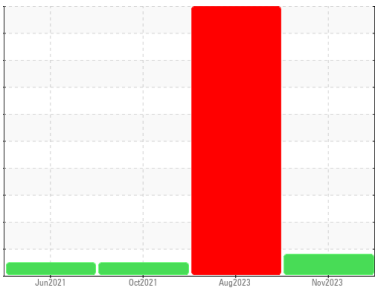
PROBLEM SUMMARY

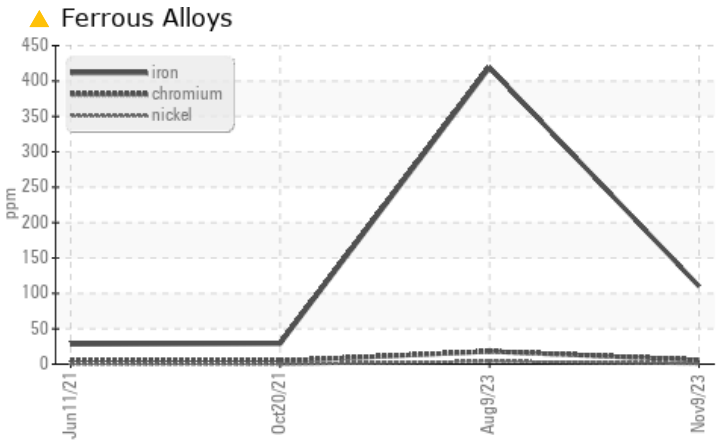
Sample Rating Trend



WEAR

Machine Id
80-188
Component
Diesel Engine
Fluid
CONOCO PHILLIPS GUARDOL ECT 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	SEVERE	NORMAL
Iron	ppm	ASTM D5185m	>100	▲ 110	⬢ 419	29

Customer Id: MANTUL
Sample No.: WC0793164
Lab Number: 06008804
Test Package: CONST

To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldridge +1
don.b505@comcast.net

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
Resample	---	---	?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

09 Aug 2023 Diag: Don Baldridge

WEAR

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.Cylinder, crank, or cam shaft wear is indicated. Bearing wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

20 Oct 2021 Diag: Don Baldridge

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

11 Jun 2021 Diag: Doug Bogart

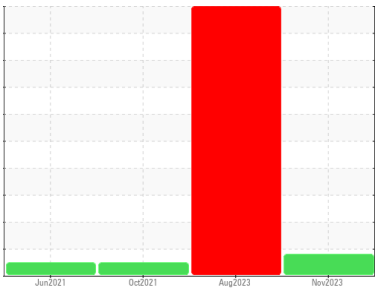
NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
80-188
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. We recommend an early resample to monitor this condition.

Wear
The iron level has decreased, but is still abnormal for time on oil. 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		**WC0793164**	WC0793339	WC0601581
Sample Date		Client Info		**09 Nov 2023**	09 Aug 2023	20 Oct 2021
Machine Age	hrs	Client Info		**5039**	4842	6238
Oil Age	hrs	Client Info		**5039**	404	250
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	SEVERE	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	▲ **110**	⬢ 419	29
Chromium	ppm	ASTM D5185m	>20	**6**	▲ 18	4
Nickel	ppm	ASTM D5185m	>4	**<1**	4	0
Titanium	ppm	ASTM D5185m		**<1**	1	<1
Silver	ppm	ASTM D5185m	>3	**0**	<1	0
Aluminum	ppm	ASTM D5185m	>20	**4**	▲ 9	2
Lead	ppm	ASTM D5185m	>40	**10**	▲ 71	2
Copper	ppm	ASTM D5185m	>330	**4**	18	2
Tin	ppm	ASTM D5185m	>15	**1**	4	1
Antimony	ppm	ASTM D5185m		**---**	---	0
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	85	**47**	21	60
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**<1**	6	2
Manganese	ppm	ASTM D5185m		**1**	4	<1
Magnesium	ppm	ASTM D5185m	350	**738**	785	690
Calcium	ppm	ASTM D5185m	1800	**1242**	1601	1263
Phosphorus	ppm	ASTM D5185m	1000	**1018**	1156	1048
Zinc	ppm	ASTM D5185m	1100	**1238**	1430	1182
Sulfur	ppm	ASTM D5185m	3500	**3684**	4480	3326

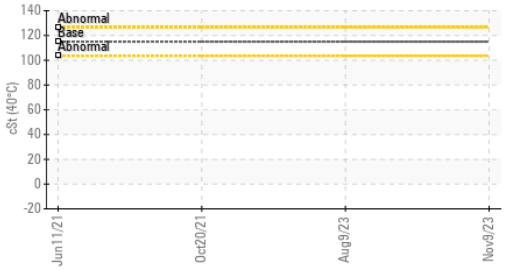
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**12**	▲ 25	5
Sodium	ppm	ASTM D5185m		**2**	8	3
Potassium	ppm	ASTM D5185m	>20	**4**	11	2

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.7**	2.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	**9.9**	14.6	9.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.3**	31.6	21

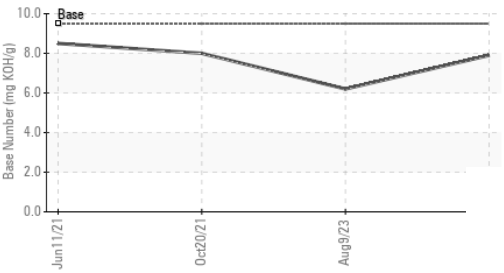
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**14.9**	22.9	14.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.5	**7.9**	6.2	8

OIL ANALYSIS REPORT

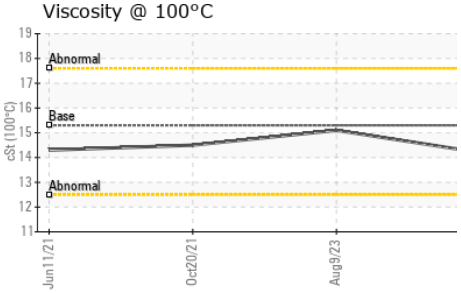
Viscosity @ 40°C



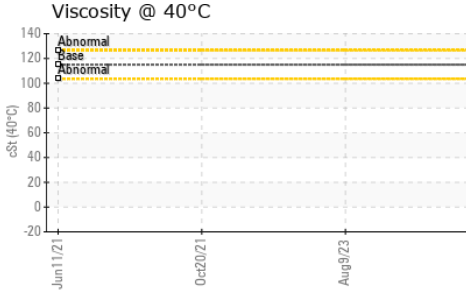
Base Number



Viscosity @ 100°C



Viscosity @ 40°C

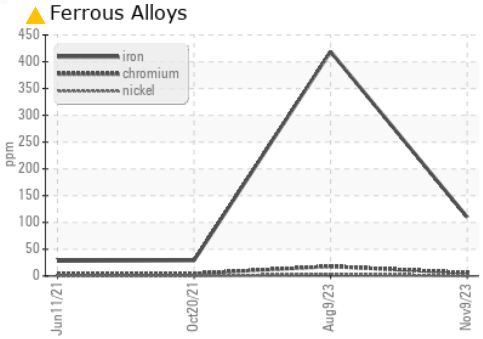


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

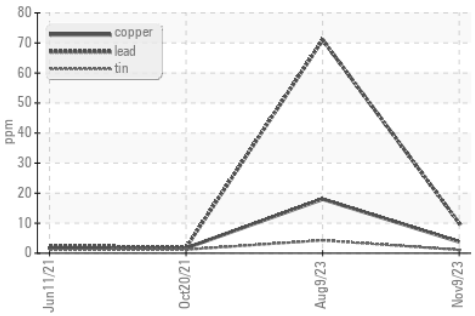
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.3	**14.2**	15.1	14.5

GRAPHS

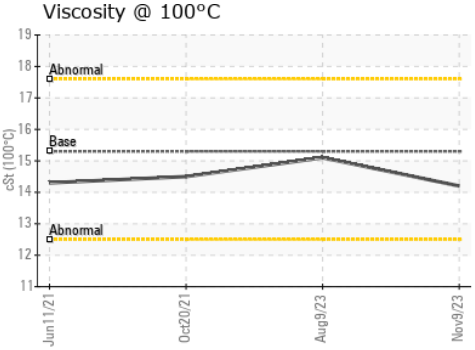
Ferrous Alloys



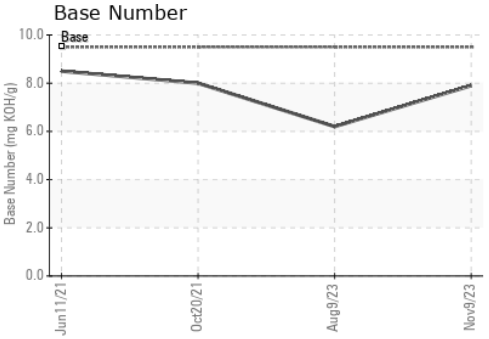
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0793164 **Received** : 15 Nov 2023
Lab Number : 06008804 **Diagnosed** : 18 Nov 2023
Unique Number : 10742566 **Diagnostician** : Don Baldridge
Test Package : CONST (Additional Tests: KV40, TBN)

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)

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: