



OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Area  
**GM Seattle Off Road Shop**  
 Machine Id  
**[GM Seattle Off Road Shop] 28-121**  
 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		<b>PE0003396</b>	PE12291242	PE12292055
Sample Date		Client Info		<b>30 Apr 2024</b>	04 Jun 2021	06 Mar 2019
Machine Age	hrs	Client Info		<b>1441</b>	1247	810
Oil Age	hrs	Client Info		<b>566</b>	681	244
Filter Age	hrs	Client Info		<b>0</b>	---	---
Oil Changed		Client Info		<b>Changed</b>	Not Changed	Not Changed
Filter Changed		Client Info		<b>Changed</b>	---	---
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>23</b>	19	16
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	1	0
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	1	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	2
Silver	ppm	ASTM D5185m	>3	<b>0</b>	<1	1
Aluminum	ppm	ASTM D5185m	>20	<b>13</b>	11	11
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>5</b>	4	2
Tin	ppm	ASTM D5185m	>15	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---

**CONTAMINATION**

There is no indication of any contamination in the oil.

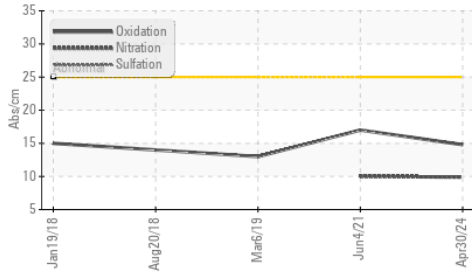
Silicon	ppm	ASTM D5185m	>25	<b>9</b>	9	10
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	1	20
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	1
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	0.0
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	<0.1	<0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.9</b>	10	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.0</b>	---	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	---	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	---	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	---	---

**FLUID CONDITION**

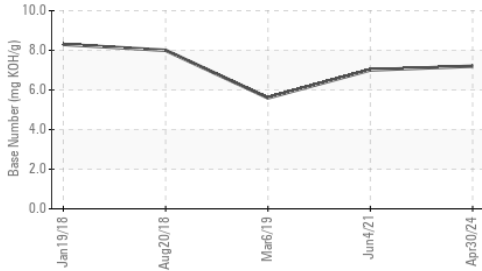
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>150	<b>2</b>	1	1
Boron	ppm	ASTM D5185m		<b>8</b>	9	100
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>57</b>	62	2
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
Magnesium	ppm	ASTM D5185m		<b>912</b>	1011	684
Calcium	ppm	ASTM D5185m		<b>1216</b>	1189	1404
Phosphorus	ppm	ASTM D5185m		<b>951</b>	1077	689
Zinc	ppm	ASTM D5185m		<b>1231</b>	1248	854
Sulfur	ppm	ASTM D5185m		<b>3871</b>	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.8</b>	17	13
Base Number (BN)	mg KOH/g	ASTM D2896		<b>7.2</b>	7.01	5.6
Visc @ 100°C	cSt	ASTM D445		<b>12.7</b>	14.2	13.2

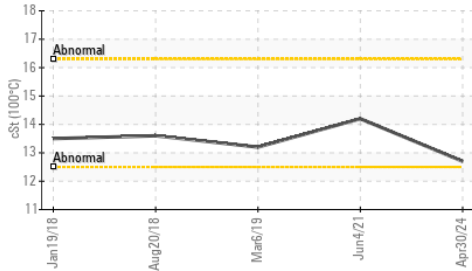
**FT-IR (Direct Trend)**



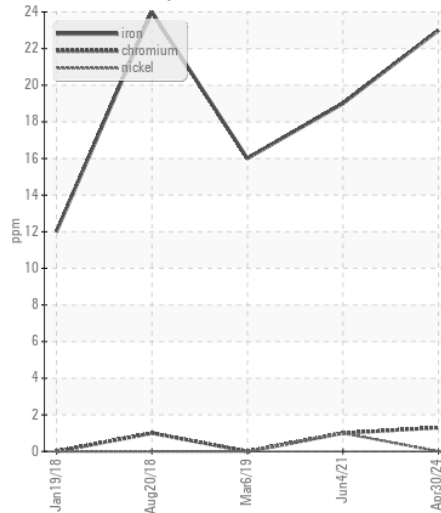
**Base Number**



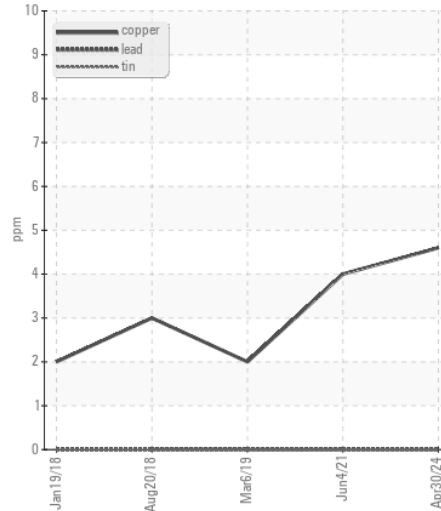
**Viscosity @ 100°C**



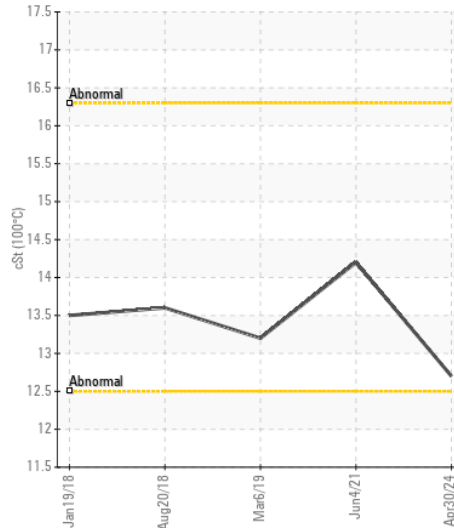
**Ferrous Alloys**



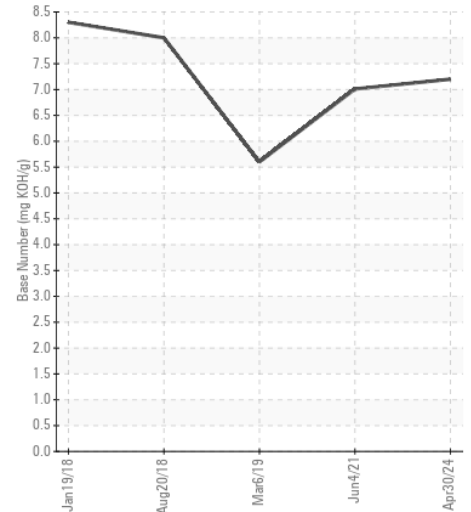
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PE0003396  
**Lab Number** : 06211071  
**Unique Number** : 11083935  
**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

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: