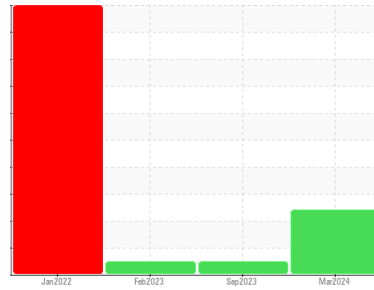




FUEL REPORT

Sample Rating Trend



CONTAMINANT



Area
Tri State
 Machine Id
[Tri State] Diesel - #2 Port
 Component
Port Diesel Fuel
 Fluid
No.2 DIESEL FUEL (ULTRALOW SULPHUR) (--- GAL)

DIAGNOSIS

Recommendation

We advise that you follow the water drain-off procedure for this component, and use off-line filtration to improve the cleanliness of the system fluid. We recommend you service and check the fuel filters for mucous-like deposits. Check with fuel supplier for biocides available to destroy the microorganisms in the fuel system. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Corrosion

All metal levels are normal indicating no corrosion in the system.

Contaminants

Moderate concentration of visible dirt/debris present in the fuel. Bacteria or fungus (yeast and/or mold) present in the sample. The water content is negligible.

Fuel Condition

Sulfur value derived by ASTM D5453 method for ULSD validation. Sulfur level is acceptable for ULSD specification.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0600371	WC0805579	WC0600256
Sample Date	Client Info	29 Mar 2024	26 Sep 2023	22 Feb 2023
Machine Age	hrs	Client Info	0	0
Sample Status		ABNORMAL	NORMAL	NORMAL

PHYSICAL PROPERTIES

method	limit/base	current	history1	history2
ASTM Color	scalar *ASTM D1500	L4.0	---	L5.5
Visc @ 40°C	cSt ASTM D445	3.0	2.63	2.72

SULFUR CONTENT

method	limit/base	current	history1	history2
Sulfur	ppm ASTM D5185m	10	0	5
Sulfur (UVF)	ppm ASTM D5453		14	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m	<1.0	0	<1
Sodium	ppm ASTM D5185m	<0.1	<1	<1
Potassium	ppm ASTM D5185m	<0.1	0	0
Water	% ASTM D6304	<0.05	0.003	0.003
ppm Water	ppm ASTM D6304	<500	35	30.0
% Gasoline	% *In-House	<0.50	0.0	---
% Biodiesel	% *In-House	<20.0	0.0	---

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	---	---
Particles >6µm	ASTM D7647	>640	---	---
Particles >14µm	ASTM D7647	>80	---	---
Particles >21µm	ASTM D7647	>20	---	---
Particles >38µm	ASTM D7647	>4	---	---
Particles >71µm	ASTM D7647	>3	---	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	---	---

MICROBIAL

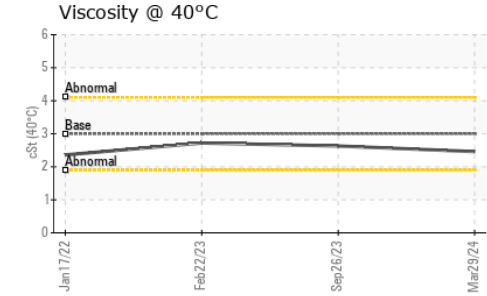
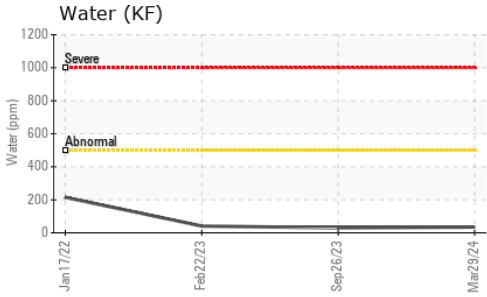
method	limit/base	current	history1	history2
Bacteria	CFU/ml WC-Method	>=100000	0	---
Yeast	CFU/ml WC-Method	>=100000	▲ 100	---
Mold	Colonies WC-Method	MODER	---	---

HEAVY METALS

method	limit/base	current	history1	history2
Aluminum	ppm ASTM D5185m	<0.1	0	<1
Nickel	ppm ASTM D5185m	<0.1	0	0
Lead	ppm ASTM D5185m	<0.1	0	0
Vanadium	ppm ASTM D5185m	<0.1	0	0
Iron	ppm ASTM D5185m	<0.1	0	0
Calcium	ppm ASTM D5185m	<0.1	0	2
Magnesium	ppm ASTM D5185m	<0.1	<1	1
Phosphorus	ppm ASTM D5185m	<0.1	0	4
Zinc	ppm ASTM D5185m	<0.1	0	0

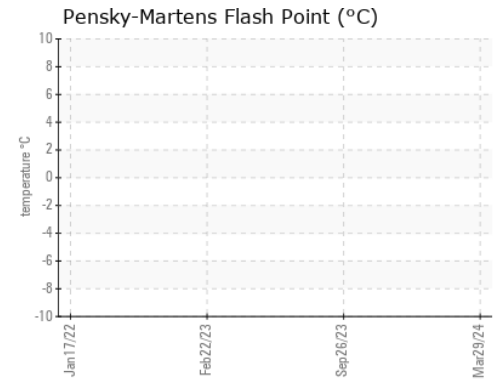


FUEL REPORT



SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0600371 **Received** : 05 Apr 2024
Lab Number : **06140407** **Tested** : 16 Apr 2024
Unique Number : 10965215 **Diagnosed** : 16 Apr 2024 - Doug Bogart
Test Package : DF-5 (Additional Tests: BACTERIA, Screen)

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)

MARATHON PETROLEUM CO.

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Contact: CORY GUMBERT
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T: (606)585-3950

F: x: