



FORENSIC
AND
SCIENTIFIC
TESTING INC.

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL

Machine Id
HYUNDAI 64861-1E
Component
Gasoline Engine
Fluid
{not provided} (--- GAL)

RECOMMENDATION

We advise that you check for the source of water entry. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. Please note that there was too much water present in the oil to perform a viscosity test.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		FS0000344	---	---
Sample Date		Client Info		18 Apr 2024	---	---
Machine Age	mls	Client Info		0	---	---
Oil Age	mls	Client Info		0	---	---
Filter Age	mls	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				SEVERE	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	8	---	---
Chromium	ppm	ASTM D5185m	>20	0	---	---
Nickel	ppm	ASTM D5185m	>5	0	---	---
Titanium	ppm	ASTM D5185m		0	---	---
Silver	ppm	ASTM D5185m	>2	<1	---	---
Aluminum	ppm	ASTM D5185m	>40	3	---	---
Lead	ppm	ASTM D5185m	>50	3	---	---
Copper	ppm	ASTM D5185m	>155	<1	---	---
Tin	ppm	ASTM D5185m	>10	7	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

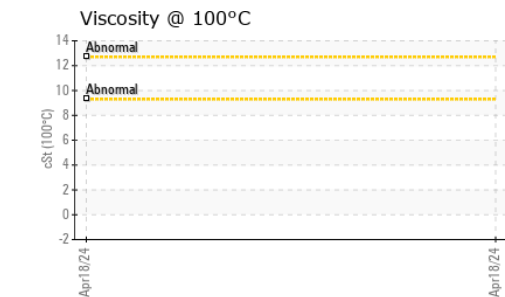
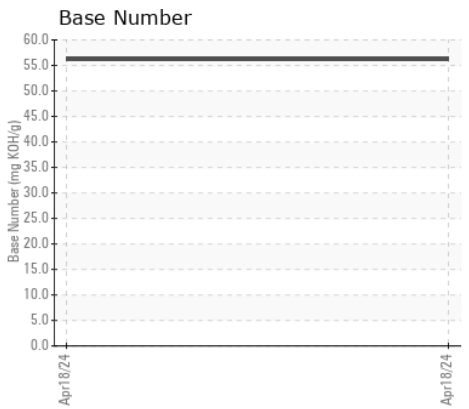
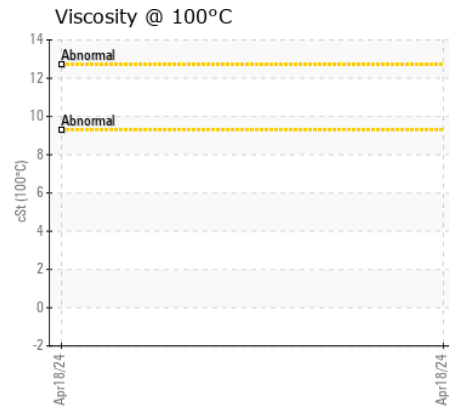
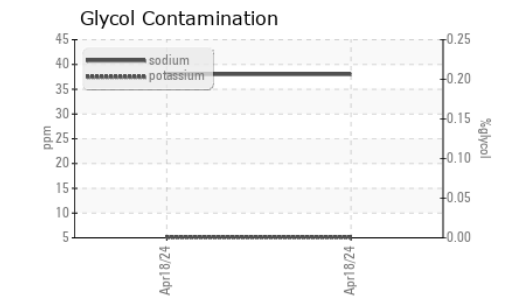
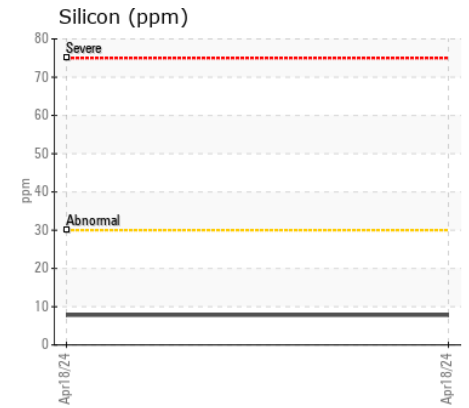
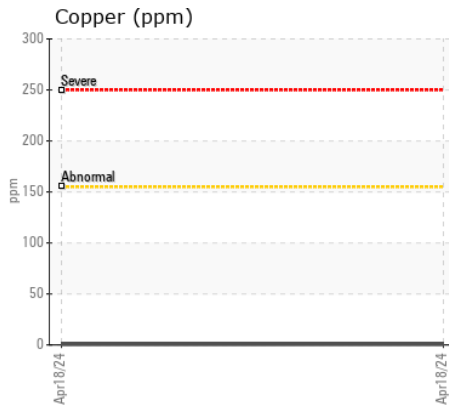
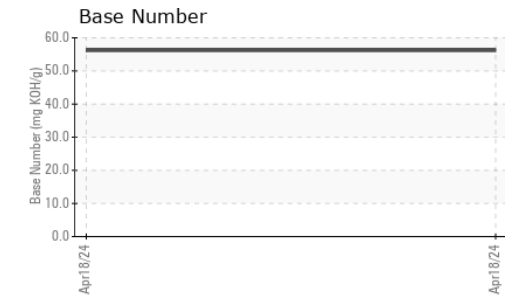
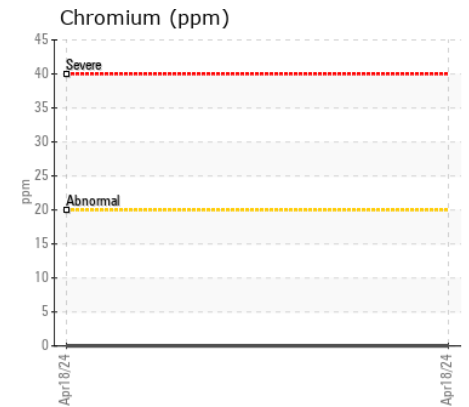
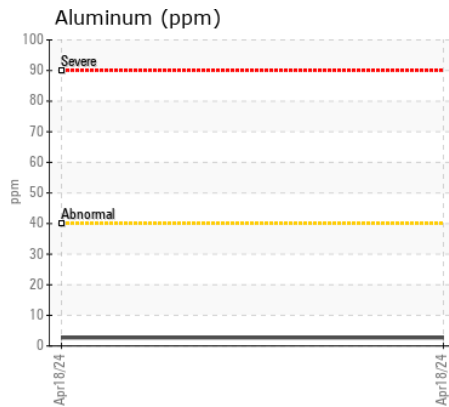
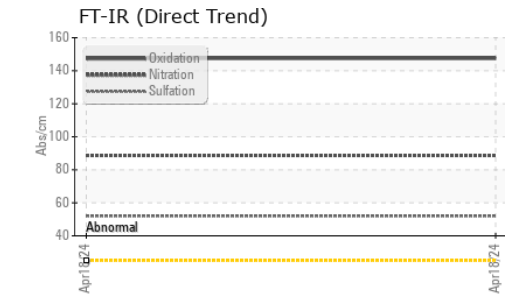
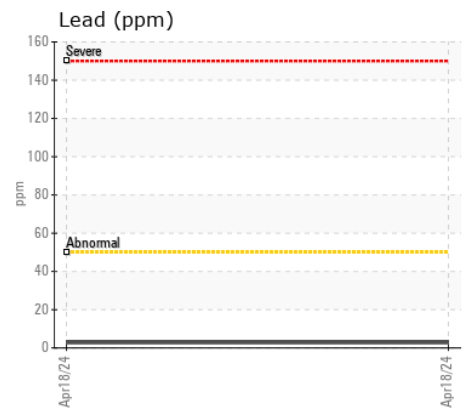
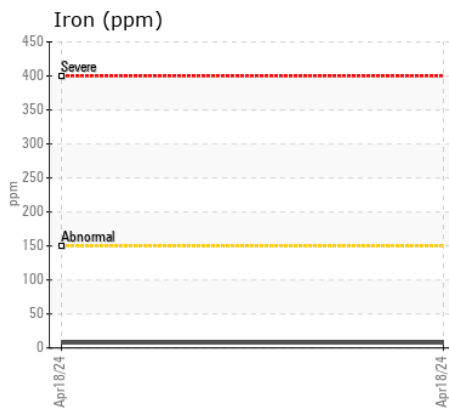
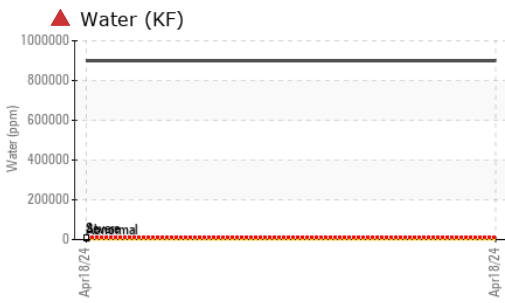
There is a high concentration of water present in the oil.

Silicon	ppm	ASTM D5185m	>30	8	---	---
Potassium	ppm	ASTM D5185m	>20	5	---	---
Fuel		WC Method	>4.0	<1.0	---	---
Water	%	ASTM D6304	>0.2	▲ 90.0	---	---
ppm Water	ppm	ASTM D6304	>2000	▲ 900000	---	---
Glycol	%	*ASTM D2982		NEG	---	---
Soot %	%	*ASTM D7844		3.3	---	---
Nitration	Abs/cm	*ASTM D7624	>20	88.7	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	52.0	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	● MILKY	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	▲ 0.2%	---	---

FLUID CONDITION

The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m	>400	38	---	---
Boron	ppm	ASTM D5185m		20	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		83	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		156	---	---
Calcium	ppm	ASTM D5185m		395	---	---
Phosphorus	ppm	ASTM D5185m		269	---	---
Zinc	ppm	ASTM D5185m		330	---	---
Sulfur	ppm	ASTM D5185m		1082	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	147.5	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		56.2	---	---



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : FS0000344
Lab Number : 06154181
Unique Number : 10989604
Test Package : MOB 1 (Additional Tests: Glycol, KF, TBN)

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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)