



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Machine Id
HYUNDAI E-1
Component
Diesel Engine
Fluid
15W40 SUPER FLEET (14 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LP0000800	LP0000714	LP0000713
Sample Date		Client Info		14 Sep 2023	26 Jul 2023	26 Jul 2023
Machine Age	hrs	Client Info		5075	4782	4782
Oil Age	hrs	Client Info		293	147	147
Filter Age	hrs	Client Info		293	147	147
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ATTENTION	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	15	11	12
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	<1	<1
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	1	<1	<1
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

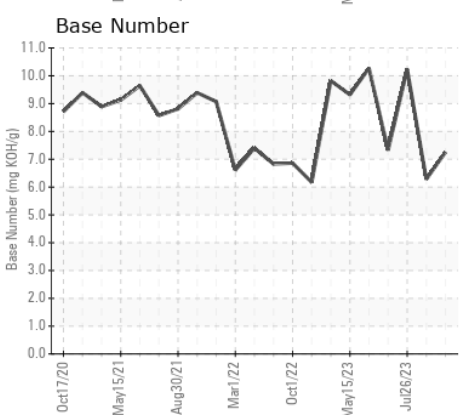
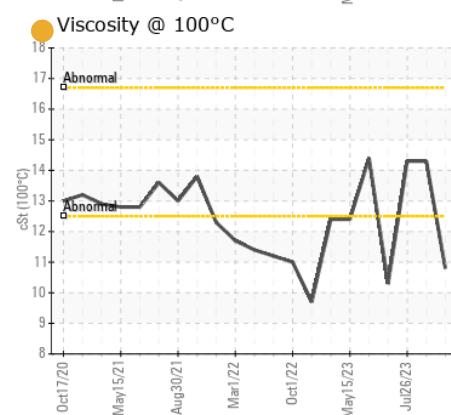
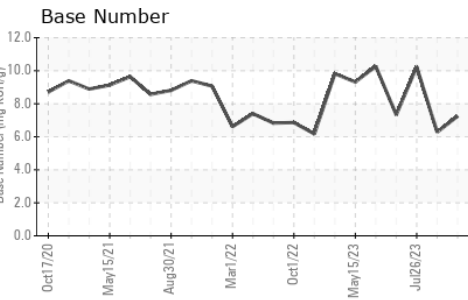
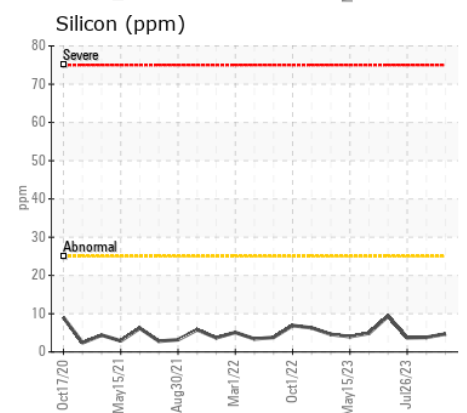
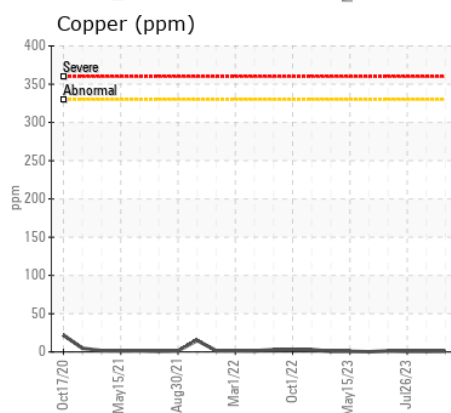
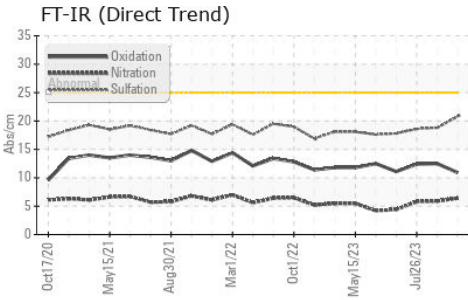
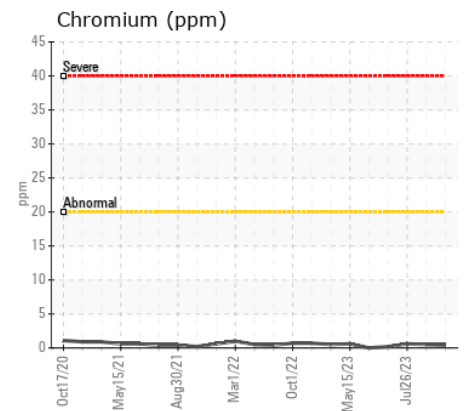
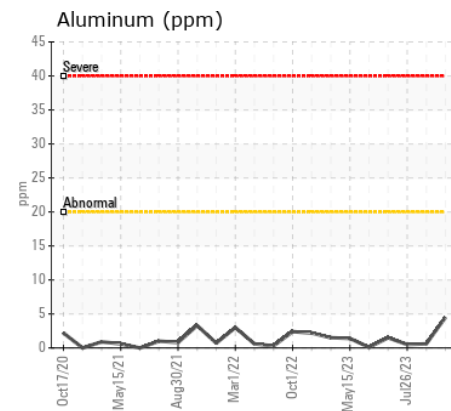
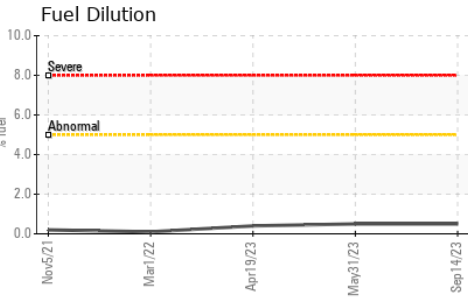
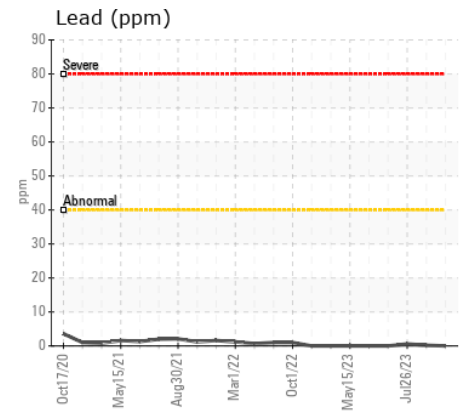
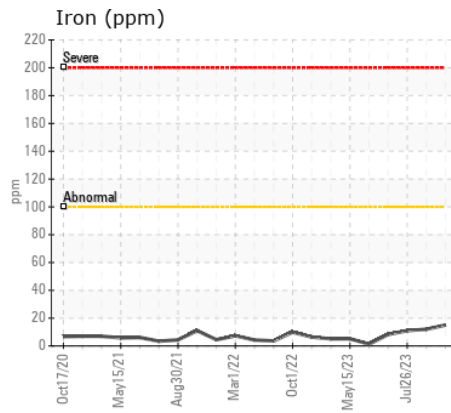
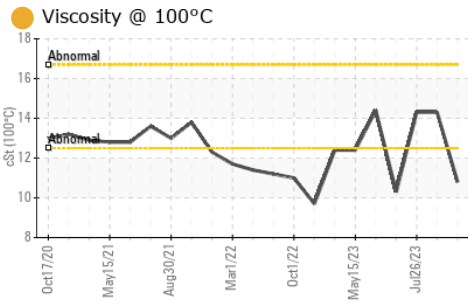
Fuel content negligible. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	5	4	4
Potassium	ppm	ASTM D5185m	>20	<1	2	2
Fuel	%	ASTM D3524	>5	0.5	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.7	1.2	1.2
Nitration	Abs/cm	*ASTM D7624	>20	6.4	5.9	5.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.8	18.8	18.6
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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		3	1	1
Boron	ppm	ASTM D5185m		9	14	15
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		41	64	64
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		479	1001	998
Calcium	ppm	ASTM D5185m		1127	1090	1100
Phosphorus	ppm	ASTM D5185m		840	1073	1070
Zinc	ppm	ASTM D5185m		1023	1304	1309
Sulfur	ppm	ASTM D5185m		3035	4015	4021
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.9	12.5	12.4
Base Number (BN)	mg KOH/g	ASTM D2896		7.25	6.28	10.23
Visc @ 100°C	cSt	ASTM D445		10.8	14.3	14.3



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LP0000800 **Received** : 18 Sep 2023
Lab Number : 05954911 **Tested** : 20 Sep 2023
Unique Number : 10656124 **Diagnosed** : 21 Sep 2023 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

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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)