



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
GM Renton Dump Truck Shop
Machine Id
[GM Renton Dump Truck Shop] s14-304
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PE0003126	PE12290226	PE12290367
Sample Date		Client Info		06 May 2024	01 Feb 2022	14 Aug 2020
Machine Age	hrs	Client Info		1241	241	3821
Oil Age	hrs	Client Info		1000	1075	1806
Filter Age	hrs	Client Info		1000	---	---
Oil Changed		Client Info		Not Changd	Changed	Changed
Filter Changed		Client Info		Not Changd	---	---
Sample Status				NORMAL	SEVERE	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	20	27	35
Chromium	ppm	ASTM D5185m	>20	<1	0	1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	3	0
Silver	ppm	ASTM D5185m	>3	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	4	4	5
Lead	ppm	ASTM D5185m	>40	0	0	1
Copper	ppm	ASTM D5185m	>330	7	11	26
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

There is no indication of any contamination in the oil.

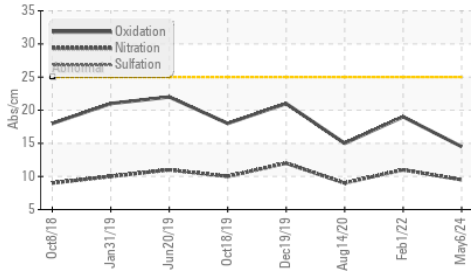
Silicon	ppm	ASTM D5185m	>25	20	▲ 27	6
Potassium	ppm	ASTM D5185m	>20	5	8	10
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.6	0.5	0.3
Nitration	Abs/cm	*ASTM D7624	>20	9.5	11	9
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.3	---	---
Silt	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	---	---

FLUID CONDITION

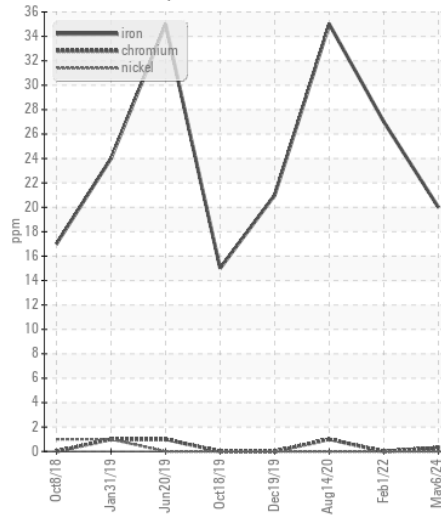
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		1	3	5
Boron	ppm	ASTM D5185m	316	14	44	24
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.2	35	66	75
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m	24	508	1129	1144
Calcium	ppm	ASTM D5185m	2292	1851	1142	1159
Phosphorus	ppm	ASTM D5185m	1064	944	1079	1079
Zinc	ppm	ASTM D5185m	1160	1155	1319	1358
Sulfur	ppm	ASTM D5185m	4996	3831	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.5	19	15
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	6.1	▲ 2.86	7.69
Visc @ 100°C	cSt	ASTM D445	15.7	12.7	12.0	12.2

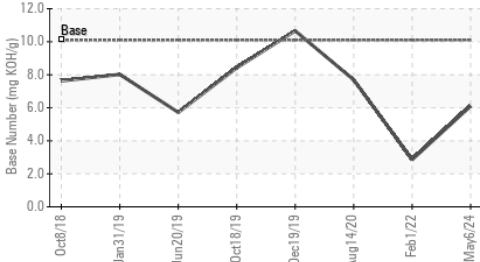
FT-IR (Direct Trend)



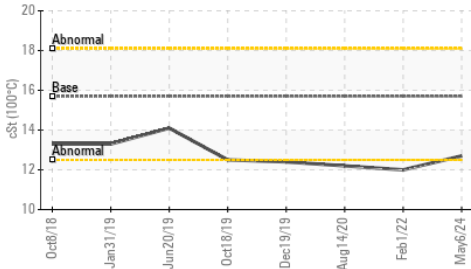
Ferrous Alloys



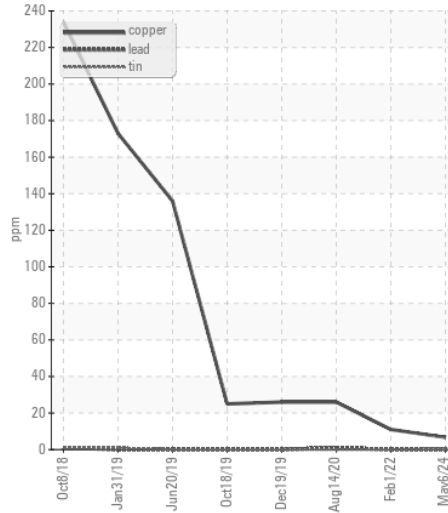
Base Number



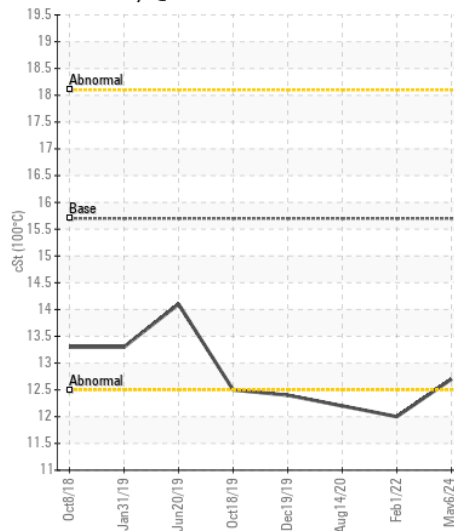
Viscosity @ 100°C



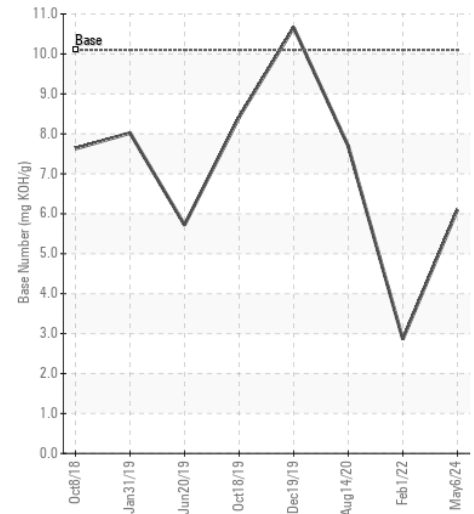
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0003126
Lab Number : 06211076
Unique Number : 11083940
Test Package : CONST (Additional Tests: FT-IR, ICP, KV100, SCREEN, TBN)

Gary Merlino Construction - Off Road Shop
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 SEATTLE, WA
 US 98108
 Contact: Zack
 oilsamples@gmccinc.com

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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F: