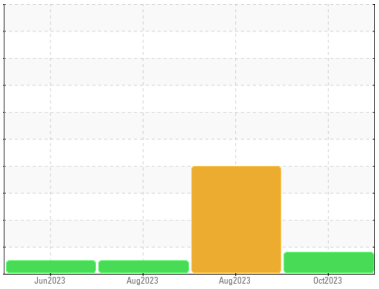
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
THOMPKINS 4 IN VAC PUMP 337
Component
Diesel Engine
Fluid
PETRO CANADA 15W40 (--- GAL)

DIAGNOSIS

Recommendation
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 moderate 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. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0822245**	WC0517497	WC0351180
Sample Date		Client Info		**07 Oct 2023**	26 Aug 2023	02 Aug 2023
Machine Age	hrs	Client Info		**8504**	7350	7780
Oil Age	hrs	Client Info		**170**	348	580
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	SEVERE	NORMAL

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**5**	7	22
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	1
Nickel	ppm	ASTM D5185m	>4	**0**	0	<1
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**<1**	<1	4
Lead	ppm	ASTM D5185m	>40	**0**	<1	1
Copper	ppm	ASTM D5185m	>330	**<1**	<1	<1
Tin	ppm	ASTM D5185m	>15	**<1**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**5**	4	4
Barium	ppm	ASTM D5185m		**3**	0	0
Molybdenum	ppm	ASTM D5185m		**55**	56	62
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**819**	947	951
Calcium	ppm	ASTM D5185m		**955**	1031	1110
Phosphorus	ppm	ASTM D5185m		**859**	957	944
Zinc	ppm	ASTM D5185m		**1052**	1213	1283
Sulfur	ppm	ASTM D5185m		**2587**	3445	2898

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**5**	6	8
Sodium	ppm	ASTM D5185m		**2**	2	11
Potassium	ppm	ASTM D5185m	>20	**<1**	3	2
Fuel	%	ASTM D3524	>5	▲ **5.2**	⬢ 11.8	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.1**	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**6.0**	7.5	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**17.2**	18.8	20.5

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**13.6**	17.0	19.2
Base Number (BN)	mg KOH/g	ASTM D2896		**8.1**	9.24	9.98

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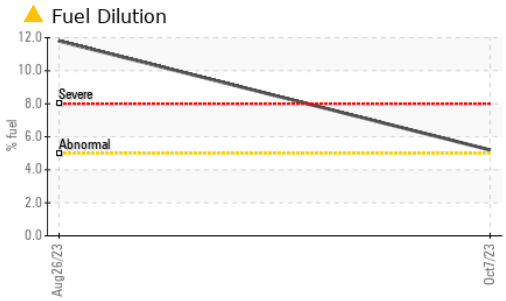
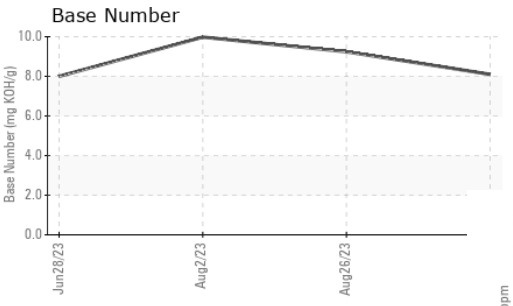
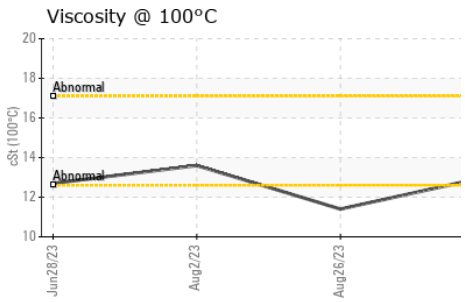


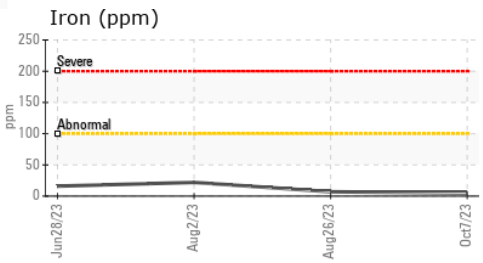


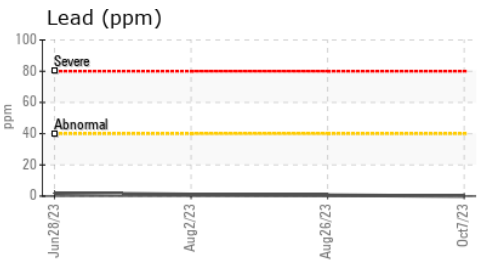


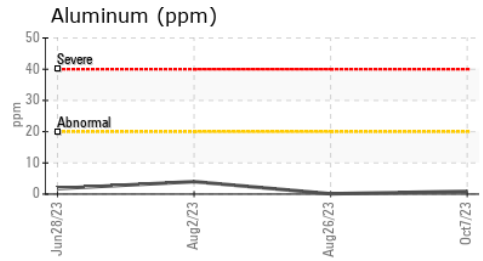
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

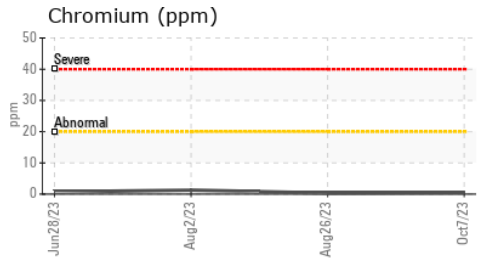
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**13.0**	▲ 11.4	13.6

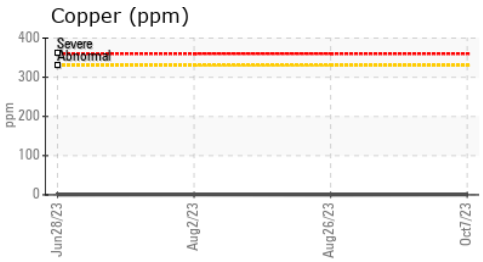
GRAPHS

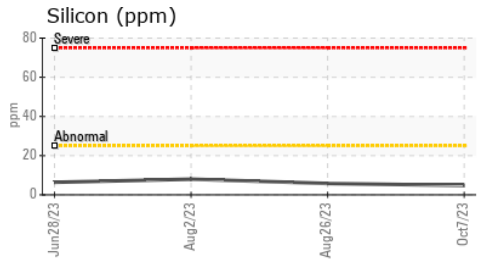


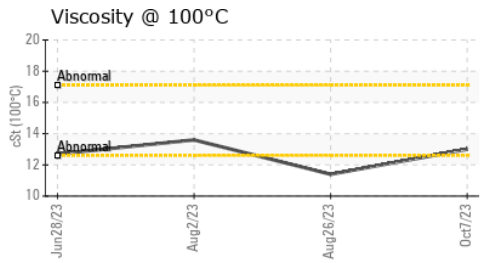


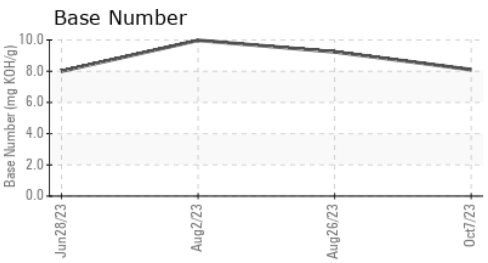












ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0822245 **Received** : 16 Oct 2023
Lab Number : 05980234 **Diagnosed** : 18 Oct 2023
Unique Number : 10697529 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: 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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