



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
GM Seattle Off Road Shop
Machine Id
[GM Seattle Off Road Shop] 24-548
Component
Diesel Engine
Fluid
SHELL 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PE0003089	PE0001007	PE12291010
Sample Date		Client Info		17 Jun 2024	22 Feb 2023	16 Dec 2021
Machine Age	hrs	Client Info		3013	2480	2235
Oil Age	hrs	Client Info		728	245	535
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		Changed	Not Changed	---
Sample Status				NORMAL	NORMAL	MARGINAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	34	11	21
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>2	<1	0	1
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>25	6	2	3
Lead	ppm	ASTM D5185m	>40	0	0	1
Copper	ppm	ASTM D5185m	>330	2	<1	2
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

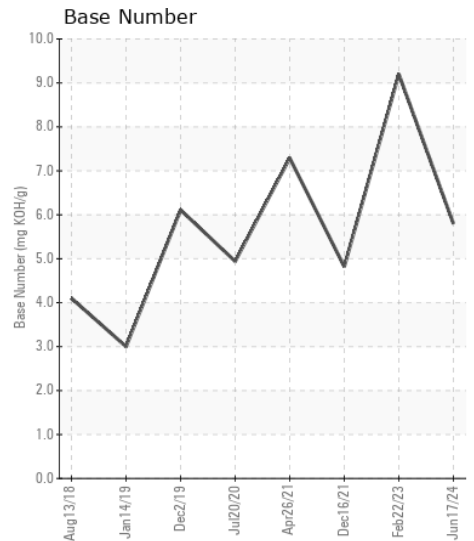
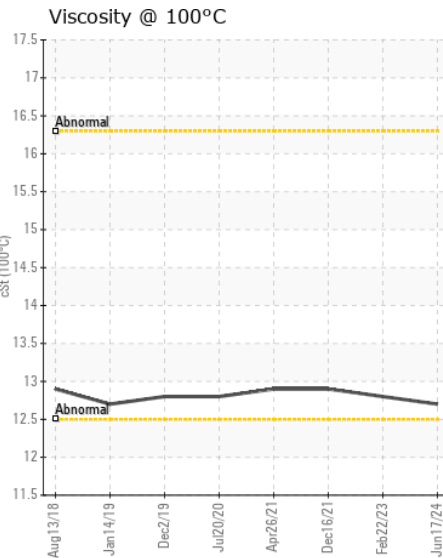
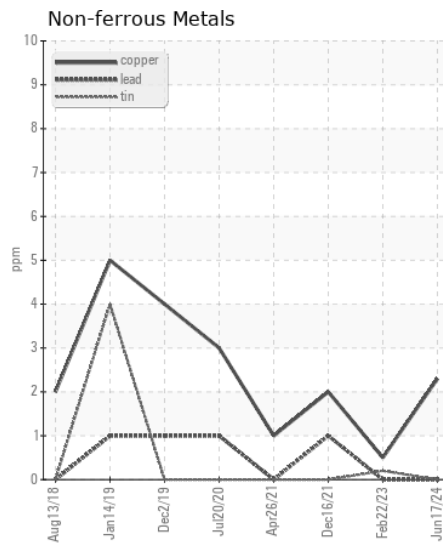
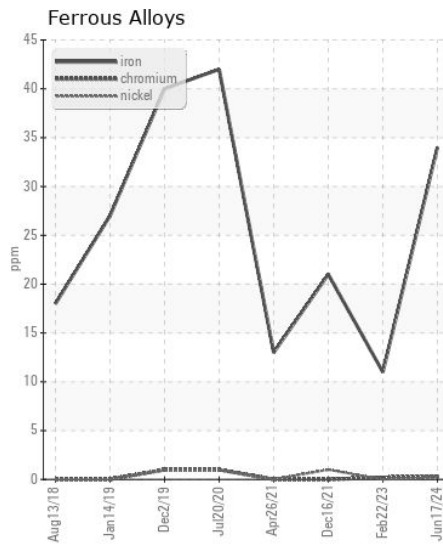
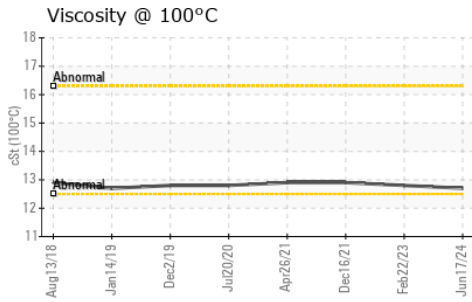
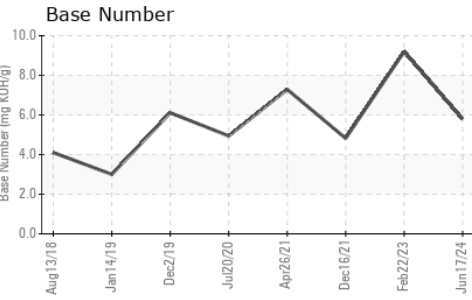
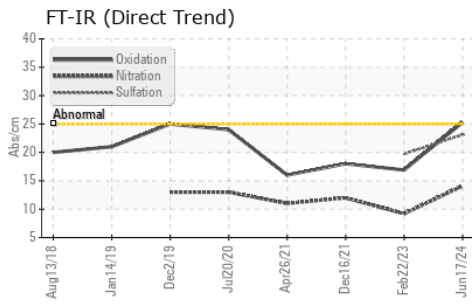
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	7	4	4
Potassium	ppm	ASTM D5185m	>20	3	2	2
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	0.4	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	14.1	9.2	12
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.1	19.7	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	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	>150	3	1	3
Boron	ppm	ASTM D5185m		56	96	29
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		57	53	22
Manganese	ppm	ASTM D5185m		1	<1	---
Magnesium	ppm	ASTM D5185m		921	858	248
Calcium	ppm	ASTM D5185m		1343	1309	2175
Phosphorus	ppm	ASTM D5185m		1030	976	1005
Zinc	ppm	ASTM D5185m		1306	1270	1176
Sulfur	ppm	ASTM D5185m		3796	3768	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	25.3	16.9	18
Base Number (BN)	mg KOH/g	ASTM D2896		5.8	9.2	▲ 4.82
Visc @ 100°C	cSt	ASTM D445		12.7	12.8	12.9



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0003089
Lab Number : 06220569
Unique Number : 11098766
Test Package : CONST (Additional Tests: FT-IR, ICP, KV100, SCREEN, TBN)

Received : 25 Jun 2024
Tested : 26 Jun 2024
Diagnosed : 27 Jun 2024 - Don Baldrige

Gary Merlino Construction - Off Road Shop
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 SEATTLE, WA
 US 98108
 Contact: Jesse Patterson
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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)

T: 1(866)292-1303

F: