

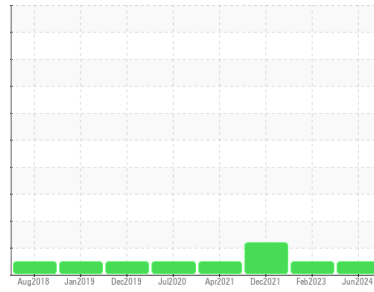


OIL ANALYSIS REPORT



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

Sample Rating Trend



NORMAL



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		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
Oil Changed	Client Info		Changed	Not Changd	Changed
Sample Status			NORMAL	NORMAL	MARGINAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
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
Antimony	ppm	ASTM D5185m	---	---	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	---

ADDITIVES

	method	limit/base	current	history1	history2
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	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	7	4	4
Sodium	ppm	ASTM D5185m >150	3	1	3
Potassium	ppm	ASTM D5185m >20	3	2	2

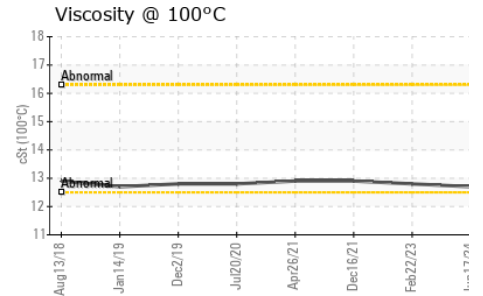
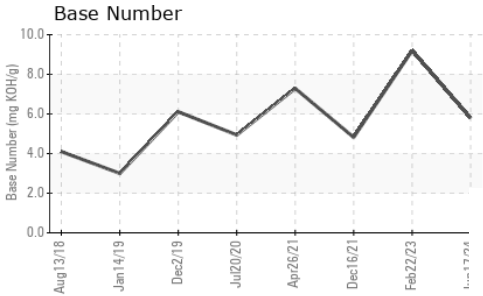
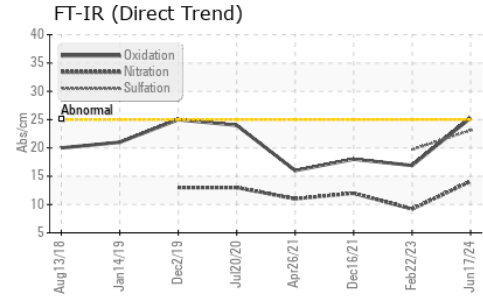
INFRA-RED

	method	limit/base	current	history1	history2
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	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
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

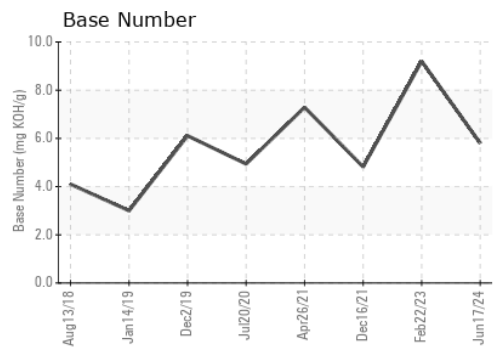
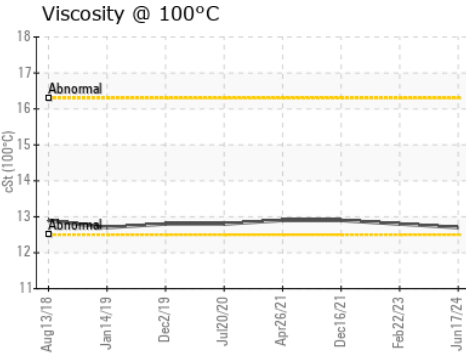
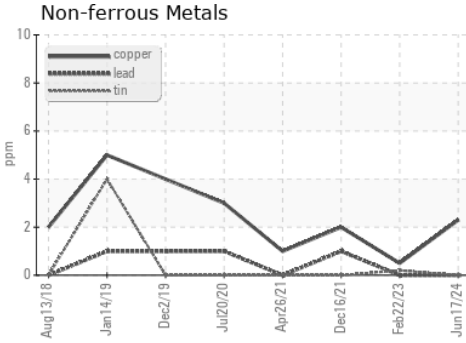
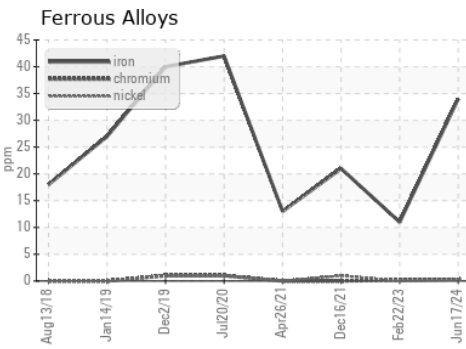
OIL ANALYSIS REPORT



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	12.7	12.8	12.9

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0003089 **Received** : 25 Jun 2024
Lab Number : 06220569 **Tested** : 26 Jun 2024
Unique Number : 11098766 **Diagnosed** : 27 Jun 2024 - Don Baldrige
Test Package : CONST (Additional Tests: FT-IR, ICP, KV100, 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)