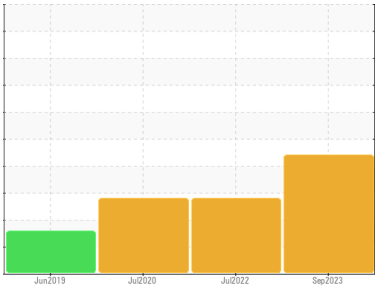
PROBLEM SUMMARY

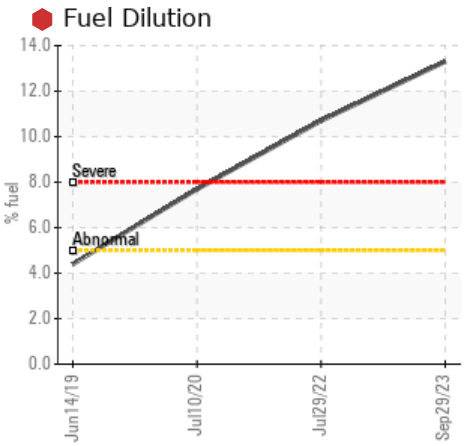
Area
CONSTRUCTORS, INC
Machine Id
FORD 04-0640
Component
Diesel Engine
Fluid
MOBIL DELVAC 1 5W40 (--- GAL)

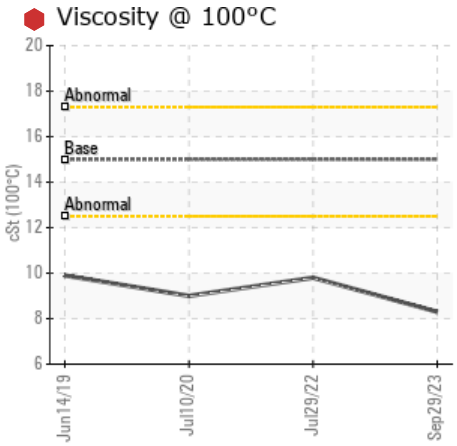
Sample Rating Trend

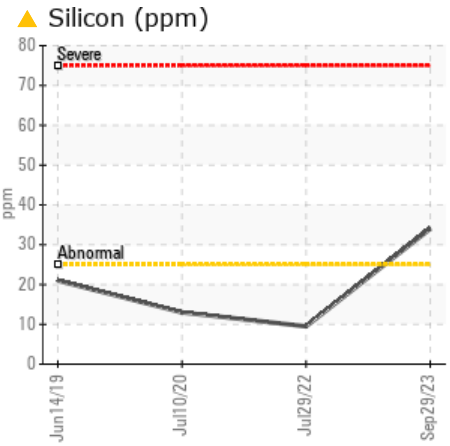


FUEL

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**	SEVERE	SEVERE
Silicon	ppm	ASTM D5185m	>25	▲ **34**	10	13
Fuel	%	ASTM D3524	>5	⬢ **13.3**	⬢ 10.7	⬢ 7.69
Visc @ 100°C	cSt	ASTM D445	15.0	⬢ **8.3**	⬢ 9.8	⬢ 9

Customer Id: CONLINNE
Sample No.: SBP0004909
Lab Number: 05966977
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

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

29 Jul 2022 Diag: Angela Borella

FUEL

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The oil is no longer serviceable due to the presence of contaminants.

view report

10 Jul 2020 Diag: Wes Davis

FUEL

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. Viscosity of sample indicates oil is within SAE 20 range, advise investigate. The oil is no longer serviceable due to the presence of contaminants.

view report

14 Jun 2019 Diag: Wes Davis

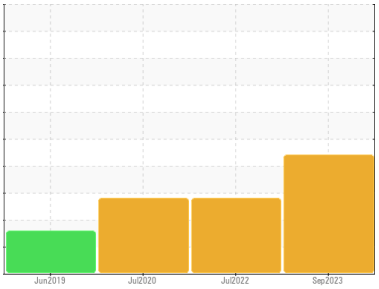
VISCOSITY

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The oil is no longer serviceable due to the presence of contaminants.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Area
CONSTRUCTORS, INC
Machine Id
FORD 04-0640
Component
Diesel Engine
Fluid
MOBIL DELVAC 1 5W40 (--- 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. Elemental level of silicon (Si) above normal indicating ingress of seal material.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**SBP0004909**	SBP0001329	SBP95461006
Sample Date		Client Info		**29 Sep 2023**	29 Jul 2022	10 Jul 2020
Machine Age	mls	Client Info		**97117**	89414	84696
Oil Age	mls	Client Info		**7703**	4718	5753
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	SEVERE	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Glycol		WC Method		**NEG**	NEG	0.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**29**	27	25
Chromium	ppm	ASTM D5185m	>20	**2**	2	3
Nickel	ppm	ASTM D5185m	>2	**<1**	<1	3
Titanium	ppm	ASTM D5185m	>2	**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	<1	0
Aluminum	ppm	ASTM D5185m	>25	**2**	3	4
Lead	ppm	ASTM D5185m	>40	**18**	5	3
Copper	ppm	ASTM D5185m	>330	**4**	2	2
Tin	ppm	ASTM D5185m	>15	**2**	1	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	291	**19**	80	46
Barium	ppm	ASTM D5185m	0.0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	8.0	**49**	43	41
Manganese	ppm	ASTM D5185m		**<1**	<1	0
Magnesium	ppm	ASTM D5185m	624	**804**	694	522
Calcium	ppm	ASTM D5185m	2158	**924**	1084	1705
Phosphorus	ppm	ASTM D5185m	1132	**861**	841	965
Zinc	ppm	ASTM D5185m	1300	**1061**	1029	932
Sulfur	ppm	ASTM D5185m	3616	**2611**	3042	---

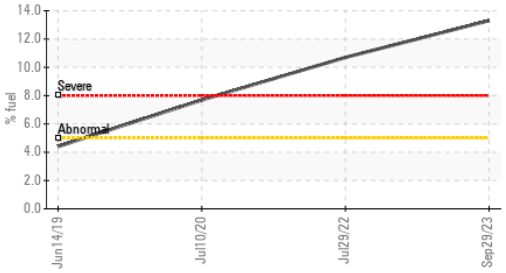
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **34**	10	13
Sodium	ppm	ASTM D5185m		**5**	6	13
Potassium	ppm	ASTM D5185m	>20	**0**	0	0
Chlorine	ppm	ASTM D5185m		**---**	---	0
Fuel	%	ASTM D3524	>5	⬢ **13.3**	⬢ 10.7	⬢ 7.69

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.1**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**8.6**	10.6	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.5**	34.1	---

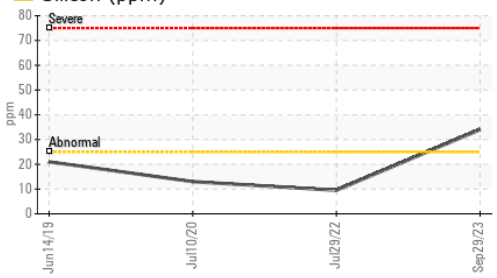
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**22.3**	39.8	---
Base Number (BN)	mg KOH/g	ASTM D2896	11.0	**6.2**	6.1	---

OIL ANALYSIS REPORT

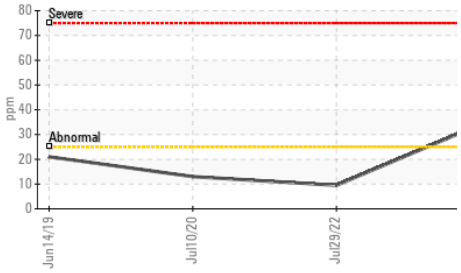
Fuel Dilution



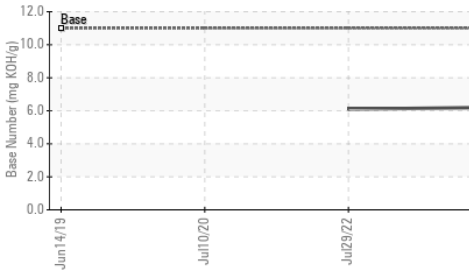
Silicon (ppm)



Silicon (ppm)



Base Number

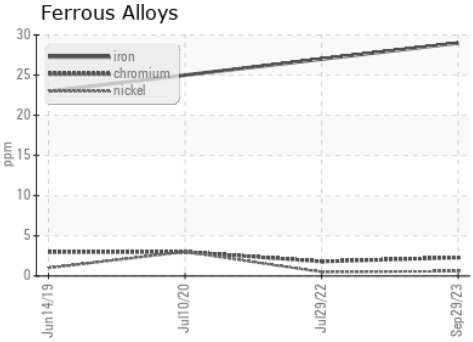


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	NONE	---
Sand/Dirt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

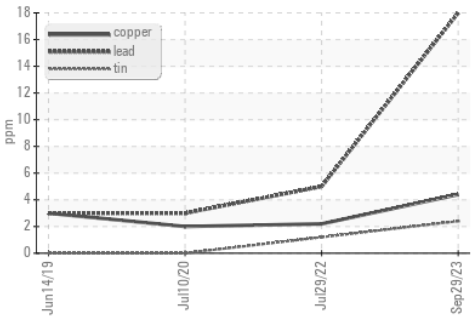
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.0	**8.3**	9.8	9

GRAPHS

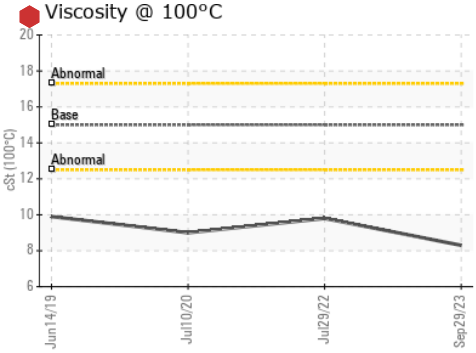
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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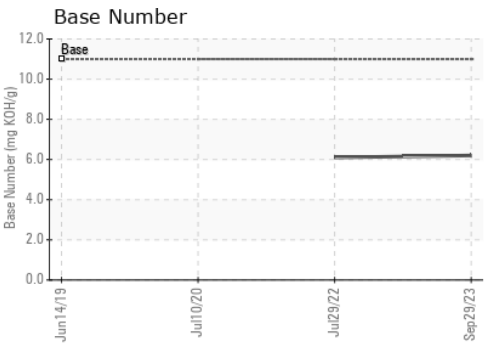

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : SBP0004909 **Received** : 02 Oct 2023
Lab Number : 05966977 **Diagnosed** : 04 Oct 2023
Unique Number : 10673528 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: PercentFuel)

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)

Constructors Inc. - 603659
1815 Y Street
Lincoln, NE
US 68508
Contact: Jack Linhart
jackl@constructorslincoln.com
T: (402)434-2157
F:

Report Id: CONLINNE [WUSCAR] 05966977 (Generated: 10/04/2023 16:13:59) Rev: 1

Submitted By: Jack Linhart