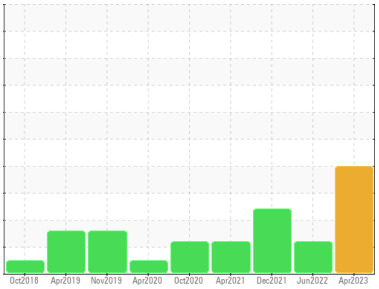
PROBLEM SUMMARY

Sample Rating Trend

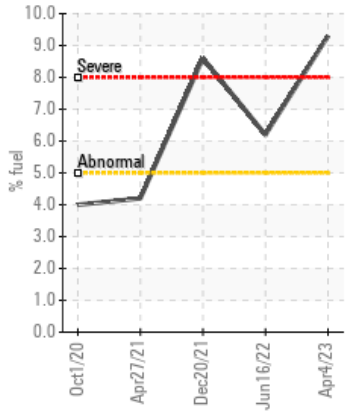


FUEL

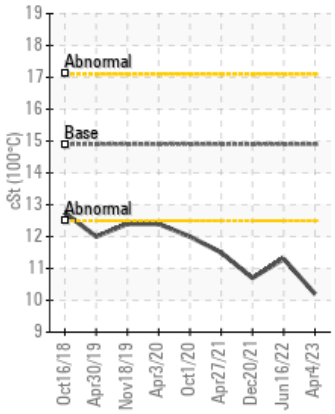
Machine Id
PIERCE 2585
Component
Diesel Engine
Fluid
CHEVRON DELO 400 XLE 15W40 (35 QTS)

COMPONENT CONDITION SUMMARY

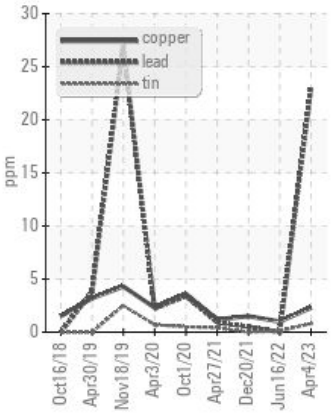
▲ Fuel Dilution



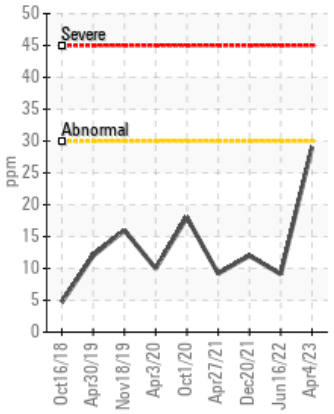
▲ Viscosity @ 100°C



▲ Non-ferrous Metals



▲ Aluminum (ppm)



RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	SEVERE
Aluminum	ppm	ASTM D5185m	>30	▲ **29**	9	12
Lead	ppm	ASTM D5185m	>30	▲ **23**	0	<1
Fuel	%	ASTM D3524	>5	▲ **9.3**	▲ 6.2	▲ 8.6
Visc @ 100°C	cSt	ASTM D445	14.9	▲ **10.2**	▲ 11.3	▲ 10.7

Customer Id: TOWCARNC
Sample No.: WC0804010
Lab Number: 05818649
Test Package: CONST

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@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	---	---	?	We recommend that you drain the oil from the component if this has not already been done.
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

FUEL

16 Jun 2022 Diag: Jonathan Hester
We advise that you check the fuel injection system. Resample at the next service interval to monitor.All component wear rates are normal. There is a moderate amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

FUEL

20 Dec 2021 Diag: Wes Davis
We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.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. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

view report

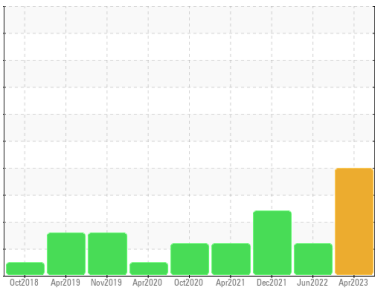
FUEL

27 Apr 2021 Diag: Don Baldridge
We advise that you check the fuel injection system. Resample at the next service interval to monitor.All component wear rates are normal. There is a moderate concentration of water present in the oil. Fuel is present in the oil and is lowering the viscosity.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
PIERCE 2585
Component
Diesel Engine
Fluid
CHEVRON DELO 400 XLE 15W40 (35 QTS)

DIAGNOSIS

Recommendation
We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear
Bearing and/or bushing wear is indicated.

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

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. 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		**WC0804010**	WC0701508	WC0646964
Sample Date		Client Info		**04 Apr 2023**	16 Jun 2022	20 Dec 2021
Machine Age	hrs	Client Info		**7803**	7260	7025
Oil Age	hrs	Client Info		**543**	235	823
Oil Changed		Client Info		**Changed**	Not Changd	Not Changd
Sample Status				**SEVERE**	ABNORMAL	SEVERE

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	**59**	15	20
Chromium	ppm	ASTM D5185m	>10	**3**	1	1
Nickel	ppm	ASTM D5185m	>4	**0**	0	0
Titanium	ppm	ASTM D5185m	>2	**10**	10	10
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>30	▲ **29**	9	12
Lead	ppm	ASTM D5185m	>30	▲ **23**	0	<1
Copper	ppm	ASTM D5185m	>30	**2**	1	2
Tin	ppm	ASTM D5185m	>4	**<1**	<1	0
Antimony	ppm	ASTM D5185m		**---**	---	0
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**30**	92	85
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**39**	40	41
Manganese	ppm	ASTM D5185m		**1**	<1	<1
Magnesium	ppm	ASTM D5185m		**587**	591	604
Calcium	ppm	ASTM D5185m		**1349**	1259	1350
Phosphorus	ppm	ASTM D5185m	760	**580**	626	673
Zinc	ppm	ASTM D5185m	830	**767**	742	758
Sulfur	ppm	ASTM D5185m	2770	**2878**	2574	2576

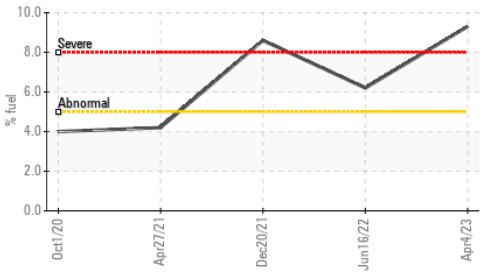
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	**7**	3	5
Sodium	ppm	ASTM D5185m		**9**	4	5
Potassium	ppm	ASTM D5185m	>20	**12**	1	6
Fuel	%	ASTM D3524	>5	▲ **9.3**	▲ 6.2	▲ 8.6

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**2.2**	0.8	1.1
Nitration	Abs/cm	*ASTM D7624	>20	**12.3**	8.7	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**25.3**	19.2	20.9

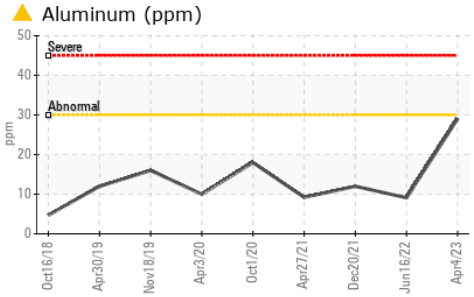
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**18.1**	13.6	14.6
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	**4.8**	7.4	7.9

OIL ANALYSIS REPORT

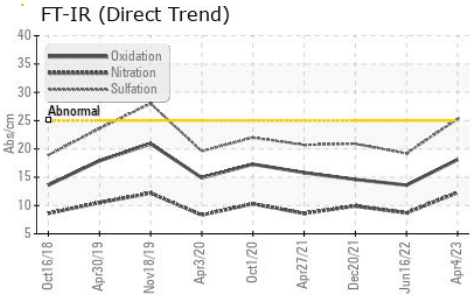
Fuel Dilution



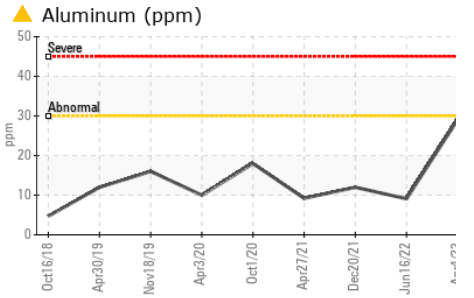
Aluminum (ppm)



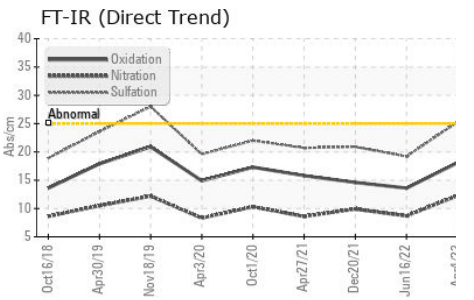
FT-IR (Direct Trend)



Aluminum (ppm)



FT-IR (Direct Trend)

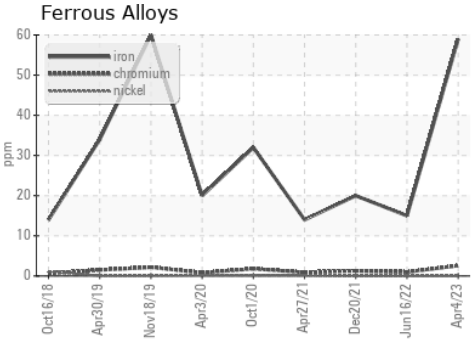


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

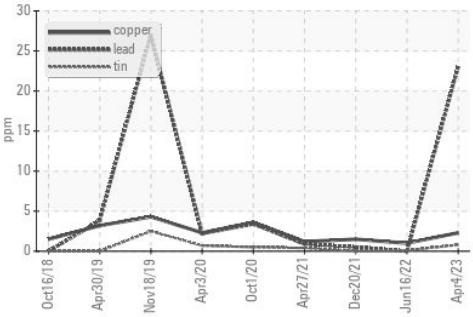
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.9	▲ **10.2**	▲ 11.3	▲ 10.7

GRAPHS

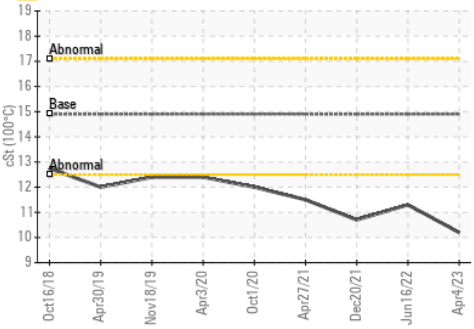
Ferrous Alloys



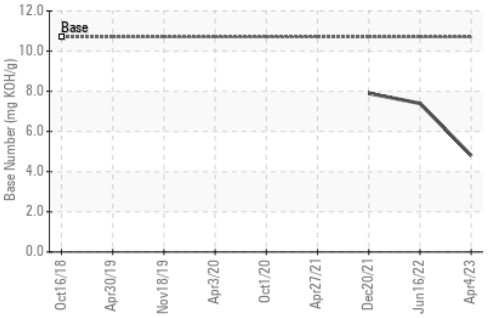
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0804010
Lab Number : 05818649
Unique Number : 10426732
Test Package : CONST (Additional Tests: PercentFuel, TBN)

Received : 13 Apr 2023
Tested : 18 Apr 2023
Diagnosed : 19 Apr 2023 - Doug Bogart

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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