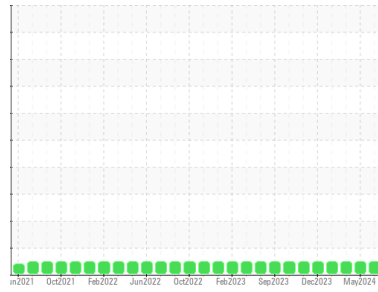


# OIL ANALYSIS REPORT

Area  
**Plymouth & Brockton**  
 Machine Id  
**434**  
 Component  
**Diesel Engine**  
 Fluid  
 **DIESEL ENGINE OIL SAE 40 (36 QTS)**

Sample Rating Trend



## DIAGNOSIS

- Recommendation**  
 Resample at the next service interval to monitor.
- Wear**  
 All component wear rates are normal.
- Contamination**  
 There is no indication of any contamination in the oil.
- 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.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>PCA0104609</b>	PCA0109977	PCA0104737
Sample Date	Client Info		<b>30 May 2024</b>	10 May 2024	30 Mar 2024
Machine Age	mls	Client Info	<b>310987</b>	304967	293066
Oil Age	mls	Client Info	<b>24000</b>	12000	24000
Oil Changed	Client Info		<b>Changed</b>	Not Changd	Changed
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<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

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >90	<b>14</b>	12	13
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m >2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m >20	<b>1</b>	2	2
Lead	ppm	ASTM D5185m >40	<b>0</b>	<1	2
Copper	ppm	ASTM D5185m >330	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m >15	<b>0</b>	<1	1
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	<1	<1

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	<b>7</b>	8	6
Barium	ppm	ASTM D5185m 10	<b>0</b>	2	0
Molybdenum	ppm	ASTM D5185m 100	<b>59</b>	63	60
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 450	<b>964</b>	972	1011
Calcium	ppm	ASTM D5185m 3000	<b>1170</b>	1144	1226
Phosphorus	ppm	ASTM D5185m 1150	<b>1010</b>	1170	1111
Zinc	ppm	ASTM D5185m 1350	<b>1238</b>	1311	1375
Sulfur	ppm	ASTM D5185m 4250	<b>3454</b>	3534	3851

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>3</b>	4	4
Sodium	ppm	ASTM D5185m >216	<b>3</b>	<1	<1
Potassium	ppm	ASTM D5185m >20	<b>1</b>	2	3

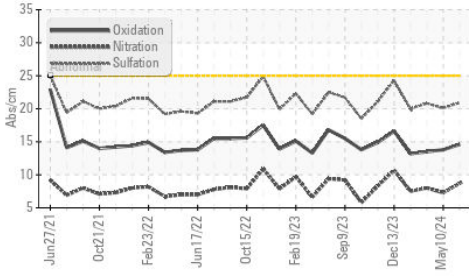
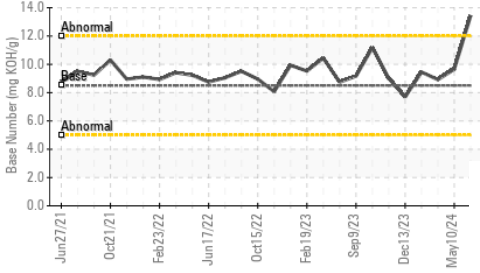
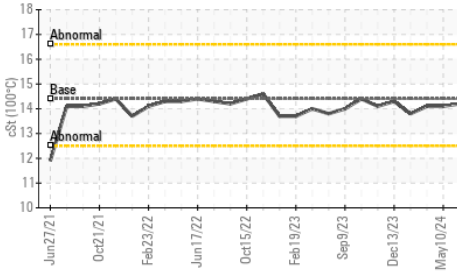
## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	<b>1.6</b>	1.3	1.8
Nitration	Abs/cm	*ASTM D7624 >20	<b>8.7</b>	7.3	8.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>20.9</b>	20.1	20.8

## FLUID DEGRADATION

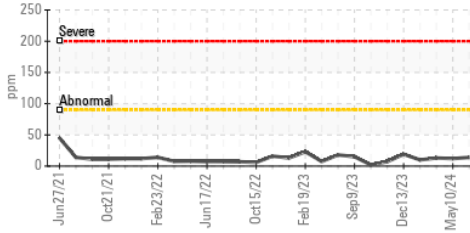
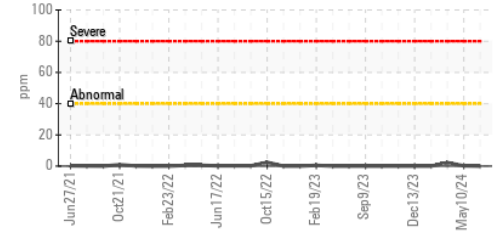
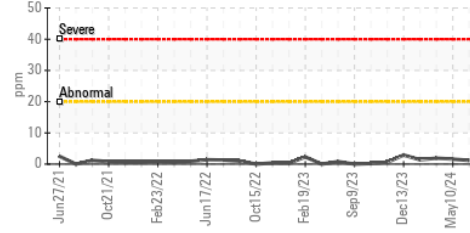
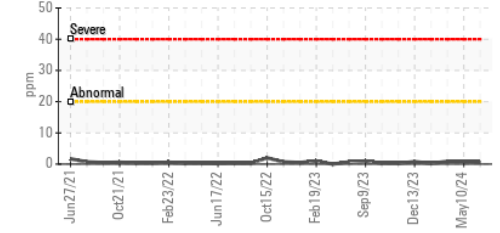
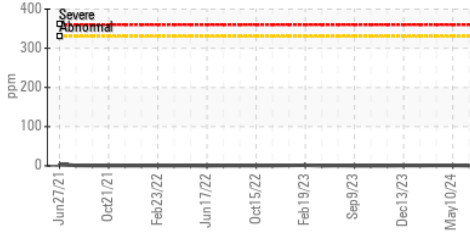
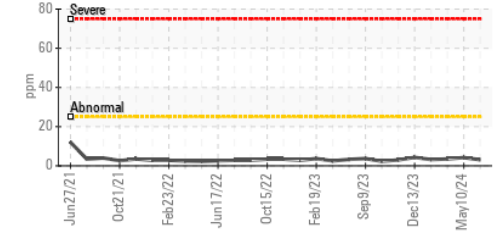
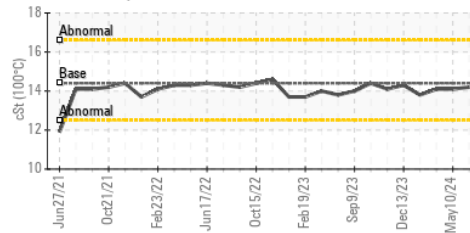
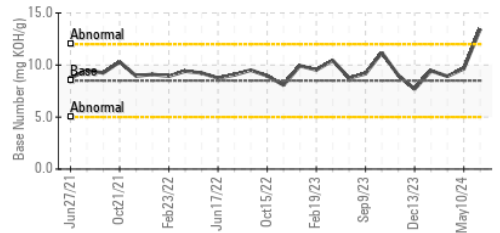
	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>14.6</b>	13.8	13.5
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	<b>13.44</b>	9.65	8.92

# OIL ANALYSIS REPORT

**FT-IR (Direct Trend)**

**Base Number**

**Viscosity @ 100°C**


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	<b>14.2</b>	14.1

**GRAPHS**
**Iron (ppm)**

**Lead (ppm)**

**Aluminum (ppm)**

**Chromium (ppm)**

**Copper (ppm)**

**Silicon (ppm)**

**Viscosity @ 100°C**

**Base Number**


Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513

**Sample No.** : PCA0104609

**Lab Number** : 06214932

**Unique Number** : 11087796

**Test Package** : MOB 2

**Received** : 19 Jun 2024

**Tested** : 20 Jun 2024

**Diagnosed** : 20 Jun 2024 - Wes Davis

**PLYMOUTH & BROCKTON**

8 INDUSTRIAL PARK RD

PLYMOUTH, MA

US 02360

Contact: Donald Pelquin

Dpelquin@P-B.com

T: (508)732-6039

F: (508)732-6091

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)