



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
GM Seattle Off Road Shop
Machine Id
[GM Seattle Off Road Shop] 28-229
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		PE0000597	PE0001777	PE0001060
Sample Date		Client Info		30 Nov 2023	27 Mar 2023	01 Dec 2022
Machine Age	hrs	Client Info		2889	2504	2399
Oil Age	hrs	Client Info		385	433	374
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Oil Added
Filter Changed		Client Info		Changed	Changed	None
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	33	19	15
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	14	8	7
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	12	2	1
Tin	ppm	ASTM D5185m	>15	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

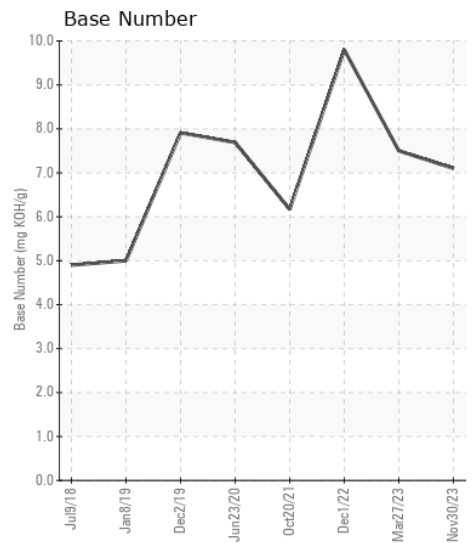
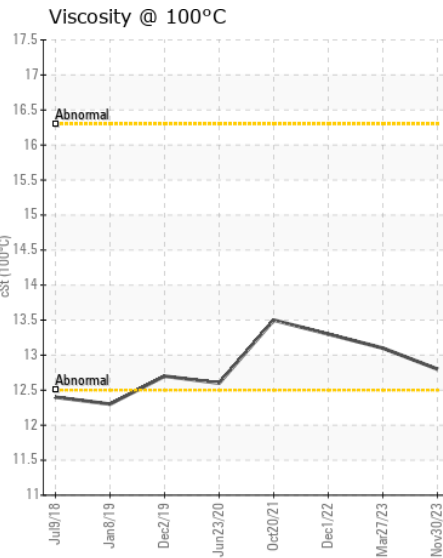
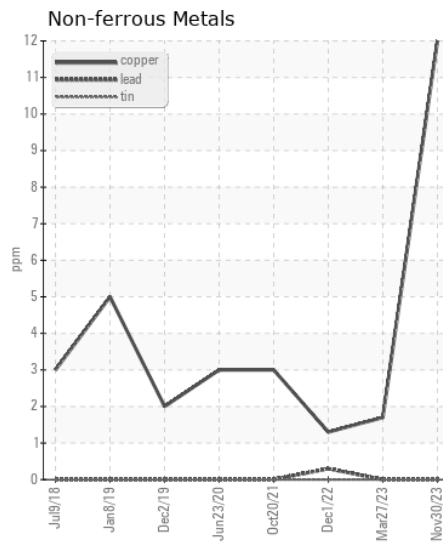
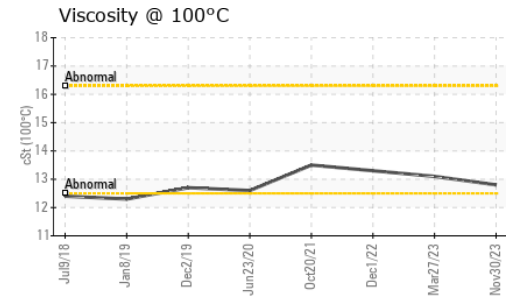
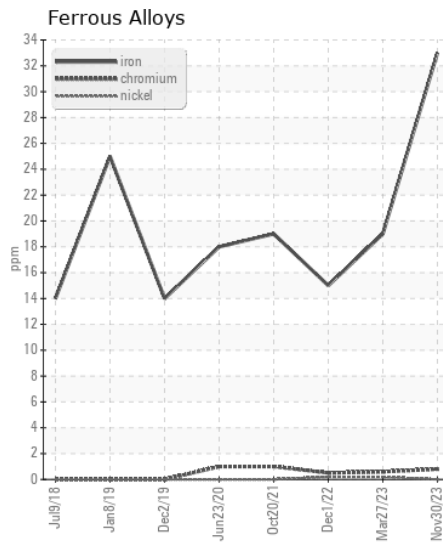
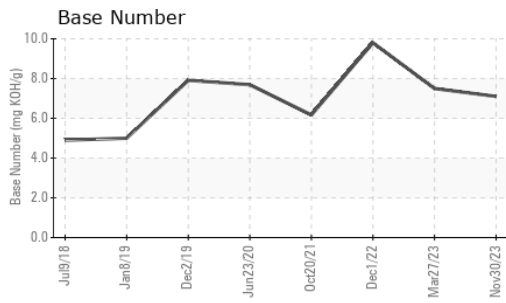
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	3	3
Potassium	ppm	ASTM D5185m	>20	0	2	0
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	0.3	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	9.9	8.0	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.3	17.1	20.0
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	>0.2	NEG	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	<1	0	0
Boron	ppm	ASTM D5185m		35	57	64
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		48	46	46
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		686	633	706
Calcium	ppm	ASTM D5185m		1518	1327	1481
Phosphorus	ppm	ASTM D5185m		1003	913	969
Zinc	ppm	ASTM D5185m		1179	1089	1216
Sulfur	ppm	ASTM D5185m		3383	3003	4111
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.4	14.2	15.5
Base Number (BN)	mg KOH/g	ASTM D2896		7.1	7.5	9.8
Visc @ 100°C	cSt	ASTM D445		12.8	13.1	13.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0000597 **Received** : 12 Jan 2024
Lab Number : 06059996 **Diagnosed** : 16 Jan 2024
Unique Number : 10831378 **Diagnostician** : 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)