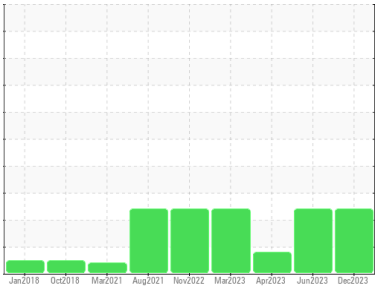
PROBLEM SUMMARY

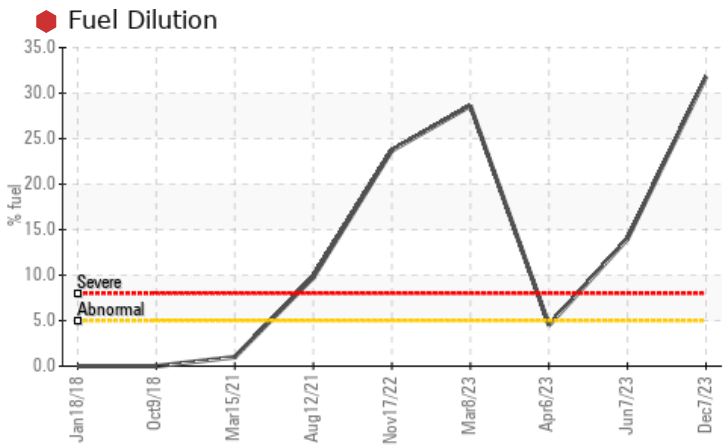
Sample Rating Trend

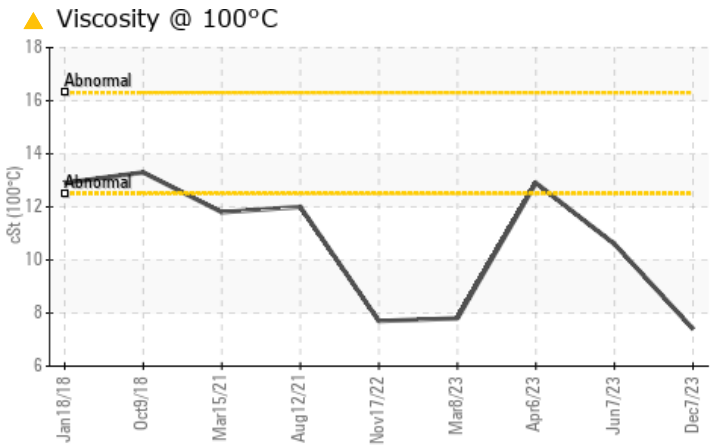


FUEL

Area
GM Seattle Off Raod Shop
Machine Id
[GM Seattle Off Raod Shop] 24-742
Component
Diesel Engine
Fluid
SHELL 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**	SEVERE	MARGINAL
Fuel	%	ASTM D3524	>5	**31.8**	14.0	4.5
Visc @ 100°C	cSt	ASTM D445		**7.4**	10.6	12.9

Customer Id: GARSEA
Sample No.: PE0002124
Lab Number: 06059990
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

07 Jun 2023 Diag: Doug Bogart

FUEL

We advise that you check the fuel injection system. We recommend that you drain the oil and perform a filter service on this component if not already 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. 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.

view report

06 Apr 2023 Diag: Don Baldridge

FUEL

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. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

08 Mar 2023 Diag: Angela Borella

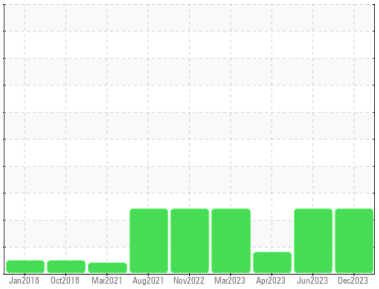
FUEL

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. 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. 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.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Area
GM Seattle Off Raod Shop
Machine Id
[GM Seattle Off Raod Shop] 24-742
Component
Diesel Engine
Fluid
SHELL 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 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		**PE0002124**	PE0001395	PE0000556
Sample Date		Client Info		**07 Dec 2023**	07 Jun 2023	06 Apr 2023
Machine Age	hrs	Client Info		**3273**	2880	2719
Oil Age	hrs	Client Info		**617**	224	128
Oil Changed		Client Info		**Changed**	Not Changd	Not Changd
Sample Status				**SEVERE**	SEVERE	MARGINAL

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	**11**	3	2
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**1**	2	0
Lead	ppm	ASTM D5185m	>40	**4**	0	0
Copper	ppm	ASTM D5185m	>330	**2**	<1	<1
Tin	ppm	ASTM D5185m	>15	**0**	<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		**24**	69	80
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**51**	66	66
Manganese	ppm	ASTM D5185m		**0**	<1	<1
Magnesium	ppm	ASTM D5185m		**37**	62	59
Calcium	ppm	ASTM D5185m		**1498**	1952	1827
Phosphorus	ppm	ASTM D5185m		**719**	940	900
Zinc	ppm	ASTM D5185m		**818**	1136	1036
Sulfur	ppm	ASTM D5185m		**2320**	4134	2988

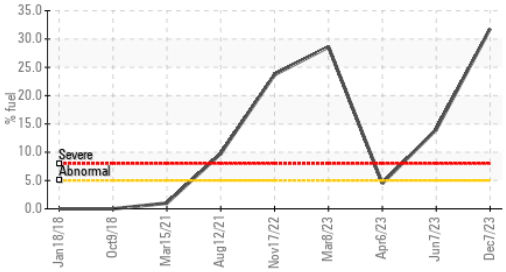
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**9**	10	9
Sodium	ppm	ASTM D5185m	>150	**2**	0	0
Potassium	ppm	ASTM D5185m	>20	**0**	0	1
Fuel	%	ASTM D3524	>5	**31.8**	14.0	4.5

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.3**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**11.2**	8.9	6.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.1**	17.4	15.4

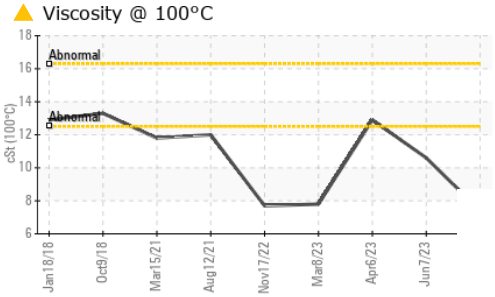
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**19.1**	13.5	12.2
Base Number (BN)	mg KOH/g	ASTM D2896		**4.4**	6.7	6.4

OIL ANALYSIS REPORT

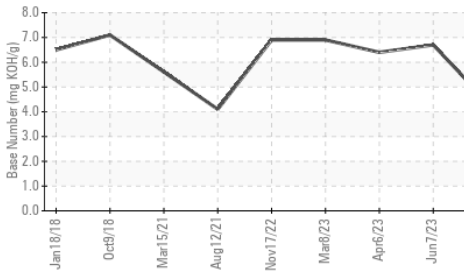
Fuel Dilution



Viscosity @ 100°C



Base Number

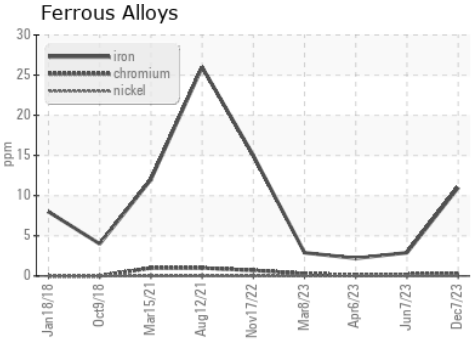


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

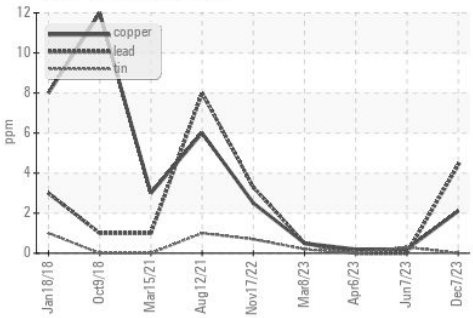
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		▲ **7.4**	▲ 10.6	12.9

GRAPHS

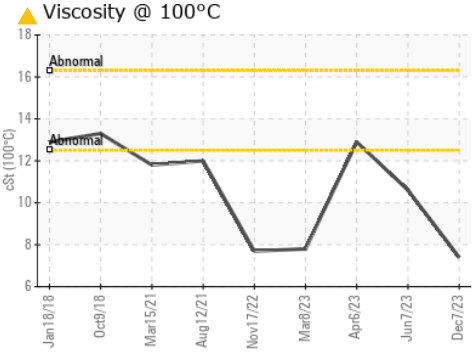
Ferrous Alloys



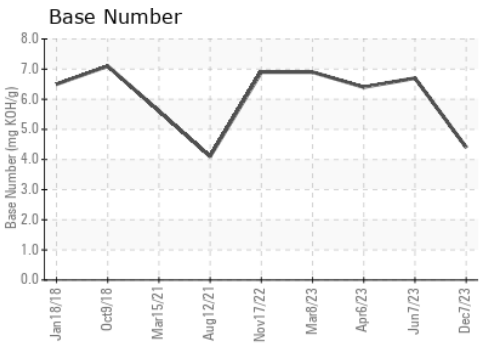
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0002124 **Recieved** : 12 Jan 2024
Lab Number : 06059990 **Diagnosed** : 16 Jan 2024
Unique Number : 10831372 **Diagnostician** : Don Baldridge
Test Package : CONST (Additional Tests: FT-IR, ICP, KV100, PercentFuel, SCREEN, 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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SEATTLE, WA
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Report Id: GARSEA [WUSCAR] 06059990 (Generated: 01/16/2024 11:27:00) Rev: 1

Submitted By: Stoneway Concrete - Seattle - Jesse Patterson