



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Area
GM Seattle Off Road Shop
 Machine Id
[GM Seattle Off Road Shop] 24-749
 Component
Diesel Engine
 Fluid
SHELL 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PE0000396	PE0001243	PE0001101
Sample Date		Client Info		26 Dec 2023	17 Apr 2023	03 Jan 2023
Machine Age	hrs	Client Info		2543	2138	1914
Oil Age	hrs	Client Info		629	224	396
Filter Age	hrs	Client Info		629	0	0
Oil Changed		Client Info		Changed	Not Changed	Changed
Filter Changed		Client Info		Changed	None	Changed
Sample Status				ATTENTION	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	4	2	4
Chromium	ppm	ASTM D5185m	>11	0	0	0
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>31	2	1	1
Lead	ppm	ASTM D5185m	>26	0	0	0
Copper	ppm	ASTM D5185m	>26	6	1	5
Tin	ppm	ASTM D5185m	>4	0	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Fuel content negligible. There is no indication of any contamination in the oil.

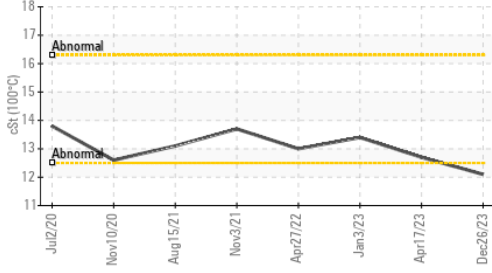
Silicon	ppm	ASTM D5185m	>22	5	4	8
Potassium	ppm	ASTM D5185m	>20	0	<1	2
Fuel	%	ASTM D3524	>2.1	1.3	<1.0	<1.0
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.1	0	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.3	5.8	7.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.6	17.5	20.7
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	>0.21	NEG	NEG	NEG

FLUID CONDITION

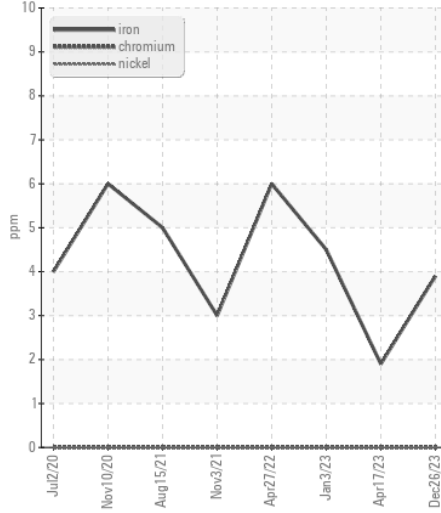
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m	>150	<1	1	0
Boron	ppm	ASTM D5185m		61	83	215
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		69	65	237
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		539	533	750
Calcium	ppm	ASTM D5185m		1680	1482	1428
Phosphorus	ppm	ASTM D5185m		1034	928	920
Zinc	ppm	ASTM D5185m		1162	1123	1053
Sulfur	ppm	ASTM D5185m		3418	3679	2727
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.2	12.3	15.1
Base Number (BN)	mg KOH/g	ASTM D2896		7.9	8.7	9.1
Visc @ 100°C	cSt	ASTM D445		▲ 12.1	12.7	13.4

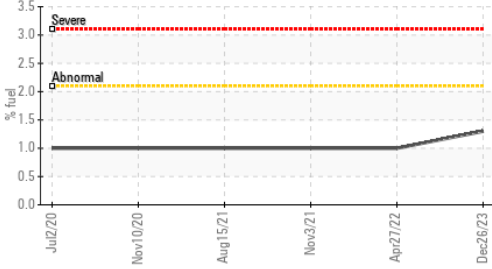
▲ Viscosity @ 100°C



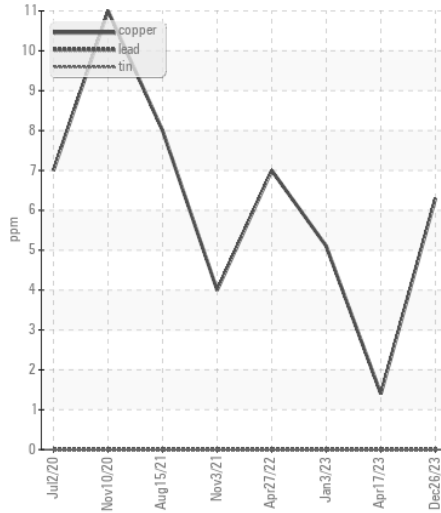
Ferrous Alloys



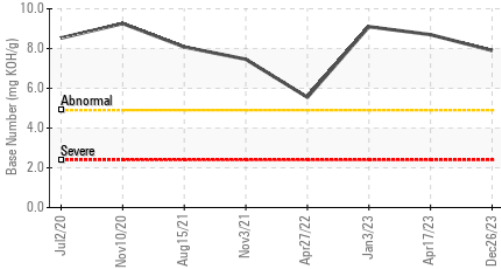
Fuel Dilution



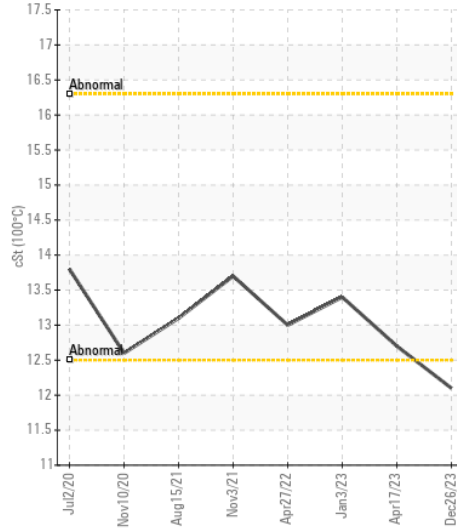
Non-ferrous Metals



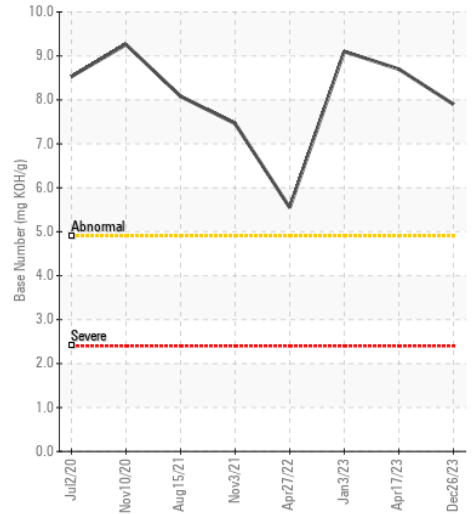
Base Number



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0000396 **Received** : 12 Jan 2024
Lab Number : 06059992 **Diagnosed** : 16 Jan 2024
Unique Number : 10831374 **Diagnostician** : Don Baldrige

Gary Merlino Construction - Off Road Shop
 9125 10TH AVE SOUTH
 SEATTLE, WA
 US 98108

Test Package : CONST (Additional Tests: FT-IR, FuelDilution, ICP, KV100, PercentFuel, SCREEN, TBN)

Contact: Jesse Patterson
 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.

T: 1(866)292-1303

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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