



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area  
**GM Seattle Off Road Shop**  
 Machine Id  
**[GM Seattle Off Road Shop] 24-588**  
 Component  
**Diesel Engine**  
 Fluid  
**CASTROL VECTON 15W40 CK4 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PE0003078</b>	PE0002180	PE0001780
Sample Date		Client Info		<b>12 Apr 2024</b>	06 Dec 2023	23 Feb 2023
Machine Age	hrs	Client Info		<b>3527</b>	3323	3070
Oil Age	hrs	Client Info		<b>468</b>	253	384
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Not Changd	Changed
Filter Changed		Client Info		<b>Changed</b>	Not Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>47</b>	28	21
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>1</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	2	1
Lead	ppm	ASTM D5185m	>40	<b>4</b>	2	2
Copper	ppm	ASTM D5185m	>330	<b>6</b>	5	2
Tin	ppm	ASTM D5185m	>15	<b>3</b>	<1	1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

There is no indication of any contamination in the oil.

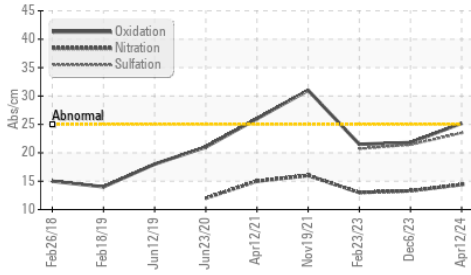
Silicon	ppm	ASTM D5185m	>25	<b>21</b>	15	11
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	<1	2
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.5</b>	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>14.4</b>	13.3	13.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.5</b>	21.4	20.7
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

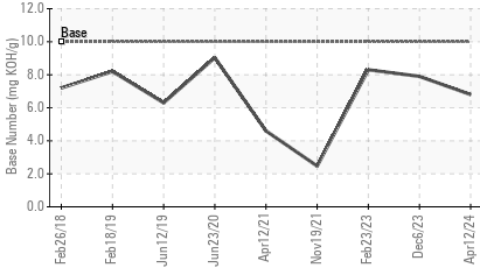
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	1	<1
Boron	ppm	ASTM D5185m		<b>31</b>	27	39
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>72</b>	52	53
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	1
Magnesium	ppm	ASTM D5185m		<b>943</b>	696	874
Calcium	ppm	ASTM D5185m		<b>1999</b>	1534	1271
Phosphorus	ppm	ASTM D5185m		<b>1632</b>	1118	1005
Zinc	ppm	ASTM D5185m		<b>1782</b>	1270	1289
Sulfur	ppm	ASTM D5185m		<b>5586</b>	3545	3799
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>25.2</b>	21.8	21.5
Base Number (BN)	mg KOH/g	ASTM D2896	10	<b>6.8</b>	7.9	8.3
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.0</b>	14.1	13.9

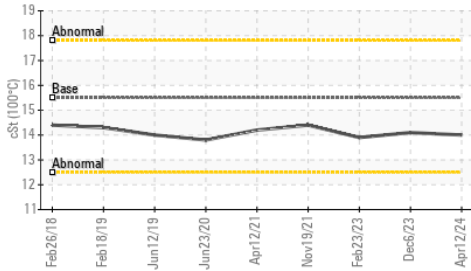
**FT-IR (Direct Trend)**



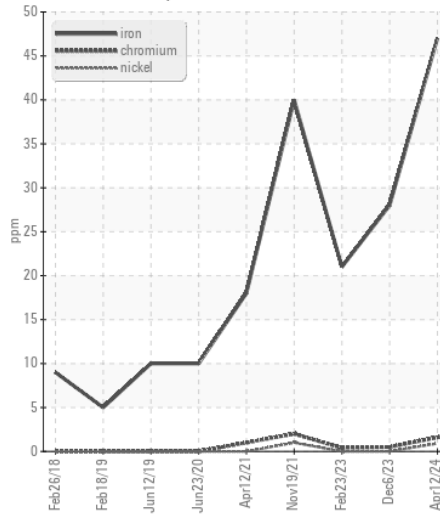
**Base Number**



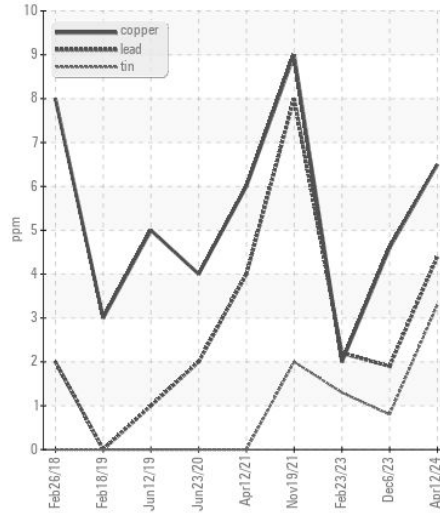
**Viscosity @ 100°C**



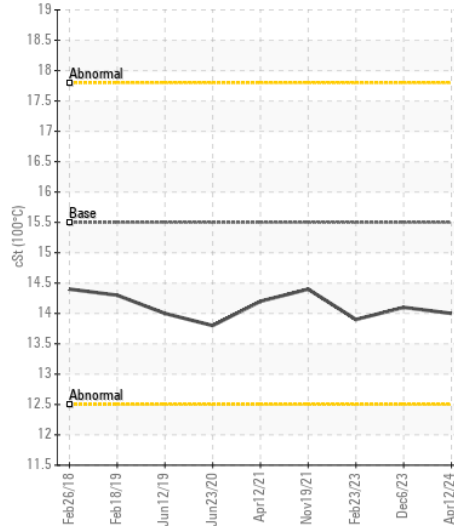
**Ferrous Alloys**



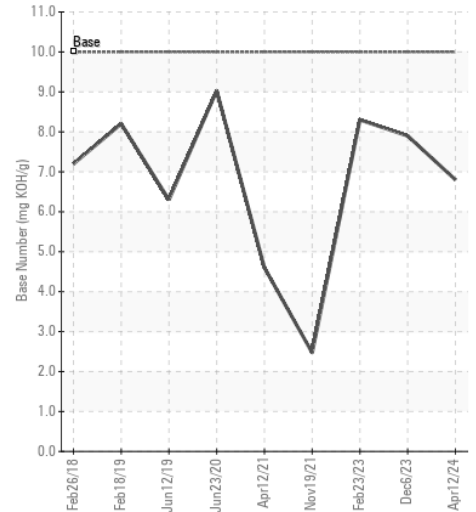
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PE0003078  
**Lab Number** : 06156718  
**Unique Number** : 10992141  
**Test Package** : CONST ( Additional Tests: FT-IR, ICP, KV100, SCREEN, TBN )

**Received** : 22 Apr 2024  
**Tested** : 23 Apr 2024  
**Diagnosed** : 24 Apr 2024 - Sean Felton

**Gary Merlino Construction - Off Road Shop**  
 9125 10TH AVE SOUTH  
 SEATTLE, WA  
 US 98108  
 Contact: Jesse Patterson  
 oilsamples@gmccinc.com

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: