



FUEL REPORT

Sample Rating Trend

ISO



Area
SAPP BROS PETROLEUM
 Machine Id
Tank Fidelity Sapp Storage
 Component
Diesel Fuel
 Fluid
60/40 RED WITH ADDITIVE (--- GAL)

DIAGNOSIS

Recommendation

Recommend pre-filter before use. All laboratory tests indicate that this sample meets specifications for No.2 ultra-low-sulfur diesel fuel.

Corrosion

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

Contaminants

There is a high amount of particulates present in the fuel. The water content is negligible. There is no bacteria or fungus (yeast and/or mold) indicated in the sample.

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	history 1	history 2
Sample Number	Client Info	SBP0004162	---	---
Sample Date	Client Info	15 May 2023	---	---
Machine Age	days	0	---	---
Sample Status		ABNORMAL	---	---

PHYSICAL PROPERTIES

method	limit/base	current	history 1	history 2
Specific Gravity	*ASTM D1298	0.841	---	---
Fuel Color	text *Visual Screen	Red	---	---
ASTM Color	scalar *ASTM D1500	4.0	---	---
Visc @ 40°C	cSt ASTM D445	2.29	---	---
Pensky-Martens Flash Point	°C *PMCC Calculated	63	---	---
Cloud Point	°C ASTM D5771	-18	---	---
Pour Point	°C ASTM D5950	-50	---	---

SULFUR CONTENT

method	limit/base	current	history 1	history 2
Sulfur	ppm ASTM D5185m	6	---	---
Sulfur (UVF)	ppm ASTM D5453	10	---	---

DISTILLATION

method	limit/base	current	history 1	history 2
Initial Boiling Point	°C ASTM D86	172	---	---
5% Distillation Point	°C ASTM D86	192	---	---
10% Distill Point	°C ASTM D86	199	---	---
15% Distillation Point	°C ASTM D86	204	---	---
20% Distill Point	°C ASTM D86	209	---	---
30% Distill Point	°C ASTM D86	221	---	---
40% Distill Point	°C ASTM D86	233	---	---
50% Distill Point	°C ASTM D86	246	---	---
60% Distill Point	°C ASTM D86	260	---	---
70% Distill Point	°C ASTM D86	276	---	---
80% Distill Point	°C ASTM D86	294	---	---
85% Distillation Point	°C ASTM D86	305	---	---
90% Distill Point	°C ASTM D86	318	---	---
95% Distillation Point	°C ASTM D86	339	---	---
Final Boiling Point	°C ASTM D86	347	---	---
Distillation Residue	% ASTM D86	1.4	---	---
Distillation Loss	% ASTM D86	1.0	---	---

IGNITION QUALITY

method	limit/base	current	history 1	history 2
API Gravity	ASTM D7777	36.8	---	---
Cetane Index	ASTM D4737 <40.0	45.6	---	---

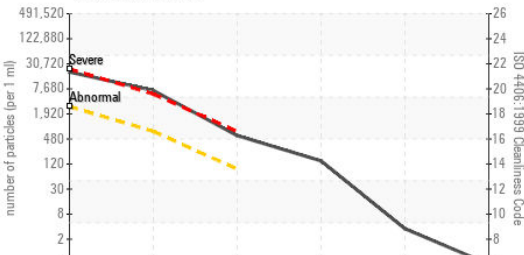
CONTAMINANTS

method	limit/base	current	history 1	history 2
Silicon	ppm ASTM D5185m <1.0	0	---	---
Sodium	ppm ASTM D5185m <0.1	0	---	---
Potassium	ppm ASTM D5185m <0.1	0	---	---
Water	% ASTM D6304 <0.05	0.005	---	---
ppm Water	ppm ASTM D6304 <500	52.1	---	---
% Gasoline	% *In-House <0.50	0.0	---	---
% Biodiesel	% *In-House <20.0	0.0	---	---

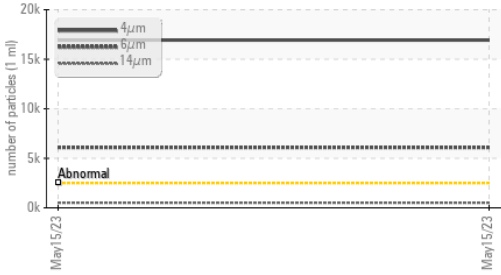


FUEL REPORT

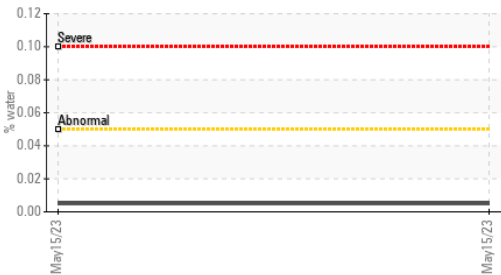
Particle Count



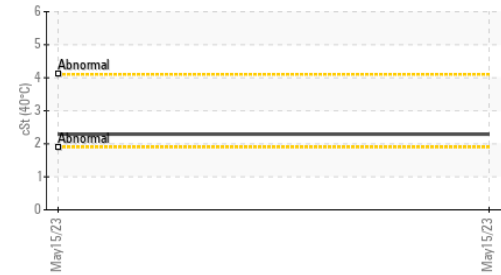
Particle Trend



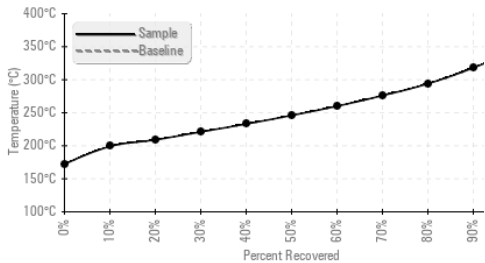
Water



Viscosity @ 40°C



Fuel Distillation Curve



FLUID CLEANLINESS	method	limit/base	current	history 1	history 2
Particles >4µm	ASTM D7647	>2500	▲ 16932	---	---
Particles >6µm	ASTM D7647	>640	▲ 6096	---	---
Particles >14µm	ASTM D7647	>80	▲ 509	---	---
Particles >21µm	ASTM D7647	>20	▲ 126	---	---
Particles >38µm	ASTM D7647	>4	3	---	---
Particles >71µm	ASTM D7647	>3	0	---	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ 21/20/16	---	---

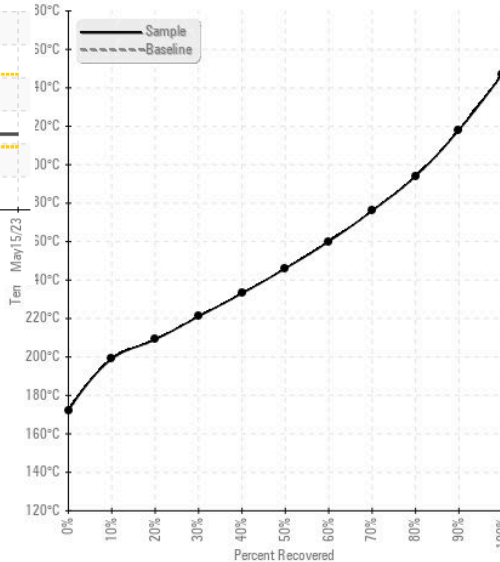
HEAVY METALS	method	limit/base	current	history 1	history 2
Aluminum	ppm	ASTM D5185m <0.1	0	---	---
Nickel	ppm	ASTM D5185m <0.1	0	---	---
Lead	ppm	ASTM D5185m <0.1	0	---	---
Vanadium	ppm	ASTM D5185m <0.1	0	---	---
Iron	ppm	ASTM D5185m <0.1	4	---	---
Calcium	ppm	ASTM D5185m <0.1	0	---	---
Magnesium	ppm	ASTM D5185m <0.1	0	---	---
Phosphorus	ppm	ASTM D5185m <0.1	1	---	---
Zinc	ppm	ASTM D5185m <0.1	0	---	---

SAMPLE IMAGES

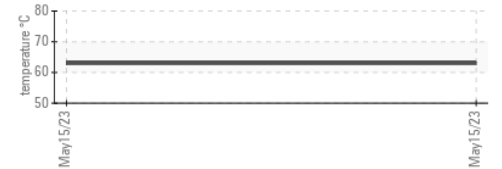
	method	limit/base	current	history 1	history 2
Color				no image	no image
Bottom				no image	no image

GRAPHS

Fuel Distillation Curve



Pensky-Martens Flash Point (°C)



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : SBP0004162 **Received** : 16 May 2023
Lab Number : 05849077 **Diagnosed** : 01 Jun 2023
Unique Number : 10473184 **Diagnostician** : Doug Bogart
Test Package : DF-3 (Additional Tests: Screen)

Sapp Bros. Petroleum - Omaha - OMA
 9915 South 148th
 OMAHA, NE
 US 68138
 Contact: Service Manager

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)

T:
F: