



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
56E-5D
Component
Gearbox
Fluid
HP GEAR LIFE ISO 150 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		HPL0004073	HPL007780	HPL002953
Sample Date		Client Info		08 Feb 2024	14 Feb 2022	02 Feb 2016
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	3	4	42
Chromium	ppm	ASTM D5185m	>15	<1	0	<1
Nickel	ppm	ASTM D5185m	>15	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	1	0	<1
Lead	ppm	ASTM D5185m	>100	0	0	<1
Copper	ppm	ASTM D5185m	>200	<1	<1	5
Tin	ppm	ASTM D5185m	>25	0	0	3
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

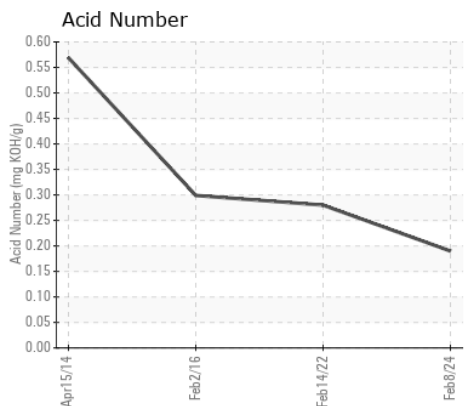
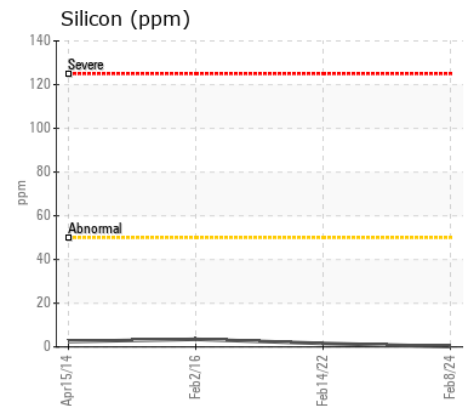
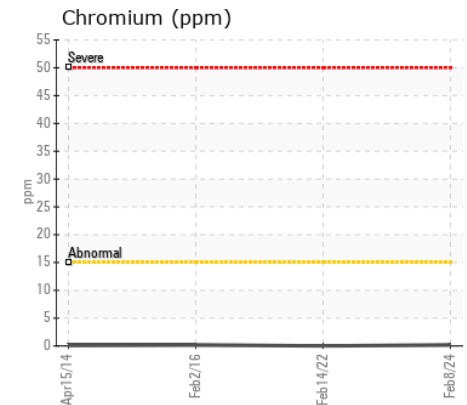
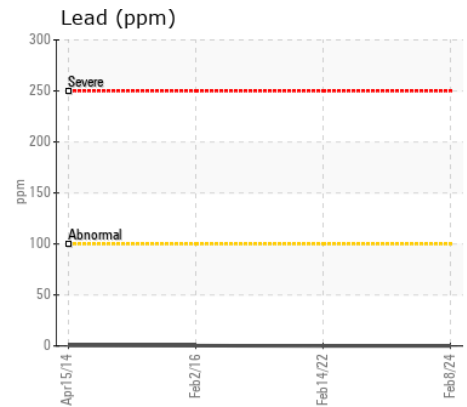
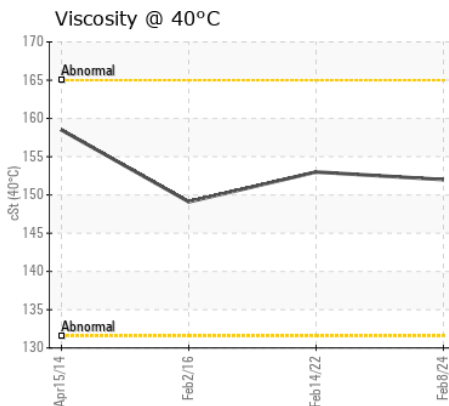
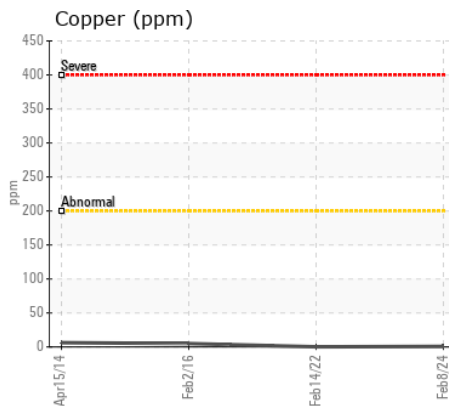
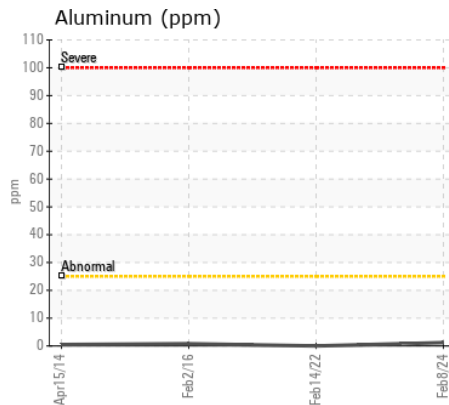
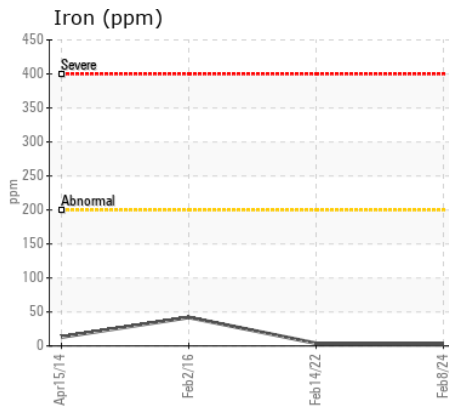
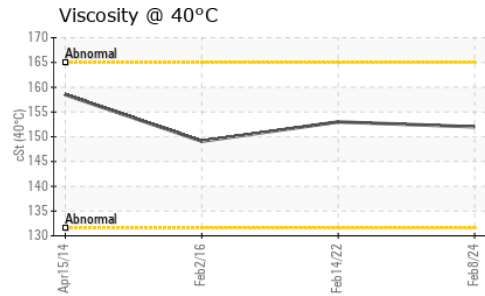
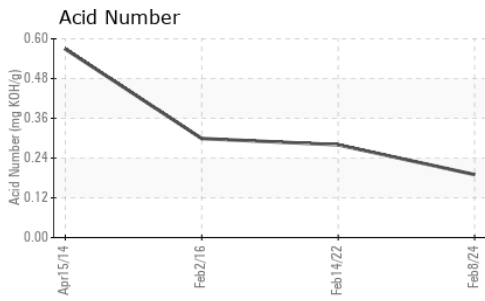
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	<1	2	4
Potassium	ppm	ASTM D5185m	>20	2	0	1
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	▲ MODER	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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		0	<1	2
Boron	ppm	ASTM D5185m		0	0	1
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	<1	<1
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		1	0	0
Calcium	ppm	ASTM D5185m		5	0	62
Phosphorus	ppm	ASTM D5185m		56	31	143
Zinc	ppm	ASTM D5185m		0	0	15
Sulfur	ppm	ASTM D5185m		30919	16104	15994
Acid Number (AN)	mg KOH/g	ASTM D8045		0.19	0.28	0.299
Visc @ 40°C	cSt	ASTM D445		152	153	149.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : HPL0004073
Lab Number : 06087568
Unique Number : 10875013
Test Package : MOB 2

Received : 13 Feb 2024
Tested : 14 Feb 2024
Diagnosed : 14 Feb 2024 - Wes Davis

MARATHON PETROLEUM CO.
 IL. REFINING DIVISION, 400 S MARATHON AVE
 ROBINSON, IL
 US 62454

Contact: M.S. MANHART
 mmanhart@marathonpetroleum.com
 T: (618)544-2121

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)

F: x: