

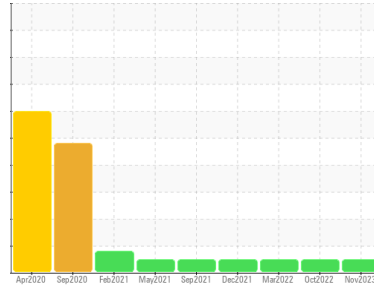


OIL ANALYSIS REPORT



Area
GM Seattle Off Road Shop
 Machine Id
[GM Seattle Off Road Shop] 26-224
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T 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		PE0002296	PE0000389	PE12290963
Sample Date	Client Info		30 Nov 2023	20 Oct 2022	17 Mar 2022
Machine Age	hrs	Client Info	4665	3584	3084
Oil Age	hrs	Client Info	1081	500	895
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

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	35	28	5
Chromium	ppm	ASTM D5185m >20	2	<1	0
Nickel	ppm	ASTM D5185m >2	<1	0	0
Titanium	ppm	ASTM D5185m >2	1	11	0
Silver	ppm	ASTM D5185m >2	0	0	<1
Aluminum	ppm	ASTM D5185m >25	7	7	1
Lead	ppm	ASTM D5185m >40	10	<1	0
Copper	ppm	ASTM D5185m >330	4	8	1
Tin	ppm	ASTM D5185m >15	1	<1	0
Antimony	ppm	ASTM D5185m	---	---	1
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	0	0	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 316	28	25	32
Barium	ppm	ASTM D5185m 0.0	0	2	0
Molybdenum	ppm	ASTM D5185m 1.2	47	34	24
Manganese	ppm	ASTM D5185m	<1	<1	---
Magnesium	ppm	ASTM D5185m 24	339	545	406
Calcium	ppm	ASTM D5185m 2292	1852	1707	1959
Phosphorus	ppm	ASTM D5185m 1064	953	967	1029
Zinc	ppm	ASTM D5185m 1160	1174	1198	1201
Sulfur	ppm	ASTM D5185m 4996	2952	3871	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	8	5	1
Sodium	ppm	ASTM D5185m	2	<1	1
Potassium	ppm	ASTM D5185m >20	<1	2	0

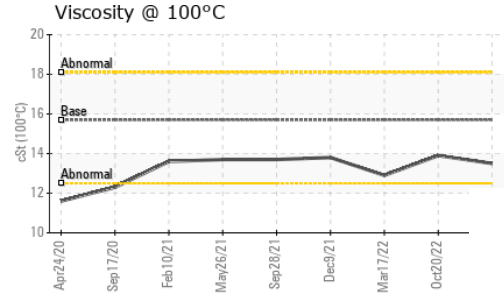
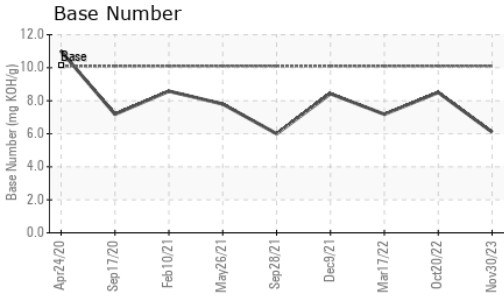
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	1.5	1.1	<0.1
Nitration	Abs/cm	*ASTM D7624 >20	11.3	10.5	9
Sulfation	Abs/.1mm	*ASTM D7415 >30	25.4	22.1	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.3	15.9	14
Base Number (BN)	mg KOH/g	ASTM D2896 10.1	6.1	8.5	7.18

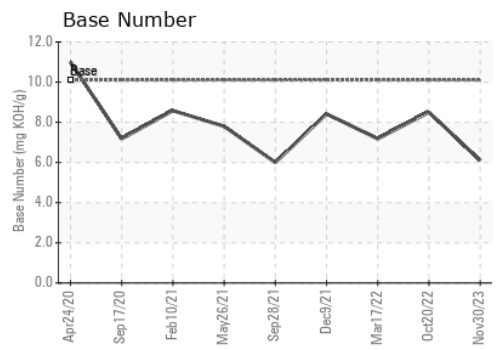
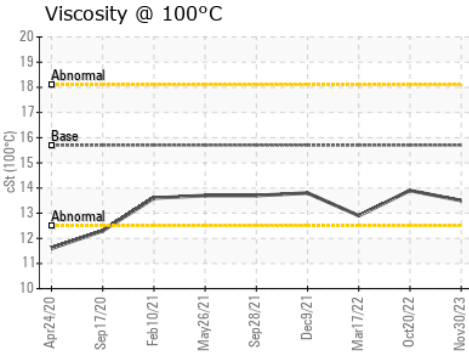
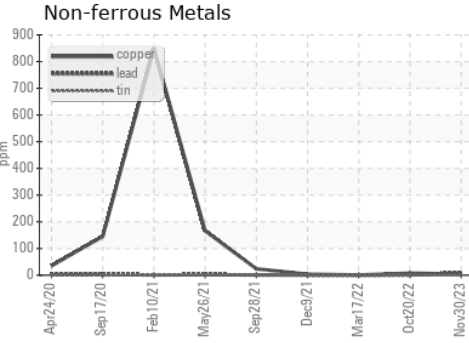
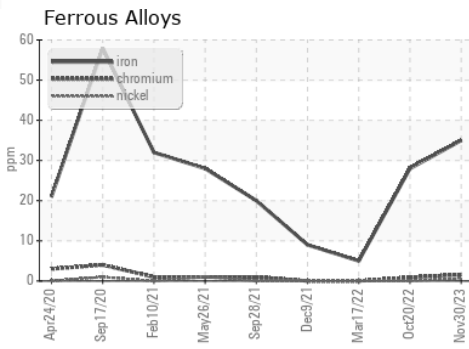
OIL ANALYSIS REPORT



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	15.7	13.5	13.9

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0002296 **Received** : 06 Dec 2023
Lab Number : 06026063 **Diagnosed** : 07 Dec 2023
Unique Number : 10775854 **Diagnostician** : Don Baldrige
Test Package : CONST (Additional Tests: FT-IR, ICP, KV100, SCREEN, TBN)

Gary Merlino Construction - Off Road Shop
 9125 10TH AVE SOUTH
 SEATTLE, WA
 US 98108
 Contact: Jesse Patterson
 oilsamples@gmccinc.com
 T: 1(866)292-1303
 F:

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)