



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL



Area
GM Seattle Off Road Shop
Machine Id
[GM Seattle Off Road Shop] 24-590
Component
Diesel Engine
Fluid
SHELL 15W40 (--- GAL)

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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PE0003086	PE0001035	PE12291049
Sample Date		Client Info		04 Jun 2024	13 Feb 2023	06 Dec 2021
Machine Age	hrs	Client Info		3235	2031	1320
Oil Age	hrs	Client Info		1204	711	788
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	---
Sample Status				SEVERE	ABNORMAL	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	18	8	14
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>25	<1	<1	1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	4	6	47
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

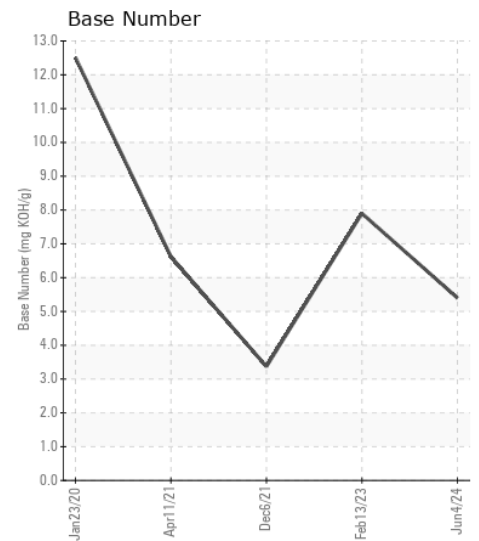
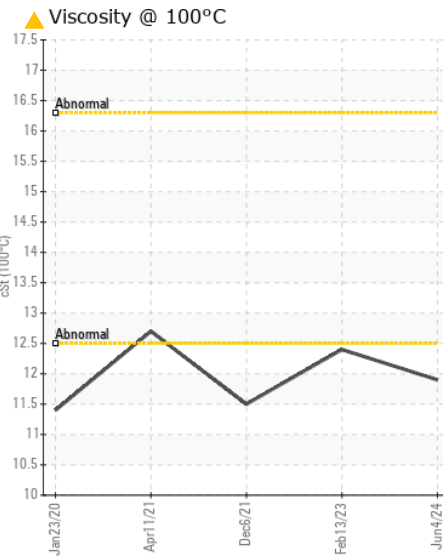
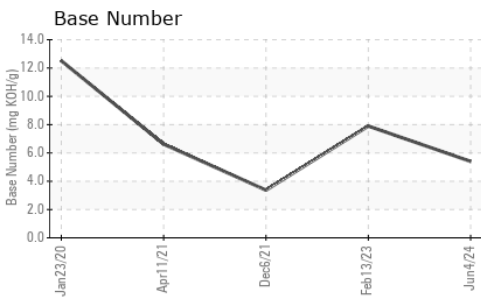
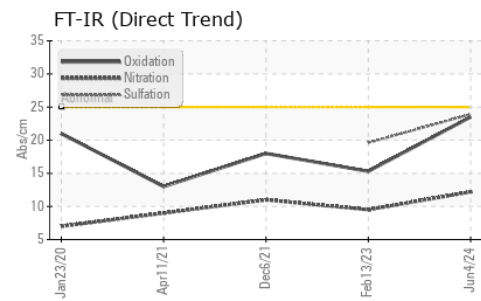
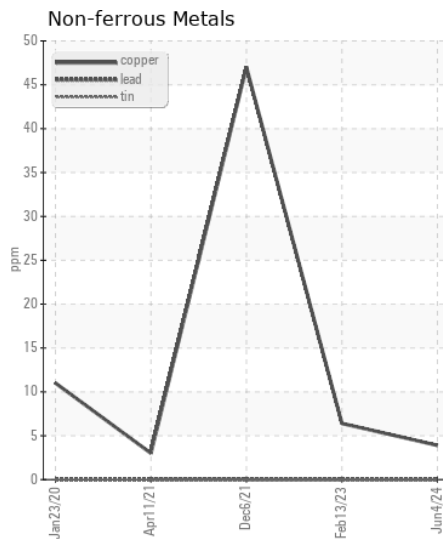
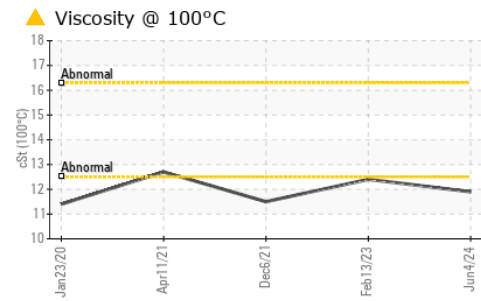
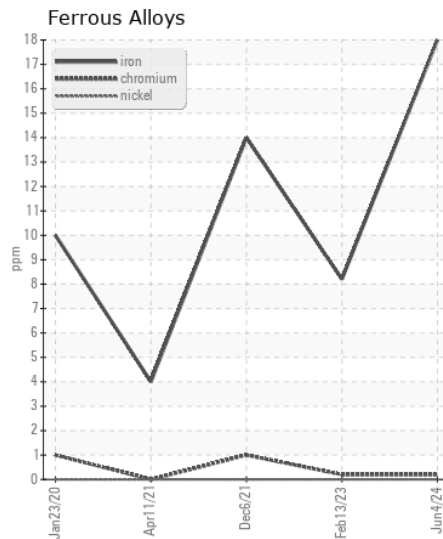
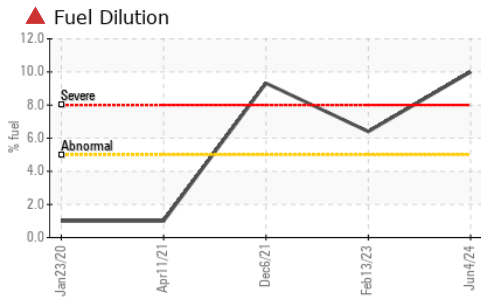
There is a high amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>25	3	3	4
Potassium	ppm	ASTM D5185m	>20	1	1	1
Fuel	%	ASTM D3524	>5	▲ 10.0	▲ 6.4	▲ 9.32
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	12.2	9.5	11
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.9	19.6	---
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

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m	>150	1	<1	2
Boron	ppm	ASTM D5185m		24	44	7
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		30	41	18
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m		452	561	148
Calcium	ppm	ASTM D5185m		1678	1420	2228
Phosphorus	ppm	ASTM D5185m		892	907	873
Zinc	ppm	ASTM D5185m		1116	1115	984
Sulfur	ppm	ASTM D5185m		3592	3298	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.5	15.3	18
Base Number (BN)	mg KOH/g	ASTM D2896		5.4	7.9	▲ 3.37
Visc @ 100°C	cSt	ASTM D445		▲ 11.9	▲ 12.4	▲ 11.5



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0003086
Lab Number : 06211074
Unique Number : 11083938
Test Package : CONST (Additional Tests: FT-IR, ICP, KV100, PercentFuel, SCREEN, TBN)

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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

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