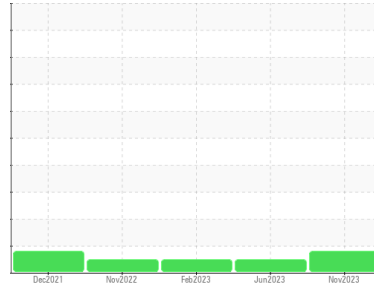




OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Area
[20136]
 Machine Id
40-205L

Component
Diesel Engine
 Fluid

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

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

The copper level is abnormal. 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 suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0836191	WC0793326	WC0754771
Sample Date	Client Info		17 Nov 2023	06 Jun 2023	13 Feb 2023
Machine Age	hrs	Client Info	3210	3210	2930
Oil Age	hrs	Client Info	252	280	204
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ABNORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>2.1	<1.0	<1.0	<1.0
Water	WC Method	>0.21	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>51	29	13	12
Chromium	ppm	ASTM D5185m	>11	<1	0	<1
Nickel	ppm	ASTM D5185m	>5	3	<1	<1
Titanium	ppm	ASTM D5185m		1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>31	2	1	2
Lead	ppm	ASTM D5185m	>26	0	0	0
Copper	ppm	ASTM D5185m	>26	▲ 32	4	4
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
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	37	55	68
Barium	ppm	ASTM D5185m		0	0	1
Molybdenum	ppm	ASTM D5185m		10	56	70
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	350	649	340	462
Calcium	ppm	ASTM D5185m	1800	1318	1954	1742
Phosphorus	ppm	ASTM D5185m	1000	987	1030	972
Zinc	ppm	ASTM D5185m	1100	1139	1283	1201
Sulfur	ppm	ASTM D5185m	3500	3517	4450	4214

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>22	5	6	6
Sodium	ppm	ASTM D5185m	>31	<1	4	4
Potassium	ppm	ASTM D5185m	>20	4	2	1

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	0.7	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	8.7	9.1	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.4	18.7	19.3

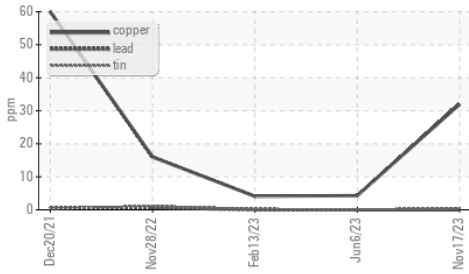
FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.2	13.3	13.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.5	7.8	7.5	8.5

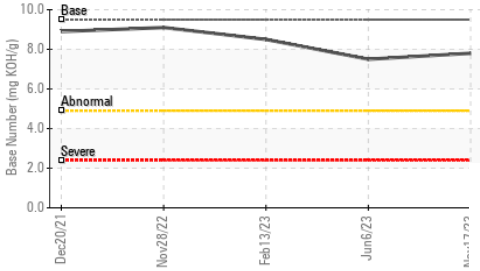


OIL ANALYSIS REPORT

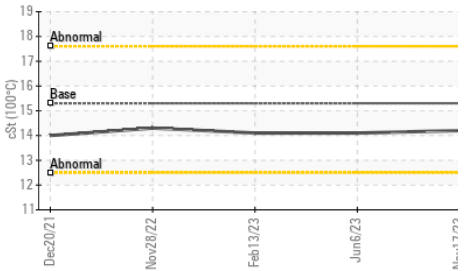
▲ Non-ferrous Metals



Base Number



Viscosity @ 100°C

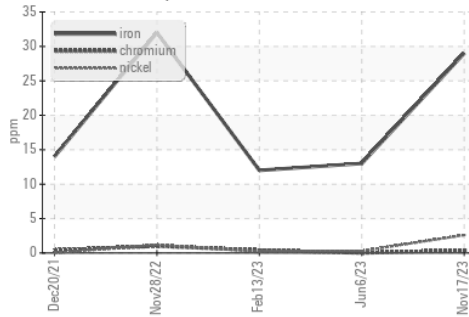


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.21	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

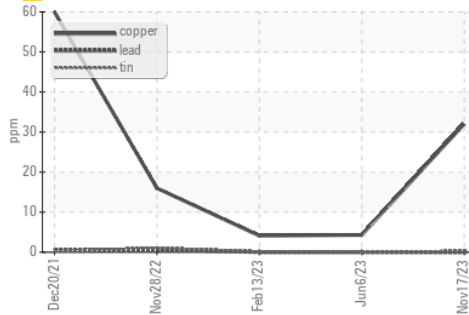
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.3	14.2	14.1

GRAPHS

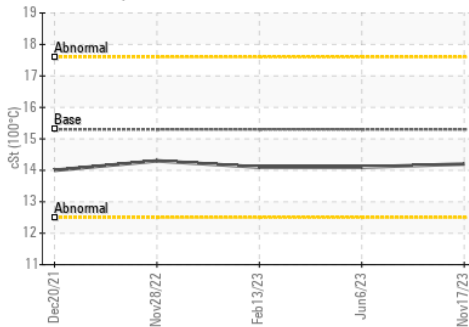
Ferrous Alloys



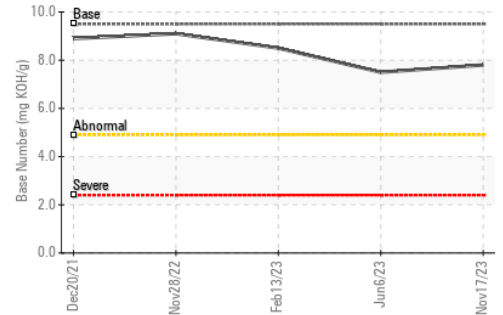
▲ Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0836191 **Received** : 01 Feb 2024
Lab Number : 06077596 **Tested** : 02 Feb 2024
Unique Number : 10859687 **Diagnosed** : 04 Feb 2024 - Don Baldrige
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)