



WEAR	<b>SEVERE</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**HYUNDAI L-4 - HYUNDAI**  
Component  
**Front Differential**  
Fluid  
**GEAR OIL LS 80W90 (16 GAL)**

### RECOMMENDATION

The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

### WEAR

The iron level has decreased, but is still abnormal. Bearing and/or bushing wear is indicated.

### CONTAMINATION

There is no indication of any contamination in the oil.

### FLUID CONDITION

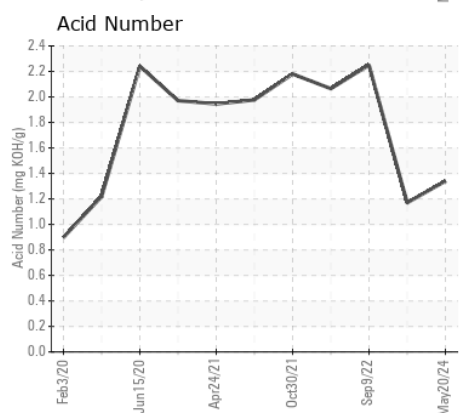
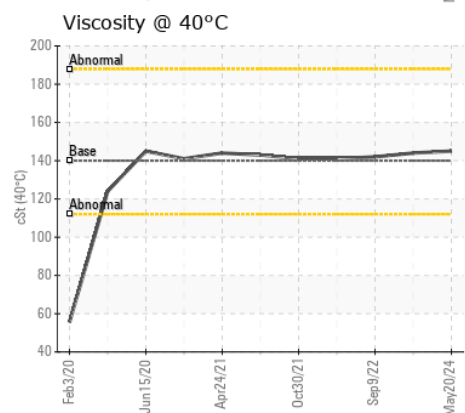
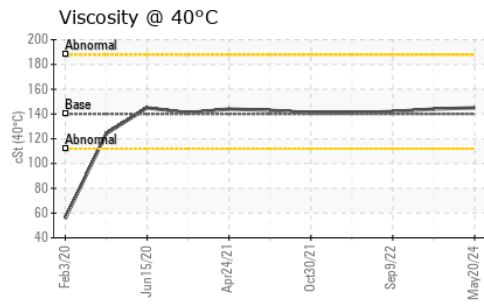
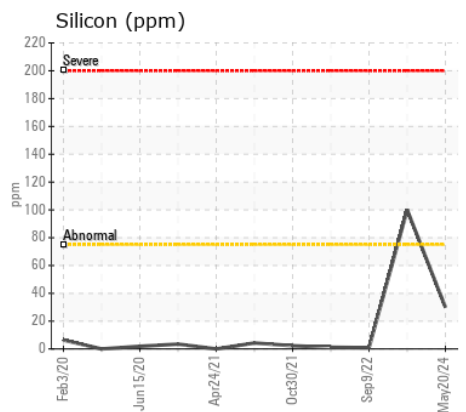
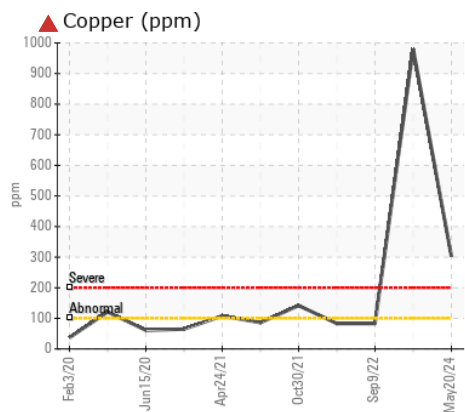
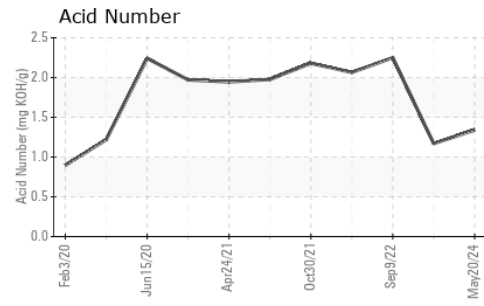
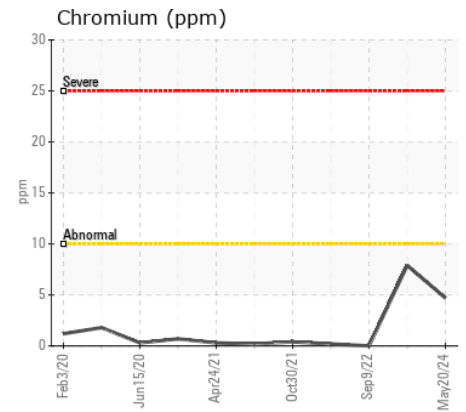
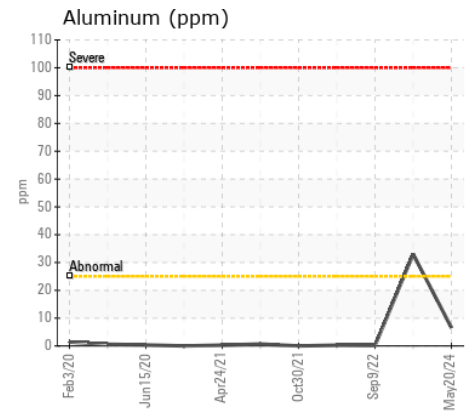
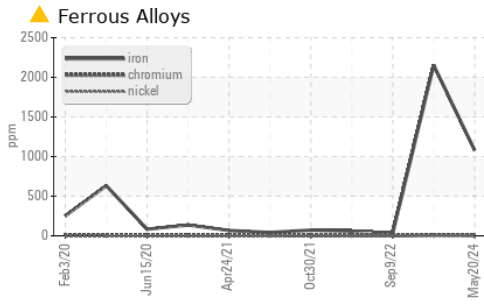
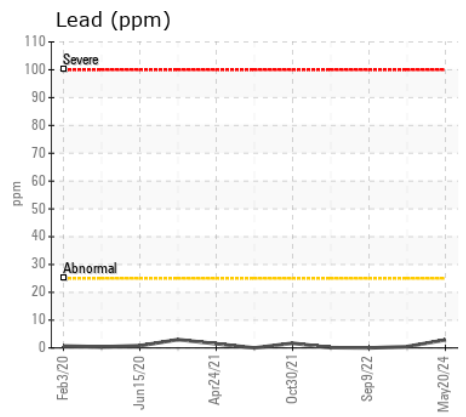
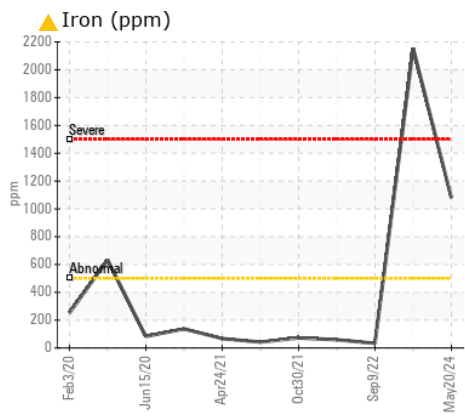
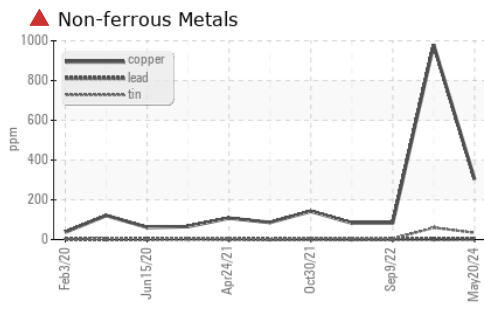
The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LP0002090</b>	LP0000720	WC0721529
Sample Date		Client Info		<b>20 May 2024</b>	01 Jul 2023	09 Sep 2022
Machine Age	hrs	Client Info		<b>11406</b>	9221	7025
Oil Age	hrs	Client Info		<b>1185</b>	2196	2009
Filter Age	hrs	Client Info		<b>1185</b>	2196	500
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>SEVERE</b>	SEVERE	NORMAL

Iron	ppm	ASTM D5185m	>500	<b>▲ 1080</b>	▲ 2154	33
Chromium	ppm	ASTM D5185m	>10	<b>5</b>	8	0
Nickel	ppm	ASTM D5185m	>10	<b>1</b>	7	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>7</b>	● 33	<1
Lead	ppm	ASTM D5185m	>25	<b>3</b>	<1	0
Copper	ppm	ASTM D5185m	>100	<b>▲ 303</b>	▲ 980	83
Tin	ppm	ASTM D5185m	>10	<b>▲ 34</b>	▲ 60	3
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

Silicon	ppm	ASTM D5185m	>75	<b>30</b>	▲ 100	<1
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	11	0
Water		WC Method	>.2	<b>NEG</b>	NEG	NEG
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	>.2	<b>NEG</b>	NEG	NEG

Sodium	ppm	ASTM D5185m		<b>3</b>	4	0
Boron	ppm	ASTM D5185m	150	<b>9</b>	23	33
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>4</b>	6	<1
Manganese	ppm	ASTM D5185m		<b>11</b>	22	<1
Magnesium	ppm	ASTM D5185m	10	<b>4</b>	13	3
Calcium	ppm	ASTM D5185m	70	<b>55</b>	49	13
Phosphorus	ppm	ASTM D5185m	2000	<b>688</b>	705	634
Zinc	ppm	ASTM D5185m	50	<b>178</b>	192	28
Sulfur	ppm	ASTM D5185m	20000	<b>26372</b>	29670	26262
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>1.34</b>	1.17	2.25
Visc @ 40°C	cSt	ASTM D445	140	<b>145</b>	144	142



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LP0002090  
**Lab Number** : 06195981  
**Unique Number** : 11058104  
**Test Package** : MOB 2  
**Received** : 30 May 2024  
**Tested** : 02 Jun 2024  
**Diagnosed** : 02 Jun 2024 - Don Baldrige

**S.M. LORUSSO & SONS**  
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Certificate L2367  
 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)