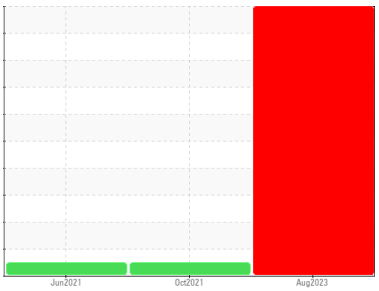
PROBLEM SUMMARY

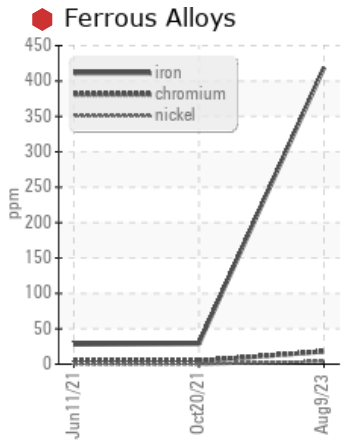
Sample Rating Trend

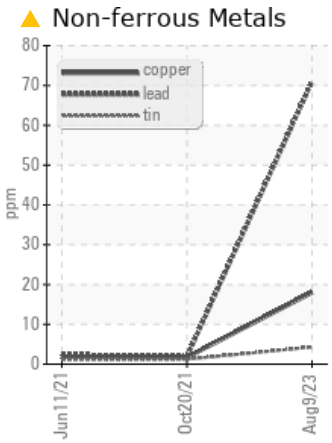


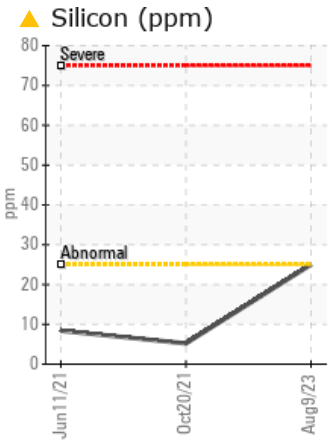
WEAR

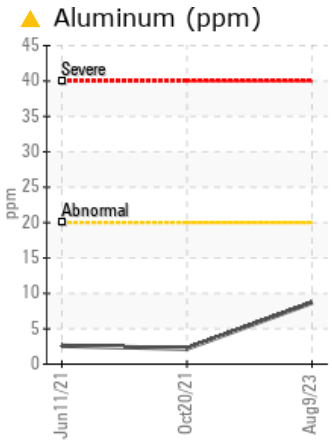
Area
[16880]
Machine Id
80-188
Component
Diesel Engine
Fluid
CONOCO PHILLIPS GUARDOL ECT 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY









RECOMMENDATION

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.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	**419**	29	28
Chromium	ppm	ASTM D5185m	>20	**18**	4	5
Aluminum	ppm	ASTM D5185m	>20	**9**	2	3
Lead	ppm	ASTM D5185m	>40	**71**	2	2
Silicon	ppm	ASTM D5185m	>25	**25**	5	8

Customer Id: MANTUL
Sample No.: WC0793339
Lab Number: 05928700
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
Inspect Wear Source	---	---	?	We advise that you inspect for the source(s) of wear.
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.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.

HISTORICAL DIAGNOSIS

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

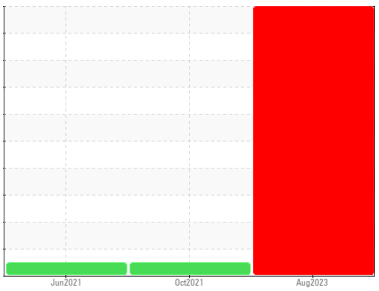
NORMAL

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

Area
[16880]
Machine Id
80-188
Component
Diesel Engine
Fluid
CONOCO PHILLIPS GUARDOL ECT 15W40 (--- GAL)

DIAGNOSIS

Recommendation
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.

Wear
Cylinder, crank, or cam shaft wear is indicated. Bearing wear is indicated.

Contamination
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0793339**	WC0601581	WC0548745
Sample Date		Client Info		**09 Aug 2023**	20 Oct 2021	11 Jun 2021
Machine Age	hrs	Client Info		**4842**	6238	6035
Oil Age	hrs	Client Info		**404**	250	250
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	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	**419**	29	28
Chromium	ppm	ASTM D5185m	>20	**18**	4	5
Nickel	ppm	ASTM D5185m	>4	**4**	0	<1
Titanium	ppm	ASTM D5185m		**1**	<1	<1
Silver	ppm	ASTM D5185m	>3	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>20	**9**	2	3
Lead	ppm	ASTM D5185m	>40	**71**	2	2
Copper	ppm	ASTM D5185m	>330	**18**	2	2
Tin	ppm	ASTM D5185m	>15	**4**	1	1
Antimony	ppm	ASTM D5185m		**---**	0	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	85	**21**	60	64
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**6**	2	1
Manganese	ppm	ASTM D5185m		**4**	<1	<1
Magnesium	ppm	ASTM D5185m	350	**785**	690	704
Calcium	ppm	ASTM D5185m	1800	**1601**	1263	1341
Phosphorus	ppm	ASTM D5185m	1000	**1156**	1048	1079
Zinc	ppm	ASTM D5185m	1100	**1430**	1182	1206
Sulfur	ppm	ASTM D5185m	3500	**4480**	3326	3453

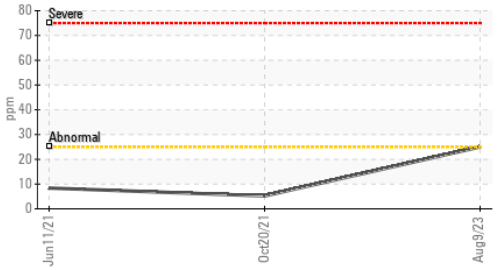
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**25**	5	8
Sodium	ppm	ASTM D5185m		**8**	3	3
Potassium	ppm	ASTM D5185m	>20	**11**	2	4

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**2.4**	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	**14.6**	9.6	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**31.6**	21	22

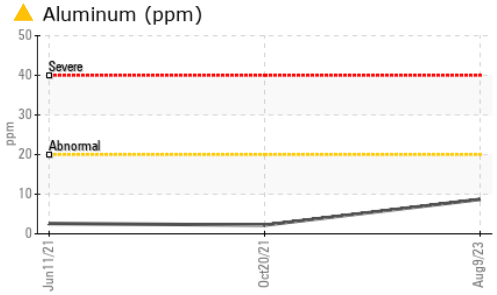
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**22.9**	14.4	15.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.5	**6.2**	8	8.5

OIL ANALYSIS REPORT

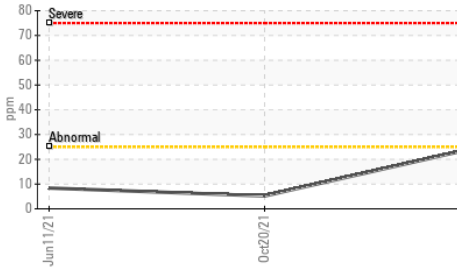
Silicon (ppm)



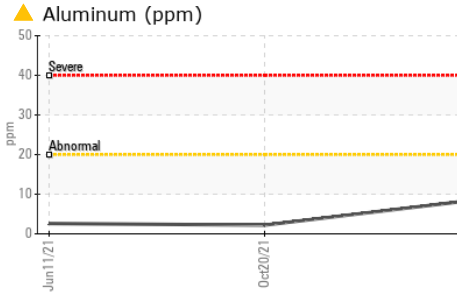
Aluminum (ppm)



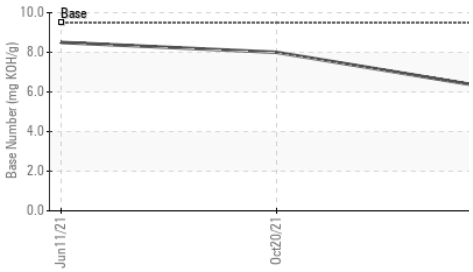
Silicon (ppm)



Aluminum (ppm)



Base Number

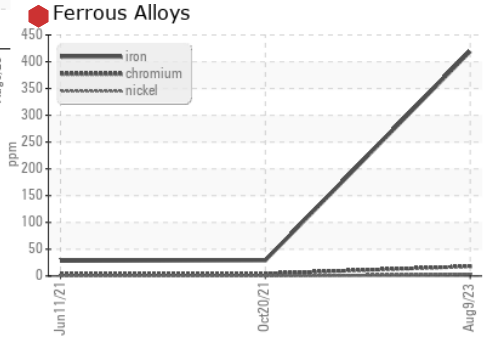


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

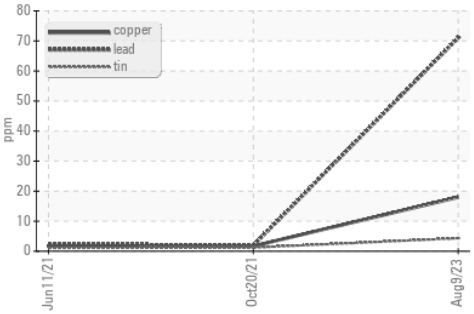
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.3	**15.1**	14.5	14.3

GRAPHS

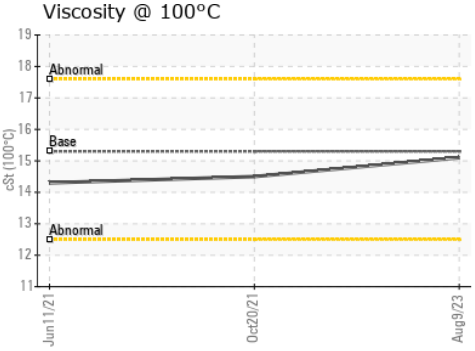
Ferrous Alloys



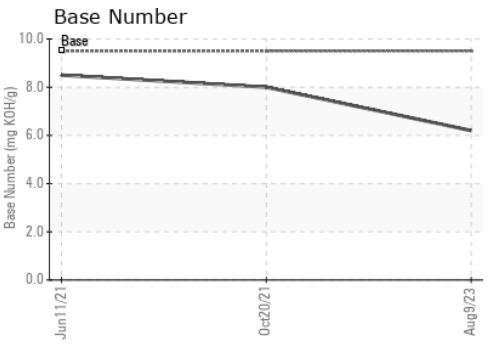
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0793339 **Received** : 18 Aug 2023
Lab Number : 05928700 **Diagnosed** : 22 Aug 2023
Unique Number : 10608647 **Diagnostician** : Don Baldridge
Test Package : CONST (Additional Tests: 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)

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