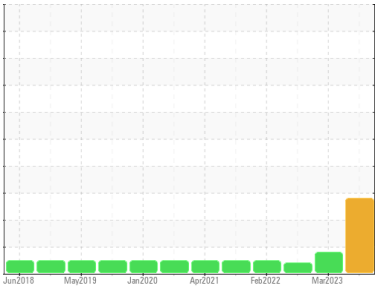
PROBLEM SUMMARY

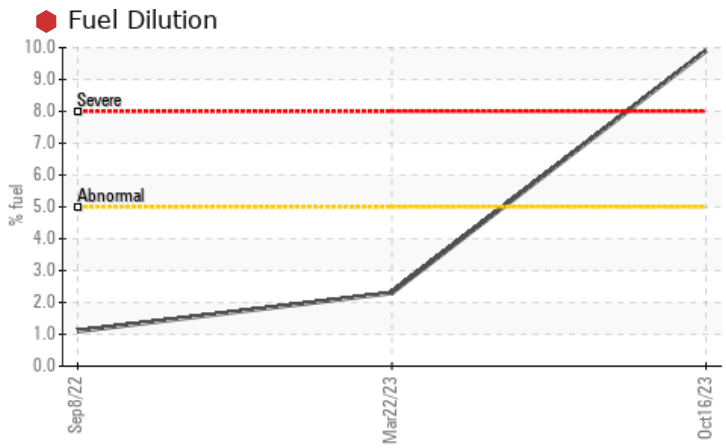
Sample Rating Trend

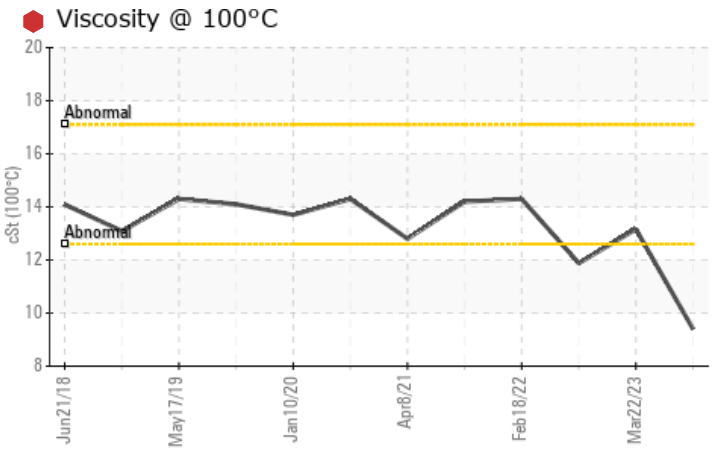


FUEL

Area
5C07
Machine Id
PETERBILT 220 TTK6049 (S/N 3BPPHM6X7JF591899)
Component
Diesel Engine
Fluid
PETRO CANADA 15W40 (21 QTS)

COMPONENT CONDITION SUMMARY





RECOMMENDATION

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.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	MARGINAL	ATTENTION
Fuel	%	ASTM D3524	>5	**9.9**	2.3	1.1
Visc @ 100°C	cSt	ASTM D445		**9.4**	13.16	11.88

Customer Id: AR1650CHA
Sample No.: ARI0007362
Lab Number: 06028481
Test Package: CONST

To manage this report scan the QR code

To discuss the diagnosis or test data:
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

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

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
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

22 Mar 2023 Diag: Wes Davis

FUEL

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.Metal levels are typical for a new component breaking in. Light fuel dilution occurring. No other contaminants were detected 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

08 Sep 2022 Diag: Doug Bogart

VISCOSITY

Resample at the next service interval to monitor.All component wear rates are normal. Fuel content negligible. No other contaminants were detected in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type. The condition of the oil is acceptable for the time in service.

view report

18 Feb 2022 Diag: Wes Davis

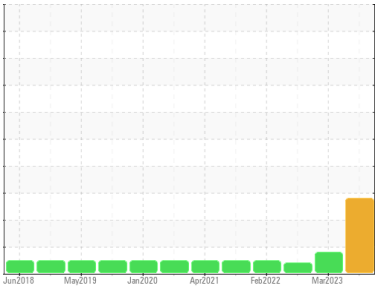
NORMAL

Resample at the next service interval to monitor.Metal levels are typical for a new component breaking in. 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



FUEL

Area
5C07
Machine Id
PETERBILT 220 TTK6049 (S/N 3BPPHM6X7JF591899)
Component
Diesel Engine
Fluid
PETRO CANADA 15W40 (21 QTS)

DIAGNOSIS

Recommendation
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.

Wear
All component wear rates are normal.

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		**ARI0007362**	ARI0006774	ARI0005694
Sample Date		Client Info		**16 Oct 2023**	22 Mar 2023	08 Sep 2022
Machine Age	mls	Client Info		**81495**	70696	64163
Oil Age	mls	Client Info		**0**	6533	0
Oil Changed		Client Info		**Changed**	Changed	Not Changd
Sample Status				**SEVERE**	MARGINAL	ATTENTION

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	>100	**17**	22	18
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**0**	0	<1
Titanium	ppm	ASTM D5185m		**<1**	0	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**3**	4	4
Lead	ppm	ASTM D5185m	>40	**0**	0	<1
Copper	ppm	ASTM D5185m	>330	**2**	1	1
Tin	ppm	ASTM D5185m	>15	**0**	0	1
Vanadium	ppm	ASTM D5185m		**0**	<1	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**7**	13	47
Barium	ppm	ASTM D5185m		**3**	0	0
Molybdenum	ppm	ASTM D5185m		**8**	56	19
Manganese	ppm	ASTM D5185m		**0**	<1	<1
Magnesium	ppm	ASTM D5185m		**98**	863	652
Calcium	ppm	ASTM D5185m		**1542**	1045	1447
Phosphorus	ppm	ASTM D5185m		**677**	941	726
Zinc	ppm	ASTM D5185m		**821**	1152	882
Sulfur	ppm	ASTM D5185m		**3183**	2925	3588

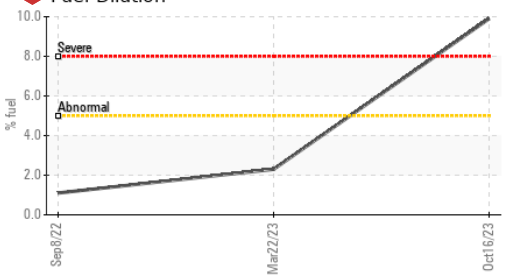
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**6**	4	4
Sodium	ppm	ASTM D5185m		**2**	3	2
Potassium	ppm	ASTM D5185m	>20	**4**	2	2
Fuel	%	ASTM D3524	>5	**9.9**	▲ 2.3	1.1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.3**	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	**7.1**	9.7	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**17.3**	18.7	23.8

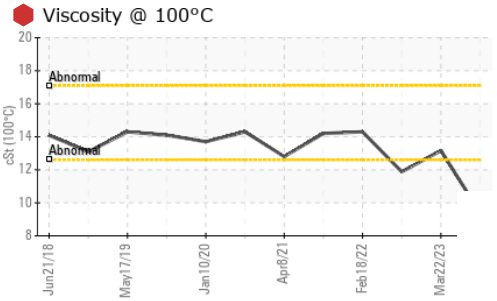
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**10.6**	14.5	17.9
Base Number (BN)	mg KOH/g	ASTM D2896		**5.9**	8.5	10.0

OIL ANALYSIS REPORT

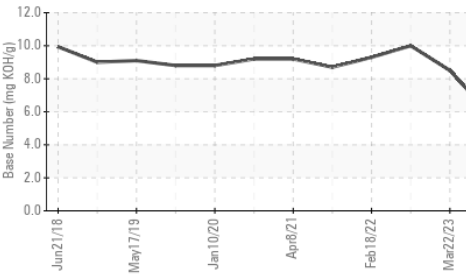
Fuel Dilution



Viscosity @ 100°C



Base Number

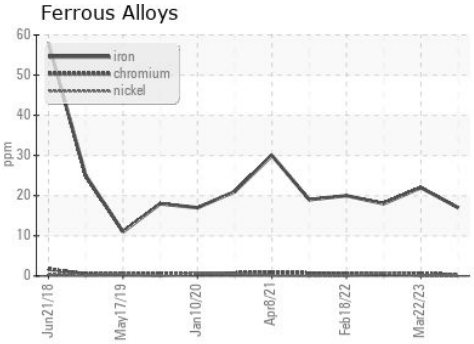


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

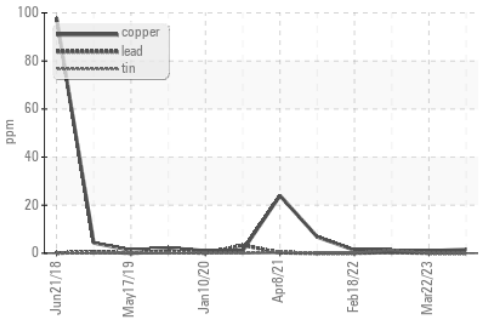
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**9.4**	13.16	11.88

GRAPHS

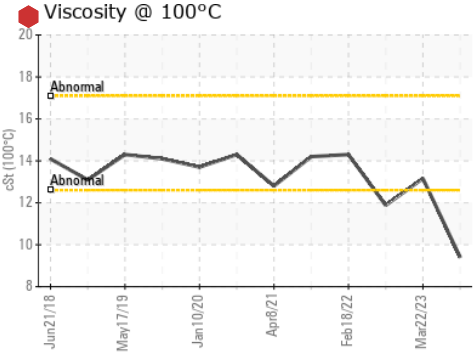
Ferrous Alloys



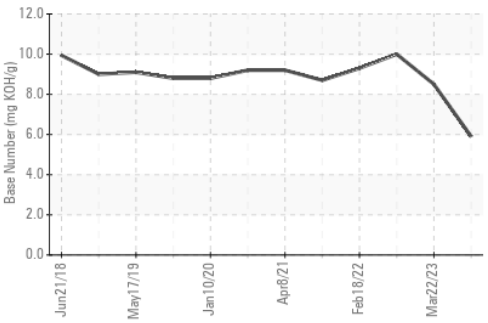
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ARI0007362 **Received** : 07 Dec 2023
Lab Number : 06028481 **Diagnosed** : 14 Dec 2023
Unique Number : 10778272 **Diagnostician** : Wes Davis
Test Package : CONST (Additional Tests: FuelDilution, 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)

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