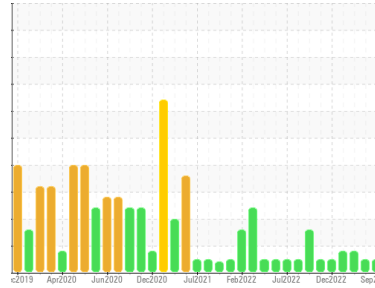




OIL ANALYSIS REPORT

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. (Customer Sample Comment: Top Up Amount: .5 gal)

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		WC0805371	WC0805381	WC0683221
Sample Date	Client Info		26 Sep 2023	29 Aug 2023	04 Jul 2023
Machine Age	hrs	Client Info	8889	3378	3378
Oil Age	hrs	Client Info	500	1462	1462
Oil Changed	Client Info		Oil Added	Oil Added	Oil Added
Sample Status			NORMAL	NORMAL	ABNORMAL

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	13	12	▲ 61
Chromium	ppm	ASTM D5185m >4	<1	0	1
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m	8	8	<1
Silver	ppm	ASTM D5185m >5	0	0	0
Aluminum	ppm	ASTM D5185m >12	<1	<1	<1
Lead	ppm	ASTM D5185m >17	<1	<1	3
Copper	ppm	ASTM D5185m >70	5	<1	3
Tin	ppm	ASTM D5185m >15	<1	0	<1
Vanadium	ppm	ASTM D5185m	<1	<1	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	62	110	47
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 100	26	25	22
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m 60	687	668	592
Calcium	ppm	ASTM D5185m 3050	1631	1679	1789
Phosphorus	ppm	ASTM D5185m 1050	801	785	848
Zinc	ppm	ASTM D5185m 1200	992	940	1101
Sulfur	ppm	ASTM D5185m 12500	3237	3805	3444

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	6	5	13
Sodium	ppm	ASTM D5185m	2	3	6
Potassium	ppm	ASTM D5185m >20	3	3	3

INFRA-RED

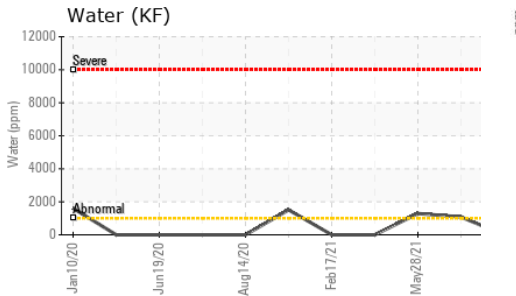
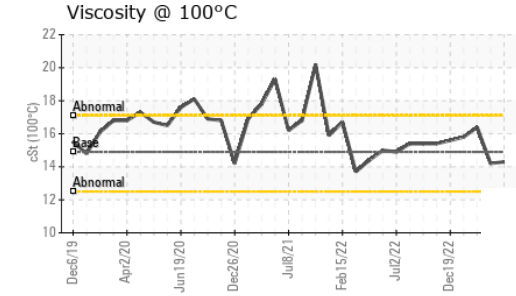
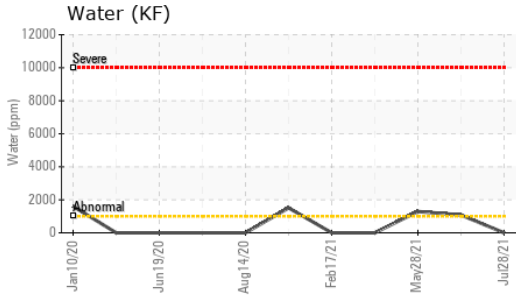
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0.2	0.1	0.5
Nitration	Abs/cm	*ASTM D7624 >20	9.9	8.3	13.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.9	19.3	26.0

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	17.2	14.9	28.5
Base Number (BN)	mg KOH/g	ASTM D2896 10.5	9.50	10.19	7.92



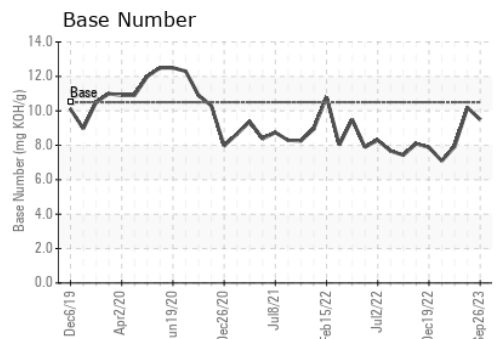
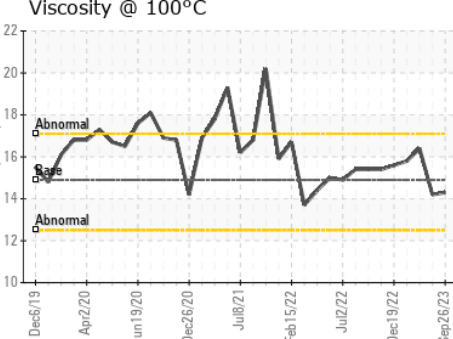
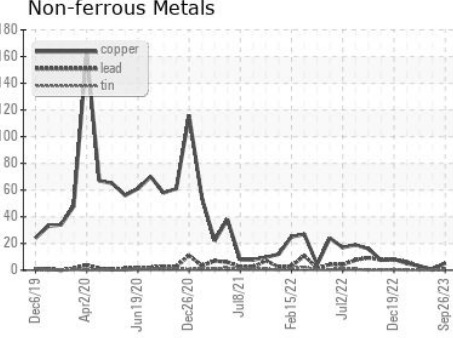
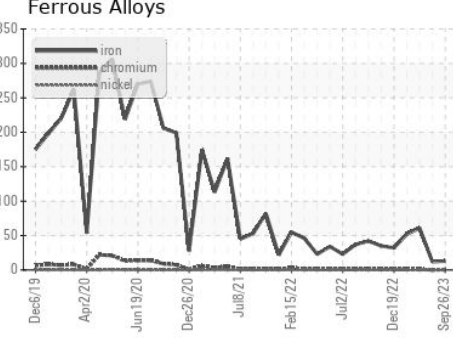
OIL ANALYSIS REPORT



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	14.3	14.2	16.4

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0805371 **Received** : 03 Oct 2023
Lab Number : **05967933** **Diagnosed** : 05 Oct 2023
Unique Number : 10674484 **Diagnostician** : Don Baldrige
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)