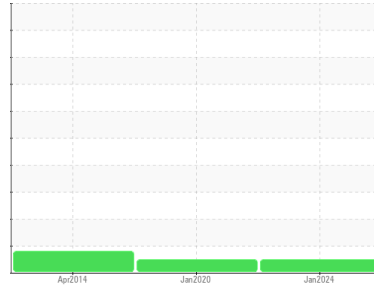




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
66E-8A

Component
Gearbox

Fluid
ROYAL PURPLE SYNERGY 90/150 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	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
Oil Changed	Client Info			N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	MARGINAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.2	NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
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
Antimony	ppm	ASTM D5185m	>5	---	720	1418
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

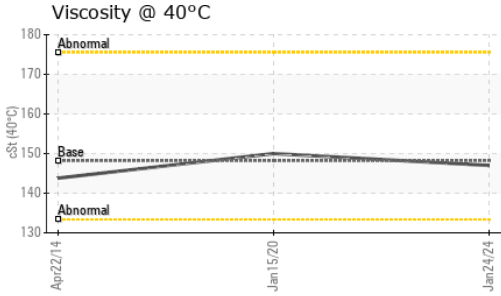
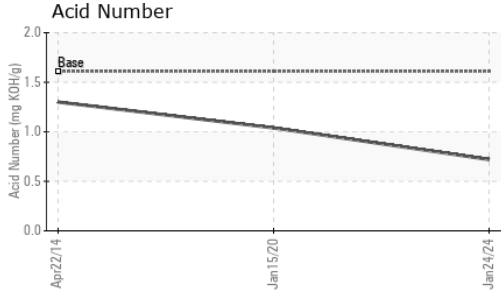
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	0	<1
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		<1	0	0
Manganese	ppm	ASTM D5185m		<1	1	2
Magnesium	ppm	ASTM D5185m		3	<1	<1
Calcium	ppm	ASTM D5185m		38	2	6
Phosphorus	ppm	ASTM D5185m	200	154	293	297
Zinc	ppm	ASTM D5185m		7	4	5
Sulfur	ppm	ASTM D5185m		23748	25042	27064

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	0	<1	4
Sodium	ppm	ASTM D5185m		0	3	8
Potassium	ppm	ASTM D5185m	>20	2	3	3

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.61	0.72	1.039	1.30



OIL ANALYSIS REPORT



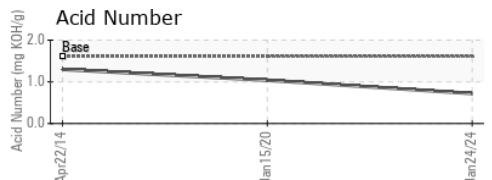
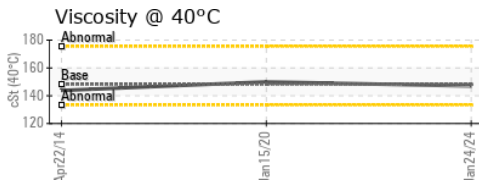
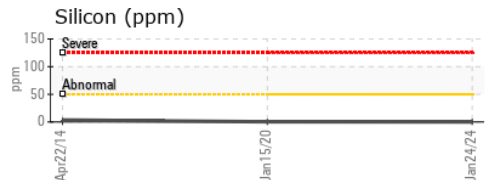
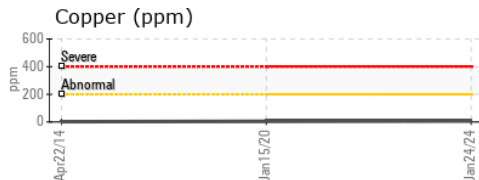
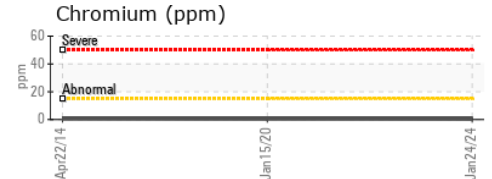
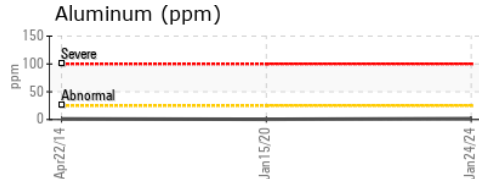
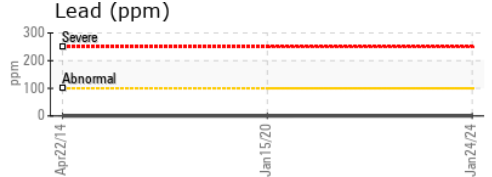
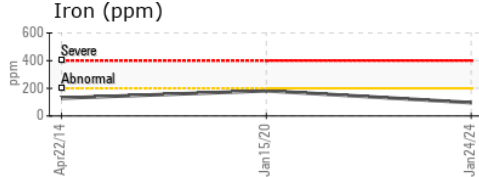
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	MODER	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	148.2	150	143.8

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color				no image	no image	no image
Bottom				no image	no image	no image

GRAPHS



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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 ROBINSON, IL
 US 62454
 Contact: M.S. MANHART
 mmanhart@marathonpetroleum.com
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 F: x:

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)