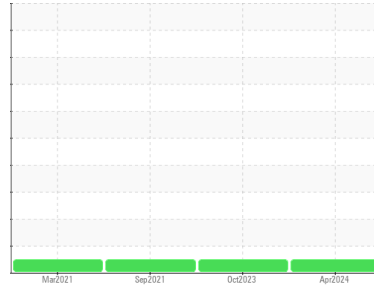




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

[22948]

Machine Id

80-225

Component

Diesel Engine

Fluid

CONOCO PHILLIPS GUARDOL ECT 15W40 (--- GAL)

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			WC0923398	WC0818759	WC0601648
Sample Date	Client Info			16 Apr 2024	19 Oct 2023	16 Sep 2021
Machine Age	hrs	Client Info		2499	2243	1713
Oil Age	hrs	Client Info		256	530	216
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
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	7	7	6
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	1	2	4
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	<1	2
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Antimony	ppm	ASTM D5185m		---	---	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	85	106	94	95
Barium	ppm	ASTM D5185m		0	3	0
Molybdenum	ppm	ASTM D5185m		4	3	5
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m	350	728	685	685
Calcium	ppm	ASTM D5185m	1800	1379	1324	1340
Phosphorus	ppm	ASTM D5185m	1000	1090	1160	1061
Zinc	ppm	ASTM D5185m	1100	1243	1242	1153
Sulfur	ppm	ASTM D5185m	3500	4376	4656	3312

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	4	5	3
Sodium	ppm	ASTM D5185m		4	3	4
Potassium	ppm	ASTM D5185m	>20	6	4	7

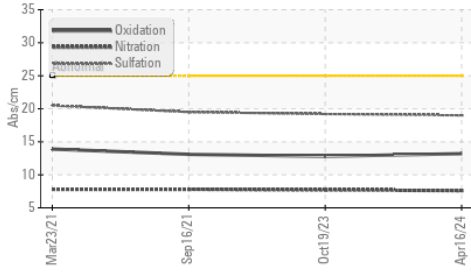
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.2	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.6	7.7	7.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.0	19.2	19.5

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.2	12.8	13.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.5	8.3	8.0	---

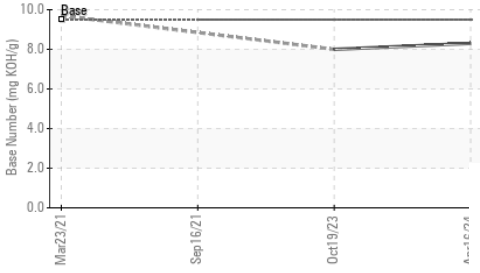


OIL ANALYSIS REPORT

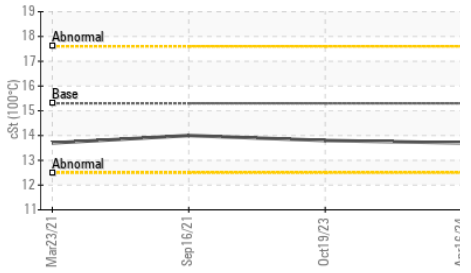
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

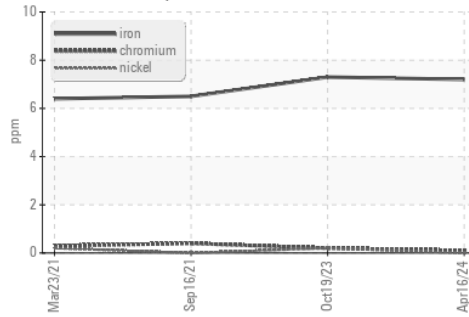


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

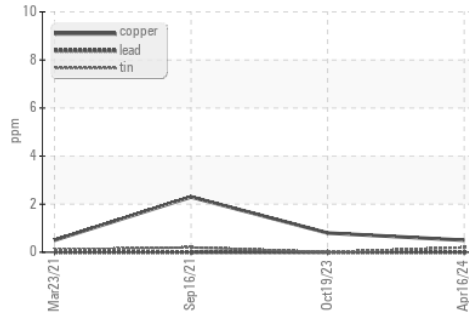
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.3	13.7	13.8	14.0

GRAPHS

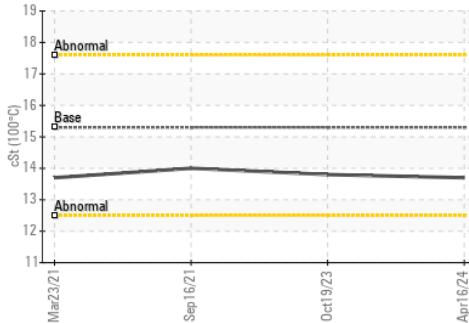
Ferrous Alloys



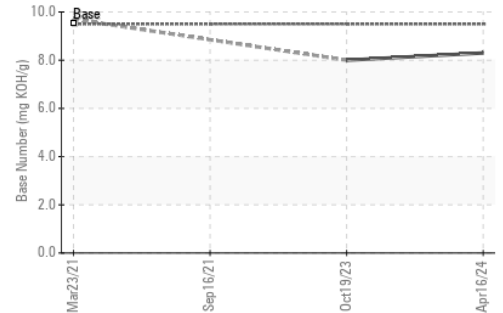
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0923398 **Received** : 17 May 2024
Lab Number : **06183607** **Tested** : 21 May 2024
Unique Number : 11034933 **Diagnosed** : 21 May 2024 - Wes Davis
Test Package : CONST (Additional Tests: TBN)

MANHATTAN ROAD AND BRIDGE
 5601 S 122ND E AVE
 TULSA, OK
 US 74146
 Contact: BEN CALDWELL
 kevin.marson@wearcheck.com
 T: (918)728-5749
 F:

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)