

Machine Id
WESTERN STAR 39

Component
Diesel Engine

Fluid
CONOCO PHILLIPS GUARDOL ECT 15W40 (--- Oz)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

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		PCA0028069	PCA0083454	PCA0028063
Sample Date	Client Info		07 Nov 2023	01 May 2023	22 Nov 2022
Machine Age	mls	Client Info	0	487	1181
Oil Age	mls	Client Info	0	487	1181
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	4	3	7
Chromium	ppm	ASTM D5185m >20	<1	<1	2
Nickel	ppm	ASTM D5185m >4	0	0	<1
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	2	2	<1
Lead	ppm	ASTM D5185m >40	<1	0	1
Copper	ppm	ASTM D5185m >330	<1	<1	<1
Tin	ppm	ASTM D5185m >15	0	<1	<1
Antimony	ppm	ASTM D5185m	---	---	---
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 85	0	1	2
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	57	56	59
Manganese	ppm	ASTM D5185m	0	<1	<1
Magnesium	ppm	ASTM D5185m 350	928	971	954
Calcium	ppm	ASTM D5185m 1800	1001	1045	1042
Phosphorus	ppm	ASTM D5185m 1000	920	1055	1023
Zinc	ppm	ASTM D5185m 1100	1196	1303	1238
Sulfur	ppm	ASTM D5185m 3500	3087	3916	3725

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	3	3	4
Sodium	ppm	ASTM D5185m	0	<1	1
Potassium	ppm	ASTM D5185m >20	2	2	<1

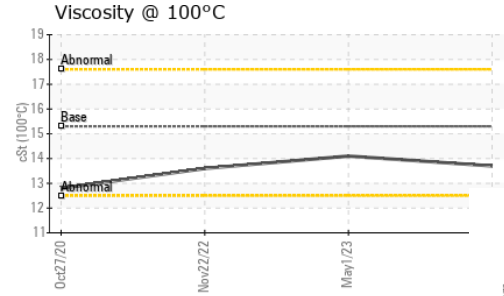
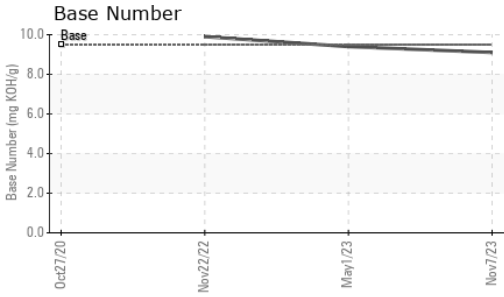
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	5.1	5.1	6.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	17.6	18.0	19.4

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	13.3	14.6	14.6
Base Number (BN)	mg KOH/g	ASTM D2896 9.5	9.1	9.4	9.9

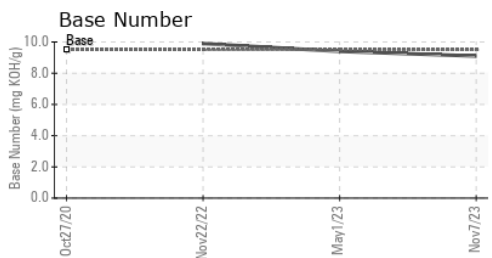
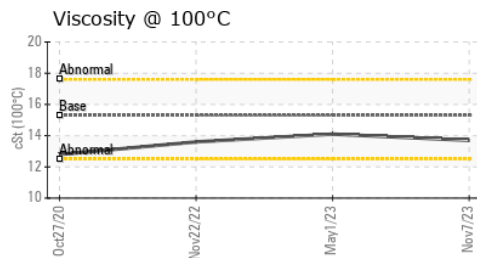
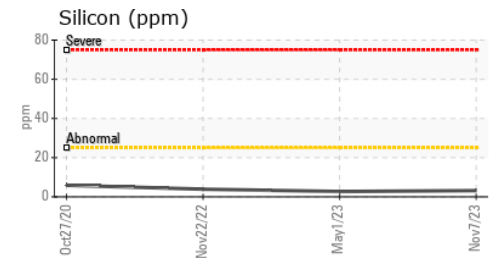
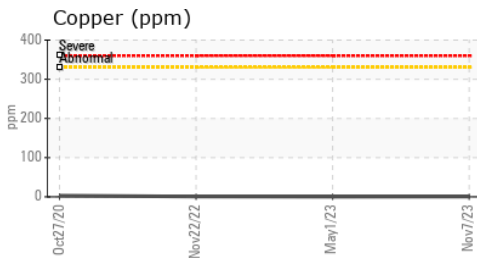
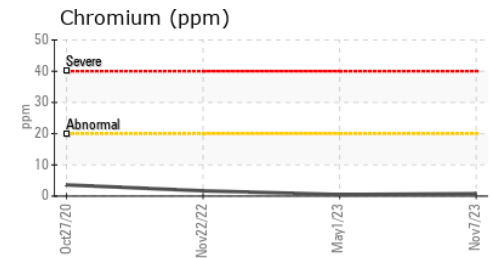
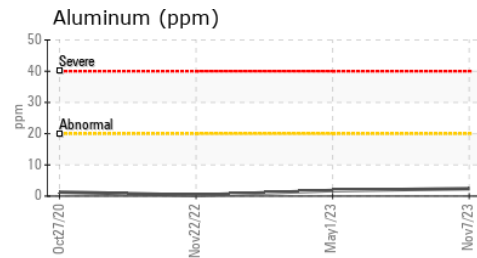
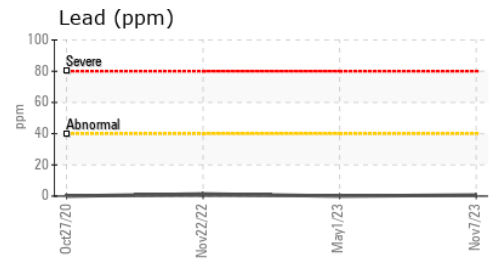
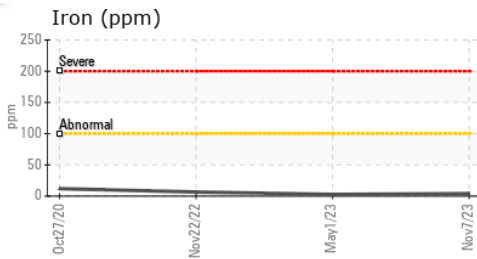
OIL ANALYSIS REPORT



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	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.3	13.7	14.1	13.6

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0028069 **Received** : 08 Nov 2023
Lab Number : **06002092** **Diagnosed** : 10 Nov 2023
Unique Number : 10735854 **Diagnostician** : Angela Borella
Test Package : MOB 1 (Additional Tests: TBN)

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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)