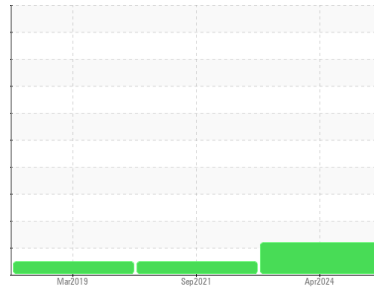




# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area  
**GM Seattle Off Raod Shop**  
 Machine Id  
**[GM Seattle Off Raod Shop] 16-325**  
 Component  
**Diesel Engine**  
 Fluid  
**SHELL 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is a moderate amount of fuel present in the oil.

### Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>PE0003026</b>	PE12291152	PE12292052
Sample Date	Client Info			<b>01 Apr 2024</b>	20 Sep 2021	06 Mar 2019
Machine Age	hrs	Client Info		<b>4838</b>	3717	3033
Oil Age	hrs	Client Info		<b>1121</b>	684	3000
Oil Changed	Client Info			<b>Changed</b>	Changed	Not Changed
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method	>0.2		<b>NEG</b>	NEG	NEG
Glycol	WC Method			<b>NEG</b>	NEG	0.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	<b>49</b>	51	29
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	0	0
Nickel	ppm	ASTM D5185m	>4	<b>1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	<1	1
Aluminum	ppm	ASTM D5185m	>20	<b>6</b>	8	8
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>2</b>	0	0
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	0
Antimony	ppm	ASTM D5185m		<b>---</b>	0	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---

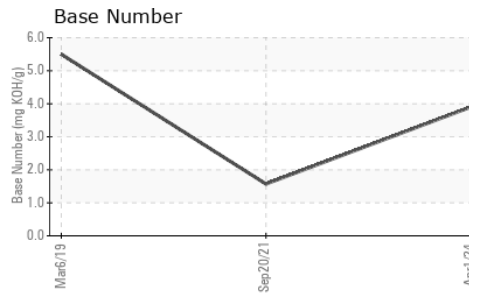
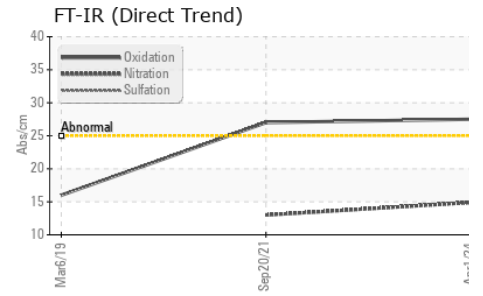
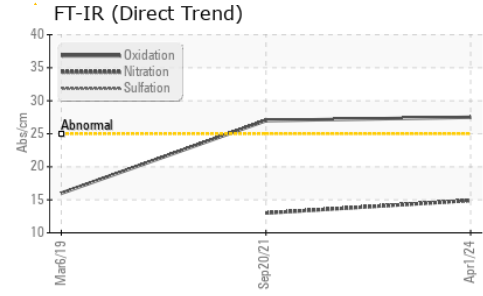
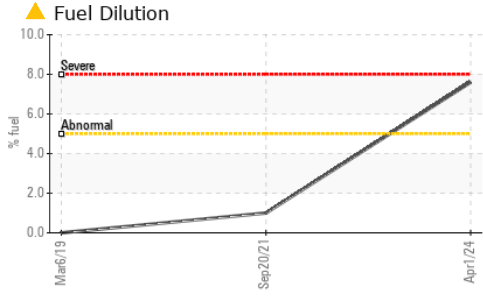
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>26</b>	124	477
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>52</b>	85	80
Manganese	ppm	ASTM D5185m		<b>1</b>	---	---
Magnesium	ppm	ASTM D5185m		<b>619</b>	366	404
Calcium	ppm	ASTM D5185m		<b>1332</b>	1587	1402
Phosphorus	ppm	ASTM D5185m		<b>1002</b>	924	918
Zinc	ppm	ASTM D5185m		<b>1138</b>	1151	1131
Sulfur	ppm	ASTM D5185m		<b>3360</b>	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<b>8</b>	7	7
Sodium	ppm	ASTM D5185m	>150	<b>&lt;1</b>	0	0
Potassium	ppm	ASTM D5185m	>20	<b>14</b>	24	13
Fuel	%	ASTM D3524	>5	<b>▲ 7.6</b>	<1.0	<1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.6</b>	0.5	<0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>14.9</b>	13	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>28.7</b>	---	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>27.5</b>	27	16
Base Number (BN)	mg KOH/g	ASTM D2896		<b>3.9</b>	1.57	5.5

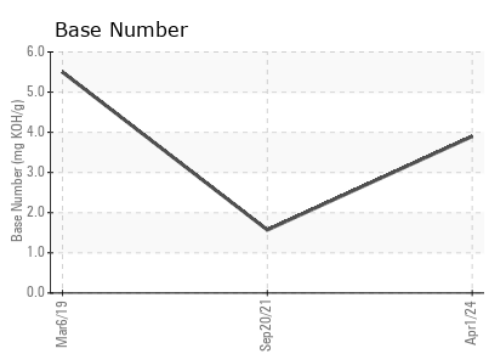
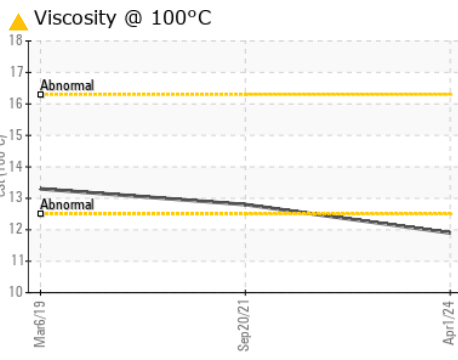
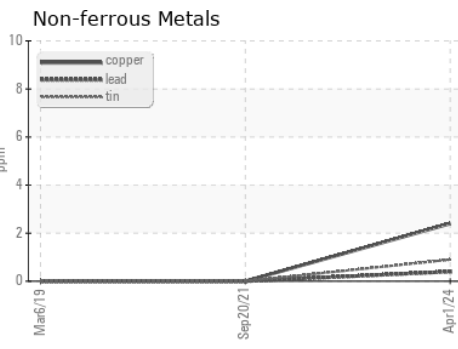
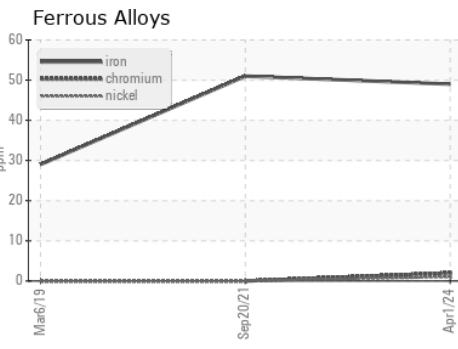
# OIL ANALYSIS REPORT



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	▲ 11.9	12.8	13.3

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PE0003026      **Received** : 22 Apr 2024  
**Lab Number** : 06156721      **Tested** : 25 Apr 2024  
**Unique Number** : 10992144      **Diagnosed** : 25 Apr 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: FT-IR, FuelDilution, ICP, KV100, PercentFuel, SCREENING )  
 To discuss this sample report, contact Customer Service at 1-800-237-1369.      **Client:** Gary Merlino Construction - Off Road Shop  
 \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.      **Address:** 9125 10TH AVE SOUTH SEATTLE, WA US 98108  
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)      **Contact:** Jesse Patterson  
 oilsamples@gmccinc.com      **T:** 1(866)292-1303  
 F: