



# OIL ANALYSIS REPORT

Sample Rating Trend

**WATER**



Area  
**GM Seattle Off Raod Shop**  
 Machine Id  
**[GM Seattle Off Raod Shop] 28-127**  
 Component  
**Diesel Engine**  
 Fluid  
 **DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

We advise that you check for the source of water entry. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please note that there was too much water present in the oil to perform an accurate viscosity test.

### Wear

All component wear rates are normal.

### Contamination

Fuel content negligible. There is a moderate concentration of water present in the oil.

### Fluid Condition

The oil viscosity is lower than normal. 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>PE0002179</b>	---	---
Sample Date	Client Info	<b>06 Dec 2023</b>	---	---
Machine Age	hrs Client Info	<b>720</b>	---	---
Oil Age	hrs Client Info	<b>720</b>	---	---
Oil Changed	Client Info	<b>Changed</b>	---	---
Sample Status		<b>ABNORMAL</b>	---	---

## WEAR METALS

method	limit/base	current	history1	history2
Iron ppm ASTM D5185m	>100	<b>54</b>	---	---
Chromium ppm ASTM D5185m	>20	<b>2</b>	---	---
Nickel ppm ASTM D5185m	>4	<b>&lt;1</b>	---	---
Titanium ppm ASTM D5185m		<b>0</b>	---	---
Silver ppm ASTM D5185m	>3	<b>0</b>	---	---
Aluminum ppm ASTM D5185m	>20	<b>4</b>	---	---
Lead ppm ASTM D5185m	>40	<b>&lt;1</b>	---	---
Copper ppm ASTM D5185m	>330	<b>60</b>	---	---
Tin ppm ASTM D5185m	>15	<b>&lt;1</b>	---	---
Vanadium ppm ASTM D5185m		<b>&lt;1</b>	---	---
Cadmium ppm ASTM D5185m		<b>0</b>	---	---

## ADDITIVES

method	limit/base	current	history1	history2
Boron ppm ASTM D5185m	250	<b>84</b>	---	---
Barium ppm ASTM D5185m	10	<b>0</b>	---	---
Molybdenum ppm ASTM D5185m	100	<b>21</b>	---	---
Manganese ppm ASTM D5185m		<b>4</b>	---	---
Magnesium ppm ASTM D5185m	450	<b>239</b>	---	---
Calcium ppm ASTM D5185m	3000	<b>2256</b>	---	---
Phosphorus ppm ASTM D5185m	1150	<b>1061</b>	---	---
Zinc ppm ASTM D5185m	1350	<b>1241</b>	---	---
Sulfur ppm ASTM D5185m	4250	<b>3540</b>	---	---

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon ppm ASTM D5185m	>25	<b>14</b>	---	---
Sodium ppm ASTM D5185m	>158	<b>5</b>	---	---
Potassium ppm ASTM D5185m	>20	<b>2</b>	---	---
Fuel % ASTM D3524	>5	<b>1.2</b>	---	---
Water % ASTM D6304	>0.2	<b>▲ 0.313</b>	---	---
ppm Water ppm ASTM D6304	>2000	<b>▲ 3130</b>	---	---
Glycol % *ASTM D2982		<b>NEG</b>	---	---

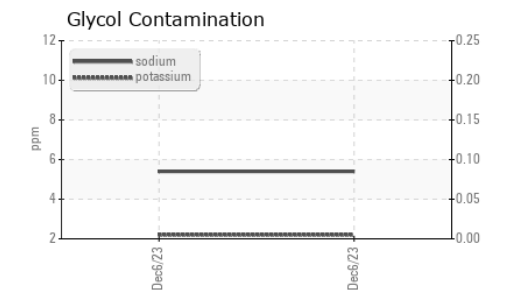
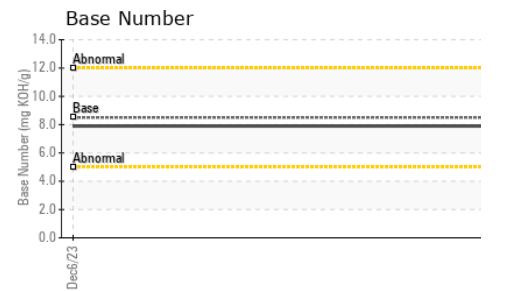
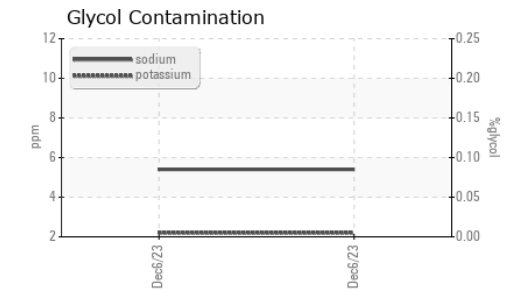
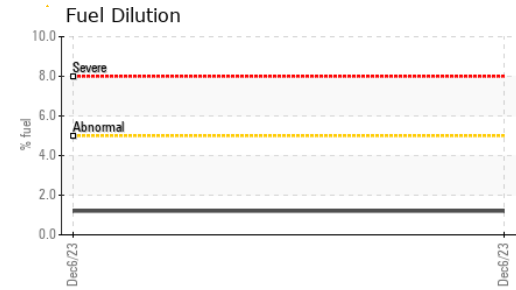
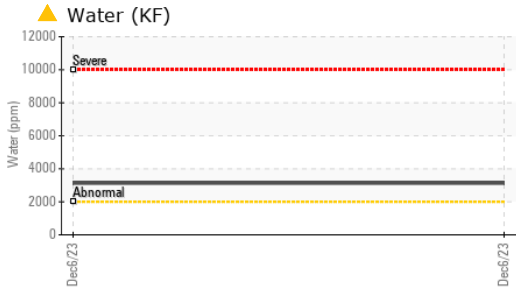
## INFRA-RED

method	limit/base	current	history1	history2
Soot % *ASTM D7844	>3	<b>0.2</b>	---	---
Nitration Abs/cm *ASTM D7624	>20	<b>11.6</b>	---	---
Sulfation Abs/.1mm *ASTM D7415	>30	<b>19.9</b>	---	---

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation Abs/.1mm *ASTM D7414	>25	<b>15.0</b>	---	---
Base Number (BN) mg KOH/g ASTM D2896	8.5	<b>7.9</b>	---	---

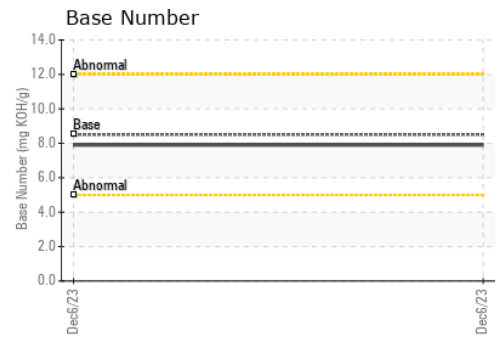
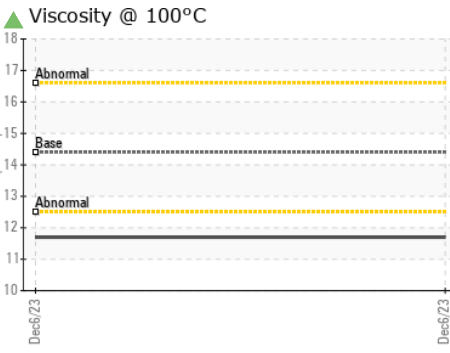
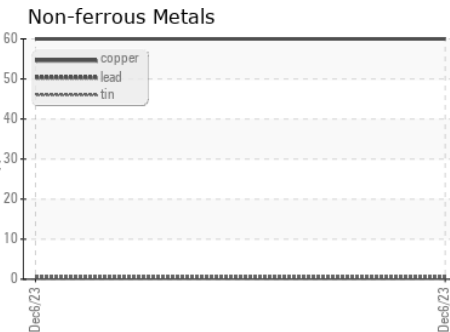
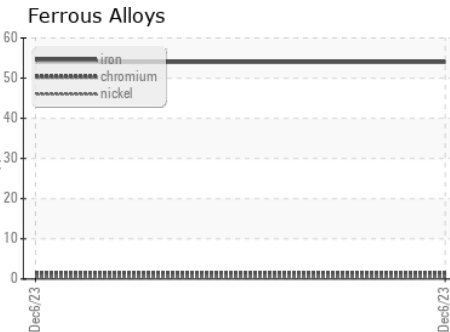
# OIL ANALYSIS REPORT



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	LIGHT	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	▲ 0.2%	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 11.7	---

### GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PE0002179 **Received** : 12 Jan 2024  
**Lab Number** : 06059993 **Diagnosed** : 16 Jan 2024  
**Unique Number** : 10831375 **Diagnostician** : Jonathan Hester  
**Test Package** : CONST (Additional Tests: FT-IR, FuelDilution, Glycol, ICP, KF, KV100, PercentFuel, SCREEN, TBN)  
*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)*

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