



OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
WESTERN STAR Blue/White Western Star
 Component
Diesel Engine
 Fluid
 DIESEL ENGINE OIL SAE 40 (43 LTR)

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			SBP0004117	---	---
Sample Date	Client Info			28 Mar 2024	---	---
Machine Age	mls Client Info			155607	---	---
Oil Age	mls Client Info			155607	---	---
Oil Changed	Client Info			Changed	---	---
Sample Status				NORMAL	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method		>5	<1.0	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	20	---	---
Chromium	ppm	ASTM D5185m	>20	1	---	---
Nickel	ppm	ASTM D5185m	>4	0	---	---
Titanium	ppm	ASTM D5185m		0	---	---
Silver	ppm	ASTM D5185m	>3	0	---	---
Aluminum	ppm	ASTM D5185m	>20	7	---	---
Lead	ppm	ASTM D5185m	>40	0	---	---
Copper	ppm	ASTM D5185m	>330	1	---	---
Tin	ppm	ASTM D5185m	>15	0	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
Cadmium	ppm	ASTM D5185m		0	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	12	---	---
Barium	ppm	ASTM D5185m	10	<1	---	---
Molybdenum	ppm	ASTM D5185m	100	64	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m	450	861	---	---
Calcium	ppm	ASTM D5185m	3000	1048	---	---
Phosphorus	ppm	ASTM D5185m	1150	966	---	---
Zinc	ppm	ASTM D5185m	1350	1159	---	---
Sulfur	ppm	ASTM D5185m	4250	3128	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	5	---	---
Sodium	ppm	ASTM D5185m	>216	<1	---	---
Potassium	ppm	ASTM D5185m	>20	18	---	---
Water	%	ASTM D6304	>0.2	0.036	---	---
ppm Water	ppm	ASTM D6304	>2000	366	---	---
Glycol	%	*ASTM D2982		NEG	---	---

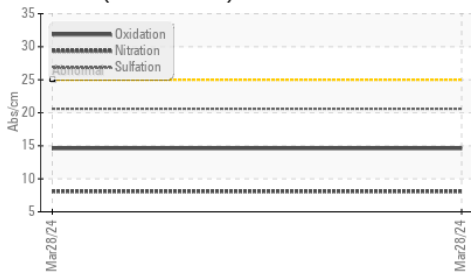
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	1.1	---	---
Nitration	Abs/cm	*ASTM D7624	>20	8.1	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	---	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.6	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.8	---	---

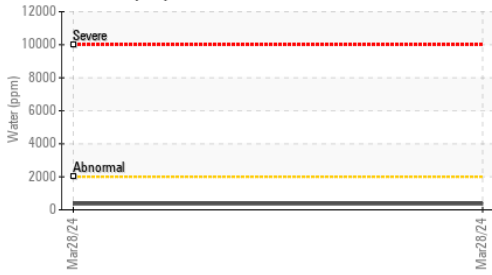


OIL ANALYSIS REPORT

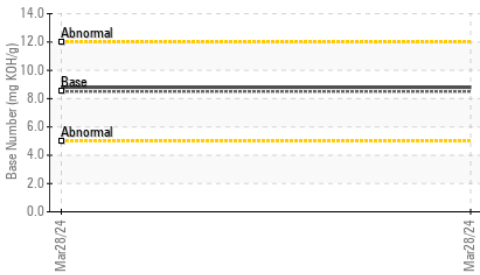
FT-IR (Direct Trend)



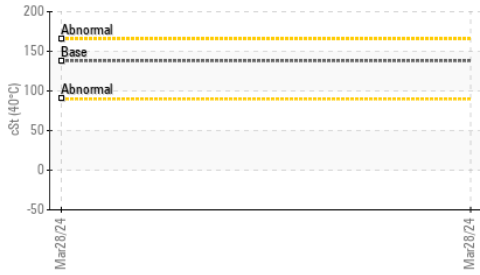
Water (KF)



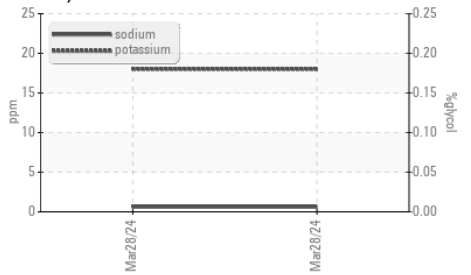
Base Number



Viscosity @ 40°C



Glycol Contamination

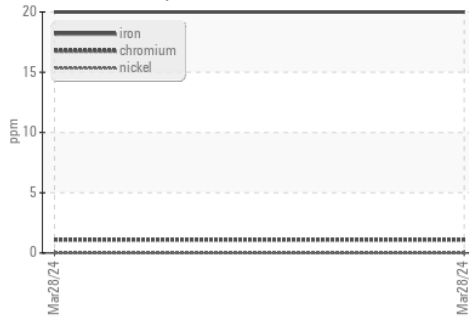


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar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

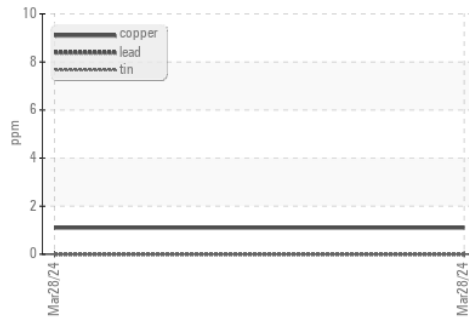
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	13.46	---

GRAPHS

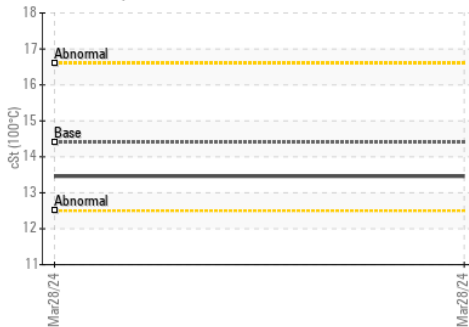
Ferrous Alloys



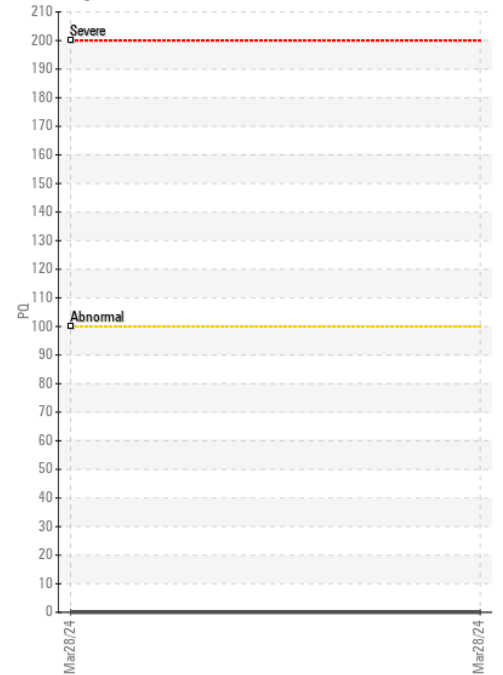
Non-ferrous Metals



Viscosity @ 100°C



PQ



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : SBP0004117 **Received** : 11 Apr 2024
Lab Number : 06145864 **Tested** : 18 Apr 2024
Unique Number : 10975942 **Diagnosed** : 18 Apr 2024 - Jonathan Hester
Test Package : PLANT (Additional Tests: FT-IR, Glycol, KV100, TBN)

RODNEY BROWN
 8834 587TH AVE
 PONCA, NE
 US 68770

Contact: TRAVIS GARRISON
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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: