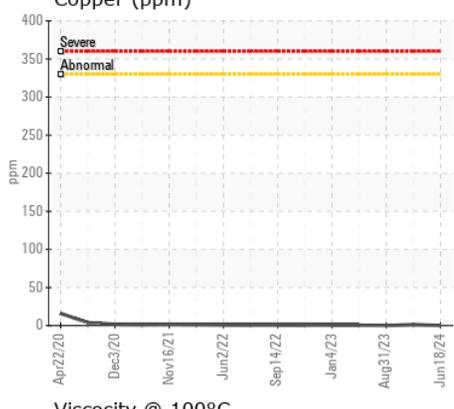
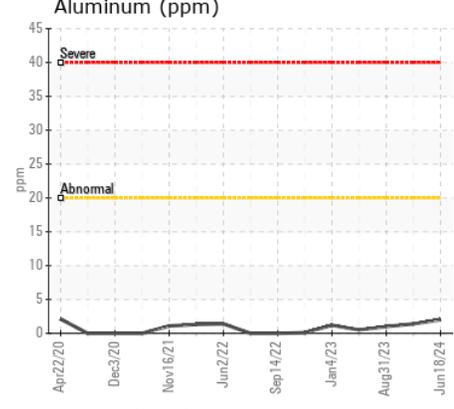
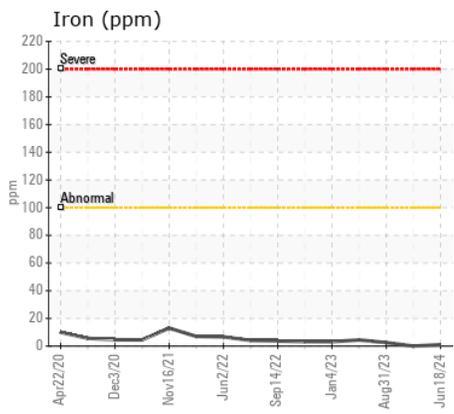
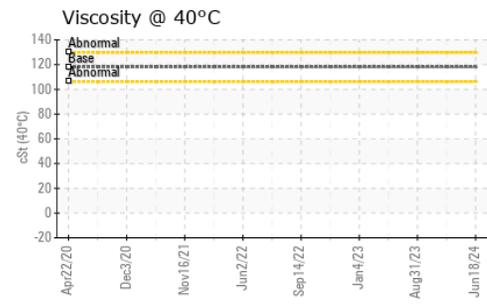
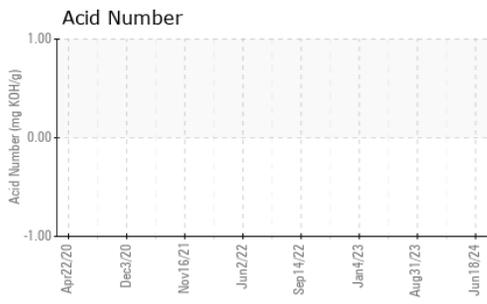
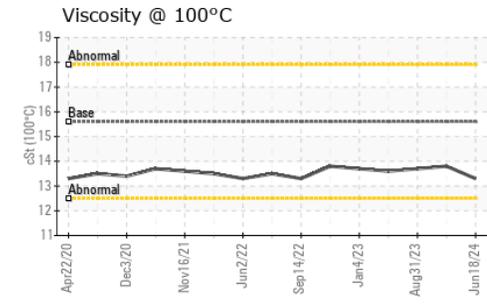
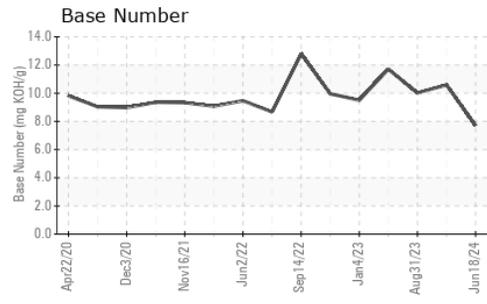
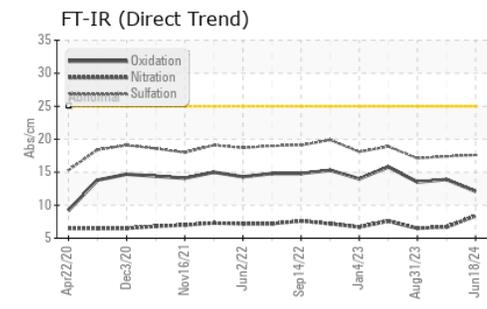
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	3	4
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	0	3
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>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.4</b>	6.7	6.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.6</b>	17.4	17.1
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>0</b>	0	<1
Boron	ppm	ASTM D5185m		<b>22</b>	0	5
Barium	ppm	ASTM D5185m		<b>0</b>	0	3
Molybdenum	ppm	ASTM D5185m		<b>42</b>	58	60
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>168</b>	864	962
Calcium	ppm	ASTM D5185m		<b>2075</b>	1100	1115
Phosphorus	ppm	ASTM D5185m		<b>983</b>	1035	1089
Zinc	ppm	ASTM D5185m		<b>1191</b>	1232	1327
Sulfur	ppm	ASTM D5185m		<b>4120</b>	3060	3372
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>12.1</b>	13.9	13.5
Base Number (BN)	mg KOH/g	ASTM D2896		<b>7.70</b>	10.59	10.02
Visc @ 100°C	cSt	ASTM D445	15.6	<b>13.3</b>	13.8	13.7



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LP0001540 **Received** : 28 Jun 2024  
**Lab Number** : 06224100 **Tested** : 02 Jul 2024  
**Unique Number** : 11102297 **Diagnosed** : 02 Jul 2024 - Jonathan Hester  
**Test Package** : MOB 2 ( Additional Tests: KV40, TAN Man )  
 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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