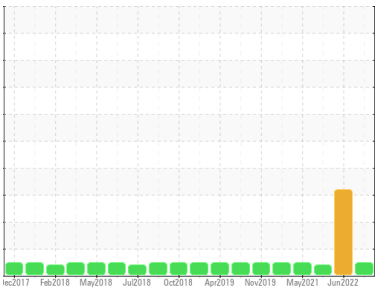
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
GM Renton Dump Truck Shop
Machine Id
[GM Renton Dump Truck Shop] S12-504
Component
Diesel Engine
Fluid
SHELL ROTELLA T4 10W30 (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PE0000106**	PE12230619	PE12290273
Sample Date		Client Info		**02 Nov 2022**	30 Jun 2022	19 Jul 2021
Machine Age	hrs	Client Info		**7341**	6849	5899
Oil Age	hrs	Client Info		**1442**	950	1255
Oil Changed		Client Info		**Changed**	Not Changd	Changed
Sample Status				**NORMAL**	SEVERE	MARGINAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**36**	26	30
Chromium	ppm	ASTM D5185m	>20	**<1**	0	0
Nickel	ppm	ASTM D5185m	>4	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	<1	<1
Aluminum	ppm	ASTM D5185m	>20	**3**	3	3
Lead	ppm	ASTM D5185m	>40	**0**	0	0
Copper	ppm	ASTM D5185m	>330	**3**	2	2
Tin	ppm	ASTM D5185m	>15	**<1**	0	0
Antimony	ppm	ASTM D5185m		**---**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**4**	4	22
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**13**	13	74
Manganese	ppm	ASTM D5185m		**<1**	---	---
Magnesium	ppm	ASTM D5185m		**183**	225	1217
Calcium	ppm	ASTM D5185m		**2407**	2300	1146
Phosphorus	ppm	ASTM D5185m		**1004**	972	1164
Zinc	ppm	ASTM D5185m		**1232**	1151	1418
Sulfur	ppm	ASTM D5185m		**4348**	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**8**	6	9
Sodium	ppm	ASTM D5185m		**3**	3	2
Potassium	ppm	ASTM D5185m	>20	**8**	6	7

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**1**	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	**11.1**	17	13
Sulfation	Abs/.1mm	*ASTM D7415	>30	**26.7**	---	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**17**	17	23
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	**6.2**	3.31	6.79

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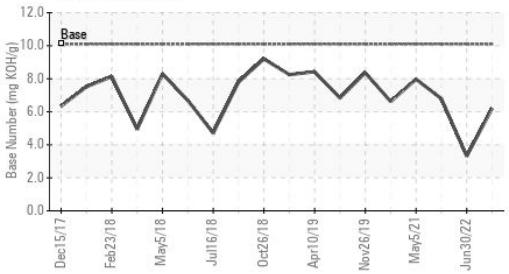
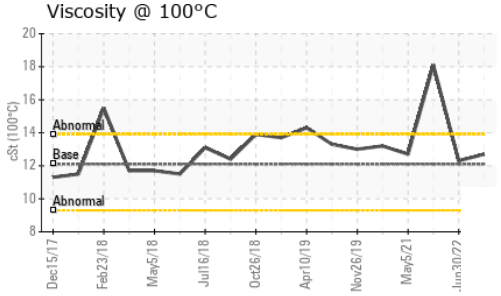
Base Number



Viscosity @ 100°C

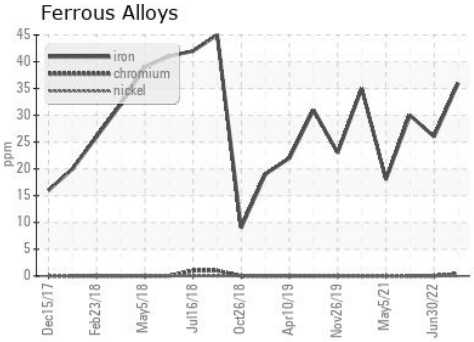


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	---	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	---	---
Precipitate	scalar	*Visual	NONE	**NONE**	---	---
Silt	scalar	*Visual	NONE	**NONE**	---	---
Debris	scalar	*Visual	NONE	**NONE**	---	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	---	---
Appearance	scalar	*Visual	NORML	**NORML**	---	---
Odor	scalar	*Visual	NORML	**NORML**	---	---
Emulsified Water	scalar	*Visual	>0.2	**NEG**	---	---
Free Water	scalar	*Visual		**NEG**	---	---

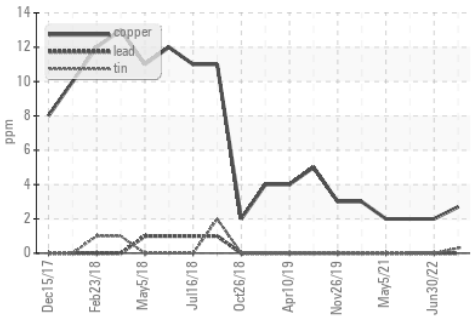
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.1	**12.7**	12.3	▲ 18.1

GRAPHS

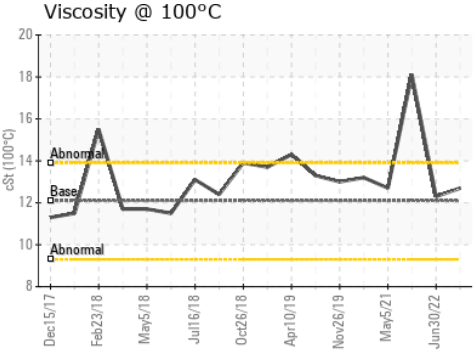
Ferrous Alloys



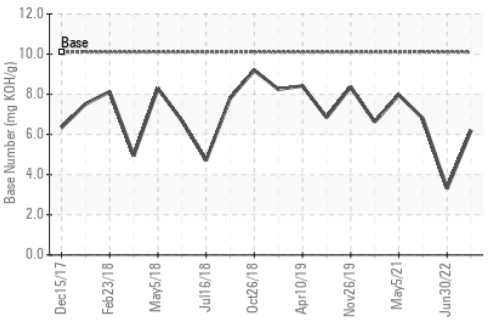
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0000106
Lab Number : 05685628
Unique Number : 10205200
Test Package : CONST (Additional Tests: FT-IR, ICP, KV100, SCREEN, TBN)

Received : 04 Nov 2022
Diagnosed : 08 Nov 2022
Diagnostician : Don Baldridge

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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US 98108
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T:
F:

Report Id: GARSEA [WUSCAR] 05685628 (Generated: 11/09/2023 17:06:41) Rev: 1

Submitted By: Dump Truck Shop - Zack