



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**66E-8A**  
 Component  
**Gearbox**  
 Fluid  
**ROYAL PURPLE SYNERGY 90/150 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		HPL0004157	HPL010601	HPL001040
Sample Date		Client Info		24 Jan 2024	15 Jan 2020	22 Apr 2014
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	NORMAL	MARGINAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	96	182	▲ 129
Chromium	ppm	ASTM D5185m	>15	<1	<1	<1
Nickel	ppm	ASTM D5185m	>15	<1	1	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	<1	1
Lead	ppm	ASTM D5185m	>100	<1	0	0
Copper	ppm	ASTM D5185m	>200	10	5	2
Tin	ppm	ASTM D5185m	>25	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

## CONTAMINATION

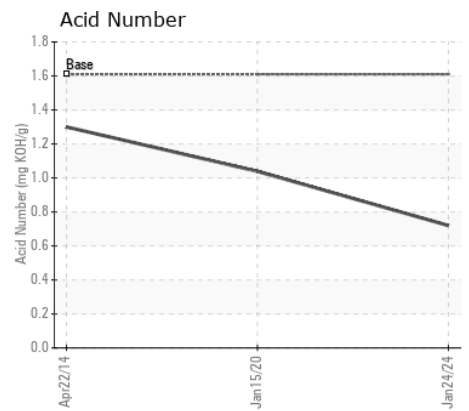
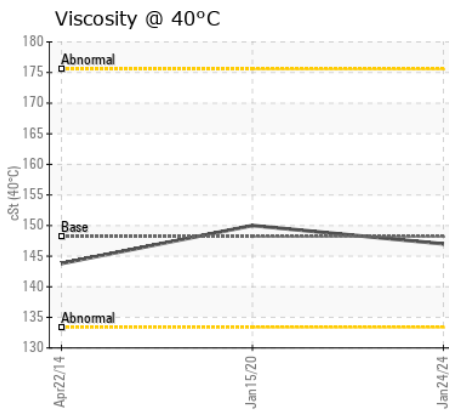
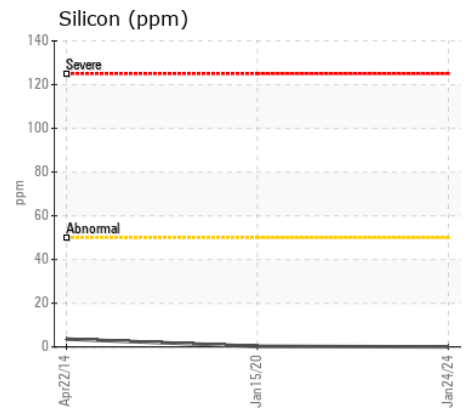
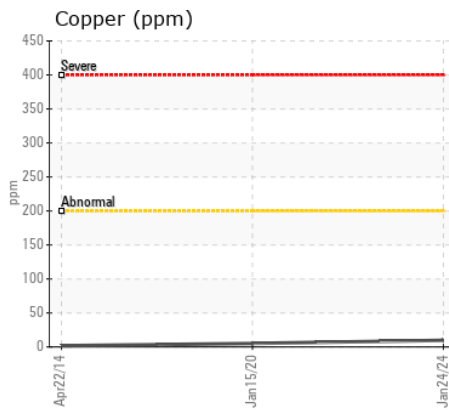
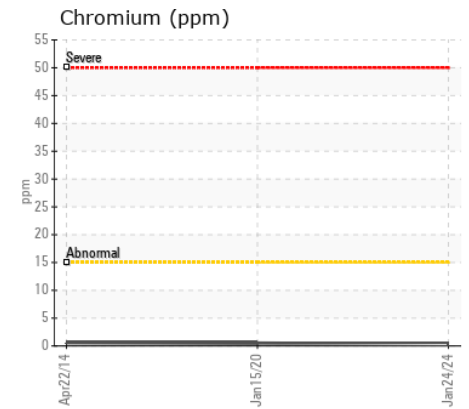
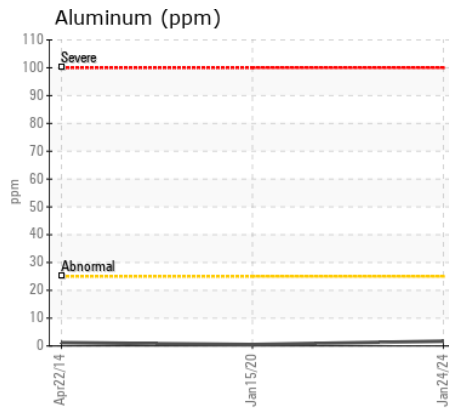
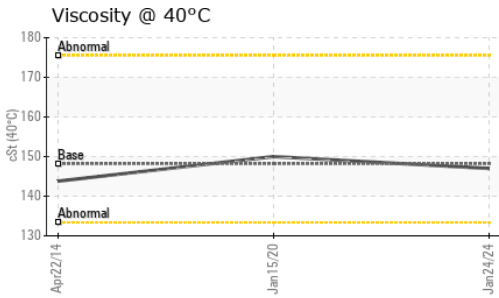
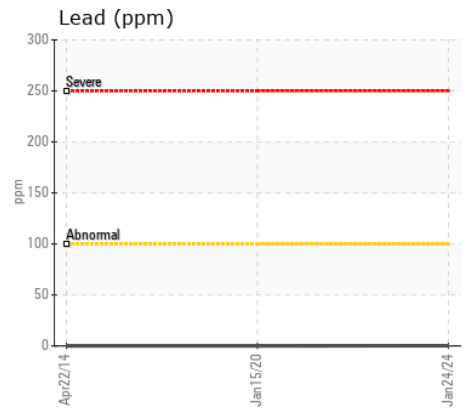
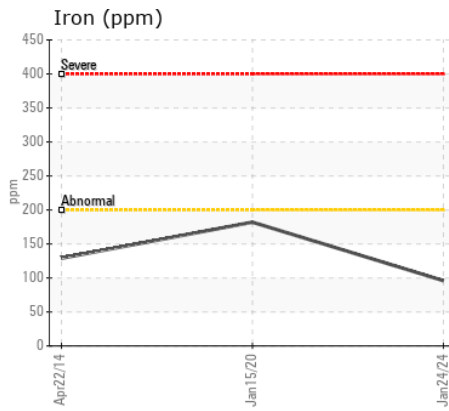
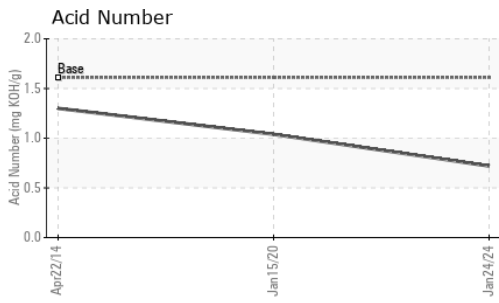
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	0	<1	4
Potassium	ppm	ASTM D5185m	>20	2	3	3
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	*Visual	NONE	NONE	MODER	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	LIGHT
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	3	8
Boron	ppm	ASTM D5185m		0	0	<1
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		<1	0	0
Manganese	ppm	ASTM D5185m		<1	1	2
Magnesium	ppm	ASTM D5185m		3	<1	<1
Calcium	ppm	ASTM D5185m		38	2	6
Phosphorus	ppm	ASTM D5185m	200	154	293	297
Zinc	ppm	ASTM D5185m		7	4	5
Sulfur	ppm	ASTM D5185m		23748	25042	27064
Acid Number (AN)	mg KOH/g	ASTM D8045	1.61	0.72	1.039	1.30
Visc @ 40°C	cSt	ASTM D445	148.2	147	150	143.8



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : HPL0004157 **Received** : 30 Jan 2024  
**Lab Number** : 06074132 **Diagnosed** : 31 Jan 2024  
**Unique Number** : 10856223 **Diagnostician** : Wes Davis  
**Test Package** : MOB 2

**MARATHON PETROLEUM CO.**  
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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)