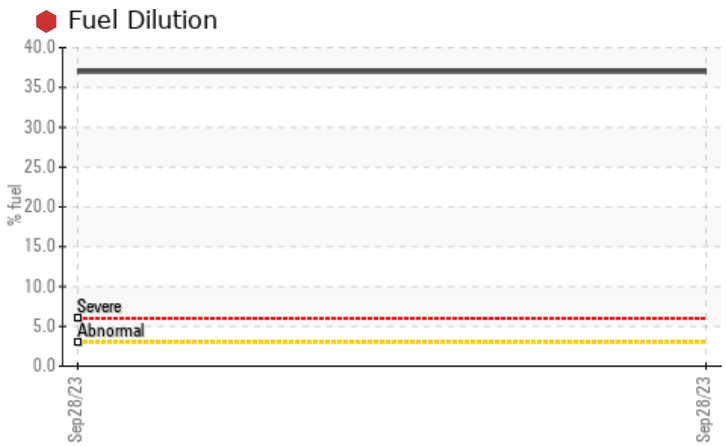
PROBLEM SUMMARY

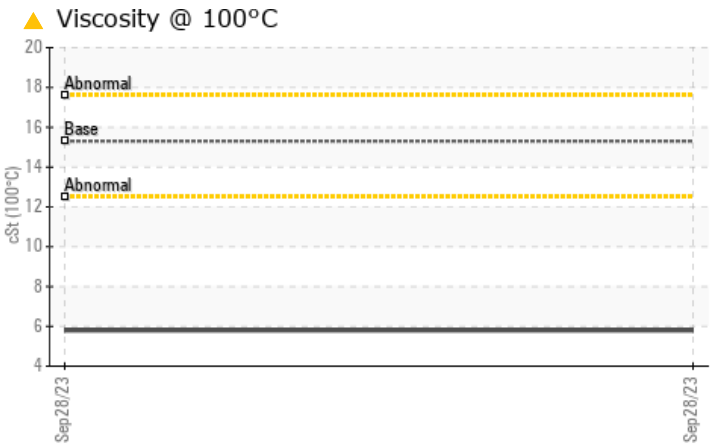
Sample Rating Trend

FUEL

Area
TULSA [19541]
Machine Id
20-99
Component
Diesel Engine
Fluid
CONOCO PHILLIPS GUARDOL ECT 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY





RECOMMENDATION

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	---	---
Fuel	%	ASTM D3524	>3.0	**37.0**	---	---
Visc @ 100°C	cSt	ASTM D445	15.3	**5.8**	---	---

Customer Id: MANTUL
Sample No.: WC0836101
Lab Number: 06010097
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.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

OIL ANALYSIS REPORT

Sample Rating Trend

FUEL

Area
TULSA [19541]
Machine Id
20-99
Component
Diesel Engine
Fluid
CONOCO PHILLIPS GUARDOL ECT 15W40 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
There is a high amount of fuel present in the oil.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0836101**	---	---
Sample Date		Client Info		**28 Sep 2023**	---	---
Machine Age	hrs	Client Info		**8035**	---	---
Oil Age	hrs	Client Info		**250**	---	---
Oil Changed		Client Info		**Changed**	---	---
Sample Status				**SEVERE**	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	---	---
Glycol		WC Method		**NEG**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	**11**	---	---
Chromium	ppm	ASTM D5185m	>20	**4**	---	---
Nickel	ppm	ASTM D5185m	>2	**0**	---	---
Titanium	ppm	ASTM D5185m	>2	**0**	---	---
Silver	ppm	ASTM D5185m	>2	**0**	---	---
Aluminum	ppm	ASTM D5185m	>20	**2**	---	---
Lead	ppm	ASTM D5185m	>40	**6**	---	---
Copper	ppm	ASTM D5185m	>330	**8**	---	---
Tin	ppm	ASTM D5185m	>15	**3**	---	---
Vanadium	ppm	ASTM D5185m		**0**	---	---
Cadmium	ppm	ASTM D5185m		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	85	**36**	---	---
Barium	ppm	ASTM D5185m		**2**	---	---
Molybdenum	ppm	ASTM D5185m		**13**	---	---
Manganese	ppm	ASTM D5185m		**8**	---	---
Magnesium	ppm	ASTM D5185m	350	**321**	---	---
Calcium	ppm	ASTM D5185m	1800	**978**	---	---
Phosphorus	ppm	ASTM D5185m	1000	**474**	---	---
Zinc	ppm	ASTM D5185m	1100	**543**	---	---
Sulfur	ppm	ASTM D5185m	3500	**1639**	---	---

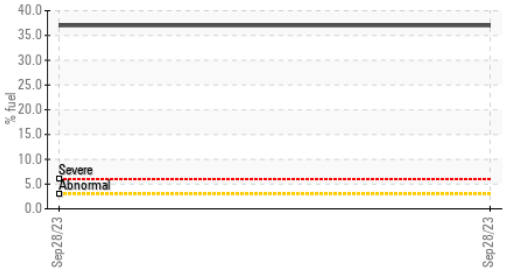
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**9**	---	---
Sodium	ppm	ASTM D5185m		**11**	---	---
Potassium	ppm	ASTM D5185m	>20	**3**	---	---
Fuel	%	ASTM D3524	>3.0	**37.0**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.1**	---	---
Nitration	Abs/cm	*ASTM D7624	>20	**6.4**	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**17.5**	---	---

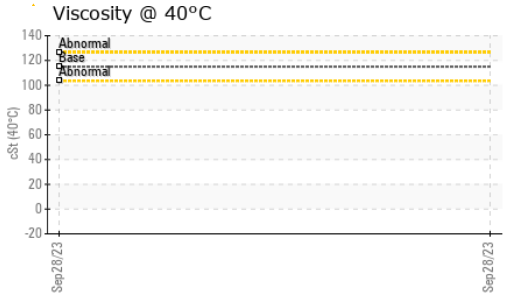
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**13.4**	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.5	**6.5**	---	---

OIL ANALYSIS REPORT

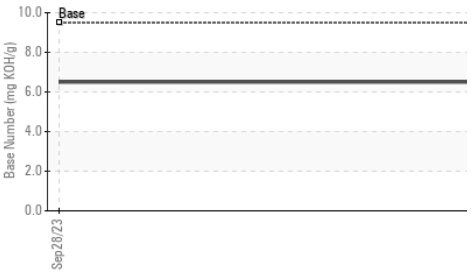
Fuel Dilution



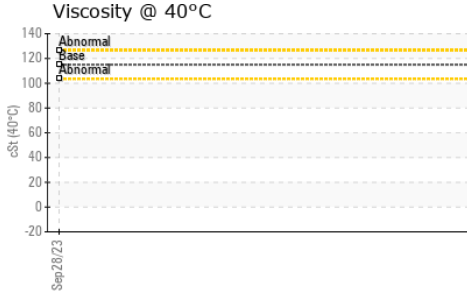
Viscosity @ 40°C



Base Number



Viscosity @ 40°C

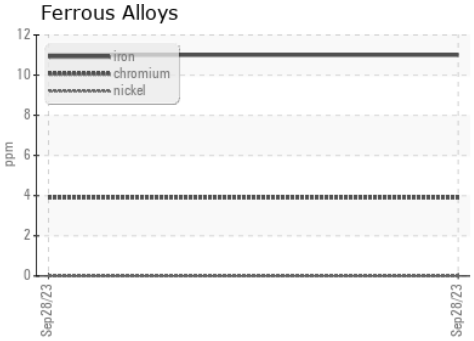


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	---	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	---	---
Precipitate	scalar	*Visual	NONE	**NONE**	---	---
Silt	scalar	*Visual	NONE	**NONE**	---	---
Debris	scalar	*Visual	NONE	**NONE**	---	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	---	---
Appearance	scalar	*Visual	NORML	**NORML**	---	---
Odor	scalar	*Visual	NORML	**NORML**	---	---
Emulsified Water	scalar	*Visual	>0.2	**NEG**	---	---
Free Water	scalar	*Visual		**NEG**	---	---

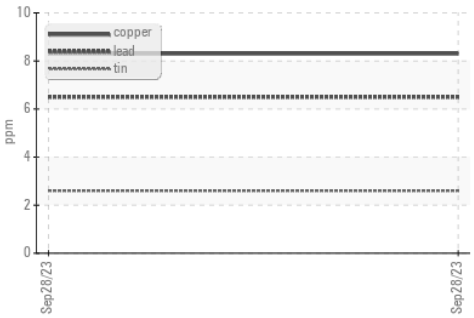
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.3	▲ **5.8**	---	---

GRAPHS

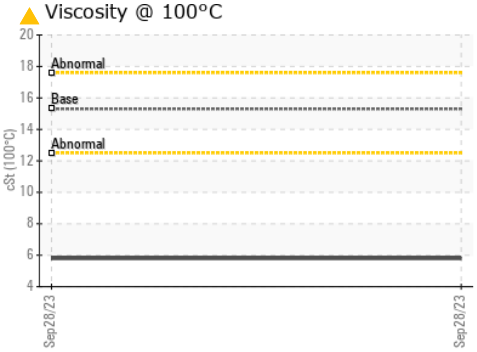
Ferrous Alloys



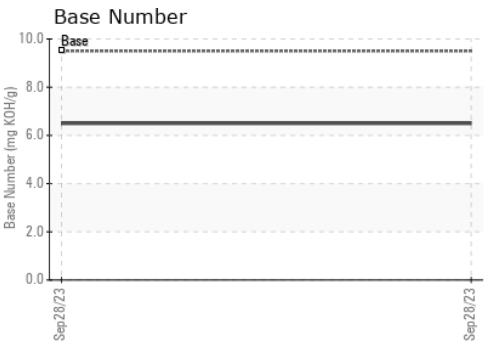
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0836101 **Received** : 16 Nov 2023
Lab Number : 06010097 **Diagnosed** : 20 Nov 2023
Unique Number : 10749241 **Diagnostician** : Don Baldridge
Test Package : CONST (Additional Tests: FuelDilution, KV40, PercentFuel, 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:

Report Id: MANTUL [WUSCAR] 06010097 (Generated: 11/20/2023 16:12:28) Rev: 1

Submitted By: JAMES STEELMON