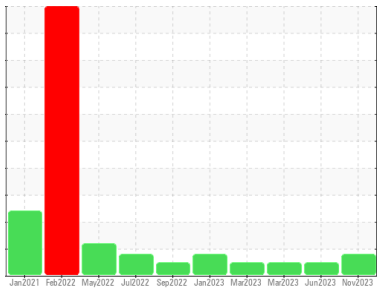
OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
98
Component
Diesel Engine
Fluid
CONOCO PHILLIPS GUARDOL ECT 15W40 (--- Oz)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

An increase in the iron level is noted. All other 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 acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0028071**	PCA0083458	PCA0083481
Sample Date		Client Info		**07 Nov 2023**	27 Jun 2023	24 Mar 2023
Machine Age	mls	Client Info		**0**	634596	914
Oil Age	mls	Client Info		**0**	0	914
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ATTENTION**	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	▲ **100**	65	10
Chromium	ppm	ASTM D5185m	>20	**2**	2	<1
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**	4	2
Lead	ppm	ASTM D5185m	>40	**2**	1	<1
Copper	ppm	ASTM D5185m	>330	**5**	5	1
Tin	ppm	ASTM D5185m	>15	**<1**	1	0
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	**3**	1	2
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**53**	60	59
Manganese	ppm	ASTM D5185m		**<1**	1	<1
Magnesium	ppm	ASTM D5185m	350	**886**	907	1006
Calcium	ppm	ASTM D5185m	1800	**965**	1073	1077
Phosphorus	ppm	ASTM D5185m	1000	**842**	994	1082
Zinc	ppm	ASTM D5185m	1100	**1128**	1180	1321
Sulfur	ppm	ASTM D5185m	3500	**2802**	2817	4083

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**12**	17	4
Sodium	ppm	ASTM D5185m		**0**	0	<1
Potassium	ppm	ASTM D5185m	>20	**2**	2	<1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**2.2**	1.5	0.3
Nitration	Abs/cm	*ASTM D7624	>20	**8.7**	7.8	4.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**23.1**	21.5	18.0

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**17.4**	16.1	13.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.5	**6.8**	8.5	9.3

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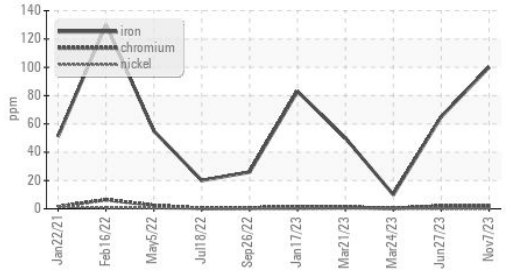
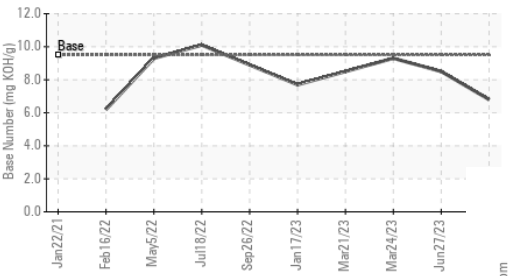
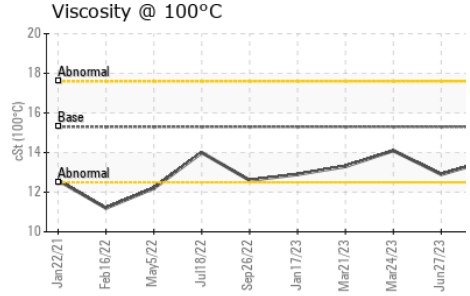
Ferrous Alloys



Base Number



Viscosity @ 100°C

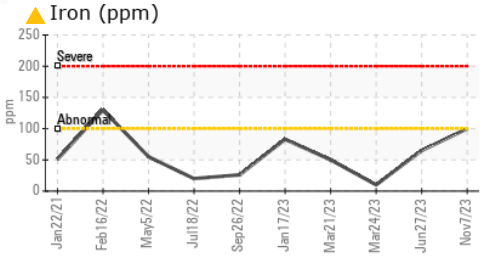


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

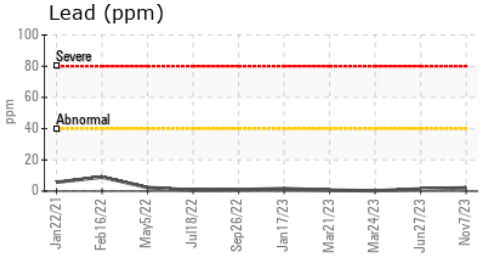
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.3	**13.6**	12.9	14.1

GRAPHS

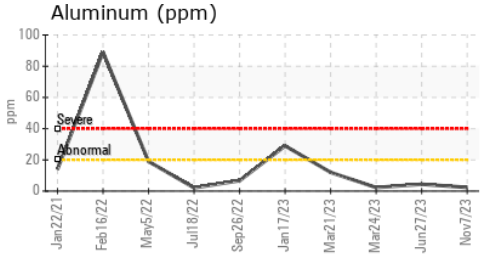
Iron (ppm)



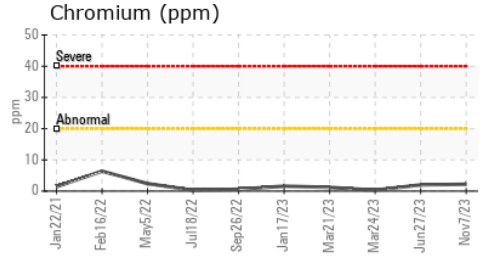
Lead (ppm)



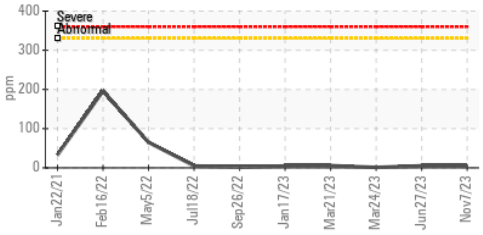
Aluminum (ppm)



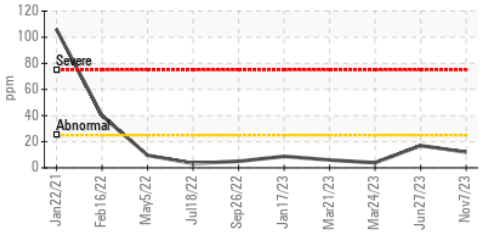
Chromium (ppm)



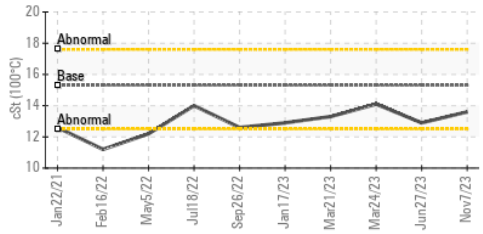
Copper (ppm)



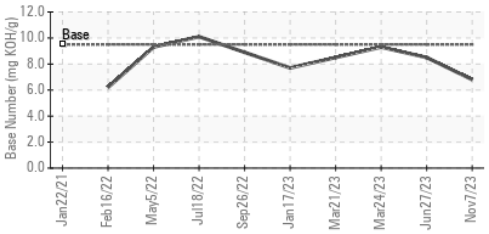
Silicon (ppm)



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0028071 **Received** : 08 Nov 2023
Lab Number : 06002088 **Diagnosed** : 10 Nov 2023
Unique Number : 10735850 **Diagnostician** : Angela Borella
Test Package : MOB 1 (Additional Tests: TBN)

Certificate L2367

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)

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