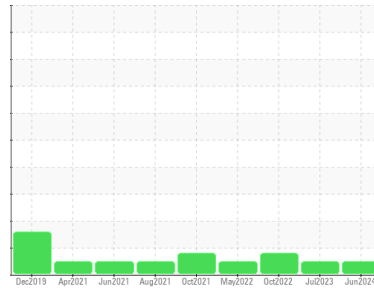




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

EX-309

Component

Diesel Engine

Fluid

CITGO CITGARD 700 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

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		WC0909381	WC0705262	WC0705311
Sample Date	Client Info		11 Jun 2024	13 Jul 2023	14 Oct 2022
Machine Age	hrs	Client Info	4344	3892	3422
Oil Age	hrs	Client Info	500	500	1000
Oil Changed		Client Info	Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	16	19	35
Chromium	ppm	ASTM D5185m >20	<1	<1	1
Nickel	ppm	ASTM D5185m >4	0	0	0
Titanium	ppm	ASTM D5185m	<1	<1	0
Silver	ppm	ASTM D5185m >3	<1	0	0
Aluminum	ppm	ASTM D5185m >20	3	5	5
Lead	ppm	ASTM D5185m >40	<1	1	3
Copper	ppm	ASTM D5185m >330	26	92	▲ 363
Tin	ppm	ASTM D5185m >15	<1	<1	1
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 20	4	6	5
Barium	ppm	ASTM D5185m 0	<1	0	0
Molybdenum	ppm	ASTM D5185m 59	63	63	55
Manganese	ppm	ASTM D5185m	0	<1	<1
Magnesium	ppm	ASTM D5185m 783	879	928	796
Calcium	ppm	ASTM D5185m 1238	1134	1262	1214
Phosphorus	ppm	ASTM D5185m 949	948	1025	918
Zinc	ppm	ASTM D5185m 1116	1205	1271	1119
Sulfur	ppm	ASTM D5185m 2909	2924	3635	3056

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	4	6	5
Sodium	ppm	ASTM D5185m	0	<1	<1
Potassium	ppm	ASTM D5185m >20	3	3	6

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.6	0.8	1.8
Nitration	Abs/cm	*ASTM D7624 >20	6.8	7.5	9.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.2	20.5	23.5

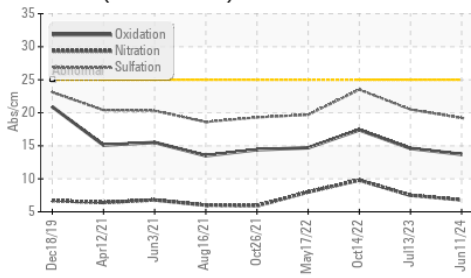
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	13.7	14.6	17.4
Base Number (BN)	mg KOH/g	ASTM D2896 10	8.9	9.0	8.4

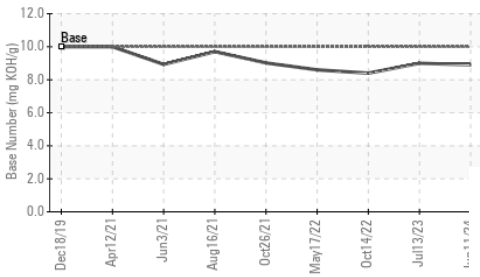


OIL ANALYSIS REPORT

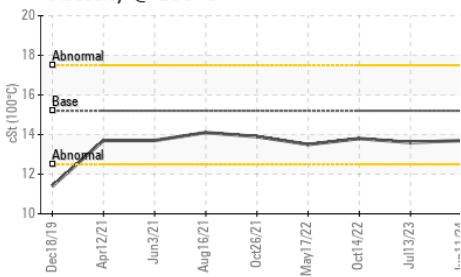
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

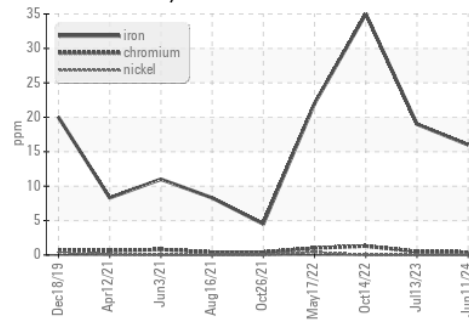


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

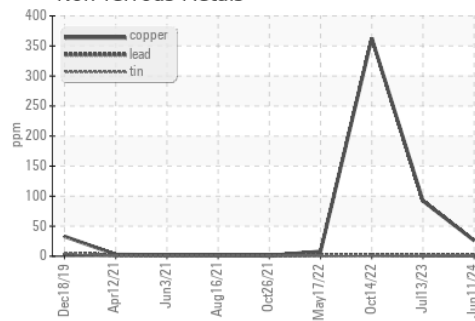
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.2	13.7	13.6	13.8

GRAPHS

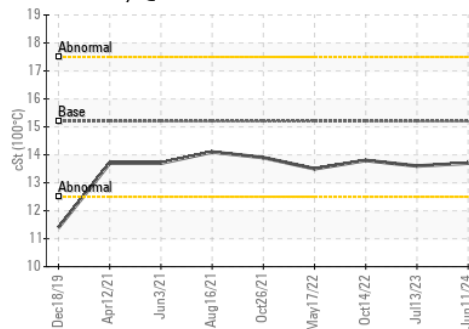
Ferrous Alloys



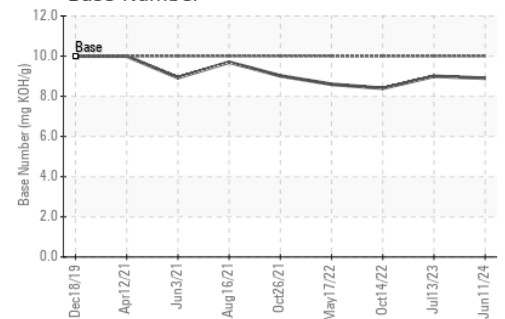
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0909381 **Received** : 15 Jul 2024
Lab Number : 06235524 **Tested** : 15 Jul 2024
Unique Number : 11124358 **Diagnosed** : 15 Jul 2024 - Wes Davis
Test Package : FLEET

E.C. PACE CO.
 1811 HOLLINS RD.
 ROANOKE, VA
 US 24012
 Contact: EDDIE SECO
 ESECO@ECPACE.COM
 T: (276)266-5849
 F: (540)343-6909

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)