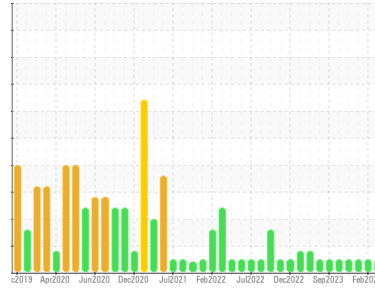




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
Garyville
Machine Id
[Garyville] Oil - Port Genset
Component
Port Genset
Fluid
ROYAL PURPLE MOTOR OIL 15W40 (35 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0804755	WC0859894	WC0805189
Sample Date	Client Info		14 Mar 2024	13 Feb 2024	18 Dec 2023
Machine Age	hrs	Client Info	10900	3378	3378
Oil Age	hrs	Client Info	2500	1462	1462
Oil Changed	Client Info		Oil Added	Oil Added	Oil Added
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>4.0	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>50	46	41	25
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		8	10	9
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	2	2	1
Lead	ppm	ASTM D5185m	>17	<1	1	0
Copper	ppm	ASTM D5185m	>70	<1	<1	0
Tin	ppm	ASTM D5185m	>15	0	<1	<1
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	109	105	65
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	100	44	43	28
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	60	661	733	622
Calcium	ppm	ASTM D5185m	3050	1808	1924	1795
Phosphorus	ppm	ASTM D5185m	1050	899	964	731
Zinc	ppm	ASTM D5185m	1200	1098	1182	919
Sulfur	ppm	ASTM D5185m	12500	3347	3633	2899

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	12	11	10
Sodium	ppm	ASTM D5185m		7	5	4
Potassium	ppm	ASTM D5185m	>20	4	3	<1
Water	%	ASTM D6304	>0.1	NEG	NEG	NEG

INFRA-RED

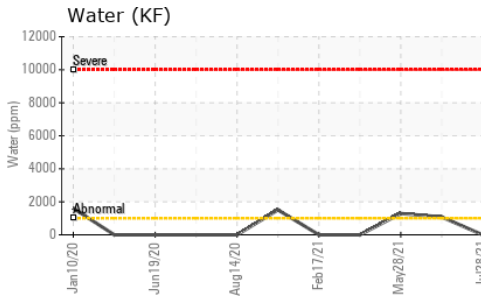
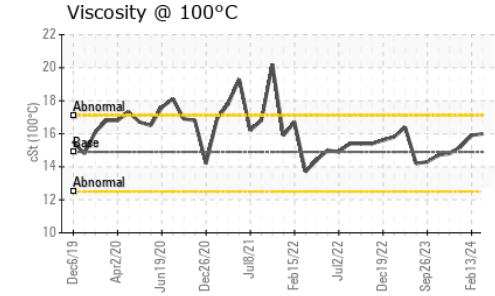
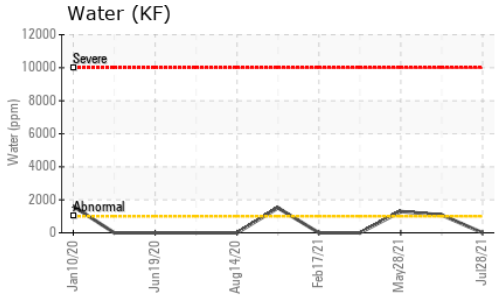
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844		0.4	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	13.3	13.1	12.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.8	26.2	23.7

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	29.2	28.2	24.0
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	7.35	7.23	7.91



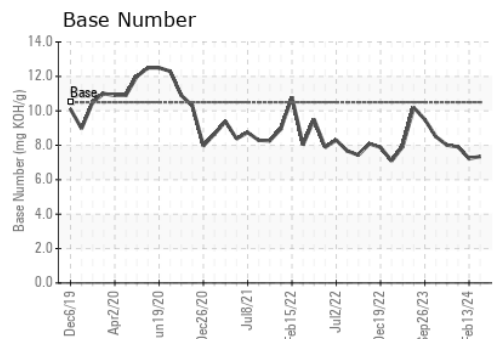
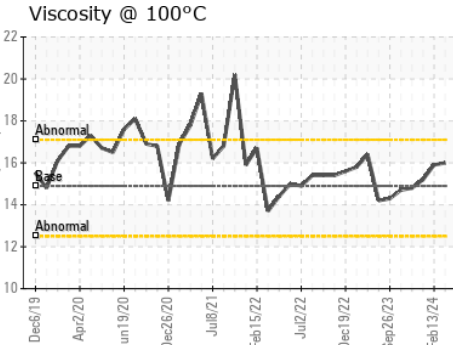
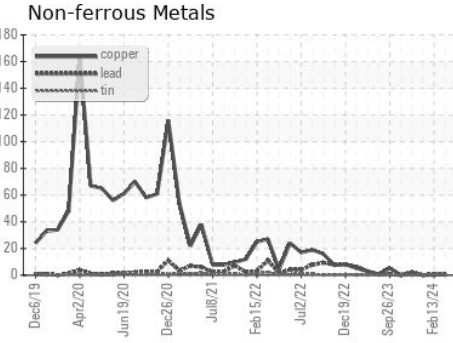
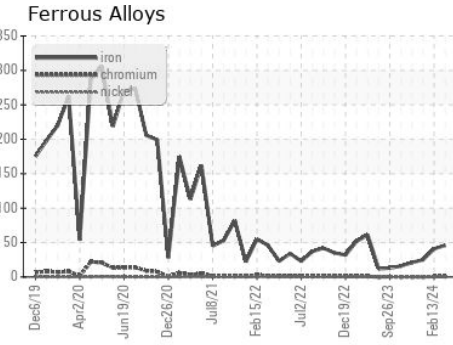
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	14.9	16.0	15.9	15.2

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0804755 **Received** : 27 Mar 2024
Lab Number : **06130817** **Tested** : 01 Apr 2024
Unique Number : 10950282 **Diagnosed** : 01 Apr 2024 - Jonathan Hester
Test Package : IND 2 (Additional Tests: KF)

MARATHON PETROLEUM CO.
 101 12TH ST
 CATLETTSBURG, KY
 US 41169
 Contact: CORY GUMBERT
 cagumbert@marathonpetroleum.com
 T: (606)585-3950
 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)