



FORENSIC  
AND  
SCIENTIFIC  
TESTING INC.

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**HYUNDAI 2012 HYUNDAI**

Component  
**Gasoline Engine**

Fluid  
**{not provided} (--- QTS)**

**RECOMMENDATION**

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>FSM1397152</b>	---	---
Sample Date		Client Info		<b>31 Jan 2024</b>	---	---
Machine Age	mls	Client Info		<b>212257</b>	---	---
Oil Age	mls	Client Info		<b>0</b>	---	---
Filter Age	mls	Client Info		<b>0</b>	---	---
Oil Changed		Client Info		<b>N/A</b>	---	---
Filter Changed		Client Info		<b>N/A</b>	---	---
Sample Status				<b>NORMAL</b>	---	---

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	<b>13</b>	---	---
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	---	---
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	---	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	---	---
Aluminum	ppm	ASTM D5185m	>40	<b>6</b>	---	---
Lead	ppm	ASTM D5185m	>50	<b>0</b>	---	---
Copper	ppm	ASTM D5185m	>155	<b>7</b>	---	---
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---

**CONTAMINATION**

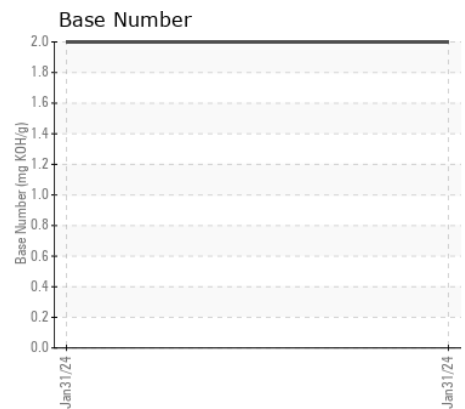
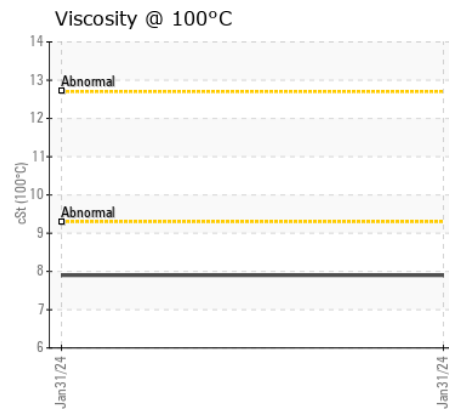
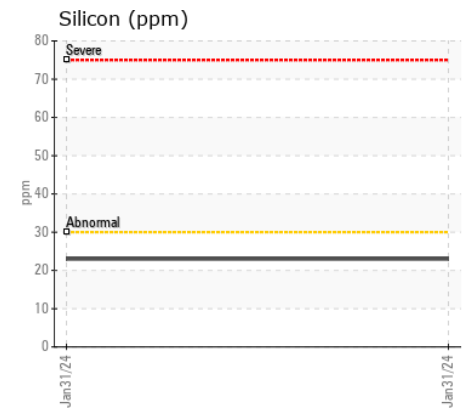
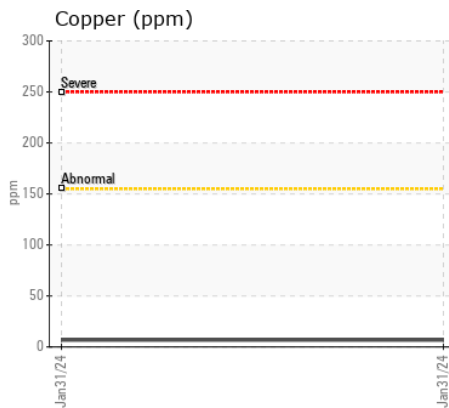
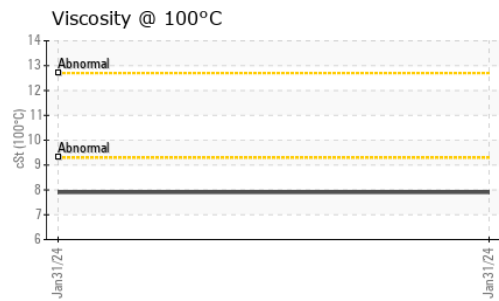
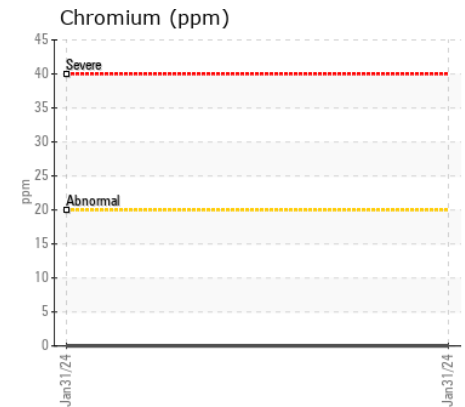
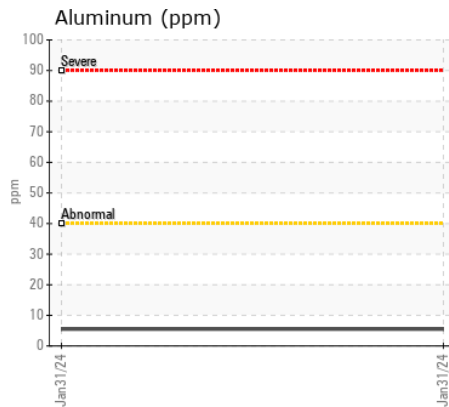
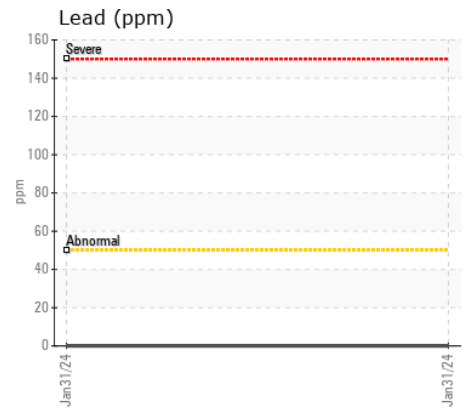
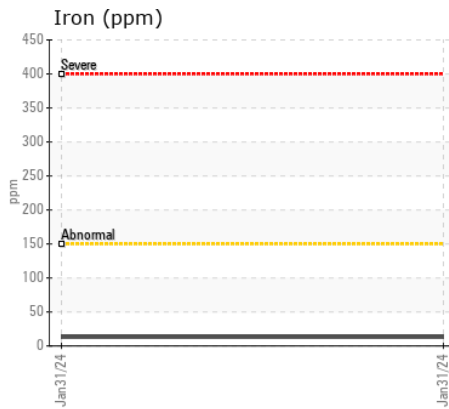
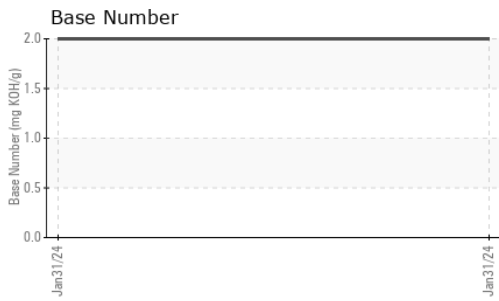
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>30	<b>23</b>	---	---
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	---	---
Fuel	%	ASTM D3524	>4.0	<b>&lt;1.0</b>	---	---
Water		WC Method	>0.2	<b>NEG</b>	---	---
Glycol		WC Method		<b>NEG</b>	---	---
Soot %	%	*ASTM D7844		<b>0</b>	---	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.5</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>25.5</b>	---	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	---	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	---	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	---	---

**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	>400	<b>2</b>	---	---
Boron	ppm	ASTM D5185m		<b>24</b>	---	---
Barium	ppm	ASTM D5185m		<b>2</b>	---	---
Molybdenum	ppm	ASTM D5185m		<b>63</b>	---	---
Manganese	ppm	ASTM D5185m		<b>3</b>	---	---
Magnesium	ppm	ASTM D5185m		<b>409</b>	---	---
Calcium	ppm	ASTM D5185m		<b>914</b>	---	---
Phosphorus	ppm	ASTM D5185m		<b>575</b>	---	---
Zinc	ppm	ASTM D5185m		<b>697</b>	---	---
Sulfur	ppm	ASTM D5185m		<b>2123</b>	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.0</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		<b>2.0</b>	---	---
Visc @ 100°C	cSt	ASTM D445		<b>7.9</b>	---	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : FSM1397152 **Received** : 01 Feb 2024  
**Lab Number** : 06076604 **Diagnosed** : 05 Feb 2024  
**Unique Number** : 10858695 **Diagnostician** : Jonathan Hester  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel, TBN )

**FORENSIC & SCIENTIFIC TESTING**  
 275 N PERRY STREET  
 LAWRENCEVILLE, GA  
 US 30046  
 Contact: DOUG BYRON  
 dbyron@fast-lab.com  
 T: (770)449-4199  
 F: (770)449-4433

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)